Do sex differences exist in cardiovascular mortality among patients with chronic kidney disease (CKD)? A systematic review and meta-analysis

By

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Declaration of originality

This thesis is submitted to Macquarie University in fulfilment of the requirement for the Degree of Master of Public Health (MPH) Research. The work presented in this thesis is, to the best of my knowledge and belief, original except as acknowledged in the text. I hereby declare that I have not submitted this material, either in full or in part, for a degree at this or any other university or institution. Any contribution made to the research by others is explicitly acknowledged.

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This thesis is dedicated to my beloved parents.

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-Sultana Shajahan

Abstract

Introduction

Although it is known that sex differences exist in cardiovascular mortality among the general population, the evidence regarding these differences among men and women with chronic kidney disease (CKD) is inconclusive and inconsistent. This thesis aims to systematically review the current literature regarding sex differences in cardiovascular mortality among CKD patients.

Method

PubMed, Medline, EMBASE, Scopus and the Cochrane Central Register of Controlled Trials (CENTRAL) were searched systematically and studies were included if they looked at sex-stratified cardiovascular mortality outcomes among adult CKD patients of any stage from 2004 up to May 2019, and excluded if their patient population were exclusively diabetic or had a renal transplant, malignancy, non-conventional treatments or surgical interventions. Reported risk estimates (hazard ratios (HR) with 95% confidence intervals (CI)) were pooled and risk ratios (RR) and cardiovascular mortality rates were calculated where data was available.

Results

Thirty eight studies and one registry report (ANZDATA) involving 110,568 participants were included, and the results demonstrated that there was no significant association of sex with overall cardiovascular mortality among CKD patients, both in reported risk estimates (HR 1.10, 95% CI 0.95-1.28), and calculated risk estimates from additional data in the included studies together with ANZDATA (RR 1.16, 95% CI 1.02-1.32). However, there was some heterogeneity among both the reported HRs (I^2= 41.6%, p= 0.013), and calculated RRs (I^2= 69.1%, p= 0.000). Subgroup analysis and risk of bias assessment revealed there were considerable bias at study and outcome level that contributed to heterogeneity of results.

Conclusion

The findings from the study show that men and women with CKD share equal risk of cardiovascular mortality, which is contradictory to the prevalent opinion that cardiovascular risk is higher in men with CKD. Therefore, further research is required to understand whether this shift in cardiovascular mortality is due to a reduction in mortality in men, or an increased risk in women with CKD, and strategies to address these inequalities in cardiovascular disease prevention and management in CKD patients.

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List of Abbreviations

ACR	Albumin: creatinine ratio
AoAC	Aortic arch calcification
AVF/AVG	Arteriovenous fistula or graft
BMI	Body mass index
BP	Blood pressure
CAD	Coronary artery disease
CI	Confidence Interval
CKD	Chronic kidney disease
CVD	Cardiovascular disease
DM	Diabetes mellitus
eGFR	Estimated glomerular filtration rate
ESRD	End-stage renal disease
HD	Haemodialysis
HF	Heart failure
HR	Hazard ratio
hs-CRP	High-sensitivity C-reactive protein
hs-cTnT	High-sensitive cardiac troponin T
HTN	Hypertension
IDWG	Interdialytic weight gain
MI	Myocardial infarction
NLR	Neutrophil to lymphocyte ratio
NOS	Newcastle-Ottawa Scale
NT-proBNP	N-terminal-pro hormone BNP
PD	Peritoneal dialysis
PVD	Peripheral vascular disease
RCT	Randomised controlled trial
RR	Risk ratio
SCr	Serum creatinine
sST2	Soluble suppression of tumorigenicity 2

CHAPTER ONE. LITERATURE REVIEW

1.1. Introduction

Chronic Kidney disease (CKD) is a global public health issue that places a major burden on patient health and quality of life, as well as significant economic burden on healthcare systems around the world.(1) The Global Burden of Disease study estimated that in 2015, kidney failure was responsible for 1.2 million deaths worldwide, leading to a 32% rise in mortality from 2005.(2) CKD causes premature death, mainly due to an increased risk of cardiovascular diseases, such as heart failure, myocardial infarction and stroke.(3) In the majority of geographical regions, the prevalence of CKD is higher among women compared to men.(4) Whether sex differences also exist in the risk of cardiovascular mortality among CKD patients, requires further understanding. Better awareness regarding sex differences and strategies to address these differences in CKD patients could contribute to the reduction of CKD-associated cardiovascular mortality. Therefore, the purpose of this review is to look at the current literature on the association between CKD and cardiovascular mortality and the potential impact of sex differences on this association.

1.2. CKD and associated cardiovascular mortality

CKD is defined as the gradual loss of kidney function, measured by estimated glomerular filtration rate (eGFR), and/or evidence of kidney damage persisting for 3 three months or longer.(5) Evidence of kidney damage can include one or more of the following: -

- Albuminuria (albumin: creatinine ratio (ACR) ≥30mg/g),
- Abnormal urinary sediment,
- Abnormal electrolyte levels,
- Abnormalities on histology (kidney biopsy),
- Structural abnormalities detected by imaging (e.g. polycystic kidney), and/or
- History of a kidney transplantation.(5)

The principle causes of CKD are diabetes mellitus and hypertension, and other causes include glomerulonephritis, polycystic kidney disease etc.(5) The most commonly used diagnostic tool, eGFR, is estimated using exogenous markers (e.g. iohexol), or calculated using equations.(5) Patients progress through 5 stages of CKD with declining renal function, such as: -

- Stage 1: normal or high GFR (GFR > 90 mL/min)
- Stage 2: mild CKD (GFR = 60-89 mL/min)
- Stage 3A: moderate CKD (GFR = 45-59 mL/min)

- Stage 3B: moderate CKD (GFR = 30-44 mL/min)
- Stage 4: severe CKD (GFR = 15-29 mL/min)
- Stage 5: end-stage renal disease (ESRD) (GFR <15 mL/min).(5)

When patients progress to ESRD, kidney replacement therapy i.e. dialysis or kidney transplantation, becomes necessary for survival.(5) CKD usually remains asymptomatic until later stages, and diagnosis is commonly made accidentally through routine screening tests (urinary dipstick or blood tests).(5)

As kidney function deteriorates, patients face a number of serious complications, including cardiovascular disease, anaemia, dyslipidaemia and mineral bone disease.(5, 6) This is because with the gradual progress of CKD, filtration capability of the kidneys also keeps degrading, and ultimately leads to an accumulation of certain toxic materials, called uraemic retention solutes, in the body. This results in several harmful effects, such as inflammation, immune dysfunction, arterial stiffness, platelet dysfunction and bone mineral disorders etc.(5)

The risk of cardiovascular disease in CKD patients, such as heart failure, myocardial infarction, stroke and sudden cardiac arrest, is far greater than that of the general population.(5) Patients with advanced stages of CKD (stages 3 to 5) are more likely to die of cardiovascular causes than to progress to ESRD.(5) This increased cardiovascular risk is generally considered to be associated with a number of traditional risk factors (e.g. age, sex, obesity and smoking) as well as non-traditional risk factors presenting in CKD patients (e.g. increased aortic stiffness, vascular calcification, diastolic blood pressure, triglycerides and uric acid).(7, 8) Cardiovascular-related deaths are responsible for more than 50% of CKD deaths.(3) For instance, when eGFR is less than 60 mL/min/ 1·73m^2, the probability of experiencing a myocardial infarction rises by 33%.(5)

1.3. Significance of sex differences on disease pathway

To fully understand the impact of sex differences on the disease pathway, it is necessary to make the proper distinction between sex and gender. This distinction is sometimes not clearly made in literature and used interchangeably, which can create confusion when drawing clinical decisions from these studies.(9) “Sex” refers to the biological characteristics of men and women, while “gender” refers to the behavioural, social, and psychological attributes of men and women.(10) The purpose of this review is to specifically explore sex differences in cardiovascular outcomes among CKD patients.

It is well known that fundamental biological differences exist between men and women that can impact the disease pathway, such as the underlying pathology, symptoms, progression and outcomes.(11) Despite this, historically sex differences have been largely overlooked, resulting in inequalities in health, lack of awareness and bias in health research.(11) Pre-clinical trials until now

have focused mainly on male animals and these findings have been then generalised to both sexes despite biological differences that can lead to different disease progression and outcomes.(12) Similarly, clinical trials have underrepresented women, contributing to healthcare inequality.(13) However, the importance of sex differences in disease pathology and management are becoming widely recognised. The National Institutes of Health (NIH) has developed policies to bring attention to sex differences in preclinical research,(14) and several renowned journals, such as the Lancet and BMJ Global Health, have released policies that researchers should consider and report the impact of sex differences on their research where appropriate.(9, 15) Incorporating sex-specific knowledge represents a significant first step towards personalising therapy, creating awareness in high-risk population groups and creating appropriate prevention strategies to address inequalities in the wider population.(9)

1.4. Sex differences in CKD

The impact of sex differences on outcomes in CKD patients are gradually receiving their due recognition.(4) There are sex differences in epidemiology, progression, management and outcomes of CKD, as discussed below.

1.4.1. Differences in CKD prevalence

Population-based studies from different countries report that the prevalence of CKD stages 3 to 5 vary across countries.(16-38) However, in most geographical locations, the prevalence of CKD has been found to be higher in women compared to men. The exceptions are Japan and Singapore. A higher prevalence of CKD in women is thought to be the result of a longer life expectancy in women coupled with age-related loss of kidney function, which could eventually lead to a larger high-risk group.(39, 40)

1.4.2. Differences in CKD incidence

There was limited evidence regarding sex differences in the incidence of CKD. A retrospective population-based cohort study of all new cases of CKD found that the incidence rate of CKD was 1.6 times higher in men compared to women (95% CI, 1.4 to 1.8), with additional risk in men among all age groups greater than 40 years.(41)

1.4.3. Differences in CKD progression

In terms of CKD progression, Neugarten et al. found through a large meta-analysis that men progressed to ESRD much faster than women,(42) although there is contradictory evidence from

another meta-analysis which found that CKD progression might be significantly faster in women.(43) This may have been due to several factors, including-

- Inclusion of different types of studies, such as observational cohorts versus randomized controlled trials and population- based studies versus CKD referrals(42, 43)
- Characteristics of patients included, namely most women included in the later meta-analysis were postmenopausal compared to a higher number of premenopausal women in the earlier one(42, 43)
- Different outcomes assessed i.e. slope of eGFR decline as opposed to onset of renal replacement therapy (RRT)).(42, 43)

One population-based study demonstrated that men may have faster rate of loss of kidney function compared to women (i.e. a greater slope of eGFR loss).(44) Similarly, a community-based cohort study of 5488 participants, the Dutch PREVEND study, found that men have a higher decline in mean eGFR compared to women ((−0.55 ± 1.47) ml/min/1.73 m^2 per year vs. (−0.33 ± 1.41) ml/min/1.73 m^2 per year).(45)

1.4.4. Possible mechanisms for sex differences in CKD

1. *Impact of sex hormones (oestrogen and testosterone) on kidney function:*
    a. Impact of oestrogen: In animals, oestrogen is considered to have certain protective effects against age-induced renal structural damage, namely anti-fibrotic and anti-apoptotic effects.(46) It is thought that the same protective effects of oestrogen may reduce age-induced kidney damage in human female subjects.(47)
    b. Impact of testosterone: In contrast to the protective effects of oestrogen, testosterone has pro-apoptotic and pro-fibrotic effects in the kidney (i.e. harmful effects on the kidneys).(48) This is considered to be a contributing factor to increased damage to the kidneys and faster decline in renal function in male animals.(49) It is also considered that a similar mechanism may be the cause of faster decline in renal function among human male subjects.(50)
2. *Sex differences in Nitric Oxide (NO) metabolism and oxidative stress:*
    a. In animals, it has been found that oestrogen in female rats better preserves NO, which in turn induces less oxidative stress or damage to the kidney cells. Therefore, kidney structure and overall kidney function is thought to be better preserved in female rats than male rats.(51)
3. *Gender-differential impact of comorbidities and lifestyle risk factors:*

a. Men have the tendency to lead unhealthier lifestyles (e.g. excess smoking and alcohol intake) and have poorer dietary patterns than women, which may contribute to overall poorer outcomes in men with CKD.(52, 53)
b. Certain cardiovascular risk factors, such as body mass index and plasma glucose, have been found to have a greater effect in men with CKD compared to women.(54)

1.4.5. Differences in CKD management

There is still a serious lack of awareness of sex differences in CKD management, which in some cases can lead to severe complications, such as overdosing of medication and reduced quality of life.(4) For instance, there are no considerations of sex-specific differences in CKD management guidelines for anaemia.(4) Despite there being sex-specific threshold for anaemia in the general population where women have lower normal levels of haemoglobin than men, these differences are not considered in CKD treatment guidelines and has been reported to be the cause of over-dosing of erythropoietin-stimulating agents in women in order to achieve the same haematocrit concentration as men, leading to drug-induced side-effects.(55, 56) Furthermore, evidence shows that women take part in dialysis treatment for lesser durations (<12 hours/week) compared to their male counterparts.(57) In addition, The Dialysis Outcomes and Practice Patterns Study (DOPPS) published in 2014 found that less women were on haemodialysis compared to women (41% versus 59%) overall across all age groups.(58) The differences in management of kidney disease among men and women could be a potential source of sex differences in kidney disease outcomes, such as cardiovascular disease.

1.5. Sex differences in cardiovascular mortality in the general and CKD populations

1.5.1. Do sex differences exist in cardiovascular mortality in the general population to suggest similar differences exist in CKD patients?

According to the Global Burden of Disease (GBD) study (2017), cardiovascular disease was the leading cause of mortality in both men and women worldwide.(59) Despite this, cardiovascular disease was previously widely considered to be a man's disease.(60) There are several possible reasons for this misconception, which are described later.

To understand the sex differences in cardiovascular mortality, it is necessary to look at both mortality rates and absolute number of deaths.

1.5.1.1. Differences in cardiovascular mortality rate and absolute risk of deaths:

Age-specific mortality rates due to coronary heart disease (CHD) with worldwide data collected between 1980 and 2010 showed that mortality rates increased with age for both men and women.(61) However, mortality rates were lower in women than men at all ages, until the age of 70 years and older, when mortality rates were higher in women.(61) Similarly, in the 2017 GBD study, although cardiovascular mortality risk was slightly higher among men in lower age groups (up 74 years), the risk of cardiovascular mortality grew significantly higher among women in older age groups (75 years and above).(59) This can one of the reasons why cardiovascular disease is considered a "man's disease." However, the lifetime risk of cardiovascular disease is similar between both sexes, due to longer life expectancy in women which result in higher number of cardiovascular events in women compared to men. The Rotterdam Study determined that, after controlling for non-cardiovascular causes of death, the remaining lifetime risk of cardiovascular disease at age 55 was 67% for men compared to 66% for women.(62) Thus, even though men may show higher cardiovascular disease risk/mortality rates at earlier stages of life compared to women, women show similar cardiovascular risk over their lifespan and possess higher cardiovascular mortality risk at older age.

Another common reason for the misconception of low risk of cardiovascular mortality in women arose from widely popular theory that oestrogen has protective effects against the development of cardiovascular disease in women, until menopause.(61) However, there is evidence to show that there is no difference in cardiovascular disease risk before and after menopause.(61, 63) In addition, hormone replacement therapy including oestrogen has shown no cardiovascular risk benefit in postmenopausal women.(64) Therefore, this misconception regarding cardioprotective effects of oestrogen in women can lead to underestimation of cardiovascular risk in women.

In addition, historical pre-clinical and clinical cardiovascular research data, which was focussed predominantly on men due to a lack of recruitment of women participants, failed to properly estimate cardiovascular mortality risk in women.(60)

1.5.1.2. Differences in cause-specific mortality

Sex differences are also seen in cause-specific cardiovascular mortality, such as stroke and coronary heart disease.(65) In 2007, the absolute number of women dying from stroke was higher than that of men in the US.(65) In a study of acute myocardial patients based in England and Wales, it was found that women with acute myocardial infarction had higher mortality rates compared to men.(66) One study found that while coronary heart disease (CHD) and stroke mortality rates gradually declined during 1980 to 2010 in both sexes, CHD mortality decrease in men was considerably greater than that in women.(61) This growing body of evidence is demonstrating that there has been a significant shift over time from higher cardiovascular mortality in men to an equal or higher cardiovascular mortality

in women, which could be due to an overall risk reduction in men, or a rise in cardiovascular risk in women.

Sex differences are present in cardiovascular disease epidemiology, risk factors, pathophysiology and management, which contributes to marked differences in the outcome from having cardiovascular diseases.(67)

1.5.1.3. Differences in cardiovascular risk factors

1. *Age:* In 2017, the Global Burden of Disease study found a higher women-to-men ratio for cardiovascular mortality, for women and men aged ≥85 years (2·65 million vs. 1·56 million deaths), though cardiovascular mortality remained higher in men in other age groups.(68) This is consistent with another study in 2010 which found that coronary heart disease (CHD) and stroke mortality were higher in men than women until 75–80 years. (61) However, after the 80 years age cut-off, mortality rates became similar between men and women. Although the risk of cardiovascular mortality rises rapidly in younger men, in women this risk rises gradually at an older age (60 years and above),(69) highlighting the importance of preventing risk factors for cardiovascular disease in women in their mid-life years.(69)
2. *Diabetes mellitus*- There is evidence to show that diabetes imparts a greater risk for stroke in women compared to men.(70) Similarly, a pooled analysis of 28,000 incidences of coronary heart disease demonstrated that diabetes imparted a greater risk of CHD in women (RR: 2.82 [95% CI: 2.35; 3.38]) compared to men (RR: 2.16 [95% CI: 1.82; 2.56]), giving diabetic women an excess 44% risk of CHD compared to diabetic men.(71)
3. *Smoking*- Women who smoke have been shown to have a higher relative risk of CVD compared to men (50% greater risk).(72) This is supported by another study demonstrating that the relationship between smoking and coronary heart disease risk is greater in women compared to men.(73)
4. *Obesity*- Studies looking at the association of body mass index, an indicator of obesity, and coronary heart disease, have found that even though men and women share equal risk of CHD with rise of BMI, men may have an increased risk of stroke with rising BMI.(74)

1.5.1.4. Differences in presentation

Sex differences in cardiovascular mortality could also arise from the fact that women sometimes have different symptoms to men, or “atypical” presentation e.g. absence of typical chest pain associated with myocardial infarction.(61) Therefore, CVD could remain undiagnosed and untreated in women, leading to worse outcomes and higher CVD mortality in women.(61)

1.5.1.5. Differences in management

Sex differences also extend into cardiovascular disease management and leads to differences in cardiovascular mortality. Several Australian studies have indicated that women with Acute Coronary Syndrome (ACS) are under-investigated, likely due to differences in clinical presentation, and that evidence-based treatment therapies are less often prescribed to women compared to men, which could contribute to a higher mortality rate in women.(53, 75-77) This is further emphasised by another study in the US which fund that invasive treatment procedures like cardiac catheterization, percutaneous transluminal coronary angioplasty and coronary artery bypass surgery were prescribed less to white women, and even less so in black women, after controlling for factors that might influence hospital procedural rates.(78) This treatment bias could be a potential source of sex differences in overall cardiovascular mortality.

Thus, lack of awareness regarding the risk of cardiovascular disease in women led to poorer management for cardiovascular outcomes in women.(60) Fortunately, the focus is shifting to a more sex-disaggregated approach in cardiovascular disease research to find out what health inequalities exist, owing to development of sex-specific guidelines in CVD management and public health awareness programs targeting women.(61, 71) However, further understanding of underlying mechanisms involved in sex differences in cardiovascular mortality and development of better prevention and treatment strategies is required to better address the different needs of men and women. The Sustainable Development Goals (SDGs) aim to tackle noncommunicable diseases (NCDs) by two ways; namely, improving health outcomes by reducing premature deaths between ages 30-70 from cardiovascular disease, diabetes etc. (Target 3.4) and lowering the exposure to NCD risk factors (Targets 3.5 and 3.A). Therefore, it is important to recognise that sex differences exist in cardiovascular disease and implement targeted prevention strategies to properly address different risk factors in men and women.

1.5.2. Do sex differences in cardiovascular mortality among patients with CKD?

From the above discussion, it is evident that differences exist in cardiovascular disease, risk factors and associated mortality among men and women. So, the question arises whether the same is true for men and women with CKD. It has been found in one historical meta-analysis that men with CKD have higher cardiovascular mortality rates across all levels of estimated glomerular filtration rate.(79) This is supported by a large registry-based study looking at dialysis patients, which found that men on dialysis had higher cardiovascular mortality compared to women on dialysis.(80) In contrast, recent evidence showed that women with ESRD had higher cardiovascular hospitalisation and associated mortality compared to men with ESRD.(81)

There is also evidence to suggest that, CKD, as a risk factor for cardiovascular disease, impacts men and women differently. One study comparing cardiovascular mortality risk in CKD patients to the general population found that women with CKD had higher cardiovascular mortality risk than their healthy counterparts, and this relative risk was higher than the same risk in men (i.e. men with CKD versus men without CKD) (see Figure 1).(80) This is because the risk of cardiovascular mortality in women in the general population was lower than men in the general population. CKD, as a risk factor, impacted a higher cardiovascular mortality risk in women compared to men.

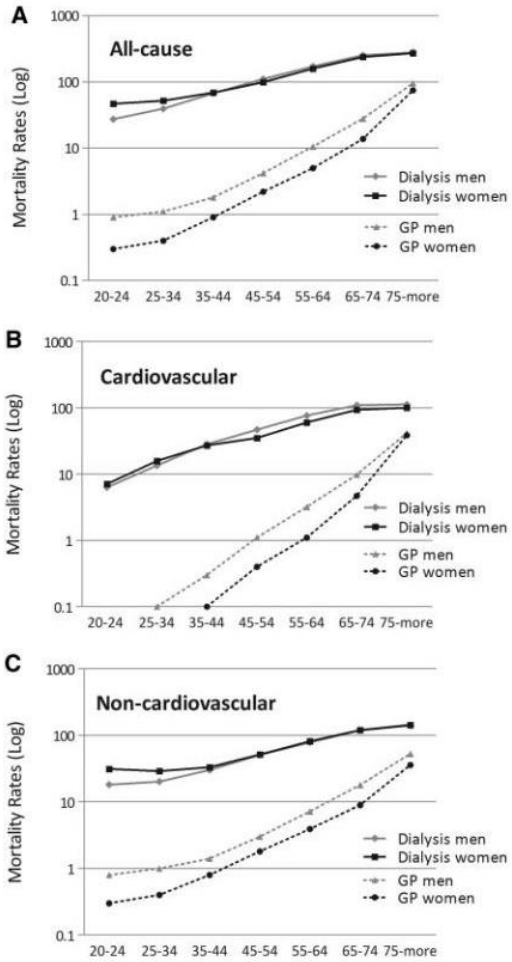

Figure 1. Mortality among men and women with dialysis compared to the general population. All-cause (part A), cardiovascular (part B) and non-cardiovascular (part C) mortality among men and women on incident dialysis from the European Renal Association–European Dialysis and Transplant Association (ERA-EDTA) Registry and European general population (GP). Taken from: Carrero JJ et al. Cardiovascular and Noncardiovascular Mortality among Men and Women Starting Dialysis. Clinical Journal of the American Society of Nephrology. 2011;6(7):1722-30.(80)[1]

[1] Available under a licence obtained from the American Society of Nephrology for republish of a portion (chart/graph/table) in a thesis/dissertation; Order Date: 29-Dec-2019; Order license ID: 1010984-1; ISSN: 1555-9041.

This is supported by a population-based cohort study investigating the gender-specific relationship (here they have used gender to define sex or biological differences) of CKD with all-cause mortality, cardiovascular mortality, and incident myocardial infarction (MI). Through multivariable analyses, they found that the Hazard Ratio (HR) for women with CKD versus women with preserved renal function was significant for incident MI and cardiovascular mortality with a HR of 1.67 (95% confidence interval (CI) 1.07–2.61) and HR of 1.600 (95% CI 1.17–2.18) respectively. However, men with CKD showed lower HR for both MI and cardiovascular mortality compared to women; HR of 1.51 (95% CI 1.09–2.10) and HR of 1.48 (95% CI 1.15–1.92) respectively.(82) This further establishes the fact that CKD imparts a higher cardiovascular disease associated mortality on women than men. However, this is in contradiction with the previous historical meta-analysis described above, which stated men with CKD had higher cardiovascular mortality risk at all levels of estimated glomerular filtration rates.(79)

Thus, the evidence looking at sex differences in cardiovascular mortality among CKD patients is inconsistent and contradictory and requires further investigation. Therefore, a systematic review of the literature is necessary to establish if differences exist in cardiovascular mortality among men and women with CKD.

1.6. Indications for systematic review

It is necessary to deliver a clear and comprehensive overview of available evidence on sex differences in cardiovascular mortality among CKD patients, which can be achieved by means of a systematic review.(83) As discussed above, the available evidence was inconsistent and inconclusive, and requires systematic review of the literature along with quality assessment of the study design and reported outcomes to determine the completeness, quality and applicability of the current evidence.(83) The review can highlight methodological concerns in current research studies that are looking at men and women with CKD and how these can be improved in the future to better report sex-specific differences. Furthermore, a systematic review will also help to identify research gaps in our current understanding of differences among men and women with CKD and their associated cardiovascular risks.(83)

1.7. Conclusion

Though sex differences in cardiovascular disease and outcomes has been receiving wider recognition and implementation into clinical practice and public health strategies, the evidence regarding sex differences in cardiovascular mortality among CKD patients is still inconsistent and contradictory and has not received similar recognition. A systematic review of the literature is necessary to find out what inconsistencies exist in the data and whether high quality of data is available to establish what sex differences exist. Better understanding of these sex differences is necessary to develop sex-specific

prevention strategies for CKD, creating awareness among high risk groups and establishing sex-specific treatment guidelines for better patient outcomes.

CHAPTER TWO. SYSTEMATIC REVIEW

INTRODUCTION

CKD is a major public health issue responsible for premature death, reduced quality of life and huge financial burden on patients worldwide.(1) In 2016, CKD was recorded as the 16th leading cause of death worldwide resulting in 1.1 million deaths.(84) Alarmingly, by 2040, CKD is projected to be the 5th leading cause of death worldwide.(85) The primary cause of high mortality in patients with CKD is cardiovascular disease; primarily heart failure, myocardial infarction and stroke,(86) and the risk of cardiovascular mortality rises with decreasing renal function.(5) This increased risk is considered to be the result of several traditional risk factors for cardiovascular disease (e.g. age, smoking and obesity), as well as non-traditional risk factors more common in CKD patients compared to the general population (e.g. increased aortic stiffness, vascular calcification and uraemia-related atherosclerosis).(87)

Historically, it has been considered that the life-long risk for cardiovascular disease in the general population is higher for men than women.(69) Recent evidence has shown a narrowing of this difference due to a higher cardiovascular disease burden and associated mortality in women, compared to men.(69) Studies and national statistics from the United States, Europe and Australia have shown that cardiovascular mortality risk was higher in women compared to men in the general population.(65, 71, 88) Another study comparing worldwide historical mortality data (1980) among men and women with recent data (2010) showed that even though mortality due to coronary heart disease and stroke have reduced over time for both sexes, there was an excess reduction of mortality in men, compared to women.(61) This implies that there have been global shifts in cardiovascular mortality over time due to a reduction of mortality in men, or an increase of mortality in women. Thus, cardiovascular disease is no longer exclusively a “man’s disease,” but poses an equal or even higher risk in women.

Though sex differences in prognosis and mortality have been well-established in cardiovascular disease within the general population, such differences have not been well defined in the context of CKD despite the fact CKD patients represent a high-risk group for the development of cardiovascular disease.(87, 89) Only a limited number of studies have focussed on sex-specific differences in cardiovascular outcomes in the CKD population. A large historical meta-analysis looking at renal function of 38,612 CKD participants and the association with cardiovascular mortality found that men with CKD had higher cardiovascular risks at all levels of renal function compared to women with

CKD.(79) This was supported by a registry-based study, which also showed higher cardiovascular mortality in men on dialysis.(80) In contrast to this, evidence from 2018 suggests that women with CKD had higher risk of cardiovascular hospitalizations and death after one year.(81) Therefore, among the few studies that have looked at sex differences among CKD patients, the evidence regarding the risk of cardiovascular disease mortality is contradictory and inconsistent. This inconsistent evidence may be due to a shift in cardiovascular mortality among CKD patients from an increased risk in men, to an increased/equal risk in women. This is consistent with the global shift of cardiovascular mortality risk over time to a potential higher risk in women compared to men in the general population.(61) Increased inclusion of women participants in clinical studies along with improved awareness and detection of cardiovascular complications in women could be possible reasons for this shift in global cardiovascular mortality trends.(60) Thus, further investigation of the literature is required to conclusively determine what sex differences exist in cardiovascular mortality among CKD patients and the quality of the current evidence. Therefore, this thesis aims to systematically review the existing evidence and evaluate whether sex differences exist in overall cardiovascular mortality among CKD patients, and if so, whether these sex differences extend into particular causes of cardiovascular disease, namely myocardial infarction, heart failure and stroke.

METHODS

Protocol and registration

A review protocol for this systematic review was created according to the guidelines outlined in PRISMA-P and there was an intention to register it in PRISMA. However, even though at the time of thesis submission the protocol was not registered in PRISMA due to time constraints, there is an intention to register it as soon as possible.

Eligibility criteria

Studies were included if they reported cardiovascular mortality and/or cause-specific cardiovascular mortality stratified by sex in adult patients with any stage of CKD, including haemodialysis and peritoneal dialysis patients. CKD was defined as having glomerular filtration rate of less than 60 mL/min per 1·73 m^2. Non-interventional cohort studies (prospective/retrospective), cross-sectional studies, case-control studies, control arm of large randomized controlled trials with appropriate sex stratification, systematic reviews and meta-analyses reporting hazard ratios (HRs) with 95% confidence intervals (CI), odds ratios (ORs) or risk ratios (RRs) or enough data to calculate sex-stratified cardiovascular mortality were included. Also, studies were included if they reported patient population data collected in 2004 or after because of a rapid decrease in overall mortality in the CKD population between 1996 and 2004.(90) Studies were included if they had a follow-up duration of at least 1 year and if their results were published in English.

Studies were excluded if they were not looking at adults CKD patients, or if they were looking exclusively at type 1 and type 2 diabetes mellitus patients, since diabetes is itself a risk factor for cardiovascular mortality. Studies were also excluded if at the beginning of the study, their study population had any infection, carcinoma, acute kidney injury, kidney transplant operation, surgical interventions (e.g. percutaneous coronary intervention or coronary artery bypass surgery) or non-conventional drug treatments (e.g. chemotherapy trial intervention). These were likely to confound the association between CKD and cardiovascular mortality since they present an increased cardiovascular risk and could be associated with sex. Reviews, comments or studies with unpublished results were also excluded.

Information sources

A systematic search of the literature was conducted to find all studies and reports presenting cardiovascular mortality stratified by sex in CKD patients, including electronic databases and registry data reports. The electronic databases searched were PubMed, Medline, EMBASE, Scopus, Cochrane Reviews and the Cochrane Central Register of Controlled Trials (CENTRAL) from date of inception to

May 2019. The last search was run on 31st May 2019. In addition, the data from the Australia and New Zealand Dialysis and Transplant Registry (ANZDATA) reporting mortality data in CKD patients was also searched. Furthermore, reference lists from reviews looking specifically at sex differences in cardiovascular disease mortality among CKD patients were also reviewed for any relevant studies.

Search

Combinations of appropriate subject headings and keywords were used to comprehensively search the electronic databases. The following search strategy, with syntax amened for each database, was used: (renal insufficiency, chronic OR kidney failure, chronic OR (chronic kidney adj (disease or insufficiency)) OR chronic renal disease OR chronic renal insufficiency OR end-stage renal disease OR uraemia OR uremia) AND (cardiovascular disease mortality OR (cardiovascular adj (mortality or death or event* or complication* or outcome*)) OR heart disease mortality) AND (sex factors OR male or female OR sex distribution OR sex characteristics OR sex ratio OR men OR women OR (men or women or male* or female* or sex or gender or "sex difference*"). The search strategy was appropriately modified to match the subject headings used in each database. The search was limited to English language. No other limits were applied. Search strategies for Medline, Embase, Scopus and the Cochrane Library are provided in Appendix 1, 2, 3 and 4.

Study selection

Initially the records identified through database searches were screened by the primary author based on the pre-determined eligibility criteria by going through titles and abstracts. All duplicate studies were removed at this stage by using reference management software EndNote and the ones not detected by Endnote were excluded manually. The screened records were then reviewed independently in full text for eligibility for data extraction by three reviewers, Sultana Shajahan (100%), Dr. Cara Hildreth (2%) and Dr. Jacqueline Philips (2%), where the percentage denotes the proportion of the studies screened by each reviewer from the total selection of studies. There was disagreement regarding one study, which was then resolved by discussion between the three reviewers.

Data extraction

Data was extracted using an adapted form of the Data Extraction Template for systematic reviews by the Cochrane Public Health Group (Appendix 5). The extraction form was modified according to the included study characteristics and reported data items, pilot-tested on 5 randomly selected studies and further refined where appropriate. The final data form used for data extraction is proved in Appendix 6. Data was independently extracted in full by the primary author (Sultana Shajahan), and

in duplicate by two different reviewers, Dr. Cara Hildreth (4.44%) and Dr. Janaki Amin (6.6%) independently, and finally any disagreements were resolved by discussion. A few studies were identified as reporting from the same population database and therefore duplicates reports were excluded on discussion.

Data items

Information was extracted from each study for the following data items:

1. General Information from the studies, such as the report title, first author, publication year, publication type (journal/conference report etc.), country where the study was undertaken, funding sources and if there was any conflict of interest.
2. Description of the population from which study sample was drawn, whether the study was hospital/registry data based, and how participants for the study were recruited.
3. Aim of the primary study, study design, what inclusion and exclusion criteria were applied while selecting study participants and what the study duration was.
4. Participant data such as description of patient condition, total number of participants with CKD, numbers of men and women with CKD, stage of CKD, whether they received dialysis or not, and if so, whether the whole study population was on dialysis, average age of the study sample, average length of follow-up, number of patients lost to follow-up and comorbidities of the participants.
5. Outcome data on how cardiovascular (overall and/or cause-specific) mortality was defined and reported in the study and outcome data collection process (patient medical records or death registry data).
6. Results including total and sex-stratified number of cardiovascular deaths, sex-stratified mortality rates as defined in the study and per 1000 person years, HRs of men for cardiovascular mortality with 95% CI and *p*-value (both adjusted and unadjusted), HRs of men and/or women compared to the general population when available, relative risk stratified by sex, odds ratio stratified by sex, description of statistical methods used and whether any adjustments for confounders were made regarding the results. Data was also collected for cause-specific cardiovascular mortality stratified by sex, and all-cause mortality stratified by sex and HR of men for all-cause mortality with 95% CI (unadjusted and adjusted) with *p*-value.
7. Study author's conclusions regarding sex differences in cardiovascular mortality among the study participants, if provided.

Risk of Bias Assessment

Risk of bias (RoB) in the included studies was assessed by using the Newcastle-Ottawa Scale (NOS) for cohort studies by the same reviewers (Sultana Shajahan (100%), Dr. Cara Hildreth (4.44%) and Dr.

Janaki Amin (6.6%)).(91) Taking into consideration that the primary objectives of the included studies were different from the research question outlined in the beginning of the review, the RoB tool was modified accordingly to assess quality of data pertaining to sex-stratified cardiovascular outcomes in CKD patients only (and not the primary objectives of the included studies). It was pilot tested in 5 studies and further refined as appropriate.

The adapted RoB tool assessed for data quality against seven criteria across three domains, such as:

A. Selection: Representativeness of the number of men and women in the CKD cohort:

i. Similar distribution of men and women in the study population *
ii. Mostly men or women
iii. No description

B. Comparability of the study results:

i. Study controlled for age and diabetes mellitus *
ii. Study controlled for other confounders *
iii. Study did not adjust for any confounders

C. Outcome

a) Assessment of outcome was done through:
   i. Patient medical records *
   ii. Record linkage registry data *
   iii. No description

b) Comprehensive cardiovascular mortality data relative to sex differences (e.g. absolute mortality rates, number of cardiovascular deaths in men and women etc.)
   i. Comprehensive data was reported *
   ii. Comprehensive data was not reported

c) Length of follow-up: -
   i. At least 2 years if >60% of the patients had ESRD, *
   ii. At least 5 years if <60% of the study population had other stages of CKD than ESRD. *
   iii. Follow-up duration was not adequate

d) Adequacy of follow-up: -
   i. Complete follow-up- all subjects were accounted for, *
   ii. Subjects lost to follow-up unlikely to introduce bias- lost <20 % to follow-up or description provided of those lost, *
   iii. Lost >20 % to follow-up or no description provided of those lost.

Each asterisk (*) was given a score of one against that criterion, indicating low risk. Where the criteria did not receive an asterisk (high risk) or no data was given in the primary study to make an assumption regarding bias (unclear risk), a score of zero was given (for both high and unclear risk). The scores from the asterisks was tallied up to give the final cumulative score. A study was considered of high quality if the cumulative score was ≥ 4 and low quality if <4.

Summary measures

Risk estimates of sex for cardiovascular mortality were extracted from the included studies, including hazard ratio (HR) of sex for cardiovascular mortality with 95% confidence interval (CI). It should be noted here that the since many of the studies included were not primarily looking at sex differences in cardiovascular mortality and therefore had no reported risk estimates for sex, numerical values for cardiovascular deaths were collected for both sexes where available. The number of cardiovascular deaths for men and women from these studies were used to calculate risk ratios (RRs) with 95% confidence intervals (CIs) of cardiovascular mortality for men versus women. The cardiovascular mortality data from ANZDATA was also used to calculate RR with 95% CI.

Synthesis of results

Extracted risk estimates along with the calculated ones were evaluated for heterogeneity. The individual study designs, their study populations and observed risk estimates were considerably variable. Furthermore, the reported risk estimates were either not adjusted, or adjusted for different confounders of cardiovascular mortality and sex. Due to heterogeneity observed among the study methods and results, a random effects model rather than a fixed-effects model was used for meta-analysis.(92) Meta-analysis of the reported HRs and calculated RRs (with ANZDATA) were conducted separately to estimate an overall risk estimate and forest plots were generated to show the results of the analyses. Heterogeneity among risk estimates was measured using the I^2 statistic. Interpretation of the I^2 statistic was based on a guide provided by the Cochrane Handbook for the assessment of thresholds of I^2 in the context of meta-analyses of randomized trials: -

- 0% to 40%: might not be important;
- 30% to 60%: may represent moderate heterogeneity;
- 50% to 90%: may represent substantial heterogeneity;
- 75% to 100%: considerable heterogeneity.(92)[2]

To further explore any possible sources of heterogeneity, separate random effects analyses of adjusted and unadjusted HRs were conducted to assess if adjustment for possible confounders altered the risk estimates. Subgroup analyses of the reported HRs were also performed to assess the sources of heterogeneity based on quality (High vs. Low), country (China vs. Europe vs. Taiwan vs. South Africa vs. United States vs. Korea vs. Japan vs. Oceania (Australia and New Zealand)), sample size (<100 vs. 100-499 vs. 500-999 vs. >1000), length of follow-up in years (<2 vs. 2-4 vs. >4) and men-women ratio

[2] Interpretation of the observed value of I2 depends on (1) amount and direction of effects, and (2) strength of evidence to determine significance of heterogeneity (e.g. P-value from the Chi2 test, or a confidence interval for I2)

in the study sample (<1 vs. 1-1.4 vs. >1.5). Due to lack of data, analysis for cause-specific cardiovascular mortality could not be performed.

Variables that may have been responsible for heterogeneity were critically analysed and tabulated. A funnel plot to with pseudo-95% CI was created using the reported HRs to assess publication bias. All analyses were performed used STATA version 16 and Revman 5.

RESULTS

Search result

Database searching revealed 23,262 potentially relevant studies, with four additional records identified from online registries and reference lists of relevant reviews,(79-81, 93) as shown in Figure 2. Duplicate studies were removed at this stage yielding 12,750 studies. Titles and abstracts were assessed against the eligibility criteria and 1,246 studies were found to be eligible. List of excluded studies with their reason for exclusion is provided in Appendix 7. The full text for each of the 1,246 studies were carefully evaluated to determine if they met the inclusion criteria and among them, 48 studies were found to be eligible for inclusion. Of these 48 studies, 9 studies were identified that reported same data from the same study population.(94-102) After careful evaluation of the results relevant to the research question and eligibility criteria, studies with the most comprehensive data were included in the final review.(103-108) This process yielded a total of 38 studies and one registry report (ANZDATA; (93)) to be included in this systematic review.

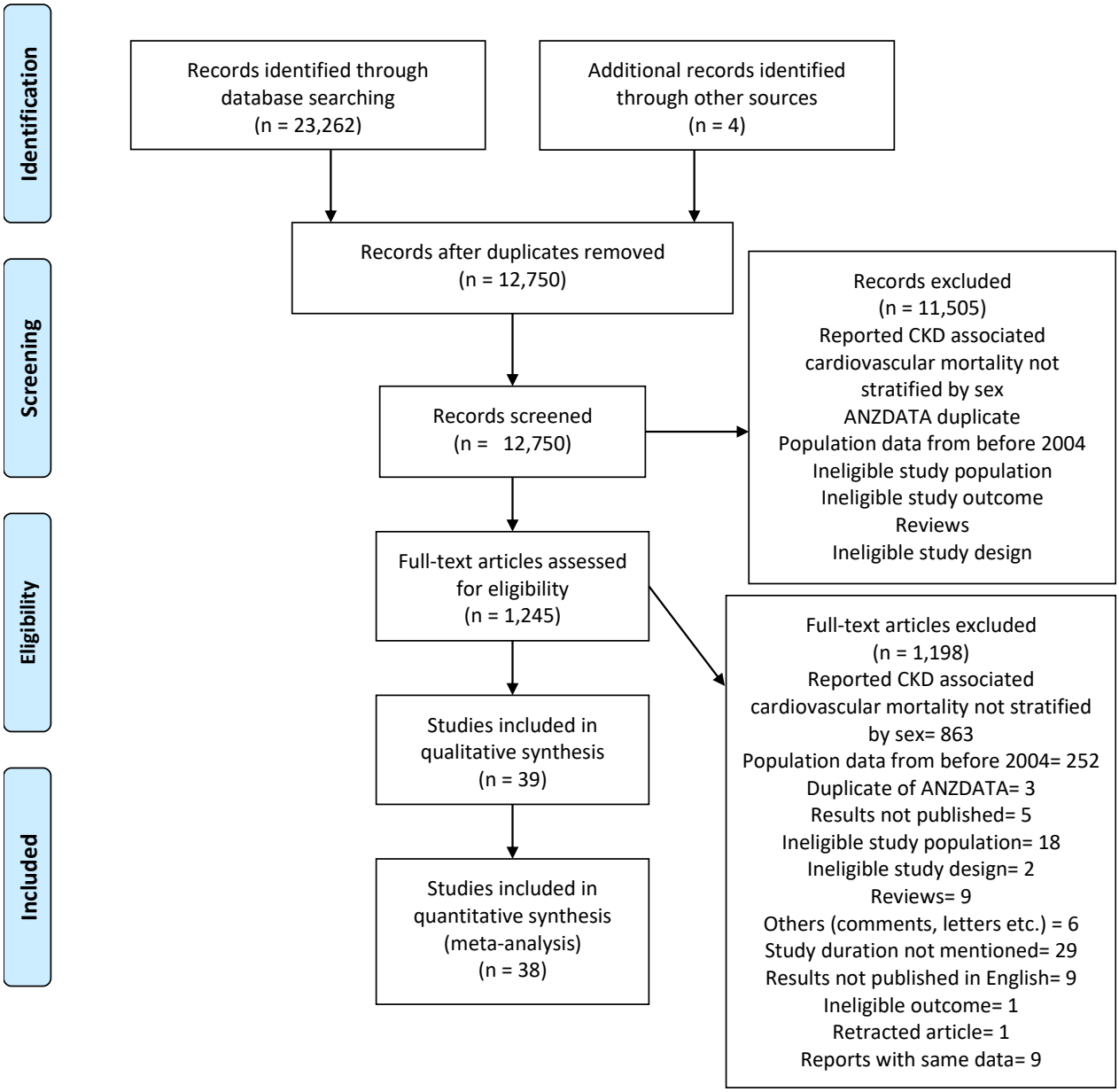

Figure 2. Flow chart of study selection and search results (with reasons for exclusion)

Characteristics of included studies

Participants

In total, 109,467 participants were included in the studies evaluated. This comprised 56,843 men and 52,625 women. The ratio of men to women across these studies was inconsistent, with some studies including more men (e.g. (106, 109, 110)) and others including more women (e.g. (111)). The highest distribution of men to women was 2.1 in two studies,(106, 110) and the lowest was 0.44 in a single study,(111) giving an average distribution 1.29 across studies.

The average age ranged from 52-73 years, except one study which consisted of a relatively younger population (mean 36.1 years).(112)

The majority of the study population were based on ESRD patients on some form of dialysis: 24 studies included subjects exclusively on haemodialysis (HD; (104-109, 111, 113-129)); 7 studies included subjects on peritoneal dialysis (PD; (103, 130-135); and two studies included subjects on either HD or PD (see: (112, 136)). Only five studies included in this review included subjects with stage 3-5 CKD (see: (110, 137-140)).

The main comorbidities among the subjects included in these studies were diabetes mellitus and hypertension; reported in 21 out of the 38 included studies. However, comorbidities were not consistently reported across the studies, with 17 studies not reporting the comorbidities found in their respective patient population (see: (103, 106, 115-118, 121, 126, 128-131, 135-137, 139)). Only one study excluded diabetes as part of their patient selection criteria.(132)

Study designs

As detailed in Table 1, the included studies were published from 2010 to 2019 and varied considerably in their sample size with a range of 62 (see: (104)) to 38,377 subjects (see; (138)).

Around 60% (n=23) of the included studies were conducted in Asia (Japan, China, Taiwan). The remaining were undertaken in Europe (France, Italy, Macedonia, Sweden, Germany and Montenegro),(13% of included studies; (104, 105, 109, 113, 114)), the United States, (10% of included studies; (117, 138-140)), Turkey, (5% of included studies; (127, 129)) New Zealand, (3% of included studies; (118)), South Africa (3% of included studies; (112)), or cross-continental (5% of included studies; one among the Netherlands, Canada and Norway and the other among Europe and South America, (116, 125)) and one annual registry report from ANZDATA included patients from Australia and New Zealand.(93)

With the exception of one randomized controlled trial (116), all studies included in this systematic review were longitudinal cohort studies. Thirty-five of these studies were hospital/clinic based, three registry-based studies (137-139), and one was based on electronic medical records from a large dialysis organisation (117).

The duration of follow-up varied among the studies, ranging from 1.28 years (e.g. (140)) to 7 years (e.g. (128)). 21 of the 38 studies had accounted for all study participants (see: (103, 106, 108, 114, 116, 118-126, 128, 129, 131-135)); however, the remaining 17 studies did not describe clearly whether all patients were accounted for.

Reporting of outcomes

None of the included studies reported sex-specific cardiovascular mortality as the primary outcome of the study. With the exception of one study which only reported sex-specific stroke mortality (see: (139)), all included studies reported overall cardiovascular mortality data stratified by sex. Of the 37 studies which reported overall cardiovascular mortality, only three studies reported cause-specific mortality stratified by sex, namely heart failure, myocardial infarction, stroke and sudden cardiac death (see: (113, 120, 138)).

The hazard ratio (HR) of sex for cardiovascular mortality with 95% CI was the most frequently reported risk estimate: reported in 27 out of the 37 studies. The remaining 10 studies only reported number/proportion of cardiovascular deaths stratified by sex (see: (104, 109, 113, 116, 120, 121, 127, 129, 137, 138)). This information was used to calculate the risk ratio (RR) with a 95% CI.

Table 1. Summary of study characteristics

References	Year of Study	Country of Study	Hospital or Registry based	Study factor (SF) and outcome factor (OF) of the primary study	Stage of CKD	Dialysis Modality	Sample size	Men: Women Ratio	Average Age (years)	Average length of follow-up (years)	Baseline comorbidities of study sample (%)
Wu et al. (128)	2019	People's Republic of China	Hospital	SF: baseline serum magnesium level OF: mortality	ESRD*	HD	169	1.2	60.20 ± 15.64	7	Not Reported
Saglimbene et al. (125)	2019	Europe and South America	Hospital	SF: n-3 polyunsaturated fatty acid dietary intake OF: mortality	ESRD	HD	8110	1.4	63.1 ± 15.0	2.7	• HTN (85.0) • DM (32.0) • HF (19.1) • MI (11.6) • Stroke (8.8) • Pulmonary disease (11.6) • Gastrointestinal disease (21.7)
Gong et al. (130)	2018	People's Republic of China	Hospital	SF: elevated serum sclerostin levels OF: mortality	ESRD*	PD	98	0.96	52.5 ± 10.9	6	• DM (21.4) • History of CVD (7.1)
Yayar et al. (129)	2018	Turkey	Hospital	SF: serum hepcidin-25 & sub-clinic atherosclerosis OF: mortality	ESRD*	HD	82	0.78	57.9 ± 16.1	4	• DM (26.8) • History of CVD (35.4)
Kawagoe et al. (121)	2018	Japan	Hospital	SF: N-terminal-pro-B-type-natriuretic peptide OF: mortality	ESRD*	HD	1310	1.4	67.9	2	Not Reported

References	Year of Study	Country of Study	Hospital or Registry based	Study factor (SF) and outcome factor (OF) of the primary study	Stage of CKD	Dialysis Modality	Sample size	Men: Women Ratio	Average Age (years)	Average length of follow-up (years)	Baseline comorbidities of study sample (%)
Kon et al. (137)	2018	Japan	Registry	SF: baseline eGFR OF: 5-year all-cause & cardiovascular mortality.	3-5	Not clear	27,362	1.2	70.15 ± 2.9	5	• Stroke (19.6) • Heart disease (29.2) • DM not reported
Navaneethan et al. (138)	2018	The United States	Registry	SF: High-density lipoprotein cholesterol OF: mortality	3-5	Not on dialysis	38,377	0.8	71.7 ± 11.2	4.5	• HTN (87.2) • DM (29.8) • CAD (24.2) • HF (7.8) • Cerebrovascular disease (10.4) • PVC (3.7)
Zhang et al. (108)	2017	People's Republic of China	Hospital	SF: Soluble Suppression of Tumorigenicity 2 OF: mortality	ESRD*	HD	414	1.6	61.8 ± 8.75	1.86	• DM (22.9) • HTN (94.0) • CVD (9.2)
Wu et al. (135)	2017	Taiwan	Hospital	SF: chest X-ray-detected aortic arch calcification OF: mortality	ESRD*	PD	190	0.8	52.6 ± 14.3	4.6	• DM (15.3) • CVD (21.1)
Peng et al. (134)	2017	People's Republic of China	Hospital	SF: prognostic nutritional index OF: cardiovascular disease mortality	ESRD*	PD	345	1.4	52.84 ± 14.16	2.1	• DM (23.48) • HTN (43.19) • CVD (20)

References	Year of Study	Country of Study	Hospital or Registry based	Study factor (SF) and outcome factor (OF) of the primary study	Stage of CKD	Dialysis Modality	Sample size	Men: Women Ratio	Average Age (years)	Average length of follow-up (years)	Baseline comorbidities of study sample (%)
Jeng et al. (119)	2017	Taiwan	Hospital	SF: proinflammatory monocytes levels OF: all-cause & cardiovascular mortality	ESRD*	HD	136	1.2	60.25 ± 8.75	5.57	• DM (50) • HTN (72.06) • CVD (53.38)
Antunovic et al. (104)	2017	Montenegro	Hospital	SF: high-sensitive troponin I OF: mortality	ESRD	HD	62	0.9	57.8 ± 10.2	2	• DM (8.1) • HTN (32.3)
Isla et al. (112)	2016	South Africa	Hospital	SF: causes and predictors OF: mortality	ESRD	HD & PD	340	1.1	36.1 ± 11.9	3.05	• DM (10.3) • HTN (25.9) • Human immunodeficiency virus (HIV) positive (3.1)
Lu et al. (124)	2016	Taiwan	Hospital	SF: number of Endothelial Progenitor Cells OF: cardiovascular and all-cause mortality	ESRD*	HD	154	0.9	69.06 ± 15.36	4.19	• DM (55.85) • HTN (68.83)
Merle et al. (105)	2016	France	Hospital	SF: low parathyroid hormone (PTH) status OF: mortality	ESRD*	HD	1983	1.6	67.90 ± 15.4	2	• DM (37.7) • HTN (79.1) • CVD (54.6)

References	Year of Study	Country of Study	Hospital or Registry based	Study factor (SF) and outcome factor (OF) of the primary study	Stage of CKD	Dialysis Modality	Sample size	Men: Women Ratio	Average Age (years)	Average length of follow-up (years)	Baseline comorbidities of study sample (%)
Chen et al. (115)	2015	People's Republic of China	Hospital	SF: aortic artery calcification, cardiac valve calcification OF: mortality	ESRD*	HD	110	1.4	55.2 ± 1.4	3.5	• DM (57.3)
Flythe et al. (117)	2015	The United States	Registry	SF: post dialysis weights above and below the prescribed target weight OF: mortality	ESRD*	HD	10,758	1.2	61 ± 14.8	3	• DM (59.13) • Heart Failure (43.07) • CAD (13.4)
Tsai et al. (126)	2015	Taiwan	Hospital	SF: site of peripheral artery occlusive disease OF: all-cause & cardiovascular mortality	ESRD*	HD	444	0.87	61.6 ± 13.1	4.29	• DM (32.7) • CVD (20.9)
Oh et al. (133)	2015	Korea	Hospital	SF: 3 biomarkers (N-terminal-pro-B-type-natriuretic peptide, Cardiac troponin T and high-sensitivity C-reactive protein) OF: mortality	ESRD*	PD	335	1.6	53.5 ± 13.1	1.79	• DM (41.8) • HTN (48.1) • Coronary arterial disease (11.3) • Peripheral arterial disease (7.5)

References	Year of Study	Country of Study	Hospital or Registry based	Study factor (SF) and outcome factor (OF) of the primary study	Stage of CKD	Dialysis Modality	Sample size	Men: Women Ratio	Average Age (years)	Average length of follow-up (years)	Baseline comorbidities of study sample (%)
Ulusoy et al. (127)	2015	Turkey	Hospital	SF: tenascin-C levels OF: cardiac mortality.	ESRD	HD	238	1.4	60.26 ± 14.23	2	• DM (36.3) • HTN (30.9) • Peripheral vascular disease (6.3)
Yoshitomi et al. (110)	2014	Japan	Hospital	SF: ankle-brachial blood pressure index OF: cardiovascular events and mortality	3-5	Not on dialysis	320	2.1	70 ± 8	2.5	• HTN (94) • DM (51) • History of CVD (19) • Dyslipidaemia (73) • History of IHD (19)
Okamoto et al. (136)	2014	Japan	Hospital	SF: visceral fat area OF: mortality	ESRD*	HD, PD	126	1.3	67 ± 12	5	• DM (52.38)
Li et al. (122)	2014	People's Republic of China	Hospital	SF: pulmonary hypertension OF: cardiovascular mortality and events	ESRD*	HD	278	1.2	58.0 ± 14.8	1.8	• DM (33.8) • HTN (91.1) • History of CVD (30.6)
Honneger Bloch et al. (118)	2014	New Zealand	Hospital	SF: high sensitivity troponin T OF: mortality	ESRD*	HD	238	1.1	63	2	• DM (64) • History of MI (67)

References	Year of Study	Country of Study	Hospital or Registry based	Study factor (SF) and outcome factor (OF) of the primary study	Stage of CKD	Dialysis Modality	Sample size	Men: Women Ratio	Average Age (years)	Average length of follow-up (years)	Baseline comorbidities of study sample (%)
Oh et al. (107)	2014	Korea	Hospital	SF: 3 biomarkers (N-terminal-pro-B-type-natriuretic peptide, Cardiac troponin T and high-sensitivity C-reactive protein) OF: mortality	ESRD	HD	864	1.5	59.7 ± 14.4	1.5	• DM (56.3) • HTN (48.0)
Avramovski et al. (109)	2014	Republic of Macedonia	Hospital	SF: aortic pulse wave velocity OF: all-cause and cardiovascular mortality	ESRD*	HD	80	2	59.3 ±11.8	2.5575	• DM (20) • HTN (46.20)
Arsov et al. (114)	2013	Macedonia, Germany, Sweden	Hospital	SF: skin autofluorescence and release of heart-type fatty acid binding protein in plasma OF: overall & CVD mortality	ESRD*	HD	169	1.6	56 ± 13	3	• DM (24%) • HTN (18%) • CVD (18%)
Lim et al. (123)	2013	Taiwan	Hospital	SF: serum oxidized albumin OF: all-cause & cardiovascular mortality	ESRD*	HD	248	1	65 ± 13	4.9	• DM (51.21) • HTN (75.4)

References	Year of Study	Country of Study	Hospital or Registry based	Study factor (SF) and outcome factor (OF) of the primary study	Stage of CKD	Dialysis Modality	Sample size	Men: Women Ratio	Average Age (years)	Average length of follow-up (years)	Baseline comorbidities of study sample (%)
Li et al. (132)	2013	People's Republic of China	Hospital	SF: insulin resistance OF: cardiovascular morbidity and mortality	ESRD*	PD	66	0.89	62.1 ± 16.3	3.44	• Non-diabetic, • History of CVD (9.09)
Genovesi et al. (113)	2013	Italy	Hospital	SF: various risk factors OF: total mortality & sudden cardiac death	ESRD*	HD	122	1.8	69.75 ± 6.85	3.9	• Ischaemic heart disease (37.7) • DM (27.1) • HTN (84.4) • Dilated cardiomyopathy (41.8) • Valvular heart disease (23.8) • Dyslipidaemia (18.0) • Ischaemic cerebral disease (14.8) • Atrial fibrillation (41.8)
den Hoedt et al. (116)	2013	The Netherlands, Canada, Norway	Hospital	SF: online hemodiafiltration versus low-flux haemodialysis OF: all-cause & CV morbidity and mortality	ESRD	HD	714	1.7	64.1 ± 13.7	3	• DM (24) • History of CVD (44)

References	Year of Study	Country of Study	Hospital or Registry based	Study factor (SF) and outcome factor (OF) of the primary study	Stage of CKD	Dialysis Modality	Sample size	Men: Women Ratio	Average Age (years)	Average length of follow-up (years)	Baseline comorbidities of study sample (%)
Murthy et al. (140)	2012	The United States	Hospital	SF: vasodilator function OF: mortality	CKD Stages 3 -5	Not clear	866	1	71.1 ± 9.25	1.28	• DM (44.8) • HTN (91.2) • Dyslipidaemia (70.0) • Recent MI <=30 days (18.9) • Remote MI >30 days (22.6) • Cerebrovascular disease (8.0) • Peripheral vascular disease (9.1)
An et al. (103)	2012	People's Republic of china	Hospital	SF: neutrophil to lymphocyte ratio OF: cardiovascular & all-cause mortality	ESRD*	PD	138	1.4	53 ± 17	3.2	• DM (23.9) • CAD (29.1) • Cerebrovascular disease (7.7) • PVD (2.6)
Wu et al. (111)	2012	Taiwan	Hospital	SF: Serum free p-cresyl sulphate levels OF: all-cause and CV mortality	ESRD*	HD	112	0.44	72.6 ± 6.3	2.75	• DM (62.5%) • HTN (56.3%)
Lee et al. (131)	2012	Taiwan	Hospital	SF: prevalence of aortic arch calcification OF: mortality	ESRD*	PD	415	1.3	55.8 ± 13.8	2.85	• DM (47.23) • CVD (34.94)

References	Year of Study	Country of Study	Hospital or Registry based	Study factor (SF) and outcome factor (OF) of the primary study	Stage of CKD	Dialysis Modality	Sample size	Men: Women Ratio	Average Age (years)	Average length of follow-up (years)	Baseline comorbidities of study sample (%)
Kakiya et al. (120)	2012	Japan	Hospital	SF: serum adrenal androgen dehydroepiandrosterone sulphate levels OF: mortality	ESRD*	HD	494	1.7	60.9 ± 10.2	4.2	• Diabetic Nephropathy (22.28) • HTN (86.24) • Pre-existing CVD (33.62)
Ogawa et al. (106)	2010	Japan	Hospital	SF: aortic arch calcification score OF: all-cause & cardiovascular mortality	ESRD*	HD	401	2.1	61.5 ± 12	4	• DM (33.17)

HD= Haemodialysis, PD= Peritoneal dialysis, ESRD= End-Stage Renal Disease, DM= Diabetes mellitus, HTN= Hypertension, CVD= Cardiovascular disease, PVD= Peripheral vascular disease, HF= Heart failure, MI= Myocardial infarction, CAD= Coronary artery disease.
***Patients were defined as being on dialysis in the primary study and were thus assumed to have end-stage renal disease.**

Risk of bias

The overall quality assessment of the included studies is presented in Figure 3, with a study-by-study breakdown provided in Figure 4. Further elaboration of the risk assessment is provided in Appendix 8. The quality of studies varied considerably from a cumulative score of "1" (see: (110)) to "6"(see: (103, 124-126, 131, 135)). In total, 23 studies had a cumulative score ≥ 4 and were therefore considered of high quality (see: (103, 105, 108, 112, 116-129, 131-133, 135, 138)).

As shown in the Figures 3 and 4, the foremost limitation observed in the included studies was the lack of comprehensive data regarding sex differences in cardiovascular mortality among CKD patients. This criterion was only evident in approximately 30% of the included studies. The absolute numbers of cardiovascular deaths for men and women or absolute cardiovascular mortality rates for both sexes were not provided in approximately 70% of the studies. Also, the distribution of men and women in the study population was not equal in more than half of the studies. Around 70% of the studies reported unadjusted risk estimates, and only about 30% studies adjusted for age and diabetes, as well as other confounders such as history of CVD, hypertension and haemoglobin level. In approximately 30% of the included studies, subjects were not followed up for at least 2 years for outcomes to occur. Finally, information regarding patient follow-up was inadequate (present in approximately 55% of studies).

The source of outcome data was mainly through patient medical records or data linkage to mortality registries and was found to be consistent across studies.

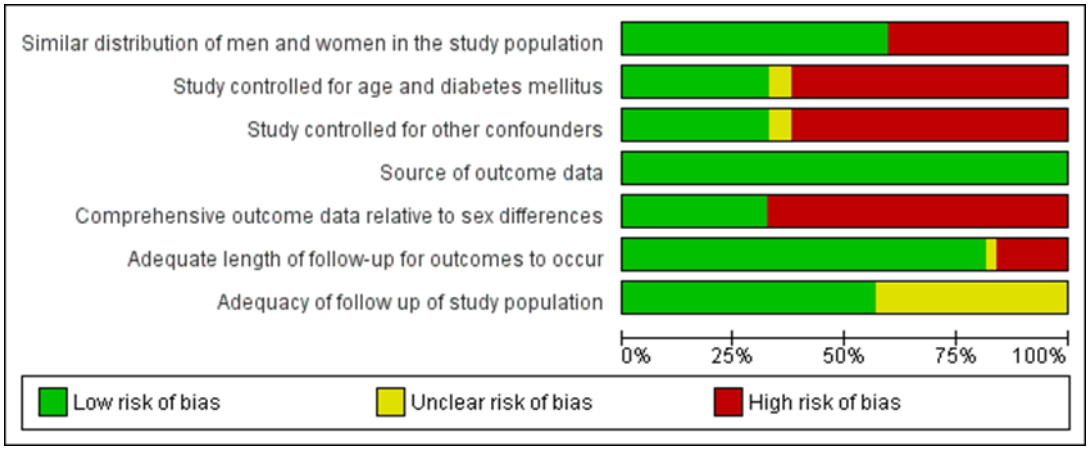

Figure 3. Risk of bias graph

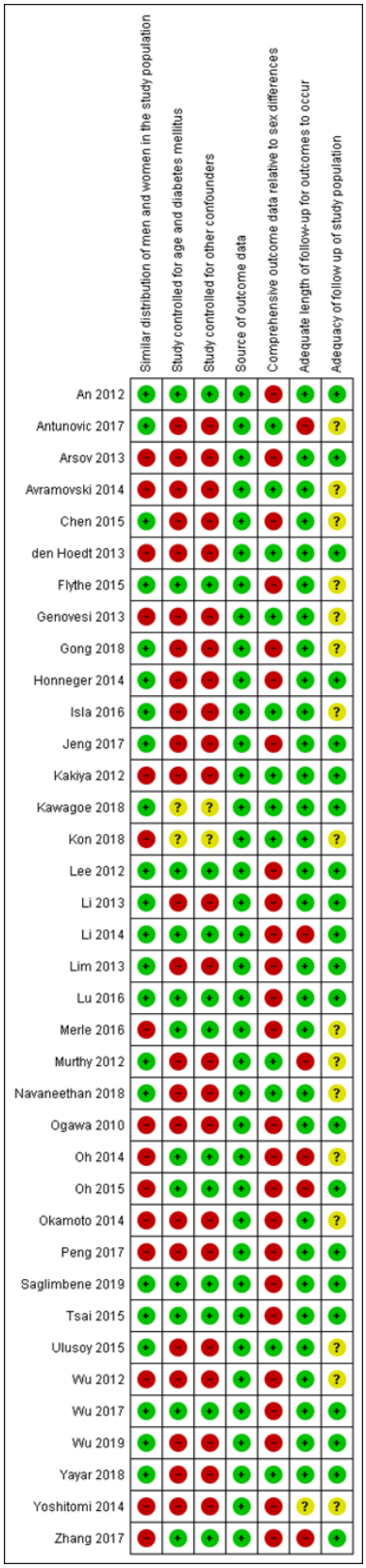

Figure 4. Risk of bias summary

Summary of results

Cardiovascular mortality relative to sex

The principal measure of effect of sex on cardiovascular mortality was the hazard ratio of male sex with 95% confidence intervals. As shown in Table 2 (below), there were 15 unadjusted HRs and 12 adjusted HRs with 95% CI for the association of male sex and cardiovascular mortality. As shown in Figure 5, a random effect meta-analysis of the adjusted HRs (and unadjusted HR where adjusted HR were not available) showed there was no significant association of sex with cardiovascular mortality among CKD patients (HR 1.10, 95% CI 0.95-1.28) Heterogeneity as estimated by I^2 was 41.6% (p=0.013), which when compared to the thresholds provided by the Cochrane Handbook (as described in the Methods section), falls in the not important to moderate range of heterogeneity. This rejects the null hypothesis that there was significant heterogeneity to calculate an overall risk estimate for cardiovascular mortality and showed an overall homogeneity of the reported HRs.

Table 2. Summary of reported risk estimates of male sex for cardiovascular mortality

Reference	Unadjusted				Adjusted				
	Hazard Ratio	**95% CI Lower Limit**	**95% CI Upper Limit**	***P* value**	**Hazard Ratio**	**95% CI Lower Limit**	**95% CI Upper limit**	***P* value**	**Adjusted Variables**
Wu et al. (128)	1.027	0.459	2.297	0.948	-	-	-	-	n/a
Saglimbene et al. (125)	-	-	-	-	1.16	0.98	1.37	0.08	Age, DM, MI, education, smoker, vascular access type, body mass index, albumin, Charlson comorbidity score, phosphorus level, calcium level, haemoglobin, KT/V (index to quantify haemodialysis treatment adequacy), fibre daily intake, energy intake
Gong et al. (130)	0.694	0.294	1.638	0.404	-	-	-	-	n/a
Zhang et al. (108)	-	-	-	-	2.773	1.109	6.938	0.029	Age, DM, coronary heart disease, dialysis vintage, vascular access, sST2, NT-proBNP, hs-cTnT, hs-CRP, haemoglobin, serum albumin, leukocyte count, serum urea, serum creatinine, uric acid, body mass index, systolic BP, diastolic BP
Wu (et al. (135)	-	-	-	-	0.402	0.054	3.018	0.376	Age, DM, duration of PD, CVD, MBP, BMI, albumin, phosphorous, HDL, aortic arch calcification
Peng et al. (134)	0.7	0.34	1.42	0.321	-	-	-	-	n/a
Jeng et al. (119)	0.96	0.51	1.79	0.888	-	-	-	-	n/a
Isla et al. (112)	0.83	0.39	1.78	-	-	-	-	-	n/a
Lu et al. (124)	-	-	-	-	1.278	0.614	2.661	-	Age, DM, HTN, Endothelial progenitor cells, Current smoker, dialysis efficiency, haemoglobin, Harrell's Concordance

Reference	Unadjusted				Adjusted				
	Hazard Ratio	**95% CI Lower Limit**	**95% CI Upper Limit**	***P* value**	**Hazard Ratio**	**95% CI Lower Limit**	**95% CI Upper limit**	***P* value**	**Adjusted Variables**
Merle et al. (105)	-	-	-	-	1.05	0.67	1.64	0.838	Age, DM, hypertension, smoking, prevalent cardiovascular events (cerebrovascular disease, ischemic heart disease, heart failure, and peripheral artery disease)
Chen et al. (115)	3.508	0.999	12.315	0.05	-	-	-	-	n/a
Flythe et al. (117)	-	-	-	-	1.19	1.04	1.35	-	Age, DM, race, CAD, HF, vascular access type, albumin, phosphorus level, haemoglobin, equilibrated Kt/V, dialytic vintage, prescribed treatment time (minutes), intradialytic weight gain, post-dialysis weight, pre-dialysis systolic BP, missed treatments
Tsai et al. (126)	1.13	0.75	1.7	0.541	1.87	1.11	3.16	0.018	Age, DM, CVD, BP, albumin, triglyceride cholesterol, Kt/v, cardiomegaly, Ca-P product, peripheral arterial occlusion disease
Oh et al. (133)	0.68	0.318	1.452	0.319	0.69	0.319	1.49	0.344	Age, white blood cell count
Yoshitomi et al. (110)	2.82	0.95	12.09	0.06	-	-	-	-	n/a
Okamoto et al. (136)	1.19	0.42	3.34	0.33	-	-	-	-	n/a
Li et al. (122)	2.25	0.99	5.1	0.053	2.06	0.89	4.75	0.091	Age, DM, CVD, pulmonary hypertension, duration of HD, pre-HD BP, serum phosphorus, urea reduction ratio, systolic dysfunction
Honneger Bloch et al. (118)	0.66	0.35	1.24	0.1987	-	-	-	-	n/a
Oh et al. (107)	1.087	0.505	2.338	0.831	0.617	0.182	2.095	0.439	Age, DM, HTN
Arsov et al. (114)	2.44	1.05	5.64	0.04	-	-	-	-	n/a
Lim et al. (123)	0.95	0.582	1.54	0.8268	-	-	-	-	n/a
Li et al. (132)	1.31	0.68	2.54	0.42	-	-	-	-	n/a
Murthy et al. (140)	1.71	1.11	2.63	0.01	-	-	-	-	n/a

Reference	**Unadjusted**				**Adjusted**				
	Hazard Ratio	**95% CI Lower Limit**	**95% CI Upper Limit**	***P* value**	**Hazard Ratio**	**95% CI Lower Limit**	**95% CI Upper limit**	***P* value**	**Adjusted Variables**
An et al. (103)	-	-	-	-	0.29	0.09	0.9	0.033	Age, diabetic nephropathy, history of CVD, albumin level, neutrophil to lymphocyte ratio
Wu et al. (111)	0.707	0.274	1.825	0.474	-	-	-	-	n/a
Lee et al. (131)	-	-	-	-	0.554	0.254	1.206	>0.05	Age, DM, CVD, smoking, lipid-lowering therapy calcium phosphorous product, albumin, log hs-CRP, baseline aortic arch calcification
Ogawa et al. (106)	0.588	0.253	1.365	0.217	-	-	-	-	n/a

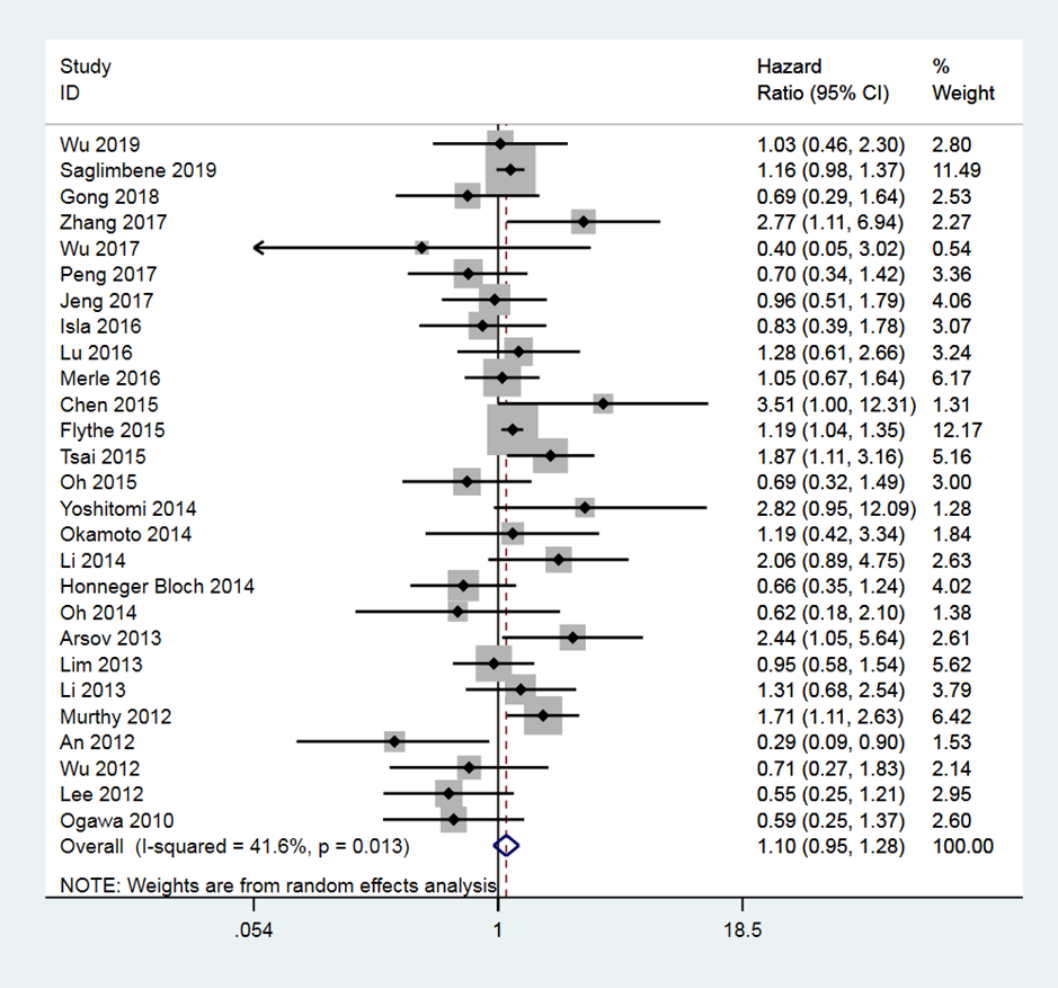

Figure 5. Forest plot showing of overall risk estimate and heterogeneity among HR of men vs. women for cardiovascular mortality (including both unadjusted and adjusted HRs)

Unadjusted Hazard Ratios

15 of the included studies reported unadjusted HRs of male sex for cardiovascular mortality with 95% CI (see: (106, 110-112, 114, 115, 118, 119, 123, 128, 130, 132, 134, 136, 140)). A random effect analysis of the unadjusted HRs did not reveal any significant association between sex and cardiovascular mortality (HR 1.07, 95% CI 0.84-1.36) and non-important heterogeneity (I^2= 37.2%; p=0.072; see Figure 6).

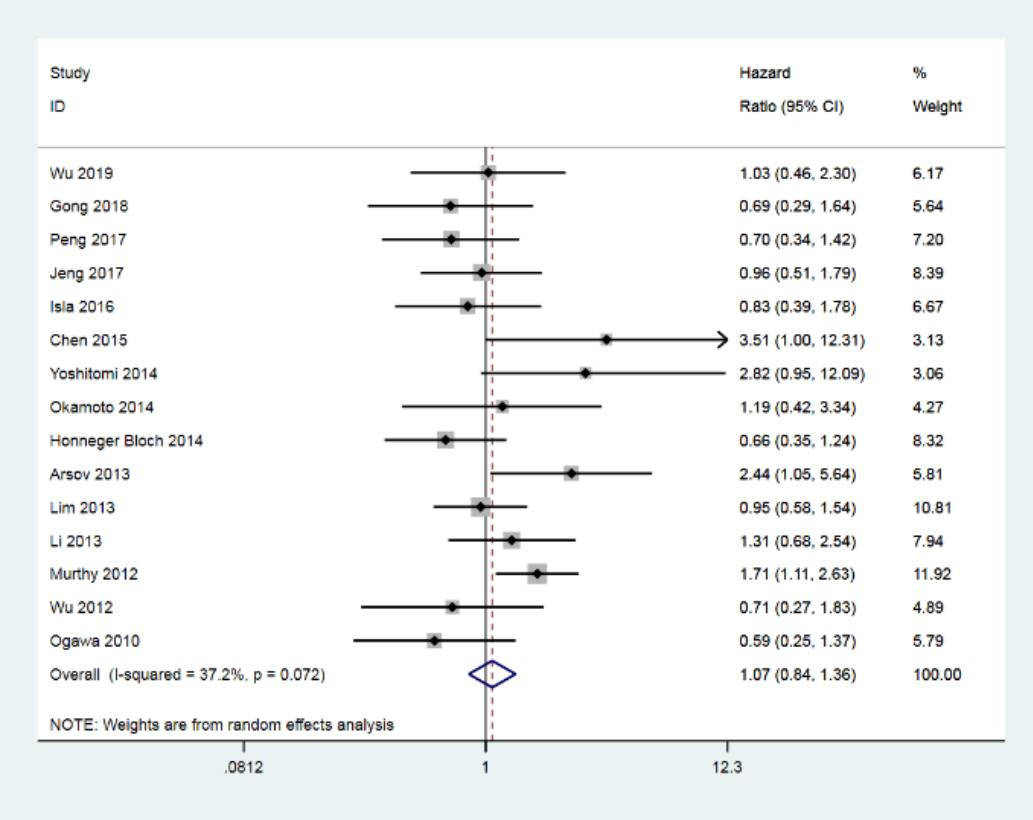

Figure 6. Forest plot of overall estimate of unadjusted HR of men vs. women for cardiovascular mortality

Adjusted Hazard Ratios

12 of the included studies reported adjusted HRs of male sex for cardiovascular mortality with 95% CI (see: (103, 105, 107, 108, 117, 122, 124-126, 131, 133, 135)). All of these studies adjusted their risk estimates for age. With the exception of one study that only adjusted for age (see: (133)), all studies adjusted for both age and diabetes. In addition, 9 of these studies adjusted for a history of cardiovascular disease (see: (103, 105, 108, 117, 122, 125, 126, 131, 135)) and 4 adjusted for hypertension (see: (105, 107, 122, 124)). Other factors that were adjusted for included body mass index, blood haemoglobin level, duration of dialysis, smoking status and diastolic blood pressure, however these adjustments were not consistently applied across these studies. Random effect analysis of adjusted HRs did not reveal any significant association between sex and cardiovascular mortality (HR 1.13, 95% 0.93-1.39) and displayed moderate hetergoneity. (I^2= 49.4%, Figure 7).

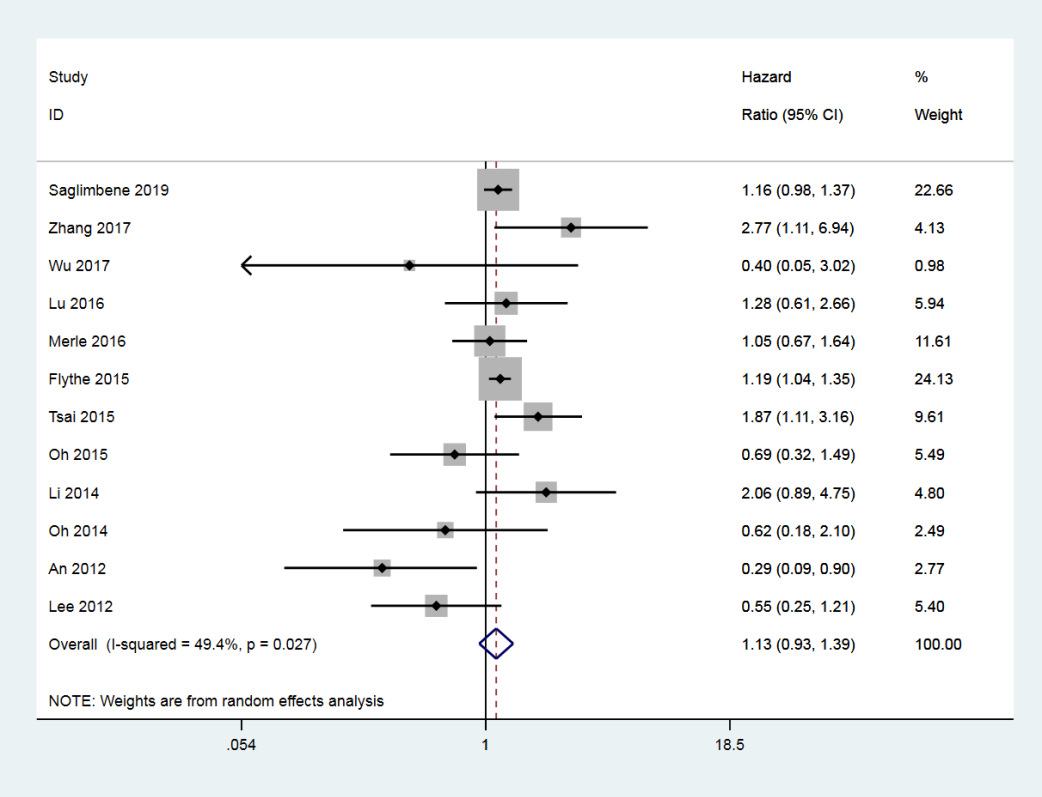

Figure 7. Forest plot of overall estimate of reported adjusted HR of men vs. women for cardiovascular mortality

Raw data analysis

For 10 studies, risk estimates were not provided however the exact number of cardiovascular deaths stratified by sex within the respective study populations were provided. From the data provided in these studies along with data obtained from ANZDATA, the risk ratios with 95% CI of male sex for cardiovascular mortality was computed. These results are summarised in Table 3 (below). For these calculated RRs, moderate to substantial heterogeneity among studies (I^2= 69.1%, p=0.000, figure 8) was observed after random effect analysis and revealed no significant association of sex with cardiovascular mortality (overall RR 1.16, 95% CI 1.02-1.32).

Table 3. Summary of additional data from studies not reporting risk estimates

References	CVD deaths in men (*n*)	Men with CKD (*n*)	Rate of CVD death in men/1000 person-years	CVD deaths in women (*n*)	Women with CKD (*n*)	Rate of CVD death in women/1000 person-years	Risk Ratio of men for cardiovascular mortality	95% (CI) lower limit	95% CI upper limit	*P* value
Yayar et al. (129)	13	36	361.11	8	46	173.91	2.08	0.96	4.46	0.06
Kawagoe et al. (121)	29	770	37.66	25	540	46.29	0.81	0.48	1.37	0.44
Kon et al. (137)	31	14,810	2.09	12	12,509	0.95	2.18	1.11	4.24	0.02
Navaneethan et al. (138)	1851	15,112	122.49	1817	19,597	92.71	1.3	1.20	1.36	< 0.0001
Antunovic et al. (104)	6	30.00	200.00	4	32	125	1.6	0.50	5.11	0.43
Ulusoy et al. (127)	20	140	142.86	20	98	204.08	0.66	0.37	1.15	0.15
Avramovski et al. (109)	10	53	188.68	7	27	259.25	0.73	0.31	1.69	0.46
Genovesi et al. (113)	13	79	164.56	7	43	162.79	1.01	0.43	2.34	0.98
den Hoedt et al. (116)	50	445	112.36	24	269	89.21	1.26	0.79	2.00	0.33
Kakiya et al. (120)	22	313	70.29	13	181	71.82	0.98	0.50	1.89	0.95
ANZDATA 2004-2017 (93)	5468	7588	720.66	3387	5212	649.90	1.10	1.08	1.13	< 0.0001

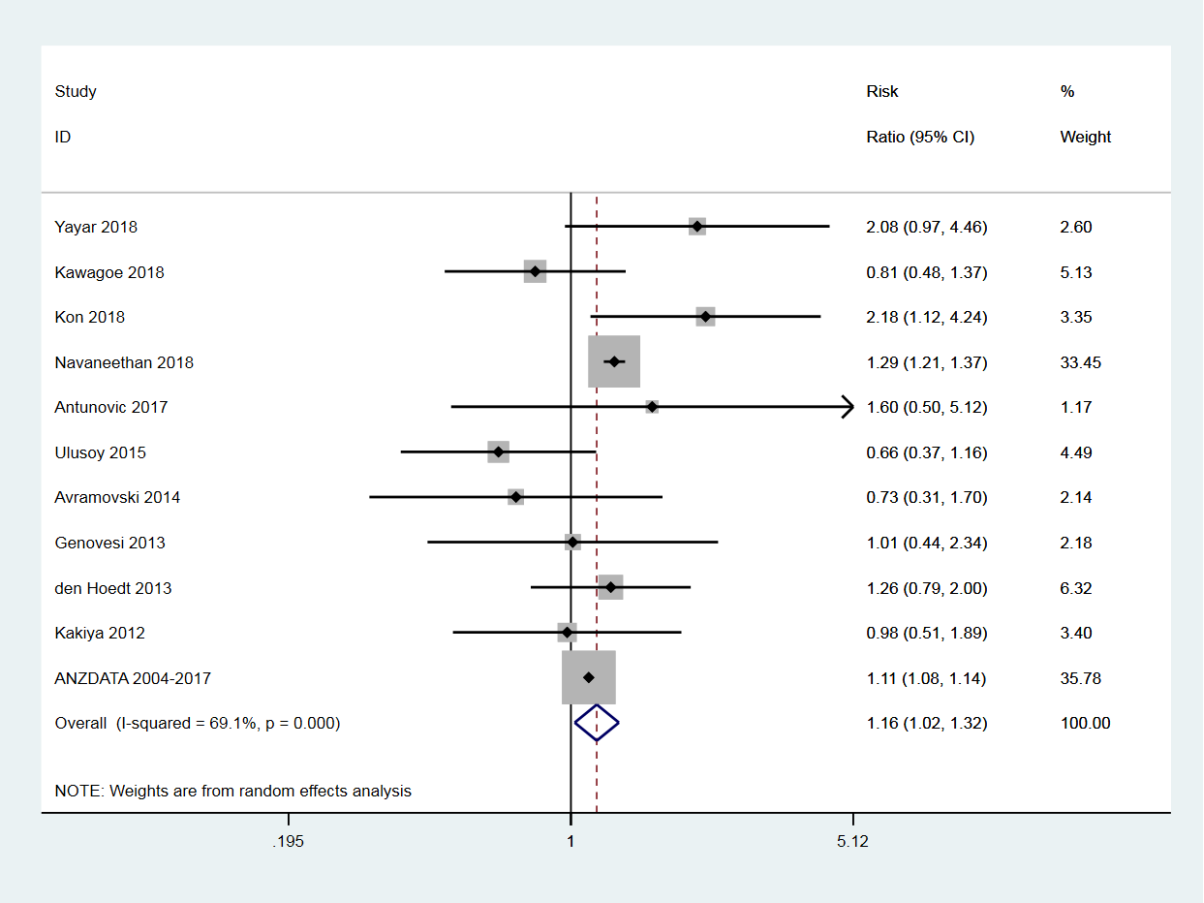

Figure 8. Forest plot of overall estimates of calculated RR of men vs. women for cardiovascular mortality (including ANZDATA results)

Of the 37 studies, there were studies that reported men with CKD were at a higher cardiovascular mortality risk, women with CKD were at a higher risk and high-quality studies which showed that men and women shared equal risk.

Firstly, 10 out of 37 studies reported a higher cardiovascular mortality risk in men compared to women. The risk estimates from these studies ranged from 1.6 to 3.5 (see: Table 2 and 3; (104, 108, 110, 114, 115, 122, 126, 129, 137, 140)). Of these 10 studies, 6 were of high quality (104, 108, 122, 126, 129, 137). From these particular studies, the risk estimates reported were similar (1.6,(104) 1.87(126), 2.06(122), 2.08,(129) 2.18(137) and 2.77.(108)

However, 6 out of the 37 studies showed that men with CKD were protected against cardiovascular mortality risk compared to women with CKD, with risk estimates ranging from 0.29 to 0.66 (see: Table 2 and Table 3; (103, 106, 107, 118, 131, 135). Of these 6 studies, four were of high quality. These four studies reported similar results: 0.29,(103) 0.40,(135) 0.55,(131) and 0.66.(118)

When analysis was limited to the 7 high-quality studies included in this review that had a sample size >100, ratio of men to women subject near 1 and a length of follow-up of more than 2 years, more consistent results were observed. For 6 of these studies, the risk estimate was reported to be close to one (average of 1.04; (112, 117, 119, 123, 124, 128)); however, one study did report a risk estimate of 2.18.(137)

All-cause mortality relative to sex

Table 4 Summary of all-cause mortality risk estimates

	Unadjusted				**Adjusted**			
Study ID	**Hazard ratio**	**95% (CI) lower limit**	**Upper limit**	***P*-value**	**Hazard ratio**	**95% (CI) Lower limit**	**Upper limit**	***P*-value**
Wu (2019)	1.24	0.77	2.00	0.38	-	-	-	-
Saglimbene (2019)	-	-	-	-	1.18	1.07	1.31	0.002
Gong (2018)	-	-	-	-	-	-	-	-
Zhang (2017)	-	-	-	-	1.13	0.58	2.21	0.72
Wu (2017)	-	-	-	-	0.69	0.37	1.31	0.26
Peng (2017)	1.07	0.63	1.8	0.81	-	-	-	-
Jeng (2017)	0.91	0.54	1.53	0.72	-	-	-	-
Isla (2016)	0.89	0.59	1.34	-	-	-	-	-
Lu (2016)	-	-	-	-	1.03	0.61	1.74	-
Merle (2016)	-	-	-	-	1.09	0.79	1.47	0.63
Chen (2015)	2.55	1.02	6.40	0.04	1.67	0.63	4.41	0.30
Flythe (2015)	-	-	-	-	1.18	1.09	1.28	-
Tsai (2015)	1.04	0.73	1.47	0.81	1.47	0.94	2.28	0.09
Oh (2015)	0.85	0.45	1.59	0.61	0.81	0.43	1.55	0.53
Yoshitomi (2014)	1.48	0.79	2.98	0.22	-	-	-	-
Okamoto (2014)	-	-	-	-	-	-	-	-
Li (2014)	-	-	-	-	-	-	-	-
Honneger Bloch (2014)	0.70	0.44	1.1	0.13	-	-	-	-
Oh (2014)	1.02	0.62	1.69	0.93	0.92	0.43	1.97	0.83
Arsov (2013)	1.76	0.95	1.07	0.07	-	-	-	-
Lim (2013)	1.10	0.754	1.59	0.63	-	-	-	-
Li (2013)	-	-	-	-	-	-	-	-
Murthy (2012)	-	-	-	-	-	-	-	-
An (2012)	-	-	-	-	-	-	-	-
Wu (2012)	0.98	0.52	1.85	0.96	-	-	-	-
Lee (2012)	-	-	-	-	1.14	0.66	1.95	NS
Ogawa (2010)	0.62	0.36	1.07	0.09	-	-	-	-

All-cause mortality data was reviewed to see if similar inconsistencies seen in cardiovascular mortality estimates were also present among all-cause mortality estimates. As seen in Table 4, there was similar heterogeneity among risk estimates of all-cause mortality for men versus women.

Subgroup Analysis

Subgroup analyses were conducted based on quality (High vs. Low), country (China vs. Europe vs. Taiwan vs. South Africa vs. Oceania (New Zealand and Australia) vs. United States vs. Korea vs. Japan), sample size (>1000 vs. 500-999 vs. 100-499 vs. <100), length of follow-up in years (<2 vs. 2-4 vs. >4) and men-women ratio in the study sample (<1 vs. 1-1.4 vs. >1.5).

Subgroup analysis by quality

As shown in Figure 9, the overall estimates among high qaulity studies (HR 1.09 95% CI 0.93-1.27) and low quality studies (HR 1.16 95% CI 0.78-1.173) was similar and did not show any significant association between sex and cardiovascular mortality. Heterogenity, however, was lower among high quality studies (I^2= 37.6% vs. 41.6%).

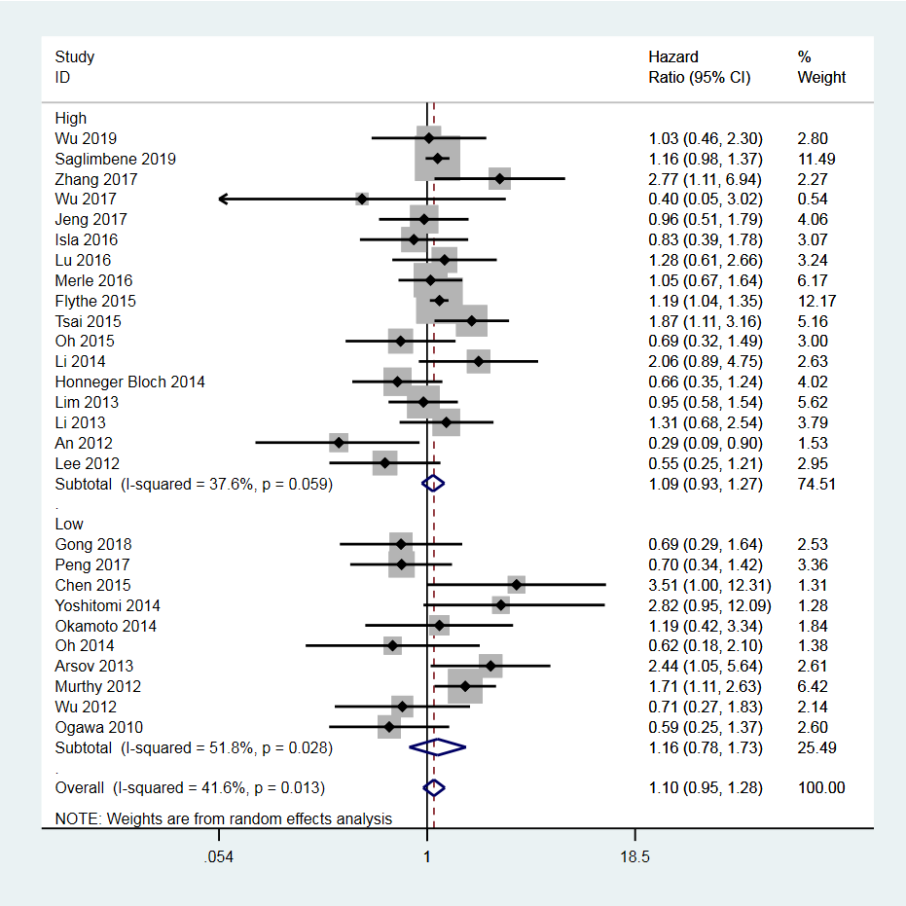

Figure 9. Subgroup analysis of HR of men vs. women for cardiovascular mortality by quality

Subgroup analysis by country

Given that there was not enough geographical representation of different countries among the included studies, insufficient data was available to assess whether geographical location was the underlying cause of heterogeneity among the included studies. Despite this, as shown in Figure 10, an emerging pattern was evident that all in studies conducted within Korea, men with CKD were protected against cardiovascular risk. Even though there were significant number of studies from China and Taiwan, their risk estimates were inconsistent across studies.

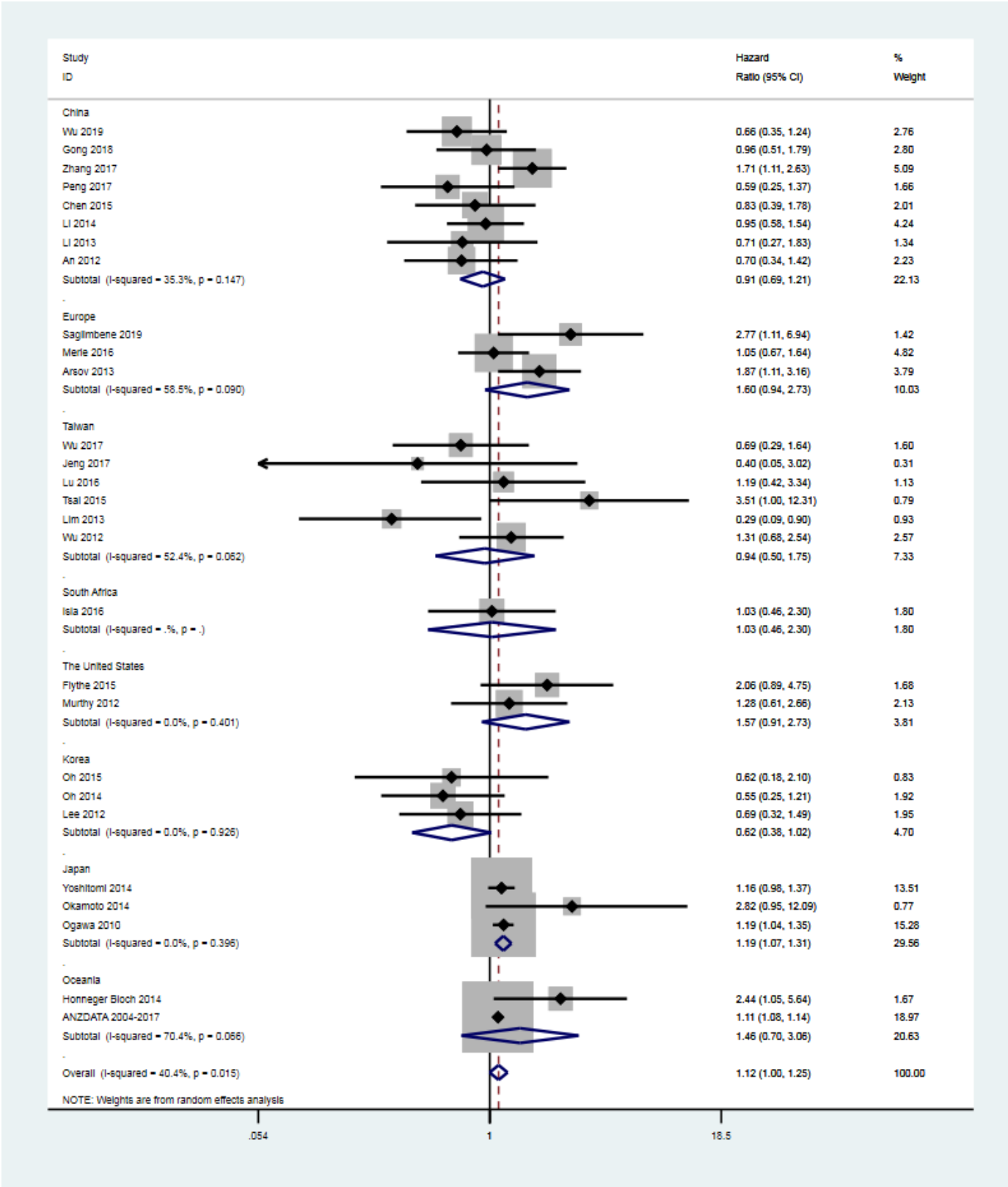

Figure 10. Subgroup analysis of HR of men vs. women for cardiovascular mortality by country

Subgroup analysis by sample size

Stratifying the risk estimates by subgroup showed that the highest risk for cardiovascular mortality in men was found across larger sample sizes (>1000), whereas lower risk for men was evident across smallest sample sizes (<100). As seen in Figure 11, the most inconsistency among risk estimates was found in studies with sample sizes between 100 and 499.

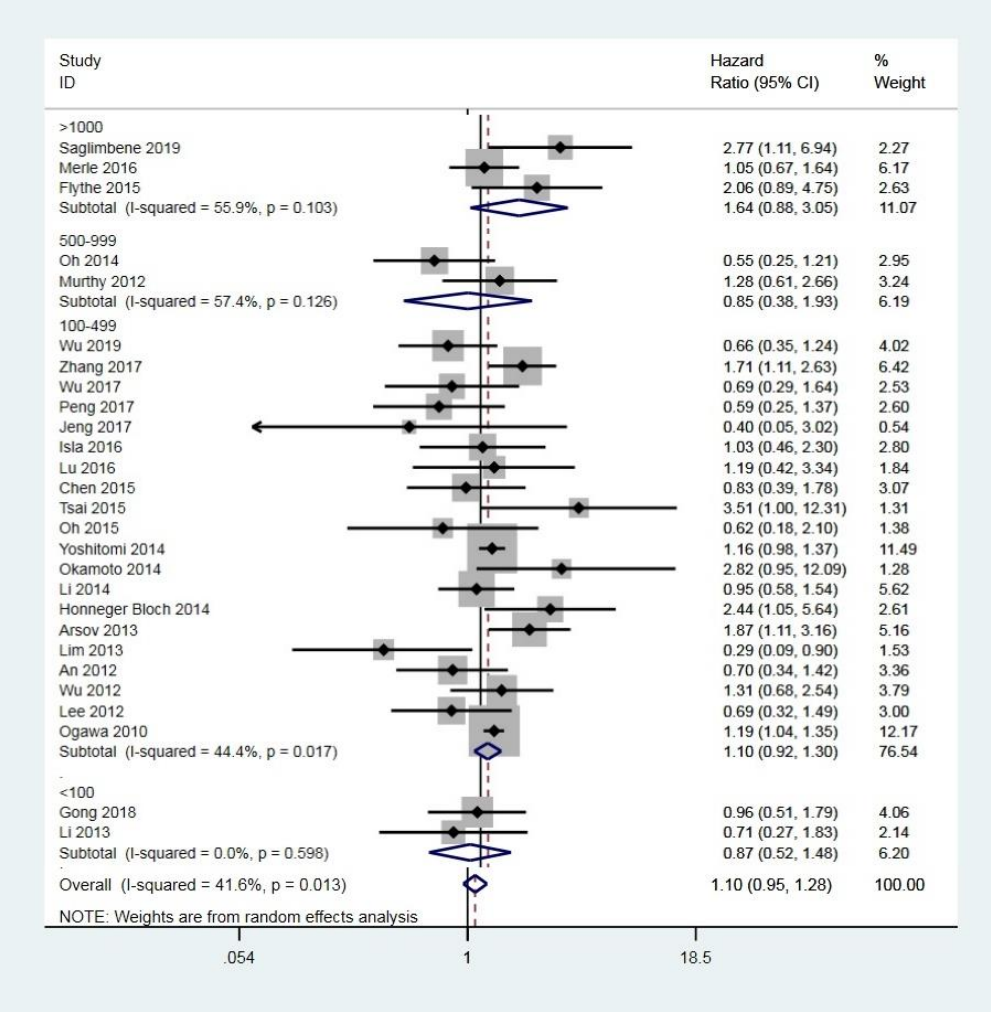

Figure 11. Subgroup analysis of HR of men vs. women for cardiovascular mortality by sample size

Subgroup analysis by length of follow-up

Stratified analysis by length of follow-up is shown in Figure 12. This analysis did not reveal any significant association with cardiovascular mortality risk in men, except for a slight increase in the overall risk estimate (HR 1.41, 95% CI 0.85-2.35) when the follow-up duration was <2 years.

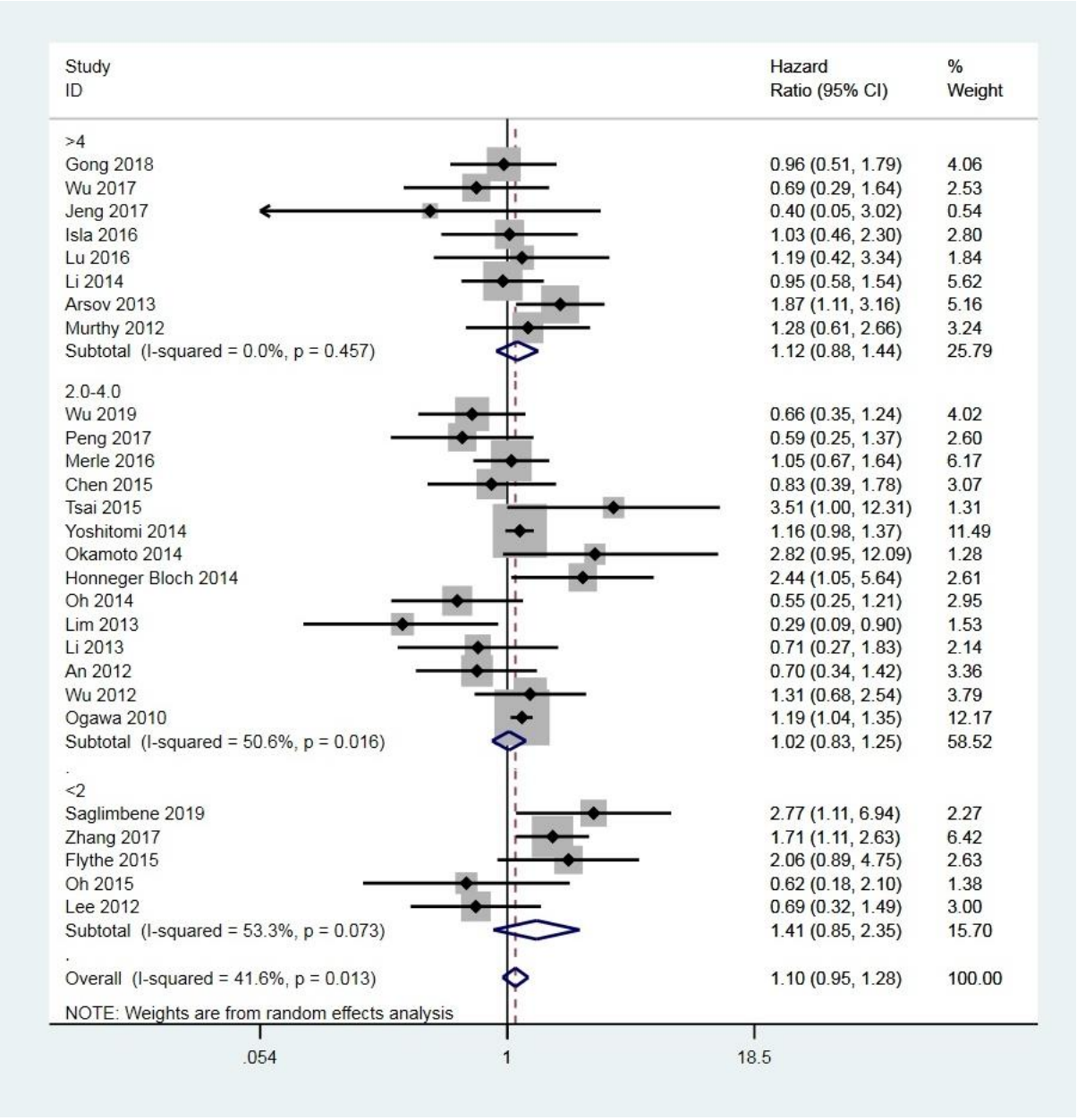

Figure 12. Subgroup analysis of HR of men vs. women for cardiovascular mortality by length of follow-up

Subgroup analysis by men-women ratio in study sample

Subgroup analysis by men-women ratio in the study population also did not reveal any significant association with cardiovascular mortality risk in men with CKD (see Figure 13). The overall risk estimates were similar irrespective of the distribution of sex.

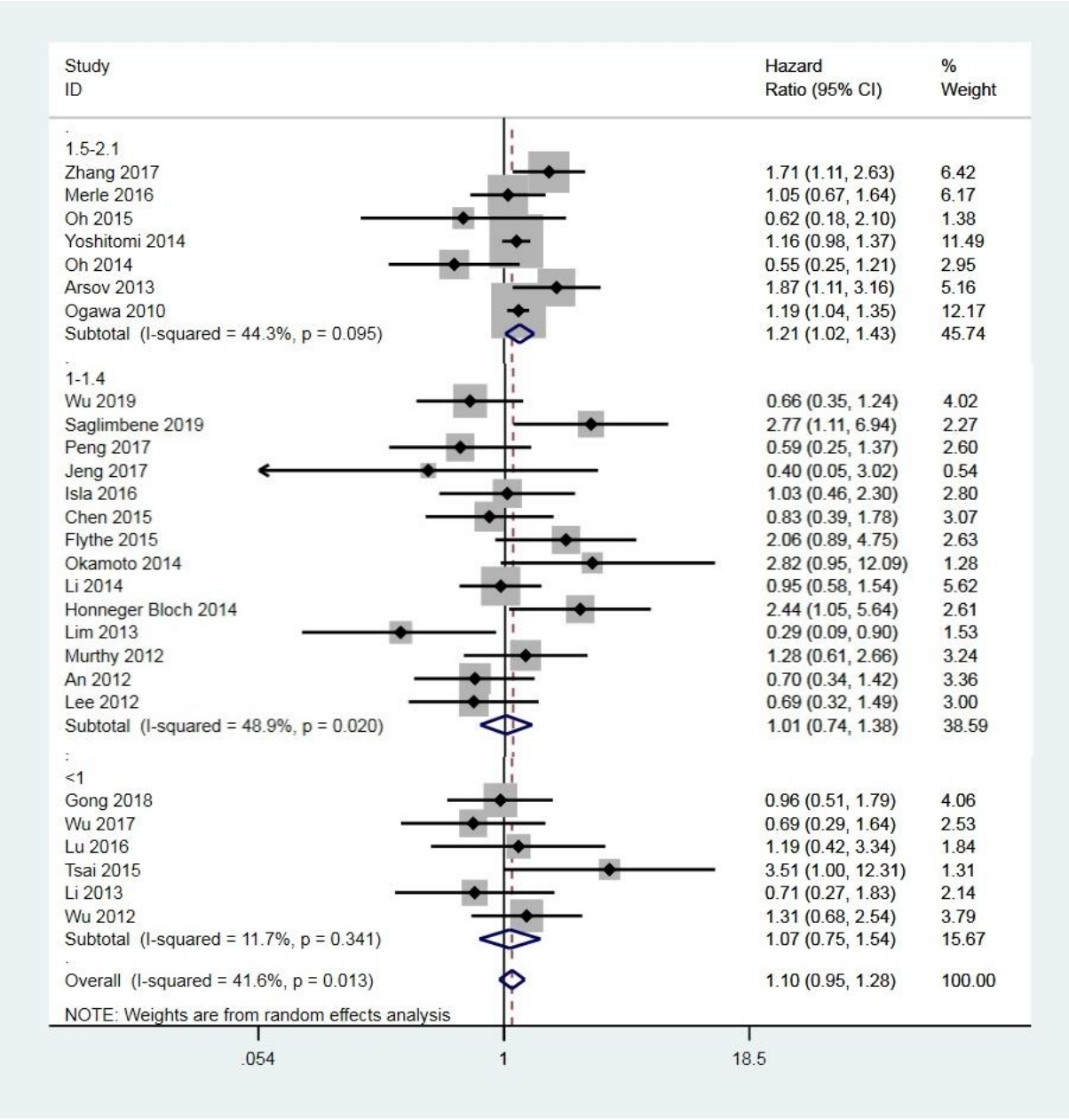

Figure 13. Subgroup analysis of HR of men vs. women for cardiovascular mortality by men: women ratio in study sample

Comparison with non-CKD population

Table 5. Risk of death by eGFR levels and sex (Findings from Kon (2018))

	Cardiovascular mortality		
Men	**Mortality rate[a]**	**HR (95% CI)[b]**	**P-value**
>90 (n = 3336)	1.3	Reference	
45–59 (n =13,054)	1.6	1.15 (0.61–2.37)	0.680
<45 (n = 1787)	5.5	3.14 (1.50–6.94)	0.002
Women			
>90 (n = 11,715)	0.5	Reference	
45–59 (n = 11,061)	0.9	1.28 (0.65–2.54)	0.472
<45 (n = 1460)	1.5	1.48 (0.41–4.19)	0.509

a. Mortality rate (per 1000 person-year); b. Adjusted for age, body mass index, dipstick proteinuria, comorbid conditions (hypertension, diabetes, and dyslipidaemia), history (stroke, heart disease, and kidney disease), and lifestyle (smoking, drinking, walking, and exercise)

Kon et al. was the only study from this systematic review which reported sex-specific cardiovascular mortality rates and hazard ratios of eGFR levels 45-59 and <45ml/1.73m^2 compared to reference level (>90ml/1.73m^2).(137) The findings from this study are presented in Table 5. When comparing their absolute cardiovascular mortality rates, men with moderate renal dysfunction (<45 ml/1.73m^2) had a 4-fold rise of risk of cardiovascular mortality compared to men with normal renal function (CVD mortality rate in men with eGFR <45 ml/1.73m^2: 5.5 vs. CVD mortality in men with normal eGFR: 1.3), showed in Table 5. However, the same risk was three times in women (CVD mortality in women with eGFR <45 ml/1.73m2: 1.5 vs. CVD mortality in women with normal eGFR: 0.5).

Publication bias

Publication bias was assessed using a funnel plot with pseudo 95% CI. (Figure 14). Here, the y-axis represents the standard error of effect estimate. The larger studies with higher power were placed towards the top and lower powered studies were placed towards the bottom. The x-axis represents the reported HRs (unadjusted and adjusted) of each study. The scattering of the risk estimates demonstrates that there was a wide range of standard errors. The symmetrical shape of the funnel suggests that there was no significant publication bias.

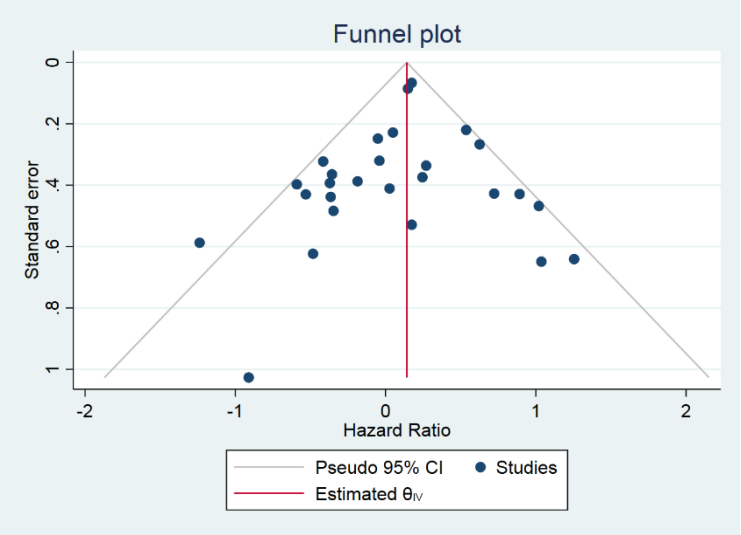

Figure 14. Funnel plot of adjusted and unadjusted HR of men vs. women for cardiovascular mortality

DISCUSSION

In this study, a systematic review of the literature was conducted, and 38 original publications and one registry data were identified that reported data regarding sex differences in cardiovascular mortality among CKD patients. Separate analyses of reported unadjusted and adjusted risk estimates, along with calculated risk estimates from additional data reported in the included studies, indicated that there was no significant association of sex with cardiovascular mortality risk among men and women with CKD. However, there was some heterogeneity among the study results which could have been due to clinical and methodological diversity. Lack of comprehensive data regarding sex-stratified cardiovascular outcomes further amplified this issue.

Findings from study results

As shown in Figure 5, a random effect analysis of the adjusted HRs (and unadjusted HR where adjusted HR was not available) of the included studies showed there was no significant association of sex with cardiovascular mortality among CKD patients, with no to moderate heterogeneity among the reported estimated risks, as defined in the Cochrane Handbook for Systematic Reviews.(92) In fact, there was almost significant homogeneity across results. In conclusion, the results show that sex did not influence cardiovascular mortality among CKD patients based on reported risk estimates from 27,827 participants in the last 15 years. Thus, the overall estimate was supported by a large pool of patient data.(92) Since none of the primary studies addressed sex differences specifically in their study objectives, there was less potential of publication bias, as demonstrated by the funnel plot in Figure 13.(83) However, approximately 70% of the studies did not report comprehensive data regarding sex-specific cardiovascular mortality in the included studies, such as absolute cardiovascular mortality rates or number of deaths for both men and women. This rendered it difficult to perform adequate quantitative analysis of the data (the overall estimate in the review was based on reported risk estimates from studies and not absolute cardiovascular mortality rates), and there still remains a lack of understanding about potential sex differences that may or may not exist in absolute risks of cardiovascular mortality among men and women with CKD.

Comparison of review findings with studies with population data prior to 2004

The findings from this systematic review are in contrast with historical studies which have looked at sex differences in cardiovascular mortality among CKD patients. Nitsch et al. performed a large meta-analysis of chronic kidney disease cohorts (n=38,612) from across 46 cohorts from Europe, North and South America, Asia, and Australasia, and found that risks of all-cause mortality and cardiovascular mortality were higher in men at all levels of estimated glomerular filtration rate, compared to women.(79) Similarly, Carrero et al. found a statistically significant higher risk of cardiovascular

mortality for men on dialysis compared to women on dialysis (using European registry data between January 1, 1994, and December 31, 2004).(80) In contrast, the results from this systematic review and meta-analysis showed that that men and women with CKD share equal risk of cardiovascular mortality (based on population data from 2004 to 2019). Whether this shift in cardiovascular mortality trend over time was due to a decrease in mortality in men or a rise in mortality in women among CKD patients, remains unclear due to a lack of evidence in the current literature comparing historical CKD-associated cardiovascular rates with recent data.

Possible reasons as to why there has been a shift of cardiovascular mortality risk among men and women with CKD could be that over time, there has been an improvement in treatment and awareness. There may also have been changes to diagnosis of CKD, which usually remains asymptomatic until later stages.(5) Even though major changes in renal replacement therapy for men and women with CKD was not observed during this duration, there has been a significant change in hypertension awareness, treatment and diagnosis guidelines, especially in high-risk patients. A different category for blood pressure levels and thresholds was introduced by the Hypertension Canada, Canadian Clinical Practice Guidelines in 2016 to improve hypertension diagnosis and management in high-risk patients by intense blood pressure lowering.(141, 142) High-risks patients, such as patients prone to renal disease, cardiovascular disease or diabetes, would be diagnosed as hypertensive with a systolic blood pressure of 130 mm Hg or more, as opposed to the traditional hypertensive threshold of above 140 mm Hg or more.(142)

Also, emerging evidence by Xie et al. suggests that intense blood pressure lowering strategies are beneficial, particularly in patients at high risk due to renal, cardiovascular or diabetic patients.(143)

Therefore, it is possible that increased awareness regarding early diagnosis and treatment in hypertension could have contributed to better cardiovascular health outcomes in both men and women, along with improved screening of asymptomatic CKD patients.

Comparison with population with normal eGFR

Even though the findings from this study showed that overall estimate of cardiovascular mortality risk for men vs. women with CKD was close to one, women with CKD may be at greater cardiovascular risk when compared to women with normal renal function.(80) Carrero et al. found that even though women starting dialysis were protected against cardiovascular mortality risk when compared to men, they had higher cardiovascular mortality risk in comparison to women in the general population (normal eGFR).(80) However, there was not sufficient data in the included studies in this review to analyse this relative risk, since only one included study analysed sex-stratified risk estimates with reference to the general population.(137) This study reported sex-specific cardiovascular mortality

rates for men and women with renal dysfunction (eGFR levels 45-59 and <45ml/1.73m^2) and normal renal function (>90ml/1.73m^2). When compared to the reference population, women with eGFR <45ml/1.73m^2 had a 3-fold rise of risk of cardiovascular mortality, compared to a 4-fold risk in men. However, the study provided no data regarding cardiovascular mortality data at other stages of CKD, and a categorisation of <45/ml/min/1.73m^2 does not provide comprehensive data to estimate relative risks for men and women across different stages of CKD, with reference to normal eGFR. For example, there was no data regarding cardiovascular mortality among men and women with severe renal dysfunction (<15ml/min/1.73m^2).

Comparison with global cardiovascular mortality risk

Historically, cardiovascular mortality risk has been thought to greater in men in the general population.(65, 144) An analysis of recent World Health Organisation (WHO) data showed that, in 2016, the age-standardised cardiovascular mortality rates worldwide for men and women were similar (240.52 and 238.10 per 100,000 population respectively), providing a rate ratio of 1.01.(145) This suggests that, compared to historical data, there has been a global shift in the cardiovascular mortality trend over time, resulting in a reduction in mortality in men, or conversely, a higher mortality rate in women. This was partially explored in one study comparing coronary heart disease and stroke mortality data from 1980 with 2010 data, and the study found that there in fact has been an excess reduction in CHD and stroke mortality in men, compared to women. This is alarming because it highlights that globally, changes in healthcare regarding cardiovascular disease have produced more favourable outcomes in men than women, and the needs of women may not have properly addressed, leading to inequalities in healthcare.

Table 6. Global cardiovascular mortality risk in men and women- WHO data analysis

Sex	No. of deaths	Total population	Crude mortality rate	Age-standardized mortality rate	Rate Ratio (M: F)
Men	90,53,770	376,42,18,766	240.52	240.52	1.01
Women	88,04,242	369,76,65,083	238.10	238.10	-

Similarly, in CKD, even though historical studies suggest that men had higher cardiovascular mortality compared to women, the results from the meta-analysis in this study has shown that both sexes share equal risk. Similar to the global cardiovascular mortality shifts among men and women in the general population as discussed above, the shift in CKD-associated cardiovascular mortality among men and women could have also resulted from a fall in cardiovascular risk in men but not in women, or to an

overall rise in female cardiovascular mortality compared to men with CKD. Therefore, a better understanding of the underlying sex differences in CKD-associated CVD mortality is required to better address inequalities in cardiovascular outcomes. There is a need to compare current data with historical data to determine whether male risk has reduced over the decades or that female risk has actually increased which could have led to the shifts in sex-specific cardiovascular mortality risk observed in both CKD and the general population.

There are, however, certain limitations of the WHO cardiovascular mortality data being used as a representative of the risk ratio of men vs. women for cardiovascular mortality in the general population. Firstly, there is no distinction of whether this data is inclusive or exclusive of CKD patients, and it is probably inclusive of populations with clinical or sub-clinical forms of CKD as a result of age-associated renal structural damage.(47) Secondly, there is no stratification of the data available by comorbidities. Therefore, it is impossible to compare this data with the CKD population, because it is not possible to adjust for important confounders, such as diabetes, kidney transplant operation, anaemia, infection and malignancy etc., which are in themselves risk factors for increased cardiovascular mortality.(5) Thus, the absolute effect of CKD on cardiovascular outcomes cannot be conclusively determined when the comparison population is already biased. This suggests the need for an observational cohort study consisting of CKD patients along with a control (unexposed) group of participants with normal GFR, who have been diagnosed as not having the potential confounders described above. This will enable a true comparison of cardiovascular risk differences among the CKD and non-CKD population, and sex-specific relative risks estimates.

The historical study by Carrero et al. compared 5-year age-stratified cardiovascular mortality in a European cohort dialysis patient registry (European Renal Association-European Dialysis and Transplant Association [ERA-EDTA] Registry) with the European general population (Eurostat). It is an example of a cohort study design which could help to better understand increased risk of women or men with CKD compared to the general population.(80) There is a need for future studies to analyse recent data from the same registry and compare against the findings presented by Carrero et al. to identify what changes in trends regarding cardiovascular mortality among men and women with CKD have occurred in the last 15 years.

Calculation from additional and registry data

Additional data from studies which did not report risk estimates and ANZDATA was used to calculate risk ratios. The Australia and New Zealand Dialysis and Transplant Registry (ANZDATA) is a clinical registry that systematically collects and reports outcome data of end-stage kidney disease patients since 1977 from all renal units in Australia and New Zealand. Data regarding prevalence and

cardiovascular outcomes in 12,800 dialysis patients from Australia and New Zealand from 2004 and onwards (excluding transplant patients) was utilised from ANZDATA to calculate risk estimates for dialysis population from Australia and New Zealand (see: Table 3).

For a meta-analysis, it is most preferable to include a summary statistic which is reported similarly in all the studies.(92) Since RRs and HRs are calculated in different ways and may represent inherently different estimates, these were not combined in the meta-analysis but analysed separately to further explore potential sources of heterogeneity. Random effects analysis of risk ratios from included studies (i.e. database searching) and ANZDATA further supported the previous finding that sex was not significantly associated with cardiovascular mortality in the study sample of CKD patients. However, analysis of RRs revealed slightly larger heterogeneity than the analysis of HRs (I^2 69.1% vs. 41.6%), shown in Figure 8.

Exploration of heterogeneity

Statistical heterogeneity is usually the result of clinical variability and/or methodological diversity among the studies included in the review.(92) Clinical diversity is defined as variability in the participants and outcomes studied and methodological diversity is defined as variability in study design, outcome measurement tools and risk of bias.(92) Bias at study or outcome level can lead to significant methodological variability and in turn, introduce heterogeneity among the results.(92)

Variability across included studies

There were several inconsistencies across all the studies reviewed, which might have contributed to clinical or methodological diversity, and which in turn may have been responsible for moderate heterogeneity among the study results.(92) Risk of bias assessment revealed that overall, there was considerable bias at study and outcome levels. Subgroup analyses were performed to further explore the possible sources of heterogeneity, such as men-women ratio, length of follow-up, geographical distribution, sample size, adjustment for confounders and study quality.(92)

Men to women ratio

The ratio of men to women participants across the studies was inconsistent; majority of studies had more male participants than females. Risk of bias assessment revealed the distribution of men and women in the study population was not equal in more than 50% of the studies. Overrepresentation of men in the study sample can overestimate the risk estimate for cardiovascular mortality for men with CKD, compared to women with CKD. However, male-female distribution did not significantly alter overall risk estimates in subgroup analysis.

Stage of CKD

The study participants were dominated by ESRD patients on dialysis, and there was hardly any representation of other stages of CKD, who are also considered to be at an increased of cardiovascular outcomes.(146) Therefore, the results of this review cannot be generalised to the overall CKD population, but only a small subsection of it who had already progressed to renal replacement therapy. Early stages of CKD affect 50 times more patients than ESRD, making ESRD only a small percentage of the CKD population.(147, 148) Therefore, a lack of data regarding cardiovascular mortality in other stages of CKD makes it difficult to ascertain sex differences in a larger portion of CKD patients.

Age of participants

The study population was also significantly older, ranging from 52-73 years of age. Even though this is consistent with the fact that prevalence and mortality of CKD is highest in older age groups,(5) one study with a large European dialysis population found that women aged 25-34 on dialysis had higher cardiovascular mortality than men of the same age group.(80) Therefore, it was not possible to determine whether potential sex differences exist in younger CKD groups due to lack of data in the included studies.

Reported comorbidity data

Comorbidities of the patients were not consistently reported across the studies, with 16 studies not reporting the comorbidities found in their respective patient population. Diabetes, hypertension, history of cardiovascular hospitalizations and anaemia are some of the important comorbidities usually present in CKD patients,(5) that are in themselves risk factors for cardiovascular mortality and tend to confound the absolute risk of CKD for cardiovascular mortality. It is difficult, therefore, to conclude whether the overall risk estimate observed from the included studies was exclusively due to CKD, or a compounded effect of CKD and these confounders. For example, diabetes mellitus, a key comorbidity of CKD, could have been a potential source of bias. A predominantly diabetic CKD population may present different sex differences in cardiovascular mortality compared to a non-diabetic CKD population, as diabetes in itself is a risk factor for cardiovascular mortality and has been found to affect cardiovascular risk differently among men and women.(71, 149) Only about 30% of the included studies adjusted for the same two major risk factors for cardiovascular mortality, namely age and diabetes, but adjusted for other confounders differently across studies, such as history of CVD, hypertension, duration of dialysis and haemoglobin level in blood. Only one study excluded diabetic patients at study level.(69)

Sample size

Several studies reported small sample sizes with less than 100 patients. Results from these studies may not have been representative of the wider CKD population due to potential selection bias i.e. the investigators may have invited individuals to participate in a study based on their clinical knowledge of the individual. Interpretations from these small study samples may not apply to real-world CKD populations, as the observed effect may be over or underestimated in one sex, since it may not be possible to assume a risk effect for cardiovascular mortality in those not included in the study due to potential selection bias.

Geographical distribution

Geographical distribution affects overall cardiovascular mortality risk differences between men and women outcomes in the wider population; in 2016, South East Asian and Eastern Mediterranean Regions had higher mortality risk for men, compared to West Pacific Region and the Region of the Americas.(145)

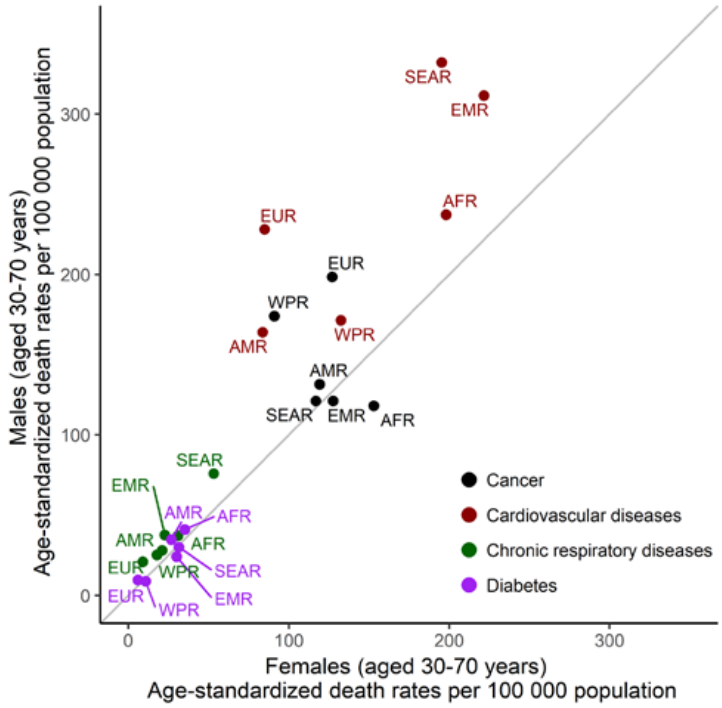

Figure 15. Age-standardized rates (per 100 000 population) of premature death from the four major NCDs covered by SDG Target 3.4, 2016. Taken from: World Health Organisation (WHO), World Health Statistics 2019: Monitoring health for the SDGs, 2019. (145)[3]

Abbreviations used: SEAR= South-East Asian Region, EUR= European Region, WPR= Western Pacific Region, AMR= Region of the Americas, EMR= Eastern Mediterranean Region, AFR= African Region.

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Therefore, due to lack of widespread geographical distribution in the included studies (around 60% of the included studies being conducted in Asia), it remains difficult to determine whether sex differences seen were a result of geographical distribution, and not the absolute risk of CKD on cardiovascular outcomes.

Country-based subgroup analysis, however, did reveal that all studies conducted within Korea showed protective effect against cardiovascular risk in men with CKD. Several studies have shown that although the incidence of myocardial infarction is higher in Korean men in the overall Korean population, in-hospital mortality for MI is higher in women.(150-152) In contrast, close neighbouring countries including Japan and China, did not reveal such differences in the general population.(61) Therefore, what underlying factors are responsible for a higher cardiovascular risk in women versus men in the Korean population (compared to its neighbouring countries) require further investigation.

Duration of follow-up

The duration of follow-up varied among the studies, with ten of the studies with very short duration of follow-up (2 years or less). The studies consisting of shorter duration of follow-up could have potential selection bias i.e. enlisted patients were worse off than patients followed for longer periods of time. Furthermore, since men are known to have higher progression of CKD than women,(4) shorter follow-up duration can overestimate results in favour of men. Men in the general population present earlier symptoms of cardiovascular complications than women, although women may have a higher lifetime risk of cardiovascular complications than men.(61) Since CKD-associated cardiovascular outcomes can occur earlier in men than women, therefore, studies with shorter duration can bias the results towards men. Subgroup analysis by length of follow-up supported this, showing a higher risk of cardiovascular mortality among men in studies with follow-up duration less than 2 years (Figure 12).

Adjusted vs. Unadjusted outcomes

For further exploration of possible sources of heterogeneity, separate random effect analyses of the unadjusted and adjusted HRs proceeded to reveal similar results between sex and cardiovascular mortality in CKD (Figures 6 and 7). However, since the studies did not adjust for the same variables (shown in Table 2), inconsistency in adjustments could have underestimated or overestimated the results in favour of either sex.

Classification by eGFR

Majority of the included studies identified their study population as receiving dialysis from treatment centres (clinic or hospitals) and eGFR classification was not provided, making it difficult to deduce if they were at stage 4 (15 -29 ml/min/1.73m2) or stage 5 (<15ml/min/1.73m2). Examining the relationship between eGFR and cardiovascular mortality among men and women directly in future studies may present a way to normalise for differences in patient characteristics and reduce heterogeneity in the observed results.

Study design: RCTs versus cohort studies?

Randomised controlled trials (RCTs) will have less heterogeneity compared to cohort studies, owing to stricter study designs and outcome assessments.(153) Whereas observational cohort studies are prone to loss of follow-up, clinical variability of patients and misinterpretation of outcomes, which can introduce a certain level of bias, despite measures taken to reduce bias.(153) To eliminate possible sources of heterogeneity, researcher adopt RCTs, which is the gold standard for intervention studies. However, considering that the research question identified in this review can only be answered by means of non-interventional cohort studies, there will be some level of clinical variability and methodological diversity, leading to some level of heterogeneity. However, future cohort studies addressing the sources of bias and inconsistencies as described above can reduce heterogeneity and provide conclusive risk estimates regarding sex differences in cardiovascular mortality.

Quality assessment and findings from high-quality studies

In case of quality-based subgroup analysis, heterogenity was found to be slightly lower among high quality studies (Figure 9). Based on quality assessment, there were seven high-quality studies, out of the 37 included studies which reported overall cardiovascular mortality, that had a sample size greater than 100 participants, nearly equal distribution of men to women, length of follow-up of more than 2 years and all participants were accounted for. These studies revealed more consistent results; for 6 of these studies, the risk estimate was reported to be close to one (average of 1.04; (112, 117, 119, 123, 124, 128)); and only one study reported a higher risk estimate of 2.18.(137)

Among those 5 studies, Flythe et al. and Lu et al. adjusted their results in multivariable model analysis for possible confounders (age, diabetes and anaemia), and thus, their results could be accepted as having the least possible bias. Flythe et al. (117) further adjusted their results in multivariable model analysis for several possible confounders (namely age, diabetes, race, coronary artery disease, heart failure, haemoglobin, pre-dialysis systolic). Similarly, Lu et al. (2016) also adjusted their results for three of the same confounders (age, diabetes and haemoglobin), along with others (current smoking status and hypertension), to find almost similar results (1.19(117) and 1.28(124) respectively). Though both studies were looking at haemodialysis patients with similar characteristics and men: women

distribution, Flythe et al. studied a national, multi-centre cohort of 10,785 prevalent haemodialysis patients in the United States, whereas Lu et al. studied a smaller cohort of 154 patients from Cardinal Tien Hospital, Taiwan. Thus, Flythe et al. might have a wider representation of the CKD population, compared to Lu et al.

The rest of the 6 notable high-quality studies were also focussed on ESRD haemodialysis patients of similar characteristics, except for Kon et al., who studied 132,160 participants, aged between 65 to 75 years, attending a special health check-up in Japan in 2008, and investigated the association between baseline eGFR and 5-year all-cause and cardiovascular mortality. Their CKD population was not particularly focussed on dialysis/ESRD patients, but on those with an eGFR of below 60 ml/1.73 m^2. In contrast to the other studies looking exclusively at ESRD patients, Kon et al. observed a higher cardiovascular risk estimate of 2.18 for men to women when incorporating other stages of CKD into their study sample. Therefore, it may be possible that even though patients with ESRD did not demonstrate sex differences regarding cardiovascular mortality, patients with other stages of CKD might have sex differences regarding cardiovascular mortality.

Inconsistency across overall mortality

As seen in Table 4, heterogeneity across results in the included studies was not just limited to the finding of cardiovascular mortality but was also observed in all-cause mortality. This likely reflects heterogeneity in the overall study methods rather than an inherent heterogeneity across cardiovascular outcomes in the study population.

Lack of cause-specific cardiovascular mortality data

Of the 37 studies which reported overall cardiovascular mortality, three studies reported cause-specific mortality stratified by sex, namely heart failure, myocardial infarction, stroke and sudden cardiac death and only one study reported stroke mortality as their primary outcome. Even though sex did not influence overall cardiovascular mortality among men and women with CKD, it is unclear if sex differences exist in underlying causes of cardiovascular disease due to a lack of data reported in the included studies. Future studies need to report sex-stratified data on underlying causes of CVD mortality among CKD patients to explore potential sources of sex differences.

Strengths and limitations of review

There were certain strengths to this systematic review. The literature search included several large databases and search criteria were intentionally broadened to identify as many potentially relevant articles as possible. Furthermore, since primary study objective of the included studies was different to the research question, the Risk of Bias tool was adapted to evaluate the quality of data reported regarding sex-stratified cardiovascular mortality data in CKD patients, rather than the primary study

objectives of the included studies. Finally, to reduce reporting bias, certain percentages of the study inclusion and data extraction processes were conducted in duplicate by other reviewers as described in the Methods section, and any potential conflicts were then resolved by discussion among the reviewers. Despite this, the literature search for potential studies was conducted by a single author within a limited timeframe, and thus there was a chance of missing relevant studies. Study population data was collected from 2004 and onwards and thus, any potentially relevant data from before 2004 was excluded. However, this was addressed by comparing the review data to historical study data to identify any changes in cardiovascular mortality trends over time. There was inadequate time to contact the authors of all included studies to clarify aspects of incomplete or selective reporting e.g. details on absolute numbers of cardiovascular deaths and sex-specific cardiovascular mortality rates, and though attempts were made to contact authors of most recent studies published from 2018 to 2019, only one author responded.

Overall completeness and applicability of evidence

Future research

The findings from this study show that sex was not associated with cardiovascular mortality in CKD, though some heterogeneity existed among the study results due to clinical variability and methodological diversity. These findings are in line with recent evidence from the WHO that cardiovascular mortality risk is equal among men and women in the general population.(145) However, due to wide clinical and methodological diversity among the reviewed studies and high risk of bias, the results cannot be applied to certain patient groups such as, patients with other stages of CKD, different geographical distributions, varying age groups and patients not on dialysis. None of the included studies analysed sex differences in cardiovascular mortality among CKD patients as a primary study objective, which resulted in lack of comprehensive data regarding absolute mortality risks.

Based on this study, the following recommendations for future research to address the gaps in knowledge:

1) To conclusively show the impact of sex differences on cardiovascular mortality in CKD, future studies should considers i) equal distribution of men and women in an adequate sample of CKD patients with representation of all stages of CKD based on eGFR, including patients on both conservative treatment and dialysis, ii) clearly reported data regarding comorbidities, iii) a follow-up duration of at least 4-5 years for outcomes to occur and adequate assessment of loss to follow-up, iv) comprehensive outcome data regarding mortality, such as absolute rates and numbers stratified by sex, for all-cause and cardiovascular mortality (including cause-specific cardiovascular

mortality), v) adjustments for confounders such as age, diabetes, hypertension and anaemia, and vi) outcome data verified from patient records.

2) Comparison of the results from the study described as above with a control (unexposed) group of participants with normal eGFR, to evaluate relative risks of CKD men and women to non-CKD men and women.

3) A study to evaluate the impact of geographical distribution on sex differences in cardiovascular mortality among CKD patients, using CKD-based data registries from different countries, which have reliable source of data regarding causes of death, eGFR levels and reported comorbidity data etc. These can include ANZDATA, the UK Renal Registry (UKRR), The United States Renal Data System (USRDS), The Japanese Society for Dialysis Therapy Renal Data Registry (JRDR) and the Registry of the European Renal Association −European Dialysis and Transplant Association (ERA-EDTA) etc.

4) A European Renal Association −European Dialysis and Transplant Association (ERA-EDTA) registry-based study to look at current trends in cardiovascular mortality among men and women on dialysis and compare against the same analysis performed by Carrero et al. from 15 years ago,(80) which identified that men on dialysis were at an increased risk of cardiovascular mortality compared to women on dialysis. This study can help to identify underlying sex differences that contributed to a shift in cardiovascular among men and women with CKD.

5) An observational study based in Korea to better understand why the Korean CKD population consistently showed a higher cardiovascular mortality risk in women, and if there are significant differences in their CKD population from their neighbouring countries such as Japan, China and Taiwan. (e.g. Korea).

6) To further study the shift in global cardiovascular mortality from an increased risk in men to an equal risk among men and women, which may be due to a reduction in overall CVD mortality in men, or an increased CVD mortality in women, since the ratio for both the CKD and general population has come closer to 1. Historical global data from 15 years ago and current population data from sources like the WHO can be compared and age-standardised sex-stratified rates can be compared to understand this shift in overall and if possible, cause-specific cardiovascular mortality and establish if there is a need to update guidelines with respect to the impact of sex differences.

7) A study to explore the changes in global male or female all-cause mortality either in the general or CKD population that might explain whether changes have occurred only in cardiovascular

mortality or in the all causes of mortality, which can explain if changes in healthcare have affected both sexes or disproportionately in one.

Awareness and prevention

The findings from this study show that men and women with CKD share equal risk of cardiovascular mortality. These findings are consistent with recent evidence from the WHO that cardiovascular mortality risk is equal among men and women in the general population.(145) Despite this, men with CKD are still considered to have higher cardiovascular risk than women, based on findings from years ago.(4) Analysis of the evidence from the last 15 years could not bring to light conclusive evidence to support a higher risk in men. Therefore, it highlights the importance of basing public health and clinical decisions on recent and conclusive evidence, that can address the changing dynamics of healthcare and shifting trends in health outcomes and avoiding outdated and inconclusive data. The underrepresentation of women in clinical trials is an example of how lack of conclusive evidence can have severe effects on healthcare practice and policy. For instance, drugs that were never tested in women due to an exclusion of women from pharmaceutical trials influenced physicians to avoid prescribing these drugs to women, or delay in prescribing medication that can led to poorer outcomes in women compared to men, even causing mortality.(154) Thus, major public health and clinical decisions which are not backed by conclusive evidence can lead to severe adverse effects.

There is evidence from worldwide database banks to suggest that there has been a significant change in cardiovascular mortality trends, from an increased risk in men to equal risk among both sexes,(145) and that the underlying reason for this is an increased reduction of mortality risk in men, compared to women. Even though his has brought the risk ratio of men to women close to one, it highlights the alarming fact that changes in cardiovascular healthcare over time have benefitted men more than women, and there still exists considerable inequalities in cardiovascular disease management and research regarding women. Therefore, awareness and mitigation strategies are required to address these inequalities in health among men and women and target the individual needs of both sexes to ensure better health outcomes for both.

The main cause of variability between risk of death due cardiovascular disease between men and women are thought to be biological differences.(145) Differences in accessibility to disease diagnosis and management can also result in different mortality outcomes in men and women.(152) Differences in exposure to risk factors may be another viable cause of the differences in cardiovascular mortality, such as for example, age, smoking, obesity, unhealthy diet and lack of physical inactivity – all factors that can vary between men and women.(61, 69, 72-74, 145) The varying impact of risk factors in men

and women may also result in further sex differences in cardiovascular outcomes, both in the general and CKD population.

Socio-behavioural factors and influence on CKD outcomes

Risk factors may differ by geographical distribution, income level, educational level and societal or gender-influenced roles (social or cultural norms expose men and women to risk factors differently).(145) For example, women from low and middle-income countries may experience delays in receiving timely diagnosis and treatment of chronic kidney associated complications.(145) This leaves women more vulnerable to worse outcomes than men. Therefore, better understanding of the sex differences in chronic kidney disease patients can lead to better awareness and prevention strategies for cardiovascular outcomes in women with CKD. Change in misperceptions that women have lesser cardiovascular risk than men can facilitate women at high risk of cardiovascular complications to seek proper management and prevention therapies and thus leading to better overall cardiovascular outcomes. The relationship between socio-economic condition and CKD-related outcomes are being explored in a growing area of literature. These studies show that socio-economic factors, such as race, gender and economic condition has in fact impacted on kidney disease progression and outcomes.(155-157) Owing to the fact that women in low- and middle-income countries are almost solely responsible for most of the child caring and housework duties, they are less prone than men to seek treatment for chronic kidney disease and similar non-communicable diseases.(158) Women are less likely than men to receive dialysis, because of such time constraints.(158) Awareness programs targeting this vulnerable are need to reduce the burden of kidney disease in women and achieve health equity.

Policy

Health policy should integrate the importance of sex differences into healthcare to better address the different needs of men and women. This can help to achieve better sex-specific strategies for risk factor exposure in CKD patients (such as diabetes, anaemia etc.), early diagnosis of CKD and its complications to improve cardiovascular outcomes and increase healthcare opportunities for women. To spread awareness of the impact of sex differences on healthcare from research findings to the wider population, healthcare policies play a vital role in propagating these messages and thus can effectively have a widespread influence on creating awareness in women with CKD to get seek the treatment they require to prevent cardiovascular mortality.

Practice

Sex-specific guidelines and management for CKD must be introduced in individualised patient care, to better address the needs of men and women. Perceptions based on inconclusive evidence can lead to overlooking increased risks in women with CKD and lead to poorer patient outcomes. Sex-specific treatment guidelines for CKD patients can lead to better prevention of modifiable risk factors in women and reduce CKD-associated cardiovascular mortality.

CONCLUSION

This study systematically reviewed the literature from the last 15 years regarding sex-stratified cardiovascular mortality among men and women with CKD and found men and women share equal risk of cardiovascular mortality. This contradicts the prevalent notion that cardiovascular mortality risk is higher in men with CKD. Therefore, further research is required to understand whether this shift in cardiovascular mortality is due to a reduction in mortality in men, or an increased risk in women with CKD, and strategies to address these inequalities in cardiovascular disease prevention and management in CKD patients.

Implications for research

There was some heterogeneity observed among the study design and results of the included studies. Also, data regarding sex differences had to extracted and analysed from additional data reported in studies, most of which were not of high quality when assessed for methodological quality with respect to analysis of sex differences in CKD-associated cardiovascular mortality. Thus, future studies need to consider- 1) a study with the ideal methodological considerations, such as equal distribution of men and women, varying stages of CKD, clearly reported data regarding comorbidities with a follow-up duration of at least 3-4 years for outcomes to occur, comprehensive outcome data regarding mortality, such as absolute rates and numbers stratified by sex, for all-cause and overall cardiovascular and cause-specific cardiovascular mortality adjusted for confounders such as age, diabetes, hypertension and anaemia, 2) a comparison of the above findings with a control (unexposed) group of participants with normal eGFR, so that relative risks with the general population can also be compared, 2) a registry-based study to evaluate the impact of geographical distribution on sex differences in cardiovascular mortality among CKD patients, 3) a comparison study with historical registry-data from 15 years ago to identify underlying causes of the shift of cardiovascular mortality risk among men and women on dialysis,(80) 4) a study to understand the shift in global cardiovascular mortality from an increased risk in men to an equal risk among men and women, which may be due to a reduction in overall CVD mortality in men, or an increased CVD mortality in women, 5) a study to explore the changes in global male or female all-cause mortality either in the general or CKD population that might explain whether changes have occurred only in cardiovascular mortality or in all causes of mortality, which can explain if changes in healthcare have affected both sexes equally or disproportionately in one. 6) An observational study based in Korea to better understand why the Korean CKD population consistently showed a higher cardiovascular mortality risk in women, and if there are significant differences in their CKD population from their neighbouring countries such as Japan and China.

Implications for practice

Even though men and women with CKD share equal cardiovascular mortality risk, cardiovascular disease and associated outcomes are widely considered to be a “man’s disease,” which has given rise to inequalities in cardiovascular management and lack of awareness about the potential risk of cardiovascular disease in women. Improved sex-specific strategies are required to reduce exposure to cardiovascular risk factors in both men and women with CKD, facilitate early diagnosis of complications and create better awareness among women with CKD to seek necessary treatment and prevention programs. Lack of awareness among women with CKD regarding cardiovascular complications need to be addressed through wider public health awareness campaigns and education programs, at patient and community level.

REFERENCES

1. Schoolwerth AC, Engelgau MM, Hostetter TH, Rufo KH, Chianchiano D, McClellan WM, et al. Chronic kidney disease: a public health problem that needs a public health action plan. Prev Chronic Dis. 2006;3(2):A57-A.
2. Wang H, Naghavi M, Allen C, Barber RM, Bhutta ZA, Carter A, et al. Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980–2015: a systematic analysis for the Global Burden of Disease Study 2015. The Lancet. 2016;388(10053):1459-544.
3. Subbiah AK, Chhabra YK, Mahajan S. Cardiovascular disease in patients with chronic kidney disease: a neglected subgroup. Heart Asia. 2016;8(2):56-61.
4. Carrero JJ, Hecking M, Chesnaye NC, Jager KJ. Sex and gender disparities in the epidemiology and outcomes of chronic kidney disease. Nat Rev Nephrol. 2018;14(3):151-64.
5. Webster AC, Nagler EV, Morton RL, Masson P. Chronic Kidney Disease. The Lancet. 2017;389(10075):1238-52.
6. Thomas R, Kanso A, Sedor JR. Chronic kidney disease and its complications. Prim Care. 2008;35(2):329-vii.
7. Weiner DE, Tighiouart H, Elsayed EF, Griffith JL, Salem DN, Levey AS, et al. The relationship between nontraditional risk factors and outcomes in individuals with stage 3 to 4 CKD. Am J Kidney Dis. 2008;51(2):212-23.
8. Briasoulis A, Bakris GL. Chronic kidney disease as a coronary artery disease risk equivalent. Curr Cardiol Rep. 2013;15(3):340.
9. Thompson K, Peters S, Woodward M, Carcel C, Norton R. Reporting sex and gender in medical research. The Lancet. 2019;393(10185):2038.
10. Pryzgoda J, Chrisler JC. Definitions of Gender and Sex: The Subtleties of Meaning. Sex Roles. 2000;43(7):553-69.
11. Morrow EH. The evolution of sex differences in disease. Biology of Sex Differences. 2015;6(1):5.
12. Arnold AP. Promoting the understanding of sex differences to enhance equity and excellence in biomedical science. Biology of sex differences. 2010;1(1):1-.
13. Raz L, Miller VM. Considerations of sex and gender differences in preclinical and clinical trials. Handb Exp Pharmacol. 2012(214):127-47.
14. Clayton JA, Collins FS. Policy: NIH to balance sex in cell and animal studies. Nature. 2014;509(7500):282-3.
15. Peters SAE, Norton R. Sex and gender reporting in global health: new editorial policies. BMJ Glob Health. 2018;3(4):e001038-e.
16. Suleymanlar G, Utas C, Arinsoy T, Ates K, Altun B, Altiparmak MR, et al. A population-based survey of Chronic REnal Disease In Turkey--the CREDIT study. Nephrol Dial Transplant. 2011;26(6):1862-71.
17. Bongard V, Dallongeville J, Arveiler D, Ruidavets JB, Cottel D, Wagner A, et al. [Assessment and characteristics of chronic renal insufficiency in France]. Ann Cardiol Angeiol (Paris). 2012;61(4):239-44.
18. NHS Digital. Health Survey for England - 2009, Health and lifestyles. 2010.
19. Cirillo M, Laurenzi M, Mancini M, Zanchetti A, Lombardi C, De Santo NG. Low glomerular filtration in the population: prevalence, associated disorders, and awareness. Kidney Int. 2006;70(4):800-6.
20. Ministry of Health. National Health Survey 2010. Singapore; 2011.
21. Zhang L, Zhang P, Wang F, Zuo L, Zhou Y, Shi Y, et al. Prevalence and factors associated with CKD: a population study from Beijing. Am J Kidney Dis. 2008;51(3):373-84.

22. Gasparini A, Evans M, Coresh J, Grams ME, Norin O, Qureshi AR, et al. Prevalence and recognition of chronic kidney disease in Stockholm healthcare. Nephrol Dial Transplant. 2016;31(12):2086-94.
23. Lu C, Zhao H, Xu G, Yue H, Liu W, Zhu K, et al. Prevalence and risk factors associated with chronic kidney disease in a Uygur adult population from Urumqi. J Huazhong Univ Sci Technolog Med Sci. 2010;30(5):604-10.
24. Chen W, Chen W, Wang H, Dong X, Liu Q, Mao H, et al. Prevalence and risk factors associated with chronic kidney disease in an adult population from southern China. Nephrology, dialysis, transplantation : official publication of the European Dialysis and Transplant Association - European Renal Association. 2008;24:1205-12.
25. Chen W, Liu Q, Wang H, Chen W, Johnson RJ, Dong X, et al. Prevalence and risk factors of chronic kidney disease: a population study in the Tibetan population. Nephrol Dial Transplant. 2011;26(5):1592-9.
26. Arora P, Vasa P, Brenner D, Iglar K, McFarlane P, Morrison H, et al. Prevalence estimates of chronic kidney disease in Canada: results of a nationally representative survey. Cmaj. 2013;185(9):E417-23.
27. Vinhas J, Gardete-Correia L, Boavida JM, Raposo JF, Mesquita A, Fona MC, et al. Prevalence of chronic kidney disease and associated risk factors, and risk of end-stage renal disease: data from the PREVADIAB study. Nephron Clin Pract. 2011;119(1):c35-40.
28. Zdrojewski L, Zdrojewski T, Rutkowski M, Bandosz P, Krol E, Wyrzykowski B, et al. Prevalence of chronic kidney disease in a representative sample of the Polish population: results of the NATPOL 2011 survey. Nephrol Dial Transplant. 2016;31(3):433-9.
29. Zhang L, Wang F, Wang L, Wang W, Liu B, Liu J, et al. Prevalence of chronic kidney disease in China: a cross-sectional survey. Lancet. 2012;379(9818):815-22.
30. Ong-Ajyooth L, Vareesangthip K, Khonputsa P, Aekplakorn W. Prevalence of chronic kidney disease in Thai adults: a national health survey. BMC Nephrol. 2009;10:35.
31. Sahin I, Yildirim B, Cetin I, Etikan I, Ozturk B, Ozyurt H, et al. Prevalence of chronic kidney disease in the Black Sea Region, Turkey, and investigation of the related factors with chronic kidney disease. Ren Fail. 2009;31(10):920-7.
32. Anand S, Shivashankar R, Ali MK, Kondal D, Binukumar B, Montez-Rath ME, et al. Prevalence of chronic kidney disease in two major Indian cities and projections for associated cardiovascular disease. Kidney Int. 2015;88(1):178-85.
33. Otero A, de Francisco A, Gayoso P, Garcia F. Prevalence of chronic renal disease in Spain: results of the EPIRCE study. Nefrologia. 2010;30(1):78-86.
34. Shin HY, Kang HT. Recent trends in the prevalence of chronic kidney disease in Korean adults: Korean National Health and Nutrition Examination Survey from 1998 to 2013. J Nephrol. 2016;29(6):799-807.
35. Dunstan DW, Zimmet PZ, Welborn TA, Cameron AJ, Shaw J, de Courten M, et al. The Australian Diabetes, Obesity and Lifestyle Study (AusDiab)—methods and response rates. Diabetes Research and Clinical Practice. 2002;57(2):119-29.
36. Juutilainen A, Kastarinen H, Antikainen R, Peltonen M, Salomaa V, Tuomilehto J, et al. Trends in estimated kidney function: the FINRISK surveys. Eur J Epidemiol. 2012;27(4):305-13.
37. Murphy D, McCulloch CE, Lin F, Banerjee T, Bragg-Gresham JL, Eberhardt MS, et al. Trends in Prevalence of Chronic Kidney Disease in the United States. Ann Intern Med. 2016;165(7):473-81.
38. Nagata M, Ninomiya T, Doi Y, Yonemoto K, Kubo M, Hata J, et al. Trends in the prevalence of chronic kidney disease and its risk factors in a general Japanese population: the Hisayama Study. Nephrol Dial Transplant. 2010;25(8):2557-64.
39. O'Hare AM, Choi AI, Bertenthal D, Bacchetti P, Garg AX, Kaufman JS, et al. Age affects outcomes in chronic kidney disease. J Am Soc Nephrol. 2007;18(10):2758-65.
40. Glassock R, Delanaye P, El Nahas M. An Age-Calibrated Classification of Chronic Kidney Disease. Jama. 2015;314(6):559-60.

41. Drey N, Roderick P, Mullee M, Rogerson M. A population-based study of the incidence and outcomes of diagnosed chronic kidney disease. Am J Kidney Dis. 2003;42(4):677-84.
42. Neugarten J, Acharya A, Silbiger SR. Effect of gender on the progression of nondiabetic renal disease: a meta-analysis. J Am Soc Nephrol. 2000;11(2):319-29.
43. Jafar TH, Group ftAIiPRDS, Schmid CH, Group ftAIiPRDS, Stark PC, Group ftAIiPRDS, et al. The rate of progression of renal disease may not be slower in women compared with men: a patient-level meta-analysis. Nephrology Dialysis Transplantation. 2003;18(10):2047-53.
44. Eriksen BO, Ingebretsen OC. The progression of chronic kidney disease: a 10-year population-based study of the effects of gender and age. Kidney Int. 2006;69(2):375-82.
45. Halbesma N, Brantsma AH, Bakker SJ, Jansen DF, Stolk RP, De Zeeuw D, et al. Gender differences in predictors of the decline of renal function in the general population. Kidney Int. 2008;74(4):505-12.
46. Hutchens MP, Fujiyoshi T, Komers R, Herson PS, Anderson S. Estrogen protects renal endothelial barrier function from ischemia-reperfusion in vitro and in vivo. Am J Physiol Renal Physiol. 2012;303(3):F377-85.
47. Denic A, Glassock RJ, Rule AD. Structural and Functional Changes With the Aging Kidney. Adv Chronic Kidney Dis. 2016;23(1):19-28.
48. Metcalfe PD, Leslie JA, Campbell MT, Meldrum DR, Hile KL, Meldrum KK. Testosterone exacerbates obstructive renal injury by stimulating TNF-alpha production and increasing proapoptotic and profibrotic signaling. Am J Physiol Endocrinol Metab. 2008;294(2):E435-43.
49. Iliescu R, Hăncianu M, Reckelhoff JF. Testosterone supplements accelerate progression of kidney injury in a rat model of reduced renal mass. FARMACIA. 2014;62(1):119-28.
50. Verzola D, Gandolfo MT, Salvatore F, Villaggio B, Gianiorio F, Traverso P, et al. Testosterone promotes apoptotic damage in human renal tubular cells. Kidney Int. 2004;65(4):1252-61.
51. Ji H, Zheng W, Menini S, Pesce C, Kim J, Wu X, et al. Female protection in progressive renal disease is associated with estradiol attenuation of superoxide production. Gend Med. 2007;4(1):56-71.
52. Crews DC, Kuczmarski MF, Miller ER, 3rd, Zonderman AB, Evans MK, Powe NR. Dietary habits, poverty, and chronic kidney disease in an urban population. J Ren Nutr. 2015;25(2):103-10.
53. Khan E, Brieger D, Amerena J, Atherton JJ, Chew DP, Farshid A, et al. Differences in management and outcomes for men and women with ST-elevation myocardial infarction. Medical Journal of Australia. 2018;209(3):118-23.
54. Verhave JC, Hillege HL, Burgerhof JG, Navis G, de Zeeuw D, de Jong PE. Cardiovascular risk factors are differently associated with urinary albumin excretion in men and women. J Am Soc Nephrol. 2003;14(5):1330-5.
55. Ifudu O, Uribarri J, Rajwani I, Vlacich V, Reydel K, Delosreyes G, et al. Gender modulates responsiveness to recombinant erythropoietin. Am J Kidney Dis. 2001;38(3):518-22.
56. Madore F, Lowrie EG, Brugnara C, Lew NL, Lazarus JM, Bridges K, et al. Anemia in hemodialysis patients: variables affecting this outcome predictor. Journal of the American Society of Nephrology. 1997;8(12):1921-9.
57. Couchoud C, Kooman J, Finne P, Leivestad T, Stojceva-Taneva O, Ponikvar JB, et al. From registry data collection to international comparisons: examples of haemodialysis duration and frequency. Nephrology, dialysis, transplantation : official publication of the European Dialysis and Transplant Association - European Renal Association. 2009;24(1):217-24.
58. Hecking M, Bieber BA, Ethier J, Kautzky-Willer A, Sunder-Plassmann G, Säemann MD, et al. Sex-specific differences in hemodialysis prevalence and practices and the male-to-female mortality rate: the Dialysis Outcomes and Practice Patterns Study (DOPPS). PLoS medicine. 2014;11(10):e1001750-e.
59. Global, regional, and national age-sex-specific mortality for 282 causes of death in 195 countries and territories, 1980-2017: a systematic analysis for the Global Burden of Disease Study 2017. Lancet. 2018;392(10159):1736-88.

60. Humphries KH, Izadnegahdar M, Sedlak T, Saw J, Johnston N, Schenck-Gustafsson K, et al. Sex differences in cardiovascular disease - Impact on care and outcomes. Front Neuroendocrinol. 2017;46:46-70.
61. Bots SH, Peters SAE, Woodward M. Sex differences in coronary heart disease and stroke mortality: a global assessment of the effect of ageing between 1980 and 2010. BMJ Glob Health. 2017;2(2):e000298.
62. Leening MJG, Ferket BS, Steyerberg EW, Kavousi M, Deckers JW, Nieboer D, et al. Sex differences in lifetime risk and first manifestation of cardiovascular disease: prospective population based cohort study. BMJ : British Medical Journal. 2014;349:g5992.
63. Tunstall-Pedoe H. Myth and paradox of coronary risk and the menopause. The Lancet. 1998;351(9113):1425-7.
64. Boardman HMP, Hartley L, Eisinga A, Main C, Roqué i Figuls M, Bonfill Cosp X, et al. Hormone therapy for preventing cardiovascular disease in post-menopausal women. Cochrane Database of Systematic Reviews. 2015(3).
65. Mosca L, Barrett-Connor E, Wenger NK. Sex/Gender Differences in Cardiovascular Disease Prevention. Circulation. 2011;124(19):2145-54.
66. Vaccarino V, Parsons L, Every NR, Barron HV, Krumholz HM. Sex-based differences in early mortality after myocardial infarction. National Registry of Myocardial Infarction 2 Participants. N Engl J Med. 1999;341(4):217-25.
67. Regitz-Zagrosek V, Kararigas G. Mechanistic Pathways of Sex Differences in Cardiovascular Disease. Physiological Reviews. 2017;97(1):1-37.
68. Roth GA, Abate D, Abate KH, Abay SM, Abbafati C, Abbasi N, et al. Global, regional, and national age-sex-specific mortality for 282 causes of death in 195 countries and territories, 1980-2013;2017: a systematic analysis for the Global Burden of Disease Study 2017. The Lancet. 2018;392(10159):1736-88.
69. Mikkola TS, Gissler M, Merikukka M, Tuomikoski P, Ylikorkala O. Sex differences in age-related cardiovascular mortality. PLoS One. 2013;8(5):e63347-e.
70. Peters SA, Huxley RR, Woodward M. Diabetes as a risk factor for stroke in women compared with men: a systematic review and meta-analysis of 64 cohorts, including 775 385 individuals and 12 539 strokes. The Lancet. 2014;383(9933):1973-80.
71. Appelman Y, van Rijn BB, ten Haaf ME, Boersma E, Peters SAE. Sex differences in cardiovascular risk factors and disease prevention. Atherosclerosis. 2015;241(1):211-8.
72. Prescott E, Hippe M, Schnohr P, Hein HO, Vestbo J. Smoking and risk of myocardial infarction in women and men: longitudinal population study. BMJ. 1998;316(7137):1043.
73. Woodward M, Lam TH, Barzi F, Patel A, Gu DF, Rodgers A, et al. Smoking, quitting, and the risk of cardiovascular disease among women and men in the Asia-Pacific region. International Journal of Epidemiology. 2005;34(5):1036-45.
74. Wormser D, Kaptoge S, Di Angelantonio E, Wood AM, Pennells L, Thompson A, et al. Separate and combined associations of body-mass index and abdominal adiposity with cardiovascular disease: Collaborative analysis of 58 prospective studies. The Lancet. 2011;377(9771):1085-95.
75. Kuhn L, Page K, Rahman MA, Worrall-Carter L. Gender difference in treatment and mortality of patients with ST-segment elevation myocardial infarction admitted to Victorian public hospitals: a retrospective database study. Aust Crit Care. 2015;28(4):196-202.
76. Worrall-Carter L, McEvedy S, Wilson A, Rahman MA. Gender Differences in Presentation, Coronary Intervention, and Outcomes of 28,985 Acute Coronary Syndrome Patients in Victoria, Australia. Womens Health Issues. 2016;26(1):14-20.
77. Roe YL, Zeitz CJ, Mittinty MN, McDermott RA, Chew DP. Impact of age, gender and indigenous status on access to diagnostic coronary angiography for patients presenting with non-ST segment elevation acute coronary syndromes in Australia. Intern Med J. 2013;43(3):317-22.

78. Giles WH, Anda RF, Casper ML, Escobedo LG, Taylor HA. Race and Sex Differences in Rates of Invasive Cardiac Procedures in US Hospitals: Data From the National Hospital Discharge Survey. Archives of Internal Medicine. 1995;155(3):318-24.
79. Nitsch D, Grams M, Sang Y, Black C, Cirillo M, Djurdjev O, et al. Associations of estimated glomerular filtration rate and albuminuria with mortality and renal failure by sex: a meta-analysis. Bmj. 2013;346:f324.
80. Carrero JJ, de Jager DJ, Verduijn M, Ravani P, De Meester J, Heaf JG, et al. Cardiovascular and Noncardiovascular Mortality among Men and Women Starting Dialysis. Clinical Journal of the American Society of Nephrology. 2011;6(7):1722-30.
81. Guajardo I, Ayer A, Johnson AD, Ganz P, Mills C, Donovan C, et al. Sex differences in vascular dysfunction and cardiovascular outcomes: The cardiac, endothelial function, and arterial stiffness in ESRD (CERES) study. Hemodialysis International. 2018;22(1):93-102.
82. Meisinger C, Döring A, Löwel H, Group ftKS. Chronic kidney disease and risk of incident myocardial infarction and all-cause and cardiovascular disease mortality in middle-aged men and women from the general population. European Heart Journal. 2006;27(10):1245-50.
83. Liberati A, Altman DG, Tetzlaff J, Mulrow C, Gøtzsche PC, Ioannidis JPA, et al. The PRISMA Statement for Reporting Systematic Reviews and Meta-Analyses of Studies That Evaluate Health Care Interventions: Explanation and Elaboration. PLOS Medicine. 2009;6(7):e1000100.
84. Fraser SDS, Roderick PJ. Kidney disease in the Global Burden of Disease Study 2017. Nature reviews Nephrology. 2019;15(4):193-4.
85. Foreman KJ, Marquez N, Dolgert A, Fukutaki K, Fullman N, McGaughey M, et al. Forecasting life expectancy, years of life lost, and all-cause and cause-specific mortality for 250 causes of death: reference and alternative scenarios for 2016–40 for 195 countries and territories. The Lancet. 2018;392(10159):2052-90.
86. Di Lullo L, House A, Gorini A, Santoboni A, Russo D, Ronco C. Chronic kidney disease and cardiovascular complications. Heart failure reviews. 2015;20(3):259-72.
87. Liabeuf S, Desjardins L, Diouf M, Temmar M, Renard C, Choukroun G, et al. The Addition of Vascular Calcification Scores to Traditional Risk Factors Improves Cardiovascular Risk Assessment in Patients with Chronic Kidney Disease. PLoS One. 2015;10(7):e0131707.
88. Health AIo, Welfare. Cardiovascular disease. Canberra: AIHW; 2019.
89. Major RW, Cheng MR, Grant RA, Shantikumar S, Xu G, Oozeerally I, et al. Cardiovascular disease risk factors in chronic kidney disease: A systematic review and meta-analysis. PLoS One. 2018;13(3):e0192895.
90. United States Renal Data System. 2018 USRDS annual data report: Epidemiology of kidney disease in the United States. Bethesda, MD: National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases; 2018.
91. Wells G, Shea B, O'Connell D, Peterson J, Welch V, Losos M, et al. The Newcastle–Ottawa Scale (NOS) for Assessing the Quality of Nonrandomized Studies in Meta-Analysis 2009 [Available from: www.ohri.ca/programs/clinical_epidemiology/oxford.asp.
92. Higgins J, Thomas J, Chandler J, Cumpston M, Li T, Page M, et al. Cochrane Handbook for Systematic Reviews of Interventions version 6.0 (updated July 2019): Cochrane; 2019 [
93. ANZDATA. 41st Annual ANZDATA Report 2018.
94. Antunovic T, Stefanovic A, Ratkovic M, Gledovic B, Gligorovic-Barhanovic N, Bozovic D, et al. High uric acid and low superoxide dismutase as possible predictors of all-cause and cardiovascular mortality in hemodialysis patients. International Urology & Nephrology. 2013;45(4):1111-9.
95. Echida Y, Ogawa T, Otsuka K, Ando Y, Nitta K. Serum non-high-density lipoprotein cholesterol (non-HDL-C) levels and cardiovascular mortality in chronic hemodialysis patients. Clinical & Experimental Nephrology. 2012;16(5):767-72.
96. Hannedouche T, Roth H, Krummel T, London GM, Jean G, Bouchet JL, et al. Multiphasic effects of blood pressure on survival in hemodialysis patients. Kidney Int. 2016;90(3):674-84.

97. Jiang J, Wang LH, Fei YY, Zhou XW, Peng L, Lan L, et al. Serum Albumin at Start of Peritoneal Dialysis Predicts Long-Term Outcomes in Anhui Han Patients on Continuous Ambulatory Peritoneal Dialysis: A Retrospective Cohort Study. Kidney Diseases. 2018;4(4):262-8.
98. Li W, Xiong L, Fan L, Wang Y, Peng X, Rong R, et al. Association of baseline, longitudinal serum high-sensitive C-reactive protein and its change with mortality in peritoneal dialysis patients. BMC Nephrology. 2017;18(1).
99. Park KS, Ryu GW, Jhee JH, Kim HW, Park S, Lee SA, et al. Serum Ferritin Predicts Mortality Regardless of Inflammatory and Nutritional Status in Patients Starting Dialysis: A Prospective Cohort Study. 2015;1(3):209-17.
100. Wen Y, Guo Q, Yang X, Wu X, Feng S, Tan J, et al. High glucose concentrations in peritoneal dialysate are associated with all-cause and cardiovascular disease mortality in continuous ambulatory peritoneal dialysis patients. Peritoneal Dialysis International. 2015;35(1):70-7.
101. Xiang F, Chen R, Cao X, Shen B, Liu Z, Tan X, et al. Monocyte/lymphocyte ratio as a better predictor of cardiovascular and all-cause mortality in hemodialysis patients: A prospective cohort study. Hemodialysis International. 2018;22(1):82-92.
102. Ye H, Cao P, Zhang X, Lin J, Guo Q, Mao H, et al. Serum magnesium and cardiovascular mortality in peritoneal dialysis patients: A 5-year prospective cohort study. British Journal of Nutrition. 2018;120(4):415-23.
103. An X, Mao HP, Wei X, Chen JH, Yang X, Li ZB, et al. Elevated neutrophil to lymphocyte ratio predicts overall and cardiovascular mortality in maintenance peritoneal dialysis patients. International urology and nephrology. 2012;44(5):1521-8.
104. Antunovic T, Stefanovic A, Gligorovic Barhanovic N, Miljkovic M, Radunovic D, Ivanisevic J, et al. Prooxidant-antioxidant balance, hsTnI and hsCRP: mortality prediction in haemodialysis patients, two-year follow-up. Renal Failure. 2017;39(1):491-9.
105. Merle E, Roth H, London GM, Jean G, Hannedouche T, Bouchet JL, et al. Low parathyroid hormone status induced by high dialysate calcium is an independent risk factor for cardiovascular death in hemodialysis patients. Kidney Int. 2016;89(3):666-74.
106. Ogawa T, Ishida H, Akamatsu M, Matsuda N, Fujiu A, Ito K, et al. Progression of aortic arch calcification and all-cause and cardiovascular mortality in chronic hemodialysis patients. International urology and nephrology. 2010;42(1):187-94.
107. Oh HJ, Lee MJ, Lee HS, Park JT, Han SH, Yoo TH, et al. NT-proBNP: is it a more significant risk factor for mortality than troponin T in incident hemodialysis patients? Medicine. 2014;93(27):e241.
108. Zhang Z, Shen B, Cao X, Liu Z, Chen X, Nie Y, et al. Increased Soluble Suppression of Tumorigenicity 2 Level Predicts All-Cause and Cardiovascular Mortality in Maintenance Hemodialysis Patients: A Prospective Cohort Study. Blood Purification. 2017;43(1-3):37-45.
109. Avramovski P, Janakievska P, Sotiroski K, Zafirova-Ivanovska B, Sikole A. Aortic pulse wave velocity is a strong predictor of all--cause and cardiovascular mortality in chronic dialysis patients. Renal Failure. 2014;36(2):176-86.
110. Yoshitomi R, Nakayama M, Ura Y, Kuma K, Nishimoto H, Fukui A, et al. Ankle-brachial blood pressure index predicts cardiovascular events and mortality in Japanese patients with chronic kidney disease not on dialysis. Hypertension Research - Clinical & Experimental. 2014;37(12):1050-5.
111. Wu IW, Hsu KH, Hsu HJ, Lee CC, Sun CY, Tsai CJ, et al. Serum free p-cresyl sulfate levels predict cardiovascular and all-cause mortality in elderly hemodialysis patients--a prospective cohort study. Nephrology Dialysis Transplantation. 2012;27(3):1169-75.
112. Isla RAT, Ameh OI, Mapiye D, Swanepoel CR, Bello AK, Ratsela AR, et al. Baseline predictors of mortality among predominantly rural-dwelling end-stage renal disease patients on chronic dialysis therapies in limpopo, South Africa. PLoS One. 2016;11(6).
113. Genovesi S, Rossi E, Nava M, Riva H, De Franceschi S, Fabbrini P, et al. A case series of chronic haemodialysis patients: mortality, sudden death, and QT interval. Europace. 2013;15(7):1025-33.

114. Arsov S, Trajceska L, van Oeveren W, Smit AJ, Dzekova P, Stegmayr B, et al. Increase in skin autofluorescence and release of heart-type fatty acid binding protein in plasma predicts mortality of hemodialysis patients. Artificial Organs. 2013;37(7):E114-E22.
115. Chen XN, Chen ZJ, Ma XB, Ding B, Ling HW, Shi ZW, et al. Aortic artery and cardiac valve calcification are associated with mortality in Chinese hemodialysis patients: A 3.5 years follow-up. Chinese Medical Journal. 2015;128(20):2764-71.
116. den Hoedt CH, Bots ML, Grooteman MP, Mazairac AH, Penne EL, van der Weerd NC, et al. Should we still focus that much on cardiovascular mortality in end stage renal disease patients? The CONvective TRAnsport STudy. PLoS One. 2013;8(4):e61155.
117. Flythe JE, Kshirsagar AV, Falk RJ, Brunelli SM. Associations of Posthemodialysis Weights above and below Target Weight with All-Cause and Cardiovascular Mortality. Clinical Journal of The American Society of Nephrology: CJASN. 2015;10(5):808-16.
118. Honneger Bloch S, Semple D, Sidhu K, Stewart R, Pilmore H. Prognostic value and long-term variation of high sensitivity troponin T in clinically stable haemodialysis patients. New Zealand Medical Journal. 2014;127(1402):97-109.
119. Jeng Y, Lim PS, Wu MY, Tseng TY, Chen CH, Chen HP, et al. Proportions of Proinflammatory Monocytes Are Important Predictors of Mortality Risk in Hemodialysis Patients. Mediators of Inflammation. 2017;2017.
120. Kakiya R, Shoji T, Hayashi T, Tatsumi-Shimomura N, Tsujimoto Y, Tabata T, et al. Decreased serum adrenal androgen dehydroepiandrosterone sulfate and mortality in hemodialysis patients. Nephrology Dialysis Transplantation. 2012;27(10):3915-22.
121. Kawagoe C, Sato Y, Toida T, Nakagawa H, Yamashita Y, Fukuda A, et al. N-terminal-pro-B-type-natriuretic peptide associated with 2-year mortality from both cardiovascular and non-cardiovascular origins in prevalent chronic hemodialysis patients. Renal Failure. 2018;40(1):127-34.
122. Li Z, Liu S, Liang X, Wang W, Fei H, Hu P, et al. Pulmonary hypertension as an independent predictor of cardiovascular mortality and events in hemodialysis patients. International Urology & Nephrology. 2014;46(1):141-9.
123. Lim PS, Jeng Y, Wu MY, Pai MA, Wu TK, Liu CS, et al. Serum Oxidized Albumin and Cardiovascular Mortality in Normoalbuminemic Hemodialysis Patients: A Cohort Study. PLoS One. 2013;8(7).
124. Lu CL, Leu JG, Liu WC, Zheng CM, Lin YF, Shyu JF, et al. Endothelial progenitor cells predict long-term mortality in hemodialysis patients. International Journal of Medical Sciences. 2016;13(3):240-7.
125. Saglimbene VM, Wong G, Ruospo M, Palmer SC, Campbell K, Larsen VG, et al. Dietary n-3 polyunsaturated fatty acid intake and all-cause and cardiovascular mortality in adults on hemodialysis: The DIET-HD multinational cohort study. Clinical Nutrition. 2019;38(1):429-37.
126. Tsai MH, Liou HH, Leu JG, Yen MF, Chen HH. Sites of peripheral artery occlusive disease as a predictor for all-cause and cardiovascular mortality in chronic hemodialysis. PLoS One. 2015;10(6).
127. Ulusoy S, Ozkan G, Mentese A, Guvercin B, Caner Karahan S, Yavuz A, et al. A new predictor of mortality in hemodialysis patients; Tenascin-C. 2015;1:54-60.
128. Wu L, Cai K, Luo Q, Wang L, Hong Y. Baseline Serum Magnesium Level and Its Variability in Maintenance Hemodialysis Patients: Associations with Mortality. Kidney and Blood Pressure Research. 2019;44(2):222-32.
129. Yayar O, Eser B, Kilic H. Relation between high serum hepcidin-25 level and subclinical atherosclerosis and cardiovascular mortality in hemodialysis patients. Anatolian Journal of Cardiology. 2018;19(2):117-22.
130. Gong L, Zheng D, Yuan J, Cao L, Ni Z, Fang W. Elevated levels of serum sclerostin are linked to adverse cardiovascular outcomes in peritoneal dialysis patients. International Urology & Nephrology. 2018;50(5):955-61.

131. Lee MJ, Shin DH, Kim SJ, Oh HJ, Yoo DE, Ko KI, et al. Progression of Aortic Arch Calcification Over 1 Year Is an Independent Predictor of Mortality in Incident Peritoneal Dialysis Patients. PLoS One. 2012;7(11).
132. Li Y, Zhang L, Gu Y, Hao C, Zhu T. Insulin resistance as a predictor of cardiovascular disease in patients on peritoneal dialysis. Peritoneal Dialysis International. 2013;33(4):411-8.
133. Oh HJ, Lee MJ, Kwon YE, Park KS, Park JT, Han SH, et al. Which Biomarker is the Best for Predicting Mortality in Incident Peritoneal Dialysis Patients: NT-ProBNP, Cardiac TnT, or hsCRP? Medicine (united states). 2015;94(44):e1636.
134. Peng F, Chen W, Zhou W, Li P, Niu H, Chen Y, et al. Low prognostic nutritional index associated with cardiovascular disease mortality in incident peritoneal dialysis patients. International Urology & Nephrology. 2017;49(6):1095-101.
135. Wu CF, Lee YF, Lee WJ, Su CT, Lee LJ, Wu KD, et al. Severe aortic arch calcification predicts mortality in patients undergoing peritoneal dialysis. Journal of the Formosan Medical Association. 2017;116(5):366-72.
136. Okamoto T, Morimoto S, Ikenoue T, Furumatsu Y, Ichihara A. Visceral fat level is an independent risk factor for cardiovascular mortality in hemodialysis patients. American Journal of Nephrology. 2014;39(2):122-9.
137. Kon S, Konta T, Ichikawa K, Asahi K, Yamagata K, Fujimoto S, et al. Association between renal function and cardiovascular and all-cause mortality in the community-based elderly population: results from the Specific Health Check and Guidance Program in Japan. Clinical & Experimental Nephrology. 2018;22(2):346-52.
138. Navaneethan SD, Schold JD, Walther CP, Arrigain S, Jolly SE, Virani SS, et al. High-density lipoprotein cholesterol and causes of death in chronic kidney disease. Journal of Clinical Lipidology. 2018;12(4):1061-71.e7.
139. DeVries D, Zhang Y, Qu M, Ma J, Lin G. Gender difference in stroke case fatality: an integrated study of hospitalization and mortality. J Stroke Cerebrovasc Dis. 2013;22(7):931-7.
140. Murthy VL, Naya M, Foster CR, Hainer J, Gaber M, Dorbala S, et al. Coronary vascular dysfunction and prognosis in patients with chronic kidney disease. JACC Cardiovasc Imaging. 2012;5(10):1025-34.
141. Gudsoorkar PS, Tobe SW. Changing concepts in hypertension management. Journal of Human Hypertension. 2017;31(12):763-7.
142. Leung AA, Nerenberg K, Daskalopoulou SS, McBrien K, Zarnke KB, Dasgupta K, et al. Hypertension Canada's 2016 Canadian Hypertension Education Program Guidelines for Blood Pressure Measurement, Diagnosis, Assessment of Risk, Prevention, and Treatment of Hypertension. Canadian Journal of Cardiology. 2016;32(5):569-88.
143. Sonoda Y, Higuchi A, Morita T, Mori J, Shimmura H. Intensive blood pressure lowering. The Lancet. 2016;387(10035):2291.
144. Mosca L, Hammond G, Mochari-Greenberger H, Towfighi A, Albert MA. Fifteen-Year Trends in Awareness of Heart Disease in Women. Circulation. 2013;127(11):1254-63.
145. World Health Organisation (WHO). World Health Statistics 2019: Monitoring health for the SDGs. 2019.
146. Matsushita K, van der Velde M, Astor BC, Woodward M, Levey AS, de Jong PE, et al. Association of estimated glomerular filtration rate and albuminuria with all-cause and cardiovascular mortality in general population cohorts: a collaborative meta-analysis. Lancet. 2010;375(9731):2073-81.
147. Chartier MJ, Tangri N, Komenda P, Walld R, Koseva I, Burchill C, et al. Prevalence, socio-demographic characteristics, and comorbid health conditions in pre-dialysis chronic kidney disease: results from the Manitoba chronic kidney disease cohort. BMC Nephrology. 2018;19(1):255.
148. Saran R, Robinson B, Abbott KC, Agodoa LYC, Albertus P, Ayanian J, et al. US Renal Data System 2016 Annual Data Report: Epidemiology of Kidney Disease in the United States. Am J Kidney Dis. 2017;69(3 Suppl 1):A7-A8.

149. Afkarian M, Sachs MC, Kestenbaum B, Hirsch IB, Tuttle KR, Himmelfarb J, et al. Kidney Disease and Increased Mortality Risk in Type 2 Diabetes. Journal of the American Society of Nephrology. 2013;24(2):302-8.
150. Hong JS, Kang HC, Lee SH, Kim J. Long-term trend in the incidence of acute myocardial infarction in Korea: 1997-2007. Korean Circ J. 2009;39(11):467-76.
151. Hong J-S, Kang H-C. Sex Differences in the Treatment and Outcome of Korean Patients With Acute Myocardial Infarction Using the Korean National Health Insurance Claims Database. Medicine. 2015;94(35):e1401.
152. Park JS, Kim YJ, Shin DG, Jeong MH, Ahn YK, Chung WS, et al. Gender differences in clinical features and in-hospital outcomes in ST-segment elevation acute myocardial infarction: from the Korean Acute Myocardial Infarction Registry (KAMIR) study. Clin Cardiol. 2010;33(8):E1-6.
153. Webb P, Bain C. Essential Epidemiology: An Introduction for Students and Health Professionals. 2 ed. Cambridge: Cambridge University Press; 2010.
154. Pauker SE. From protectionism to access: Women & participation in clinical trials-conflict, controversy, and change. 2002.
155. Merkin SS, Coresh J, Diez Roux AV, Taylor HA, Powe NR. Area socioeconomic status and progressive CKD: the Atherosclerosis Risk in Communities (ARIC) Study. Am J Kidney Dis. 2005;46(2):203-13.
156. Volkova N, McClellan W, Klein M, Flanders D, Kleinbaum D, Soucie JM, et al. Neighborhood poverty and racial differences in ESRD incidence. Journal of the American Society of Nephrology : JASN. 2008;19(2):356-64.
157. Norris K, Nissenson AR. Race, gender, and socioeconomic disparities in CKD in the United States. Journal of the American Society of Nephrology : JASN. 2008;19(7):1261-70.
158. Cobo G, Hecking M, Port Friedrich K, Exner I, Lindholm B, Stenvinkel P, et al. Sex and gender differences in chronic kidney disease: progression to end-stage renal disease and haemodialysis. Clinical Science. 2016;130(14):1147-63.

APPENDICES

Appendix 1: Medline search strategy

1. renal insufficiency, chronic/ or kidney failure, chronic/
2. (chronic kidney adj (disease or insufficiency)).ti,ab.
3. chronic renal disease.ti,ab.
4. chronic renal insufficiency.ti,ab.
5. end-stage renal disease.ti,ab.
6. uraemia.ti,ab.
7. uremia.ti,ab.
8. Uremia/
9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8
10. Cardiovascular Diseases/mo [Mortality]
11. (cardiovascular adj (mortality or death or event* or complication* or outcome*)).ti,ab.
12. Heart Diseases/mo [Mortality]
13. 10 or 11 or 12
14. Sex Factors/
15. Male/ or Female/
16. Sex Distribution/ or Sex Characteristics/ or Sex Ratio/
17. Men/ or Women/
18. (men or women or male* or female* or sex or gender or "sex difference*").mp.
19. 14 or 15 or 16 or 17 or 18
20. 9 and 13 and 19
21. limit 20 to english language

Appendix 2: Embase search strategy

1. renal insufficiency, chronic/ or kidney failure, chronic/

2. (chronic kidney adj (disease or insufficiency)).ti,ab.

3. chronic renal disease.ti,ab.

4. chronic renal insufficiency.ti,ab.

5. end-stage renal disease.ti,ab.

6. uraemia.ti,ab.

7. uremia.ti,ab.

8. Uremia/

9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8

10. cardiovascular disease/co, ep [Complication, Epidemiology]

11. (cardiovascular adj (mortality or death or event* or complication* or outcome*)).ti,ab.

12. heart disease/co, ep [Complication, Epidemiology]

13. 10 or 11 or 12

14. Sex Factors/

15. Male/ or Female/

16. Sex Distribution/ or Sex Characteristics/ or Sex Ratio/

17. Men/ or Women/

18. (men or women or male* or female* or sex or gender or "sex difference*").mp.

19. 14 or 15 or 16 or 17 or 18

20. 9 and 13 and 19

21. limit 20 to english language

Appendix 3: Scopus search strategy

((TITLE-ABS-KEY ("chronic kidney disease" OR "chronic renal disease" OR "chronic renal insufficiency" OR "chronic kidney insufficiency" OR "end-stage renal disease" OR "chronic kidney failure" OR "chronic renal failure" OR "dialysis" OR "uremia" OR "uraemia") AND TITLE-ABS-KEY ("cardiovascular mortality" OR "cardiovascular events" OR "cardiovascular deaths" OR "cardiovascular complications" OR "cardiovascular outcome*") AND ALL ("sex" OR "gender" OR "sex differences" OR "men" OR "women" OR "male" OR "female"))) AND (LIMIT-TO (LANGUAGE , "English"))

Appendix 4: Cochrane search strategy

1. MeSH descriptor: [Renal Insufficiency, Chronic] explode all
2. "chronic kidney disease" or "chronic renal disease" or "chronic kidney insufficiency" or "chronic renal insufficiency" or "renal failure" or "end-stage renal disease"
3. #1 or #2
4. MeSH descriptor: [Cardiovascular Diseases] explode all trees and with qualifier(s): [mortality - MO]
5. "cardiovascular mortality" or "cardiovascular events" or "cardiovascular outcomes" or "cardiovascular complications" or "cardiovascular deaths" or "mortality"
6. #4 or #5
7. MeSH descriptor: [Sex Factors] explode all trees
8. sex or gender or "sex differences" or "male" or "female" or "men" or "women"
9. #7 or #8
10. #3 and #6 and #9

Appendix 5: Cochrane Data Extraction Template

Cochrane Public Health Group Data Extraction and Assessment Template (*modify* to suit your review)

Study ID:	**Report ID :**	Date form completed:
First author:	Year of study:	Data extractor:
Citation:		

1. General Information

Publication type	Journal Article ☐ Abstract ☐ Other (specify e.g. book chapter)_____
Country of study:	
Funding source of study:	Potential conflict of interest from funding? Y / N / unclear

2. Study Eligibility

Study Characteristics			**Page/ Para/ Figure #**
Type of study (Review authors to add/remove designs based on criteria specified in protocol)	☐ Randomised Controlled Trial (RCT) ☐ Cluster Randomised Controlled Trial (cluster RCT)	☐ Controlled Before and After (CBA) study • Contemporaneous data collection • Comparable control site • At least 2 x intervention and 2 x control clusters	
	☐ Interrupted Time Series (ITS) • At least 3 time points before and 3 after the intervention • Clearly defined intervention point	☐ Other design (specify):	
	☐ A process evaluation of an included study design	*Does the study design meet the criteria for inclusion?* Yes ☐ No ☐ →**Exclude** Unclear ☐	
	Description in text:		
Participants (Review authors insert inclusion criteria as defined in Protocol)	Describe the participants included:		
	Are participants defined as a group having specific social or cultural characteristics?	Yes ☐ No ☐ Unclear ☐ Details:	

	How is the geographic boundary defined?	Details: Specific location (e.g. state / country):	
	Do the participants meet the criteria for inclusion?	Yes ☐ No ☐ →**Exclude** Unclear ☐	

Types of intervention (Review authors insert inclusion criteria as defined in Protocol)	Strategies included in the intervention			
	Focus of the intervention			
	Does the intervention meet the criteria for inclusion?	Yes ☐ No ☐ →**Exclude** Unclear ☐		
Duration of intervention	Start date:	Stop date:	Intervention duration:	
	Is the duration of intervention adequate for inclusion?	Yes ☐ No ☐ →**Exclude** Unclear ☐		
Types of outcome measures (Review authors insert inclusion criteria as defined in Protocol)	List outcomes:			
	Outcome measured at a population level or individual level?	Details:		
	Do the outcome measures meet the criteria for inclusion?	Yes ☐ No ☐ →**Exclude** Unclear ☐		

Summary of Assessment for Inclusion

Include in review ☐	**Exclude from review** ☐
Independently assessed, and then compared? Yes ☐ No ☐	Differences resolved Yes ☐ No ☐
Request further details? Yes ☐ No ☐	Contact details of authors:
Notes:	

DO NOT PROCEED IF PAPER EXCLUDED FROM REVIEW

3. Study details

Study intention	**Descriptions as stated in the report/paper**	**Page/ Para/ Figure #**
Aim of intervention	*What was the problem that this intervention was designed to address?*	
Aim of study	*What was the study designed to assess? Are these clearly stated?*	
Equity pointer: Social context of the study	*e.g. was study conducted in a particular setting that might target/exclude specific population s? See also Inclusion/exclusion criteria under Methods, below.*	
Start and end date of the study	*Identify which elements of planning of the intervention should be included*	
Total study duration		

Methods	**Descriptions as stated in the report/paper**	**Page/ Para/ Figure #**
Method/s of recruitment of participants *(How were potential participants approached and invited to participate? Where were participants recruited from? Does this differ from the intervention setting?)*		
Inclusion/exclusion criteria for participation in study		
Representativeness of sample: Are participants in the study likely to be representative of the target population?		
Total number of intervention groups		
Assumed risk estimate (*e. .baseline or population risk noted in Background)*	*References:*	
Sample size calculation: What assumptions were made? Were these assumptions appropriate?	 *(Yes/No/Unclear)*	
What was the unit of randomisation? Allocation by individuals or cluster/groups		
What was the unit of analysis? **Is this the same as the unit of randomisation?**	 *(Yes/No/Unclear)*	
Statistical methods used and appropriateness of these methods	*(Check with your statistician if unsure about appropriateness)*	

Results

Participants *Include if relevant*	**Include information for each group (i.e. intervention and controls) under study**	**Page/ Para/ Figure #**
• What percentage of selected individuals agreed to participate?		
• Total number randomised (or total pop. at start of study for NRCTs)		
• Number allocated to each intervention group (no. of individuals)		
• For cluster trials, number of clusters, number of people per cluster		
• Where there any significant baseline imbalances?	Yes ☐ No ☐ Unclear ☐ Details:	
• Number and reason for (and sociodemographic differences of) withdrawals and exclusions for each intervention group		
• Were patients who entered the study adequately accounted for?		
• What percentage of patients completed the study?		
• What percentage of participants received the allocated intervention or exposure of interest?		
• Is the analysis performed by intervention allocation status (intention to treat) rather than the actual intervention received? Have any attempts been made to impute missing data?		
• Age (median, mean and range if possible)		
• Sex		
• Race/Ethnicity		
• Principal health problem (incl. stage of illness)		
• Diagnostic criteria		

• Co-morbidity		
• Other sociodemographics (eg. Educational level, literacy level, soci-economic status, first language. Also consider possible proxies for these e.g. low baseline nutritional status)		
• PROGRESS categories reported at baseline (indicate letters of those reported: Place of residence, race, occupation, gender, religion, education, SES, social capital)		
Subgroups	*Enter a description of any participant subgroups from this paper to be analysed in the review.*	

Intervention Group 1

(copy and paste table for each Intervention group)

Group name:	*(State brief name for this intervention group.)*	**Page/ Para/ Figure #**
Details of intervention or control condition *(Include if relevant in sufficient detail for replication)*		
• Setting *eg multicentre, university teaching hospitals, rural, metropolitan, school, workplace, community, GP clinic, etc.*		
• Theoretical basis (include key references)		
• Content (list the strategies intended and delivered)		
• Did the intervention include strategies to address diversity/disadvantage?	*Enter a description of any relevant strategies*	
• Delivery (eg. Stages (sequential or simultaneous), timing, frequency, duration, intensity, fidelity – process indicators)		

• Providers (who, number, education/training in intervention delivery, ethnicity etc. if potentially relevant to acceptance and uptake by participants		
• Co-interventions		
Duration of intervention		
Duration of follow-up		
Was sustainability discussed by the authors? Was is a consideration in study development?		
Economic variables ie costs of the intervention, and changes in other (eg health care) costs as result of intervention♠	Yes ☐ →**List in Outcome section if appropriate** No ☐ Unclear ☐ Details:	
Other economic information (from a societal, non-healthcare view – e.g. lost wages, time)	Yes ☐ No ☐ Details:	
Resource requirements to replicate intervention (e.g. staff numbers, hours of implementation, equipment?)		
Subgroups	*Enter a description of any intervention subgroups from this report to be analysed in the review.*	
What are the moderators/mediators of changes stated in the study?		
Do the authors describe any political or organisational context?	*List relevant dot points*	
Were any partnerships referred to?	*List these as dot points*	
Was a process evaluation conducted?	*What components were included in the process evaluation? (eg. dose, frequency, consistency, implemented as intended etc)*	
Control/comparison (what information is provided about what the control or comparison group received?)	*Enter a description of what was provided for the control group, if applicable*	

Outcomes

♠ Costs associated with the intervention can be linked with provider or participant outcomes in an economic evaluation (depends on the type of economic evaluation)

(This table is set up for 2 outcome measure to save spaces, copy and paste table as often as required)

Question	Outcome 1	Page/ Para/ Figure #	Outcome 2	Page/ Para/ Figure #
Is there an analytic framework applied (e.g. logic model, conceptual framework)?				
Outcome definition (with diagnostic criteria if relevant)				
Type of outcome: Is this a modifiable variable (Community level, neighbourhood level, individual level) or desired health outcome				
Time points measured				
Time points reported				
Is there adequate latency for the outcome to be observed?				
Is the measure repeated on the same individuals or redrawn from the population / community for each time point?				
Unit of measurement (if relevant)				
For scales – upper and lower limits and indicate whether high or low score is good				
How is the measure applied? Telephone survey, mail survey, in person by trained assessor, routinely collected data, other				
How is the outcome reported? Self or study assessor				
Is this outcome/tool validated?				

…And has it been used as validated?				
Is it a reliable outcome measure?				
Is there adequate power for this outcome?				
Were PROGRESS categories analysed by outcome? Indicate the letters of those that outcomes were analysed by (place of residence, race, occupation, gender, religion, education, SES, social capital)				

Results

Copy and paste the appropriate table for each outcome and subgroup at each timepoint, including baseline

For RCT/CCT

Dichotomous outcome

page/para/fig

Comparison					
Outcome					
Subgroup					
Timepoint					
Results	**Intervention**		**Comparison**		
	Events	No. participants	Events	No. participants	
No. of missing participants and reasons					
Any other results reported					
Reanalysis required? (specify - (e.g. correlation adjustment)					
Reanalysis possible?	*yes/no/unclear*				

Reanalysed results		

For RCT/CCT

Continuous outcome page/para/fig

Comparison							
Outcome							
Subgroup							
Timepoint							
Post-intervention or change from baseline?							
Results	**Intervention**			**Comparison**			
	Mean	SD (or other variance)	No. participants	Mean	SD (or other variance)	No. participants	
No. missing participants and reasons							
Any other results reported							
Reanalysis required? (specify)							
Reanalysis possible?	*yes/no/unclear*						
Reanalysed results							

For RCT/CCT

Generic inverse variance method

Page/para/figure

Comparison					
Outcome					
Subgroup					
Timepoint					
Results	Effect estimate	SE (or other variance)	Intervention no.	Control no.	

No. missing participants and reasons		
Any other results reported		
Reanalysis required? (specify)		
Reanalysis possible?	*yes/no/unclear*	
Reanalysed results		

For CBA

Page/para/fig

Comparison			
Assignment	How were control and treatment groups selected?? Is there likely to be an effect if these were the opposite way?		
	Contemporaneous data collection?		
Outcome			
Subgroup			
Timepoint			
Post-intervention or change from baseline?			
	Intervention	**Comparison**	
No. participants measured			
No. missing participants and reasons			
Baseline result (with variance measure)			
Post-intervention results (with variance measure)			

Change (Post – baseline) (with variance measure)			
Difference in change (intervention – control) (with variance measure)			
Any other results reported			
Reanalysis required? (specify)			
Reanalysis possible?	*yes/no/unclear*		
Reanalysed results			

For ITS

Generic inverse variance method
Page/para/fig

Comparison			
Outcome			
Subgroup			
Length of timepoints measured			
Snapshot or interval measured			
No. participants measured			
No. missing participants and reasons			
	Pre-intervention	Post-intervention	
No. of timepoints measured			
Mean value (with variance measure)			

Difference in means (post – pre)					
Percent relative change					
Result reported by authors (with variance measure)					
Reanalysis required? (specify)					
Reanalysis possible?	*yes/no/unclear*				
Individual time point results					
Read from figure?	*yes/no*				
Reanalysed results	Change in level	SE	Change in slope	SE	

Other relevant information

Were outcomes relating to harms/unintended effects of the intervention described? Include any data for these in the outcomes tables above		
Potential for author conflict *ie. evidence that author or data collectors would benefit if results favoured the intervention under study or the control*		
Key conclusions of the study authors		
Could the inclusion of this study potentially bias the generalisability of the review? Equity pointer: Remember to consider whether disadvantaged populations may have been excluded from the study.		
Is there potential for differences in relative effects between advantaged and disadvantaged populations? (e.g. are children from lower income families less likely to wear bicycle helmets)		
Are interventions likely to be aimed at the disadvantaged? (e.g. school meals aimed at poor children).		

Issues affecting directness (*Note any aspects of population, intervention, etc. that affect this study's direct applicability to the review question)*	
References to other relevant studies	
Additional notes by review authors	
Correspondence required for further study information (from whom, what and when)	

Appendix 6: Data extraction form with adapted Risk of Bias tool (Newcastle-Ottawa Scale)

1. General Information		
	Study ID (e.g. Smith 2001)	
	Report title (title of paper/ abstract/ report)	
	First Author	
	Year of study	
	Date form completed	
	Data extractor	
	Publication Type	
	Country of Study	
	Funding source	
	Potential conflict of interest from funding Y/N/Unclear	
	Notes:	
2. Study Eligibility		
	Inclusion criteria	
	Type of participants	
	Patients population (CKD/Dialysis/Renal Impairment/Decreased GFR <60ml…)	
	Both sexes	
	Aged 18 and older	
	Stage of CKD (Any)	
	Patient data collected after 2004	
	Type of studies	
	Non-interventional cohort study (prospective/retrospective)/ Cross-sectional/ Case Control, Observational study/ Control arm of RCT with appropriate sex stratification/ Systematic Review/ Meta-analysis/ Grey literature - ANZDATA	
	Type of outcomes	
	Cardiovascular mortality (overall and/or cause-specific) stratified by sex/gender	
	Follow-up duration > 1 year	
	Full-text available	
	Publication Language English	
	Published after 2004	
	Exclusion criteria	
	Type of participants	
	Studies looking exclusively at type 1 and type 2 diabetes mellitus	
	Following conditions associated with the study population at the beginning of the study: 1. Infection 2. Carcinoma 3. Acute Kidney Injury 4. Kidney transplant recipients 5. Surgical interventions or non-conventional drug treatments	
	Age less than 18 years	
	Patient data was collected before 2004	
	Type of studies	
	Review	
	Others: letters, author's comments/replies	

	Studies which derived data from ANZDATA	
	Interventional studies (surgical intervention e.g. CABG, PCI etc. or non-conventional drug trials with no control group)	
	Type of outcome	
	Did not report CV mortality stratified by sex in CKD patients	
	No results published	
3. Population and setting		
	Population description Source/setting of the population (e.g. country, urban, rural, particular ethnic group) 20. Method/s of recruitment of participants Notes:	
4. Methods		
	Aim of study	
	Design	
	Sampling technique (inclusion, exclusion criteria)	
	Study duration	
	Notes:	
5. Participants		
	Description of condition (CKD/Dialysis etc.)	
	Total number of participants with CKD (analysed for cardiovascular mortality)	
	Males with CKD	
	Females with CKD	
	Stage of CKD (GFR ml/min)	
	Stage 1 >90	
	Stage 2 60 -89	
	Stage 3 30-59	
	Stage 4 15-29	
	Stage 5/ ESRD <15	
	Dialysis (Y/N)	
	If Dialysis (Y), did the whole cohort receive dialysis?	
	Average Age in Years of the population of interest	
	Length of follow-up (years) avg.	
	Number of lost to follow-up	
	Baseline comorbidities in CKD patients (%)	
	Notes:	
6. Outcomes		
	Measure of cardiovascular mortality stratified by sex (overall)	
	Definition of CV mortality in the study	
	Cause-specific cardiovascular mortality stratified by sex (heart failure/atrial fibrillation/myocardial infarction/stroke, sudden cardiac arrest etc.)	
	How data was collected	
	Notes:	
7. Results and Findings		
	Cardiovascular mortality stratified by sex	
	Number	
	Total	
	Male	
	Female	
	Proportion of CVD deaths %	

	Male	
	Female	
	Mortality rate (as reported in the study)	
	Male	
	Female	
	Mortality rate (per 1000 person years)	
	Male	
	Female	
	Male vs Female Hazard Ratio for CV mortality (95% CI)	
	Univariate/Unadjusted	
	95% CI	
	P-value	
	Multivariate/Adjusted	
	95% CI	
	P-value	
	Sex-Stratified hazard ratio relative to the reference cell category of eGFR >90	
	GFR category as defined in the study (when applicable)	
	Male	
	95% CI	
	P-value	
	Female	
	95% CI	
	P-value	
	Risk Ratio	
	Male	
	Female	
	Odds Ratio	
	Male	
	Female	
	Statistical methods used	
	Adjustments	
	Other form of measurement	
	Male	
	Female	
	Cause-specific mortality stratified by sex	
	Method of measurement	
	Heart Failure	
	Male	
	Female	
	Atrial Fibrillation	
	Male	
	Female	
	Myocardial Infraction	
	Male	
	Female	
	Stroke	
	Male	
	Female	
	Other cause	
	Male	
	Female	
	All-cause mortality	
	Male	

	Female	
	Male vs Female HR	
	Univariate/Unadjusted	
	95% CI	
	P-value	
	Multivariate/Adjusted	
	95% CI	
	P-value	
	Notes:	
8. Risk of bias (Quality Assessment) adapted from the Newcastle-Ottawa Scale (NOS)		
A. Selection		
	1. Representativeness of the number of men and women in the CKD cohort a) Similar distribution of men and women in the study population * b) mostly men or women c) no description	
B. Comparability		
	1) Study controls for age and/or diabetes mellitus *	
	2) Study controls for other confounders *	
	3) Study does not adjust for any confounders	
C. Outcome		
	1) Assessment of outcome a) Patient medical records * b) record linkage * d) no description	
	2) Comprehensive cardiovascular mortality data relative to sex differences (e.g. absolute mortality rates, number of deaths in men and women with due to cardiovascular causes etc.) a) Comprehensive data was reported * b) Comprehensive data was not reported	
	3) Length of follow-up a) at least 2 years if >60% of the patients had end-stage CKD * b) at least 5 years if <60% of the study population had end-stage CKD * c) Does not satisfy above length of follow-up	
	4) Adequacy of follow up a) complete F/U - all subjects accounted for * b) subjects lost to F/U unlikely to introduce bias - small number lost - > 20 % F/U or description provided of those lost) * c) F/U rate < 20% and no description d) no statement	
	Notes:	
9. Conclusion		
	Conclusions by the authors regarding sex differences in CV mortality in the study population	
	Notes by review author	

Appendix 7: List of excluded studies with reasons for exclusion

No.	Authors	Title	Year published	Reason for exclusion
1	McKercher, C., Chan, H. W., Clayton, P. A., McDonald, S. and Jose, M. D.	Dialysis outcomes of elderly Indigenous and non-Indigenous Australians	2014	ANZDATA duplicate
2	Neuen, B. L., Leather, N., Greenwood, A. M., Gunnarsson, R., Cho, Y. and Mantha, M. L.	Neutrophil-lymphocyte ratio predicts cardiovascular and all-cause mortality in haemodialysis patients	2016	ANZDATA duplicate
3	Roberts, M. A., Polkinghorne, K. R., McDonald, S. P. and Ierino, F. L.	Secular trends in cardiovascular mortality rates of patients receiving dialysis compared with the general population	2011	ANZDATA duplicate
4	Chowdhury, E. K., Langham, R. G., Ademi, Z., Owen, A., Krum, H., Wing, L. M., Nelson, M. R. and Reid, C. M.	Comparison of predictive performance of renal function estimation equations for all-cause and cardiovascular mortality in an elderly hypertensive population	2015	Population data from before 2004
5		Cardiovascular disease, chronic kidney disease, and diabetes mortality burden of cardiometabolic risk factors from 1980 to 2010: a comparative risk assessment	2014	Population data from before 2004
6	Adragao, T., Pires, A., Lucas, C., Birne, R., Magalhaes, L., Goncalves, M. and Negrao, A. P.	A simple vascular calcification score predicts cardiovascular risk in haemodialysis patients	2004	Population data from before 2004
7	Akbas, T., Mulazimoglu, L., Aksu, B. and Akoglu, E.	A prospective study: inflammation, infection and comorbidity in patients on long-term dialysis	2014	Population data from before 2004
8	Amar, J., Vernier, I., Rossignol, E., Bongard, V., Arnaud, C., Conte, J. J., Salvador, M. and Chamontin, B.	Nocturnal blood pressure and 24-hour pulse pressure are potent indicators of mortality in haemodialysis patients	2000	Population data from before 2004
9	Avram, M. M., Sreedhara, R., Patel, N., Chattopadhyay, J., Thu, T. and Fein, P.	Is an elevated level of serum lipoprotein (a) a risk factor for cardiovascular disease in CAPD patients?	1996	Population data from before 2004
10	Beddhu, S., Baird, B., Ma, X., Cheung, A. K. and Greene, T.	Serum alkaline phosphatase and mortality in haemodialysis patients	2010	Population data from before 2004
11	Beddhu, S., Pappas, L. M., Ramkumar, N. and Samore, M.	Effects of body size and body composition on survival in haemodialysis patients	2003	Population data from before 2004

12	Benedetto, F. A., Mallamaci, F., Tripepi, G. and Zoccali, C.	Prognostic value of ultrasonographic measurement of carotid intima media thickness in dialysis patients	2001	Population data from before 2004
13	Blacher, J., Guerin, A. P., Pannier, B., Marchais, S. J., Safar, M. E. and London, G. M.	Impact of aortic stiffness on survival in end-stage renal disease	1999	Population data from before 2004
14	Blacher, J., Pannier, B., Guerin, A. P., Marchais, S. J., Safar, M. E. and London, G. M.	Carotid arterial stiffness as a predictor of cardiovascular and all-cause mortality in end-stage renal disease	1998	Population data from before 2004
15	Bloembergen, W. E., Stannard, D. C., Port, F. K., Wolfe, R. A., Pugh, J. A., Jones, C. A., Greer, J. W., Golper, T. A. and Held, P. J.	Relationship of dose of haemodialysis and cause-specific mortality	1996	Population data from before 2004
16	Boger, C. A., Fischereder, M., Deinzer, M., Aslanidis, C., Schmitz, G., Stubanus, M., Banas, B., Kruger, B., Riegger, G. A. and Kramer, B. K.	RANTES gene polymorphisms predict all-cause and cardiac mortality in type 2 diabetes mellitus haemodialysis patients	2005	Population data from before 2004
17	Boulier, A., Jaussent, I., Terrier, N., Maurice, F., Rivory, J. P., Chalabi, L., Boularan, A. M., Delcourt, C., Dupuy, A. M., Canaud, B. and Cristol, J. P.	Measurement of circulating troponin Ic enhances the prognostic value of C-reactive protein in haemodialysis patients	2004	Population data from before 2004
18	Braatvedt, G. D., Rosie, B., Bagg, W. and Collins, J.	Current and former smoking increases mortality in patients on peritoneal dialysis	2006	Population data from before 2004
19	Brown, J. H., Hunt, L. P., Vites, N. P., Short, C. D., Gokal, R. and Mallick, N. P.	Comparative mortality from cardiovascular disease in patients with chronic renal failure	1994	Population data from before 2004
20	Carrero, J. J., de Jager, D. J., Verduijn, M., Ravani, P., De Meester, J., Heaf, J. G., Finne, P., Hoitsma, A. J., Pascual, J., Jarraya, F., Reisaeter, A. V., Collart, F., Dekker, F. W. and Jager, K. J.	Cardiovascular and noncardiovascular mortality among men and women starting dialysis	2011	Population data from before 2004
21	Carrero, J. J., Nakashima, A., Qureshi, A. R., Lindholm, B., Heimburger, O., Barany, P. and Stenvinkel, P.	Protein-energy wasting modifies the association of ghrelin with inflammation, leptin, and mortality in haemodialysis patients	2011	Population data from before 2004
22	Chan, K. E., Ikizler, T. A., Gamboa, J. L., Yu, C., Hakim, R. M. and Brown, N. J.	Combined angiotensin-converting enzyme inhibition and receptor blockade associate with increased risk of cardiovascular death in haemodialysis patients	2011	Population data from before 2004

23	Chang, T. I., Nam, J. Y., Shin, S. K. and Kang, E. W.	Low Triiodothyronine Syndrome and Long-Term Cardiovascular Outcome in Incident Peritoneal Dialysis Patients	2015	Population data from before 2004
24	Chen, Y. H., Hung, S. C. and Tarng, D. C.	Serum bilirubin links UGT1A1*28 polymorphism and predicts long-term cardiovascular events and mortality in chronic haemodialysis patients	2011	Population data from before 2004
25	Chiang, C. K., Ho, T. I., Hsu, S. P., Peng, Y. S., Pai, M. F., Yang, S. Y., Hung, K. Y. and Tsai, T. J.	Low-density lipoprotein cholesterol: association with mortality and hospitalization in haemodialysis patients	2005	Population data from before 2004
26	Chien, S. C., Li, S. Y., Chen, Y. T., Tsai, L. W., Chen, T. J., Chen, T. W. and Lin, Y. C.	Folic acid supplementation in end-stage renal disease patients reduces total mortality rate	2013	Population data from before 2004
27	Chow, K. M., Szeto, C. C., Law, M. C., Kwan, B. C., Leung, C. B. and Li, P. K.	Impact of early nephrology referral on mortality and hospitalization in peritoneal dialysis patients	2008	Population data from before 2004
28	Choy, J. B., Armstrong, P. W., Ulan, R. A., Campbell, P. M., Gourishankar, S., Prosser, C. I. and Tymchak, W. J.	Do cardiac troponins provide prognostic insight in haemodialysis patients?	2003	Population data from before 2004
29	Chung, S. H., Han, D. C., Noh, H., Jeon, J. S., Kwon, S. H., Lindholm, B. and Lee, H. B.	Risk factors for mortality in diabetic peritoneal dialysis patients	2010	Population data from before 2004
30	Cice, G., Di Benedetto, A., D'Andrea, A., D'Isa, S., De Gregorio, P., Marcelli, D., Gatti, E. and Calabro, R.	Heart rate as independent prognostic factor for mortality in normotensive hemodialysed patients	2008	Population data from before 2004
31	Coronel, F., Cigarran, S. and Herrero, J. A.	Morbidity and mortality in diabetic patients on peritoneal dialysis. Twenty-five years of experience at a single centre	2010	Population data from before 2004
32	de Jager, D. J., Grootendorst, D. C., Jager, K. J., van Dijk, P. C., Tomas, L. M., Ansell, D., Collart, F., Finne, P., Heaf, J. G., De Meester, J., Wetzels, J. F., Rosendaal, F. R. and Dekker, F. W.	Cardiovascular and noncardiovascular mortality among patients starting dialysis	2009	Population data from before 2004
33	De Lima, J. J., Sesso, R., Abensur, H., Lopes, H. F., Giorgi, M. C., Krieger, E. M. and Pileggi, F.	Predictors of mortality in long-term haemodialysis patients with a low prevalence of comorbid conditions	1995	Population data from before 2004
34	Deicher, R., Ziai, F., Bieglmayer, C., Schillinger, M. and Horl, W. H.	Low total vitamin C plasma level is a risk factor for cardiovascular morbidity and mortality in haemodialysis patients	2005	Population data from before 2004
35	den Elzen, W. P. J., van Manen, J., Boeschoten, E. W., Krediet, R. T. and Dekker, F. W.	The effect of single and repeatedly high concentrations of C-reactive protein on cardiovascular and non-cardiovascular mortality in patients starting with dialysis	2006	Population data from before 2004

36	Diez, J. J., Bossola, M., Fernandez-Reyes, M. J., Di Stasio, E., Tazza, L., Luciani, G., Codoceo, R., Iglesias, P., Rodriguez, A., Gonzalez, E. and Selgas, R.	Relationship between leptin and all-cause and cardiovascular mortality in chronic haemodialysis patients	2011	Population data from before 2004
37	Dimkovic, N., Schlieper, G., Jankovic, A., Djuric, Z., Ketteler, M., Damjanovic, T., Djuric, P., Marinkovic, J., Radojcic, Z., Markovic, N. and Floege, J.	Prognostic value of cardiovascular calcifications in haemodialysis patients: a longitudinal study	2018	Population data from before 2004
38	Dogan, U., Ozdemir, K., Akilli, H., Aribas, A. and Turk, S.	Evaluation of echocardiographic indices for the prediction of major adverse events during long-term follow-up in chronic haemodialysis patients with normal left ventricular ejection fraction	2012	Population data from before 2004
39	Dohi, T., Kasai, T., Miyauchi, K., Takasu, K., Kajimoto, K., Kubota, N., Amano, A. and Daida, H.	Prognostic impact of chronic kidney disease on 10-year clinical outcomes among patients with acute coronary syndrome	2012	Population data from before 2004
40	Dong, J., Li, Y., Yang, Z. and Luo, J.	Low dietary sodium intake increases the death risk in peritoneal dialysis	2010	Population data from before 2004
41	Dong, J., Li, Y. J., Yang, Z. K. and Xu, R.	Prognostic value of serum von Willebrand factor, but not soluble ICAM and VCAM, for mortality and cardiovascular events is independent of residual renal function in peritoneal dialysis patients	2014	Population data from before 2004
42	Drechsler, C., Verduijn, M., Pilz, S., Dekker, F. W., Krediet, R. T., Ritz, E., Wanner, C., Boeschoten, E. W. and Brandenburg, V.	Vitamin D status and clinical outcomes in incident dialysis patients: results from the NECOSAD study	2011	Population data from before 2004
43	Dumaine, R. L., Montalescot, G., Steg, P. G., Ohman, E. M., Eagle, K. and Bhatt, D. L.	Renal function, atherothrombosis extent, and outcomes in high-risk patients	2009	Population data from before 2004
44	Duong, U., Kalantar-Zadeh, K., Molnar, M. Z., Zaritsky, J. J., Teitelbaum, I., Kovesdy, C. P. and Mehrotra, R.	Mortality associated with dose response of erythropoiesis-stimulating agents in haemodialysis versus peritoneal dialysis patients	2012	Population data from before 2004
45	Duong, U., Mehrotra, R., Molnar, M. Z., Noori, N., Kovesdy, C. P., Nissenson, A. R. and Kalantar-Zadeh, K.	Glycemic control and survival in peritoneal dialysis patients with diabetes mellitus	2011	Population data from before 2004

46	Eddington, H., Hoefield, R., Sinha, S., Chrysochou, C., Lane, B., Foley, R. N., Hegarty, J., New, J., O'Donoghue, D. J., Middleton, R. J. and Kalra, P. A.	Serum phosphate and mortality in patients with chronic kidney disease	2010	Population data from before 2004
47	Efrati, S., Zaidenstein, R., Dishy, V., Beberashvili, I., Sharist, M., Averbukh, Z., Golik, A. and Weissgarten, J.	ACE inhibitors and survival of haemodialysis patients	2002	Population data from before 2004
48	Ekart, R., Hojs, R., Hojs-Fabjan, T. and Balon, B. P.	Predictive value of carotid intima media thickness in haemodialysis patients	2005	Population data from before 2004
49	Ekart, R., Kanic, V., Pecovnik Balon, B., Bevc, S. and Hojs, R.	Prognostic value of 48-hour ambulatory blood pressure measurement and cardiovascular mortality in haemodialysis patients	2012	Population data from before 2004
50	Ekundayo, O. J., Muchimba, M., Aban, I. B., Ritchie, C., Campbell, R. C. and Ahmed, A.	Multimorbidity due to diabetes mellitus and chronic kidney disease and outcomes in chronic heart failure	2009	Population data from before 2004
51	Espe, K. M., Raila, J., Henze, A., Krane, V., Schweigert, F. J., Hocher, B., Wanner, C., Drechsler, C., German, D. and Dialysis Study, I.	Impact of vitamin A on clinical outcomes in haemodialysis patients	2011	Population data from before 2004
52	Fabbian, F., Pala, M., De Giorgi, A., Manfredini, F., Mallozzi Menegatti, A., Salmi, R., Portaluppi, F., Gallerani, M. and Manfredini, R.	In-hospital mortality in patients with renal dysfunction admitted for myocardial infarction: the Emilia-Romagna region of Italy database of hospital admissions	2013	Population data from before 2004
53	Fauchier, L., Villejoubert, O., Clementy, N., Bernard, A., Pierre, B., Angoulvant, D., Ivanes, F., Babuty, D. and Lip, G. Y. H.	Causes of Death and Influencing Factors in Patients with Atrial Fibrillation	2016	Population data from before 2004
54	Fried, L. F., Shlipak, M. G., Crump, C., Bleyer, A. J., Gottdiener, J. S., Kronmal, R. A., Kuller, L. H. and Newman, A. B.	Renal insufficiency as a predictor of cardiovascular outcomes and mortality in elderly individuals	2003	Population data from before 2004
55	Fujishima, Y., Ohsawa, M., Itai, K., Kato, K., Tanno, K., Turin, T. C., Onoda, T., Endo, S., Okayama, A. and Fujioka, T.	Serum selenium levels are inversely associated with death risk among haemodialysis patients	2011	Population data from before 2004
56	Fukuta, H., Hayano, J., Ishihara, S., Sakata, S., Mukai, S., Ohte, N., Ojika, K., Yagi, K., Matsumoto, H., Sohmiya, S. and Kimura, G.	Prognostic value of heart rate variability in patients with end-stage renal disease on chronic haemodialysis	2003	Population data from before 2004

57	Fukuta, H., Hayano, J., Ishihara, S., Sakata, S., Ohte, N., Takahashi, H., Yokoya, M., Toriyama, T., Kawahara, H., Yajima, K., Kobayashi, K. and Kimura, G.	Prognostic value of nonlinear heart rate dynamics in haemodialysis patients with coronary artery disease	2003	Population data from before 2004
58	Fung, F., Sherrard, D. J., Gillen, D. L., Wong, C., Kestenbaum, B., Seliger, S., Ball, A. and Stehman-Breen, C.	Increased risk for cardiovascular mortality among malnourished end-stage renal disease patients	2002	Population data from before 2004
59	Gabbai, F. B., Rahman, M., Hu, B., Appel, L. J., Charleston, J., Contreras, G., Faulkner, M. L., Hiremath, L., Jamerson, K. A., Lea, J. P., Lipkowitz, M. S., Pogue, V. A., Rostand, S. G., Smogorzewski, M. J., Wright, J. T., Greene, T., Gassman, J., Wang, X. and Phillips, R. A.	Relationship between ambulatory BP and clinical outcomes in patients with hypertensive CKD	2012	Population data from before 2004
60	Gadallah, M. F., el-Shahawy, M., Andrews, G., Ibrahim, M., Ramdeen, G., Hanna, D., Gorospe, W., Morkos, A., Abbassian, M. and Moles, K.	Factors modulating cytosolic calcium. Role in lipid metabolism and cardiovascular morbidity and mortality in peritoneal dialysis patients	2001	Population data from before 2004
61	Garg, A. X., Clark, W. F., Haynes, R. B. and House, A. A.	Moderate renal insufficiency and the risk of cardiovascular mortality: Results from the NHANES I	2002	Population data from before 2004
62	Gayoso-Diz, P., Otero-Gonzalez, A., Rodriguez-Alvarez, M. X., Garcia, F., Gonzalez-Quintela, A. and Martin de Francisco, A. L.	Strategy to estimate risk progression of chronic kidney disease, cardiovascular risk, and referral to nephrology: the EPIRCE Study	2013	Population data from before 2004
63	Glynn, L. G., Reddan, D., Newell, J., Hinde, J., Buckley, B. and Murphy, A. W.	Chronic kidney disease and mortality and morbidity among patients with established cardiovascular disease: a West of Ireland community-based cohort study	2007	Population data from before 2004
64	Go, A. S., Yang, J., Ackerson, L. M., Lepper, K., Robbins, S., Massie, B. M. and Shlipak, M. G.	Haemoglobin level, chronic kidney disease, and the risks of death and hospitalization in adults with chronic heart failure: the Anaemia in Chronic Heart Failure: Outcomes and Resource Utilization (ANCHOR) Study	2006	Population data from before 2004
65	Goldfarb-Rumyantzev, A. S., Baird, B. C., Leypoldt, J. K. and Cheung, A. K.	The association between BP and mortality in patients on chronic peritoneal dialysis	2005	Population data from before 2004

66	Goldfarb-Rumyantzev, A. S., Habib, A. N., Baird, B. C., Barenbaum, L. L. and Cheung, A. K.	The association of lipid-modifying medications with mortality in patients on long-term peritoneal dialysis	2007	Population data from before 2004
67	Gouya, G., Sturm, G., Lamina, C., Zitt, E., Freistatter, O., Struck, J., Wolzt, M., Knoll, F., Lins, F., Lhotta, K., Neyer, U. and Kronenberg, F.	The association of mid-regional pro-adrenomedullin and mid-regional pro-atrial natriuretic peptide with mortality in an incident dialysis cohort	2011	Population data from before 2004
68	Guerin, A. P., Blacher, J., Pannier, B., Marchais, S. J., Safar, M. E. and London, G. M.	Impact of aortic stiffness attenuation on survival of patients in end-stage renal failure	2001	Population data from before 2004
69	Haire, H. M., Sherrard, D. J. and Scardapane, D.	Smoking, hypertension, and mortality in a maintenance dialysis population	1978	Population data from before 2004
70	Hakeem, A., Bhatti, S., Dillie, K. S., Cook, J. R., Samad, Z., Roth-Cline, M. D. and Chang, S. M.	Predictive value of myocardial perfusion single-photon emission computed tomography and the impact of renal function on cardiac death	2008	Population data from before 2004
71	Held, P. J., Levin, N. W., Bovbjerg, R. R., Pauly, M. V. and Diamond, L. H.	Mortality and duration of haemodialysis treatment	1991	Population data from before 2004
72	Henry, R. M., Kostense, P. J., Bos, G., Dekker, J. M., Nijpels, G., Heine, R. J., Bouter, L. M. and Stehouwer, C. D.	Mild renal insufficiency is associated with increased cardiovascular mortality: The Hoorn Study	2002	Population data from before 2004
73	Hocher, B., Kalk, P., Godes, M., Liefeldt, L., Ziebig, R., Stasch, J. P., Quaschning, T. and Pfab, T.	Gender-dependent impact of risk factors for cardiovascular and non-cardiovascular mortality in end-stage renal disease patients on haemodialysis	2008	Population data from before 2004
74	Hocher, B., Liefeldt, L., Quaschning, T., Kalk, P., Ziebig, R., Godes, M., Relle, K., Asmus, G. and Stasch, J. P.	Soluble CD154 is a unique predictor of nonfatal and fatal atherothrombotic events in patients who have end-stage renal disease and are on haemodialysis	2007	Population data from before 2004
75	Holzmann, M. J., Carlsson, A. C., Hammar, N., Ivert, T., Walldius, G., Jungner, I., Wandell, P. and Arnlov, J.	Chronic kidney disease and 10-year risk of cardiovascular death	2016	Population data from before 2004
76	Holzmann, M. J., Ivert, T., Jungner, I., Nordqvist, T., Walldius, G., Ostergren, J. and Hammar, N.	Renal function assessed by two different formulas and incidence of myocardial infarction and death in middle-aged men and women	2010	Population data from before 2004
77	Holzmann, M. J., Janszky, I., Al-Khalili, F. and Schenck-Gustafsson, K.	Renal dysfunction as a predictor of long-term mortality in middle-aged women following an acute coronary syndrome	2010	Population data from before 2004

78	Hoy, W. E., Mathews, J. D., McCredie, D. A., Pugsley, D. J., Hayhurst, B. G., Rees, M., Kile, E., Walker, K. A. and Wang, Z.	The multidimensional nature of renal disease: rates and associations of albuminuria in an Australian Aboriginal community	1998	Population data from before 2004
79	Hoy, W. E., Wang, Z., VanBuynder, P., Baker, P. R. A., McDonald, S. M. and Mathews, J. D.	The natural history of renal disease in Australian Aborigines. Part 2. Albuminuria predicts natural death and renal failure	2001	Population data from before 2004
80	Hsieh, Y. P., Chang, C. C., Yang, Y., Wen, Y. K., Chiu, P. F. and Lin, C. C.	The role of uric acid in chronic kidney disease patients	2017	Population data from before 2004
81	Huang, J. T., Cheng, H. M., Yu, W. C., Lin, Y. P., Sung, S. H., Wang, J. J., Wu, C. L. and Chen, C. H.	Value of Excess Pressure Integral for Predicting 15-Year All-Cause and Cardiovascular Mortalities in End-Stage Renal Disease Patients	2017	Population data from before 2004
82	Iff, S., Wong, G., Webster, A. C., Flood, V., Wang, J. J., Mitchell, P. and Craig, J. C.	Relative energy balance, CKD, and risk of cardiovascular and all-cause mortality	2014	Population data from before 2004
83	Iliou, M. C., Fumeron, C., Benoit, M. O., Tuppin, P., Calonge, V. M., Moatti, N., Buisson, C. and Jacquot, C.	Prognostic value of cardiac markers in ESRD: Chronic Haemodialysis and New Cardiac Markers Evaluation (CHANCE) study	2003	Population data from before 2004
84	Inaguma, D., Nagaya, H., Hara, K., Tatematsu, M., Shinjo, H., Suzuki, S., Mishima, T. and Kurata, K.	Relationship between serum 1,25-dihydroxyvitamin D and mortality in patients with pre-dialysis chronic kidney disease	2008	Population data from before 2004
85	Ishii, J., Nomura, M., Okuma, T., Minagawa, T., Naruse, H., Mori, Y., Ishikawa, T., Kurokawa, H., Hirano, T., Kondo, T., Nagamura, Y., Ezaki, K. and Hishida, H.	Risk stratification using serum concentrations of cardiac troponin T in patients with end-stage renal disease on chronic maintenance dialysis	2001	Population data from before 2004
86	Ishimitsu, T., Nakano, N., Sudo, Y., Akashiba, A., Takahashi, T., Ohta, S., Minami, J. and Matsuoka, H.	Predictive significance of blood pressure values for the incidence of cardiovascular events in chronic haemodialysis patients	2008	Population data from before 2004
87	Joki, N., Hase, H., Saijyo, T., Tanaka, Y., Takahashi, Y., Ishikawa, H., Nakamura, R., Fukazawa, M., Inishi, Y., Nakamura, M. and Imamura, Y.	Combined assessment of cardiac systolic dysfunction and coronary atherosclerosis used to predict future cardiac deaths after starting haemodialysis	2003	Population data from before 2004
88	Joki, N., Hase, H., Takahashi, Y., Ishikawa, H., Nakamura, R., Imamura, Y., Tanaka, Y., Saijyo, T., Fukazawa, M., Inishi, Y., Nakamura, M. and Yamaguchi, T.	Angiographical severity of coronary atherosclerosis predicts death in the first year of haemodialysis	2003	Population data from before 2004

89	Jorsal, A., Tarnow, L., Flyvbjerg, A., Parving, H. H., Rossing, P. and Rasmussen, L. M.	Plasma osteoprotegerin levels predict cardiovascular and all-cause mortality and deterioration of kidney function in type 1 diabetic patients with nephropathy	2008	Population data from before 2004
90	Kagiyama, S., Matsumura, K., Ansai, T., Soh, I., Takata, Y., Awano, S., Sonoki, K., Yoshida, A., Takehara, T. and Iida, M.	Chronic kidney disease increases cardiovascular mortality in 80-year-old subjects in Japan	2008	Population data from before 2004
91	Kalantar-Zadeh, K., Kilpatrick, R. D., McAllister, C. J., Greenland, S. and Kopple, J. D.	Reverse epidemiology of hypertension and cardiovascular death in the haemodialysis population: The 58th annual fall conference and scientific sessions	2005	Population data from before 2004
92	Kalantar-Zadeh, K., Regidor, D. L., McAllister, C. J., Michael, B. and Warnock, D. G.	Time-dependent associations between iron and mortality in haemodialysis patients	2005	Population data from before 2004
93	Kalousová, M., Benáková, H., Kuběna, A. A., Dusilová-Sulková, S., Tesař, V. and Zima, T.	Pregnancy-associated plasma protein A as an independent mortality predictor in long-term haemodialysis patients	2012	Population data from before 2004
94	Kalousová, M., Kuběna, A. A., Koštířová, M., Vinglerová, M., Ing, O. M., Dusilová-Sulková, S., Tesař, V. and Zima, T.	Lower retinol levels as an independent predictor of mortality in long-term haemodialysis patients: A prospective observational cohort study	2010	Population data from before 2004
95	Kanaan, N., Goffin, E., Maisin, D., Struyven, J. and Jadoul, M.	CRP measurement: does the assay matter in haemodialysis patients?	2008	Population data from before 2004
96	Kang, E. W., Pike, F., Ramer, S., Abdel-Kader, K., Myaskovsky, L., Dew, M. A. and Unruh, M.	The association of mental health over time with cardiac outcomes in HEMO study patients	2012	Population data from before 2004
97	Kessler, M., Zannad, F., Lehert, P., Grunfeld, J. P., Thuilliez, C., Leizorovicz, A. and Lechat, P.	Predictors of cardiovascular events in patients with end-stage renal disease: an analysis from the Fosinopril in Dialysis study	2007	Population data from before 2004
98	Kestenbaum, B., Gillen, D. L., Sherrard, D. J., Seliger, S., Ball, A. and Stehman-Breen, C.	Calcium channel blocker use and mortality among patients with end-stage renal disease	2002	Population data from before 2004
99	Ketteler, M., Bongartz, P., Westenfeld, R., Wildberger, J. E., Mahnken, A. H., Bohm, R., Metzger, T., Wanner, C., Jahnen-Dechent, W. and Floege, J.	Association of low fetuin-A (AHSG) concentrations in serum with cardiovascular mortality in patients on dialysis: a cross-sectional study	2003	Population data from before 2004
100	Kircelli, F., Asci, G., Yilmaz, M., Sevinc Ok, E., Demirci, M. S., Toz, H., Akcicek, F., Ok, E. and Ozkahya, M.	The impact of strict volume control strategy on patient survival and technique failure in peritoneal dialysis patients	2011	Population data from before 2004
101	Kitterer, D., Segerer, S., Braun, N., Alscher, M. D. and Latus, J.	Gender-Specific Differences in Peritoneal Dialysis	2017	Population data from before 2004

102	Koc, Y., Unsal, A., Ahbap, E., Sakaci, T. and Yilmaz, M.	Clinical outcome of diabetic peritoneal dialysis patients and evaluation of factors affecting mortality: a single centre's experience from Turkey	2011	Population data from before 2004
103	Koch, M., Thomas, B., Tschope, W. and Ritz, E.	Survival and predictors of death in dialysed diabetic patients	1993	Population data from before 2004
104	Koda, Y., Nishi, S. I., Suzuki, M. and Hirasawa, Y.	Lipoprotein(a) is a predictor for cardiovascular mortality of haemodialysis patients	1999	Population data from before 2004
105	Koyama, H., Shoji, T., Fukumoto, S., Shinohara, K., Shoji, T., Emoto, M., Mori, K., Tahara, H., Ishimura, E., Kakiya, R., Tabata, T., Yamamoto, H. and Nishizawa, Y.	Low circulating endogenous secretory receptor for AGEs predicts cardiovascular mortality in patients with end-stage renal disease	2007	Population data from before 2004
106	Kumakura, H., Kanai, H., Aizaki, M., Mitsui, K., Araki, Y., Kasama, S., Iwasaki, T. and Ichikawa, S.	The influence of the obesity paradox and chronic kidney disease on long-term survival in a Japanese cohort with peripheral arterial disease	2010	Population data from before 2004
107	Kuo, C. F., See, L. C., Yu, K. H., Chou, I. J., Chiou, M. J. and Luo, S. F.	Significance of serum uric acid levels on the risk of all-cause and cardiovascular mortality	2013	Population data from before 2004
108	Kurnatowska, I., Grzelak, P., Kaczmarska, M., Stefańczyk, L. and Nowicki, M.	Relations between serum sex hormone levels and biomarkers of atherosclerosis and mineral disturbances in postmenopausal chronic haemodialysis women	2010	Population data from before 2004
109	Lajer, M., Jorsal, A., Tarnow, L., Parving, H. H. and Rossing, P.	Plasma growth differentiation factor-15 independently predicts all-cause and cardiovascular mortality as well as deterioration of kidney function in type 1 diabetic patients with nephropathy	2010	Population data from before 2004
110	Langston, R. D., Presley, R., Flanders, W. D. and McClellan, W. M.	Renal insufficiency and anaemia are independent risk factors for death among patients with acute myocardial infarction	2003	Population data from before 2004
111	Latif, W., Karaboyas, A., Tong, L., Winchester, J. F., Arrington, C. J., Pisoni, R. L., Marshall, M. R., Kleophas, W., Levin, N. W., Sen, A. and et al.	Uric acid levels and all-cause and cardiovascular mortality in the haemodialysis population	2011	Population data from before 2004
112	Lee, C. C., Sun, C. Y. and Wu, M. S.	Long-term modality-related mortality analysis in incident dialysis patients	2009	Population data from before 2004
113	Lee, C. T., Huang, C. C., Hsu, C. Y., Chiou, T. T. Y., Ng, H. Y., Wu, C. H., Kuo, W. H. and Lee, Y. T.	Calcification of the aortic arch predicts cardiovascular and all-cause mortality in chronic haemodialysis patients	2014	Population data from before 2004
114	Leeder, S. R., Mitchell, P., Liew, G., Rochtchina, E., Smith, W. and Wang, J. J.	Low haemoglobin, chronic kidney disease, and risk for coronary heart disease-related death: The Blue Mountains Eye Study	2006	Population data from before 2004

115	Leinig, C. E., Moraes, T., Ribeiro, S., Riella, M. C., Olandoski, M., Martins, C. and Pecoits-Filho, R.	Predictive value of malnutrition markers for mortality in peritoneal dialysis patients	2011	Population data from before 2004
116	Leung, J., Larive, B., Dwyer, J., Hibberd, P., Jacques, P. and Rand, W.	Folic acid supplementation and cardiac and stroke mortality among haemodialysis patients	2010	Population data from before 2004
117	Li, S. and Collins, A. J.	Association of haematocrit value with cardiovascular morbidity and mortality in incident haemodialysis patients	2004	Population data from before 2004
118	Li, Y. H., Lin, G. M., Lin, C. L., Wang, J. H. and Han, C. L.	Relation of estimated glomerular filtration rate and body mass index to mortality in non-dialysis patients with coronary artery disease: a report from the ET-CHD registry, 1997-2003	2013	Population data from before 2004
119	Liao, C. T., Kao, T. W., Chou, Y. H., Wu, M. S., Chen, Y. M., Chuang, H. F., Hung, K. Y., Chu, T. S., Wu, K. D. and Tsai, T. J.	Associations of metabolic syndrome and its components with cardiovascular outcomes among non-diabetic patients undergoing maintenance peritoneal dialysis	2011	Population data from before 2004
120	Liu, M., Takahashi, H., Morita, Y., Maruyama, S., Mizuno, M., Yuzawa, Y., Watanabe, M., Toriyama, T., Kawahara, H. and Matsuo, S.	Non-dipping is a potent predictor of cardiovascular mortality and is associated with autonomic dysfunction in haemodialysis patients	2003	Population data from before 2004
121	Lopes, A. A., Bragg-Gresham, J. L., Ramirez, S. P., Andreucci, V. E., Akiba, T., Saito, A., Jacobson, S. H., Robinson, B. M., Port, F. K., Mason, N. A. and Young, E. W.	Prescription of antihypertensive agents to haemodialysis patients: time trends and associations with patient characteristics, country and survival in the DOPPS	2009	Population data from before 2004
122	Ma, J. Z., Ebben, J., Xia, H. and Collins, A. J.	Haematocrit level and associated mortality in haemodialysis patients	1999	Population data from before 2004
123	MacHowska, A., Sun, J., Qureshi, A. R., Isoyama, N., Leurs, P., Anderstam, B., Heimburger, O., Barany, P., Stenvinkel, P. and Lindholm, B.	Plasma pentosidine and its association with mortality in patients with chronic kidney disease	2016	Population data from before 2004
124	Madero, M., Sarnak, M. J., Wang, X., Greene, T., Beck, G. J., Kusek, J. W., Collins, A. J., Levey, A. S. and Menon, V.	Uric acid and long-term outcomes in CKD	2009	Population data from before 2004
125	Mallamaci, F., Zoccali, C., Parlongo, S., Tripepi, G., Benedetto, F. A., Cutrupi, S., Bonanno, G., Fatuzzo, P., Rapisarda, F., Seminara, G., Stancanelli, B., Bellanuova, I., Cataliotti, A. and Malatino, L. S.	Troponin is related to left ventricular mass and predicts all-cause and cardiovascular mortality in haemodialysis patients	2002	Population data from before 2004

126	Marks, A., Macleod, C., McAteer, A., Murchie, P., Fluck, N., Smith, W. C., Prescott, G. J., Clark, L. E., Ali, T. and Black, C.	Chronic kidney disease, a useful trigger for proactive primary care? Mortality results from a large U.K. cohort	2013	Population data from before 2004
127	Matsubara, K., Stenvinkel, P., Qureshi, A. R., Carrero, J. J., Axelsson, J., Heimburger, O., Barany, P., Alvestrand, A., Lindholm, B. and Suliman, M. E.	Inflammation modifies the association of osteoprotegerin with mortality in chronic kidney disease	2009	Population data from before 2004
128	Meerwaldt, R., Hartog, J. W., Graaff, R., Huisman, R. J., Links, T. P., den Hollander, N. C., Thorpe, S. R., Baynes, J. W., Navis, G., Gans, R. O. and Smit, A. J.	Skin autofluorescence, a measure of cumulative metabolic stress and advanced glycation end products, predicts mortality in haemodialysis patients	2005	Population data from before 2004
129	Meisinger, C., Doring, A. and Lowel, H.	Chronic kidney disease and risk of incident myocardial infarction and all-cause and cardiovascular disease mortality in middle-aged men and women from the general population	2006	Population data from before 2004
130	Melamed, M. L., Plantinga, L., Shafi, T., Parekh, R., Meyer, T. W., Hostetter, T. H., Coresh, J. and Powe, N. R.	Retained organic solutes, patient characteristics and all-cause and cardiovascular mortality in haemodialysis: results from the retained organic solutes and clinical outcomes (ROSCO) investigators	2013	Population data from before 2004
131	Menon, V., Greene, T., Pereira, A. A., Wang, X., Beck, G. J., Kusek, J. W., Collins, A. J., Levey, A. S. and Sarnak, M. J.	Relationship of phosphorus and calcium-phosphorus product with mortality in CKD	2005	Population data from before 2004
132	Menon, V., Li, L., Wang, X., Greene, T., Balakrishnan, V., Madero, M., Pereira, A. A., Beck, G. J., Kusek, J. W., Collins, A. J. and et al.	Adiponectin and mortality in patients with chronic kidney disease	2006	Population data from before 2004
133	Millet, C., Bosson, J. L., Pernod, G., Wauters, J. P., Couturier, P., Quesada, J. L. and Zaoui, P.	Cardiovascular mortality and C-reactive protein in elderly patients beginning dialysis: reverse epidemiology?	2011	Population data from before 2004
134	Mocks, J.	Cardiovascular mortality in haemodialysis patients treated with epoetin beta - a retrospective study	2000	Population data from before 2004
135	Mok, Y., Matsushita, K., Sang, Y., Ballew, S. H., Grams, M., Shin, S. Y., Jee, S. H. and Coresh, J.	Association of kidney disease measures with cause-specific mortality: The Korean Heart Study	2016	Population data from before 2004

136	Morduchowicz, G., Winkler, J., Derazne, E., Van Dyk, D. J., Wittenberg, C., Zabludowski, J. R., Shohat, J., Rosenfeld, J. B. and Boner, G.	Causes of death in patients with end-stage renal disease treated by dialysis in a centre in Israel	1992	Population data from before 2004
137	Morena, M., Terrier, N., Jaussent, I., Leray-Moragues, H., Chalabi, L., Rivory, J. P., Maurice, F., Delcourt, C., Cristol, J. P., Canaud, B. and Dupuy, A. M.	Plasma osteoprotegerin is associated with mortality in haemodialysis patients	2006	Population data from before 2004
138	Mostovaya, I. M., Bots, M. L., van den Dorpel, M. A., Goldschmeding, R., den Hoedt, C. H., Kamp, O., Levesque, R., Mazairac, A. H., Penne, E. L., Swinkels, D. W. and et al.	Left ventricular mass in dialysis patients, determinants and relation with outcome. Results from the Convective Transport Study (CONTRAST)	2014	Population data from before 2004
139	Nabais, S., Rocha, S., Joao, C., Marques, J., Torres, M., Magalhaes, S., Pereira, M. A. and Correia, A.	Prognostic impact of moderate renal dysfunction in acute coronary syndromes	2008	Population data from before 2004
140	Nagai, K., Sairenchi, T., Irie, F., Watanabe, H., Ota, H. and Yamagata, K.	Relationship between Estimated Glomerular Filtration Rate and Cardiovascular Mortality in a Japanese Cohort with Long-Term Follow-Up	2016	Population data from before 2004
141	Naganuma, T., Sugimura, K., Wada, S., Yasumoto, R., Sugimura, T., Masuda, C., Uchida, J. and Nakatani, T.	The prognostic role of brain natriuretic peptides in haemodialysis patients	2002	Population data from before 2004
142	Nakagawa, K., Hirai, T., Takashima, S., Fukuda, N., Ohara, K., Sasahara, E., Taguchi, Y., Dougu, N., Nozawa, T., Tanaka, K. and Inoue, H.	Chronic kidney disease and CHADS(2) score independently predict cardiovascular events and mortality in patients with nonvalvular atrial fibrillation	2011	Population data from before 2004
143	Nakamura, K., Nakagawa, H., Murakami, Y., Kitamura, A., Kiyama, M., Sakata, K., Tsuji, I., Miura, K., Ueshima, H. and Okamura, T.	Smoking increases the risk of all-cause and cardiovascular mortality in patients with chronic kidney disease	2015	Population data from before 2004
144	Nakamura, S., Sasaki, O., Nakahama, H., Inenaga, T. and Kawano, Y.	Clinical characteristics and survival in end-stage renal disease patients with arteriosclerosis obliterans	2002	Population data from before 2004

145	Nakashima, A., Carrero, J. J., Qureshi, A. R., Hirai, T., Takasugi, N., Ueno, T., Taniguchi, Y., Lindholm, B. and Yorioka, N.	Plasma osteoprotegerin, arterial stiffness, and mortality in normoalbuminemic Japanese haemodialysis patients	2011	Population data from before 2004
146	Nishimura, M., Tsukamoto, K., Hasebe, N., Tamaki, N., Kikuchi, K. and Ono, T.	Prediction of cardiac death in haemodialysis patients by myocardial fatty acid imaging	2008	Population data from before 2004
147	Nishizawa, Y., Shoji, T., Kakiya, R., Tsujimoto, Y., Tabata, T., Ishimura, E., Nakatani, T., Miki, T. and Inaba, M.	Non-high-density lipoprotein cholesterol (non-HDL-C) as a predictor of cardiovascular mortality in patients with end-stage renal disease	2003	Population data from before 2004
148	Nishizawa, Y., Shoji, T., Maekawa, K., Nagasue, K., Okuno, S., Kim, M., Emoto, M., Ishimura, E., Nakatani, T., Miki, T. and Inaba, M.	Intima-media thickness of carotid artery predicts cardiovascular mortality in haemodialysis patients	2003	Population data from before 2004
149	Nitsch, D., Grams, M., Sang, Y., Black, C., Cirillo, M., Djurdjev, O., Iseki, K., Jassal, S. K., Kimm, H., Kronenberg, F., Oien, C. M., Levey, A. S., Levin, A., Woodward, M. and Hemmelgarn, B. R.	Associations of estimated glomerular filtration rate and albuminuria with mortality and renal failure by sex: a meta-analysis	2013	Population data from before 2004
150	Nitsch, D., Lawlor, D. A., Patel, R., Carson, C. and Ebrahim, S.	The association of renal impairment with all-cause and cardiovascular disease mortality	2010	Population data from before 2004
151	Noordzij, M., Cranenburg, E. M., Engelsman, L. F., Hermans, M. M., Boeschoten, E. W., Brandenburg, V. M., Bos, W. J., Kooman, J. P., Dekker, F. W., Ketteler, M., Schurgers, L. J., Krediet, R. T. and Korevaar, J. C.	Progression of aortic calcification is associated with disorders of mineral metabolism and mortality in chronic dialysis patients	2011	Population data from before 2004
152	Noordzij, M., Korevaar, J. C., Bos, W. J., Boeschoten, E. W., Dekker, F. W., Bossuyt, P. M. and Krediet, R. T.	Mineral metabolism and cardiovascular morbidity and mortality risk: peritoneal dialysis patients compared with haemodialysis patients	2006	Population data from before 2004
153	Noori, N., Caulfield, M. P., Salameh, W. A., Reitz, R. E., Nicholas, S. B., Molnar, M. Z., Nissenson, A. R., Kovesdy, C. P. and Kalantar-Zadeh, K.	Novel lipoprotein subfraction and size measurements in prediction of mortality in maintenance haemodialysis patients	2011	Population data from before 2004

154	Obi, Y., Kalantar-Zadeh, K., Streja, E., Rhee, C. M., Reddy, U. G., Soohoo, M., Wang, Y., Ravel, V., You, A. S., Jing, J., Sim, J. J., Nguyen, D. V., Gillen, D. L., Saran, R., Robinson, B. and Kovesdy, C. P.	Seasonal variations in transition, mortality and kidney transplantation among patients with end-stage renal disease in the USA	2017	Population data from before 2004
155	Ocak, G., Halbesma, N., le Cessie, S., Hoogeveen, E. K., van Dijk, S., Kooman, J., Dekker, F. W., Krediet, R. T., Boeschoten, E. W. and Verduijn, M.	Haemodialysis catheters increase mortality as compared to arteriovenous accesses especially in elderly patients	2011	Population data from before 2004
156	Ocak, G., Van Stralen, K. J., Rosendaal, F. R., Verduijn, M., Ravani, P., Palsson, R., Leivestad, T., Hoitsma, A. J., Ferrer-Alamar, M., Finne, P., De Meester, J., Wanner, C., Dekker, F. W. and Jager, K. J.	Mortality due to pulmonary embolism, myocardial infarction, and stroke among incident dialysis patients	2012	Population data from before 2004
157	Odden, M. C., Amadu, A. R., Smit, E., Lo, L. and Peralta, C. A.	Uric acid levels, kidney function, and cardiovascular mortality in US adults: National Health and Nutrition Examination Survey (NHANES) 1988-1994 and 1999-2002	2014	Population data from before 2004
158	Ohya, M., Otani, H., Kimura, K., Saika, Y., Fujii, R., Yukawa, S. and Shigematsu, T.	Vascular calcification estimated by aortic calcification area index is a significant predictive parameter of cardiovascular mortality in haemodialysis patients	2011	Population data from before 2004
159	Okuno, S., Ishimura, E., Kitatani, K., Fujino, Y., Kohno, K., Maeno, Y., Maekawa, K., Yamakawa, T., Imanishi, Y., Inaba, M. and Nishizawa, Y.	Presence of Abdominal Aortic Calcification Is Significantly Associated With All-Cause and Cardiovascular Mortality in Maintenance Haemodialysis Patients	2007	Population data from before 2004
160	Okuno, S., Ishimura, E., Kohno, K., Fujino-Katoh, Y., Maeno, Y., Yamakawa, T., Inaba, M. and Nishizawa, Y.	Serum beta2-microglobulin level is a significant predictor of mortality in maintenance haemodialysis patients	2009	Population data from before 2004
161	Okuyama, C., Nakajima, K., Hatta, T., Nishimura, S., Kusuoka, H., Yamashina, A. and Nishimura, T.	Incremental prognostic value of myocardial perfusion single photon emission computed tomography for patients with diabetes and chronic kidney disease	2011	Population data from before 2004
162	Paniagua, R., Amato, D., Mujais, S., Vonesh, E., Ramos, A., Correa-Rotter, R. and Horl, W. H.	Predictive value of brain natriuretic peptides in patients on peritoneal dialysis: results from the ADEMEX trial	2008	Population data from before 2004

163	Panichi, V., Maggiore, U., Taccola, D., Migliori, M., Rizza, G. M., Consani, C., Bertini, A., Sposini, S., Perez-Garcia, R., Rindi, P., Palla, R. and Tetta, C.	Interleukin-6 is a stronger predictor of total and cardiovascular mortality than C-reactive protein in haemodialysis patients	2004	Population data from before 2004
164	Panichi, V., Taccola, D., Migliori, M., Consani, C., Giovannini, L. and Tetta, C.	The role of chronic inflammation in cardiovascular mortality of uremic patients	2003	Population data from before 2004
165	Panichi, V., Taccola, D., Rizza, G. M., Consani, C., Ghiadoni, L., Filippi, C., Cristofani, R., Panicucci, E., Migliori, M., Sidoti, A., Biagioli, M., Boracelli, D., Barsotti, G. and Tetta, C.	Interleukin-8 is a powerful prognostic predictor of all-cause and cardiovascular mortality in dialytic patients	2006	Population data from before 2004
166	Pannier, B., Guerin, A. P., Marchais, S. J., Safar, M. E. and London, G. M.	Stiffness of capacitive and conduit arteries: prognostic significance for end-stage renal disease patients	2005	Population data from before 2004
167	Panuccio, V., Tripepi, R., Tripepi, G., Mallamaci, F., Benedetto, F. A., Cataliotti, A., Bellanuova, I., Giacone, G., Malatino, L. S. and Zoccali, C.	Heart valve calcifications, survival, and cardiovascular risk in haemodialysis patients	2004	Population data from before 2004
168	Parekh, R. S., Carroll, C. E., Wolfe, R. A. and Port, F. K.	Cardiovascular mortality in children and young adults with end-stage kidney disease	2002	Population data from before 2004
169	Parving, H. H., Brenner, B. M., Cooper, M. E., de Zeeuw, D., Keane, W. F., Mitch, W. E., Remuzzi, G., Snapinn, S. M., Zhang, Z. and Shahinfar, S.	Effect of losartan on renal and cardiovascular complications of patients with type 2 diabetes and nephropathy	2001	Population data from before 2004
170	Perino, G. C., Ragni, R. and Salomone, M.	Analysis of cause of death in the 1st and last periods of the Piedmontese Dialysis and Transplantation Registry	1998	Population data from before 2004
171	Peterson, G. E., de Backer, T., Contreras, G., Wang, X., Kendrick, C., Greene, T., Appel, L. J., Randall, O. S., Lea, J., Smogorzewski, M., Vagaonescu, T., Phillips, R. A. and African American Study of Kidney Disease, I.	Relationship of left ventricular hypertrophy and diastolic function with cardiovascular and renal outcomes in African Americans with hypertensive chronic kidney disease	2013	Population data from before 2004
172	Pilz, S., Tomaschitz, A., Friedl, C., Amrein, K., Drechsler, C., Ritz, E., Boehm, B. O., Grammer, T. B. and Marz, W.	Vitamin D status and mortality in chronic kidney disease	2011	Population data from before 2004

173	Pizzarelli, F., Lauretani, F., Bandinelli, S., Windham, G. B., Corsi, A. M., Giannelli, S. V., Ferrucci, L. and Guralnik, J. M.	Predictivity of survival according to different equations for estimating renal function in community-dwelling elderly subjects	2009	Population data from before 2004
174	Poletti, R., Vergaro, G., Zyw, L., Prontera, C., Passino, C. and Emdin, M.	Prognostic value of plasma renin activity in heart failure patients with chronic kidney disease	2013	Population data from before 2004
175	Quinn, M. P., Cardwell, C. R., Kee, F., Maxwell, A. P., Savage, G., McCarron, P. and Fogarty, D. G.	The finding of reduced estimated glomerular filtration rate is associated with increased mortality in a large UK population	2011	Population data from before 2004
176	Ramirez, S. P., Albert, J. M., Blayney, M. J., Tentori, F., Goodkin, D. A., Wolfe, R. A., Young, E. W., Bailie, G. R., Pisoni, R. L. and Port, F. K.	Rosiglitazone is associated with mortality in chronic haemodialysis patients	2009	Population data from before 2004
177	Ramkumar, N., Murtaugh, M. A., Cheung, A. K. and Beddhu, S.	Lack of synergistic effects of metabolic syndrome and plasma fibrinogen on coronary events and mortality in moderate CKD	2007	Population data from before 2004
178	Rao, M., Guo, D., Perianayagam, M. C., Tighiouart, H., Jaber, B. L., Pereira, B. J. and Balakrishnan, V. S.	Plasma interleukin-6 predicts cardiovascular mortality in haemodialysis patients	2005	Population data from before 2004
179	Rashidi, A., Sehgal, A. R., Rahman, M. and O'Connor, A. S.	The case for chronic kidney disease, diabetes mellitus, and myocardial infarction being equivalent risk factors for cardiovascular mortality in patients older than 65 years	2008	Population data from before 2004
180	Ravani, P., Tripepi, G., Pecchini, P., Mallamaci, F., Malberti, F. and Zoccali, C.	Urotensin II is an inverse predictor of death and fatal cardiovascular events in chronic kidney disease	2008	Population data from before 2004
181	Regidor, D. L., Kovesdy, C. P., Mehrotra, R., Rambod, M., Jing, J., McAllister, C. J., Van Wyck, D., Kopple, J. D. and Kalantar-Zadeh, K.	Serum alkaline phosphatase predicts mortality among maintenance haemodialysis patients	2008	Population data from before 2004
182	Ricardo, A. C., Grunwald, J. E., Parvathaneni, S., Goodin, S., Ching, A. and Lash, J. P.	Retinopathy and CKD as predictors of all-cause and cardiovascular mortality: National Health and Nutrition Examination Survey (NHANES) 1988-1994	2014	Population data from before 2004
183	Rizk, D. V., Gutierrez, O., Levitan, E. B., McClellan, W. M., Safford, M., Soliman, E. Z., Warnock, D. G. and Muntner, P.	Prevalence and prognosis of unrecognized myocardial infarctions in chronic kidney disease	2012	Population data from before 2004

184	Roderick, P. J., Atkins, R. J., Smeeth, L., Mylne, A., Nitsch, D. D., Hubbard, R. B., Bulpitt, C. J. and Fletcher, A. E.	CKD and mortality risk in older people: a community-based population study in the United Kingdom	2009	Population data from before 2004
185	Rusinaru, D., Buiciuc, O., Houpe, D. and Tribouilloy, C.	Renal function and long-term survival after hospital discharge in heart failure with preserved ejection fraction	2011	Population data from before 2004
186	Ryan, T. P., Fisher, S. G., Elder, J. L., Winters, P. C., Beckett, W., Tacci, J. and Sloand, J. A.	Increased cardiovascular risk associated with reduced kidney function	2009	Population data from before 2004
187	Safar, M. E., Blacher, J., Pannier, B., Guerin, A. P., Marchais, S. J., Guyonvarc'h, P. M. and London, G. M.	Central pulse pressure and mortality in end-stage renal disease	2002	Population data from before 2004
188	Sakaci, T., Ahbap, E., Koc, Y., Basturk, T., Ucar, Z. A., Sinangil, A., Sevinc, M., Kara, E., Akgol, C., Kayalar, A. O., Caglayan, F. B., Sahutoglu, T. and Unsal, A.	Clinical outcomes and mortality in elderly peritoneal dialysis patients	2015	Population data from before 2004
189	Satyan, S., Light, R. P. and Agarwal, R.	Relationships of N-terminal pro-B-natriuretic peptide and cardiac troponin T to left ventricular mass and function and mortality in asymptomatic haemodialysis patients	2007	Population data from before 2004
190	Scialla, J. J., Plantinga, L. C., Kao, W. H., Jaar, B., Powe, N. R. and Parekh, R. S.	Soluble P-selectin levels are associated with cardiovascular mortality and sudden cardiac death in male dialysis patients	2011	Population data from before 2004
191	Selamet, U., Tighiouart, H., Sarnak, M. J., Beck, G., Levey, A. S., Block, G. and Ix, J. H.	Relationship of dietary phosphate intake with risk of end-stage renal disease and mortality in chronic kidney disease stages 3-5: The Modification of Diet in Renal Disease Study	2016	Population data from before 2004
192	Selim, G., Stojceva-Taneva, O., Zafirovska, K., Sikole, A., Gelev, S., Dzekova, P., Stefanovski, K., Koloska, V. and Polenakovic, M.	Inflammation predicts all-cause and cardiovascular mortality in haemodialysis patients	2006	Population data from before 2004
193	Shafi, T., Hostetter, T. H., Meyer, T. W., Hwang, S., Hai, X., Melamed, M. L., Banerjee, T., Coresh, J. and Powe, N. R.	Serum Asymmetric and Symmetric Dimethylarginine and Morbidity and Mortality in Haemodialysis Patients	2016	Population data from before 2004
194	Shafi, T., Matsushita, K., Selvin, E., Sang, Y., Astor, B. C., Inker, L. A. and Coresh, J.	Comparing the association of GFR estimated by the CKD-EPI and MDRD study equations and mortality: the third national health and nutrition examination survey (NHANES III)	2012	Population data from before 2004

195	Shafi, T., Parekh, R. S., Jaar, B. G., Plantinga, L. C., Oberai, P. C., Eckfeldt, J. H., Levey, A. S., Powe, N. R. and Coresh, J.	Serum beta-trace protein and risk of mortality in incident haemodialysis patients	2012	Population data from before 2004
196	Shafi, T., Sirich, T. L., Meyer, T. W., Hostetter, T. H., Plummer, N. S., Hwang, S., Melamed, M. L., Banerjee, T., Coresh, J. and Powe, N. R.	Results of the HEMO Study suggest that p-cresol sulphate and indoxyl sulphate are not associated with cardiovascular outcomes	2017	Population data from before 2004
197	Shih, C. J., Ou, S. M., Chao, P. W., Kuo, S. C., Lee, Y. J., Yang, C. Y., Tarng, D. C., Lin, C. C., Huang, P. H., Li, S. Y. and Chen, Y. T.	Risks of Death and Stroke in Patients Undergoing Haemodialysis with New-Onset Atrial Fibrillation: A Competing-Risk Analysis of a Nationwide Cohort	2016	Population data from before 2004
198	Shinohara, K., Shoji, T., Emoto, M., Tahara, H., Koyama, H., Ishimura, E., Miki, T., Tabata, T. and Nishizawa, Y.	Insulin resistance as an independent predictor of cardiovascular mortality in patients with end-stage renal disease	2002	Population data from before 2004
199	Shoji, T., Emoto, M., Shinohara, K., Kakiya, R., Tsujimoto, Y., Kishimoto, H., Ishimura, E., Tabata, T. and Nishizawa, Y.	Diabetes mellitus, aortic stiffness, and cardiovascular mortality in end-stage renal disease	2001	Population data from before 2004
200	Shoji, T., Fukumoto, M., Kimoto, E., Shinohara, K., Emoto, M., Tahara, H., Koyama, H., Ishimura, E., Nakatani, T., Miki, T., Tsujimoto, Y., Tabata, T. and Nishizawa, Y.	Antibody to oxidized low-density lipoprotein and cardiovascular mortality in end-stage renal disease	2002	Population data from before 2004
201	Shoji, T., Maekawa, K., Emoto, M., Okuno, S., Yamakawa, T., Ishimura, E., Inaba, M. and Nishizawa, Y.	Arterial stiffness predicts cardiovascular death independent of arterial thickness in a cohort of haemodialysis patients	2010	Population data from before 2004
202	Shroff, G. R., Li, S. and Herzog, C. A.	Trends in Mortality Following Acute Myocardial Infarction Among Dialysis Patients in the United States Over 15 Years	2015	Population data from before 2004
203	Siemensen, H., Schlamp, R., Tachezy, H., Bischoff, K. and Remmecke, J.	Survival time and causes of death in dialysis patients	1984	Population data from before 2004
204	Sood, M. M., Larkina, M., Thumma, J. R., Tentori, F., Gillespie, B. W., Fukuhara, S., Mendelssohn, D. C., Chan, K., de Sequera, P., Komenda, P., Rigatto, C. and Robinson, B. M.	Major bleeding events and risk stratification of antithrombotic agents in haemodialysis: results from the DOPPS	2013	Population data from before 2004

205	Stallworthy, E. J., Pilmore, H. L., Webster, M. W., Sidhu, K. K., Curry, E. M., Brown, P. and Scaria, A.	Do echocardiographic parameters predict mortality in patients with end-stage renal disease?	2013	Population data from before 2004
206	Staplin, N., Haynes, R., Herrington, W. G., Reith, C., Cass, A., Fellstrom, B., Jiang, L., Kasiske, B. L., Krane, V., Levin, A., Walker, R., Wanner, C., Wheeler, D. C., Landray, M. J., Baigent, C. and Emberson, J.	Smoking and Adverse Outcomes in Patients With CKD: The Study of Heart and Renal Protection (SHARP)	2016	Population data from before 2004
207	Stehouwer, C. D., Gall, M. A., Hougaard, P., Jakobs, C. and Parving, H. H.	Plasma homocysteine concentration predicts mortality in non-insulin-dependent diabetic patients with and without albuminuria	1999	Population data from before 2004
208	Stengel, B., Metzger, M., Froissart, M., Rainfray, M., Berr, C., Tzourio, C. and Helmer, C.	Epidemiology and prognostic significance of chronic kidney disease in the elderly--the Three-City prospective cohort study	2011	Population data from before 2004
209	Stenvinkel, P., Wanner, C., Metzger, T., Heimburger, O., Mallamaci, F., Tripepi, G., Malatino, L. and Zoccali, C.	Inflammation and outcome in end-stage renal failure: does female gender constitute a survival advantage?	2002	Population data from before 2004
210	Stojceva-Taneva, O., Selim, G. J., Tozija, L. and Polenakovic, M.	Early mortality rate in end-stage renal disease patients initiating haemodialysis	2006	Population data from before 2004
211	Sud, M., Tangri, N., Pintilie, M., Levey, A. S. and Naimark, D.	Risk of end-stage renal disease and death after cardiovascular events in chronic kidney disease	2014	Population data from before 2004
212	Sun, J., Axelsson, J., Machowska, A., Heimburger, O., Barany, P., Lindholm, B., Lindstrom, K., Stenvinkel, P. and Qureshi, A. R.	Biomarkers of Cardiovascular Disease and Mortality Risk in Patients with Advanced CKD	2016	Population data from before 2004
213	Sun, L., Sun, Y., Zhao, X., Xu, C., Chen, D., Li, L., Ma, Y., Rong, S. and Mei, C.	Predictive role of BNP and NT-proBNP in haemodialysis patients	2008	Population data from before 2004
214	Suto, Y., Itoh, A., Otsuka, M., Yamashita, H., Ehara, S., Kawarai, H., Naruko, T., Tojo, O. and Haze, K.	Prognosis for patients with angina pectoris accompanied by chronic renal failure	1999	Population data from before 2004

215	Szpakowicz, A., Pepinski, W., Waszkiewicz, E., Maciorkowska, D., Skawronska, M., Niemcunowicz-Janica, A., Dobrzycki, S., Musial, W. J. and Kaminski, K. A.	The influence of renal function on the association of rs854560 polymorphism of paraoxonase 1 gene with long-term prognosis in patients after myocardial infarction	2016	Population data from before 2004
216	Takahashi, H., Ishii, H., Aoyama, T., Kamoi, D., Kasuga, H., Ito, Y., Yasuda, K., Tanaka, M., Yoshikawa, D., Maruyama, S., Matsuo, S., Murohara, T. and Yuzawa, Y.	Association of cardiac valvular calcifications and C-reactive protein with cardiovascular mortality in incident haemodialysis patients: a Japanese cohort study	2013	Population data from before 2004
217	Takahashi, H., Ito, Y., Ishii, H., Aoyama, T., Kamoi, D., Kasuga, H., Yasuda, K., Maruyama, S., Matsuo, S., Murohara, T. and Yuzawa, Y.	Geriatric nutritional risk index accurately predicts cardiovascular mortality in incident haemodialysis patients	2014	Population data from before 2004
218	Tang, C. H., Chen, T. H., Wang, C. C., Hong, C. Y., Huang, K. C. and Sue, Y. M.	Renin-angiotensin system blockade in heart failure patients on long-term haemodialysis in Taiwan	2013	Population data from before 2004
219	Tang, S. C. W., Lam, B., Yao, T. J., Leung, W. S., Chu, C. M., Ho, Y. W., Ip, M. S. M. and Lai, K. N.	Sleep apnea is a novel risk predictor of cardiovascular morbidity and death in patients receiving peritoneal dialysis	2010	Population data from before 2004
220	Teng, G. G., Ang, L. W., Saag, K. G., Yu, M. C., Yuan, J. M. and Koh, W. P.	Mortality due to coronary heart disease and kidney disease among middle-aged and elderly men and women with gout in the Singapore Chinese Health Study	2012	Population data from before 2004
221	Tentori, F., Blayney, M. J., Albert, J. M., Gillespie, B. W., Kerr, P. G., Bommer, J., Young, E. W., Akizawa, T., Akiba, T., Pisoni, R. L., Robinson, B. M. and Port, F. K.	Mortality risk for dialysis patients with different levels of serum calcium, phosphorus, and PTH: The Dialysis Outcomes and Practice Patterns Study (DOPPS)	2008	Population data from before 2004
222	Tepel, M., van der Giet, M., Statz, M., Jankowski, J. and Zidek, W.	The antioxidant acetylcysteine reduces cardiovascular events in patients with end-stage renal failure: a randomized, controlled trial	2003	Population data from before 2004
223	Terrier, N., Jaussent, I., Dupuy, A. M., Morena, M., Delcourt, C., Chalabi, L., Rouanet, C., Canaud, B. and Cristol, J. P.	Creatinine index and transthyretin as additive predictors of mortality in haemodialysis patients	2008	Population data from before 2004
224	Tofik, R., Torffvit, O., Rippe, B. and Bakoush, O.	Increased urine IgM excretion predicts cardiovascular events in patients with type 1 diabetes nephropathy	2009	Population data from before 2004

225	Tokmakova, M. P., Skali, H., Kenchaiah, S., Braunwald, E., Rouleau, J. L., Packer, M., Chertow, G. M., Moye, L. A., Pfeffer, M. A. and Solomon, S. D.	Chronic kidney disease, cardiovascular risk, and response to angiotensin-converting enzyme inhibition after myocardial infarction: the Survival And Ventricular Enlargement (SAVE) study	2004	Population data from before 2004
226	Tong, M., Carrero, J. J., Qureshi, A. R., Anderstam, B., Heimburger, O., Barany, P., Axelsson, J., Alvestrand, A., Stenvinkel, P., Lindholm, B. and Suliman, M. E.	Plasma pentraxin 3 in patients with chronic kidney disease: associations with renal function, protein-energy wasting, cardiovascular disease, and mortality	2007	Population data from before 2004
227	Torle´n, K., Kalantar-Zadeh, K., Molnar, M. Z., Vashistha, T. and Mehrotra, R.	Serum potassium and cause-specific mortality in a large peritoneal dialysis cohort	2012	Population data from before 2004
228	Tripepi, G., Fagugli, R. M., Dattolo, P., Parlongo, G., Mallamaci, F., Buoncristiani, U. and Zoccali, C.	Prognostic value of 24-hour ambulatory blood pressure monitoring and of night/day ratio in nondiabetic, cardiovascular events-free haemodialysis patients	2005	Population data from before 2004
229	Trivedi, H., Xiang, Q. and Klein, J. P.	Risk factors for non-fatal myocardial infarction and cardiac death in incident dialysis patients	2009	Population data from before 2004
230	Tsagalis, G., Akrivos, T., Alevizaki, M., Manios, E., Stamatellopoulos, K., Laggouranis, A. and Vemmos, K. N.	Renal dysfunction in acute stroke: an independent predictor of long-term all combined vascular events and overall mortality	2009	Population data from before 2004
231	Tsai, T. H., Chen, Y. L., Chen, S. M., Yang, C. H., Fang, C. Y., Hsieh, Y. K., Wu, C. J., Yip, H. K., Hang, C. L., Fu, M. and Chen, M. C.	Uric Acid is not an independent predictor of cardiovascular death in patients with angiographically proven coronary artery disease	2009	Population data from before 2004
232	Tschope, W., Koch, M., Thomas, B. and Ritz, E.	Serum lipids predict cardiac death in diabetic patients on maintenance haemodialysis. Results of a prospective study. The German Study Group Diabetes and Uremia	1993	Population data from before 2004
233	Tzamaloukas, A. H., Zager, P. G., Harford, A. M., Nevarez, M., Quintana, B. J., Avasthi, P. S. and Gibel, L. J.	Vascular disease: the critical risk factor for mortality in older patients on CAPD	1990	Population data from before 2004
234	Ueda, H., Hayashi, T., Tsumura, K., Yoshimaru, K., Nakayama, Y. and Yoshikawa, J.	Inflection point of ascending aortic waveform is a predictive factor for all-cause and cardiovascular mortality in patients with chronic renal failure on haemodialysis	2004	Population data from before 2004

235	Unsal, A., Koc, Y., Basturk, T., Sakaci, T., Ahbap, E., Sinangil, A., Budak, S. K., Sevinc, M., Kara, E. and Doner, B.	Clinical outcomes and mortality in peritoneal dialysis patients: a 10-year retrospective analysis in a single center	2013	Population data from before 2004
236	Van Biesen, W., De Bacquer, D., Verbeke, F., Delanghe, J., Lameire, N. and Vanholder, R.	The glomerular filtration rate in an apparently healthy population and its relation with cardiovascular mortality during 10 years	2007	Population data from before 2004
237	van Dijk, S., van den Beukel, T. O., Dekker, F. W., le Cessie, S., Kaptein, A. A., Honig, A., Siegert, C. E., Boeschoten, E. W., Krediet, R. T. and Verduijn, M.	Short-term versus long-term effects of depressive symptoms on mortality in patients on dialysis	2012	Population data from before 2004
238	van Kuijk, J. P., Flu, W. J., Chonchol, M., Welten, G. M., Verhagen, H. J., Bax, J. J. and Poldermans, D.	The prevalence and prognostic implications of polyvascular atherosclerotic disease in patients with chronic kidney disease	2010	Population data from before 2004
239	Varma, R., Aronow, W. S., McClung, J. A., Garrick, R., Vistainer, P. F., Weiss, M. B. and Belkin, R. N.	Prevalence of valve calcium and association of valve calcium with coronary artery disease, atherosclerotic vascular disease, and all-cause mortality in 137 patients undergoing haemodialysis for chronic renal failure	2005	Population data from before 2004
240	Vicari, A. M., Taglietti, M. V., Pellegatta, F., Spotti, D., Melandri, M., Galli, L., Ronchi, P. and Folli, F.	Deranged platelet calcium homeostasis in diabetic patients with end-stage renal failure. A possible link to increased cardiovascular mortality?	1996	Population data from before 2004
241	Wagner, Z., Molnar, M., Molnar, G. A., Tamasko, M., Laczy, B., Wagner, L., Csiky, B., Heidland, A., Nagy, J. and Wittmann, I.	Serum carboxymethyllysine predicts mortality in haemodialysis patients	2006	Population data from before 2004
242	Wakasugi, M., Kazama, J. J. and Narita, I.	Mortality trends among Japanese dialysis patients, 1988-2013: A joinpoint regression analysis	2016	Population data from before 2004
243	Wallen, M. D., Radhakrishnan, J., Appel, G., Hodgson, M. E. and Pablos-Mendez, A.	An analysis of cardiac mortality in patients with new-onset end-stage renal disease in New York State	2001	Population data from before 2004
244	Wang, A. Y., Lam, C. W., Wang, M., Chan, I. H., Goggins, W. B., Yu, C. M., Lui, S. F. and Sanderson, J. E.	Prognostic value of cardiac troponin T is independent of inflammation, residual renal function, and cardiac hypertrophy and dysfunction in peritoneal dialysis patients	2007	Population data from before 2004

245	Wang, A. Y., Lam, C. W., Yu, C. M., Wang, M., Chan, I. H., Zhang, Y., Lui, S. F. and Sanderson, J. E.	N-terminal pro-brain natriuretic peptide: an independent risk predictor of cardiovascular congestion, mortality, and adverse cardiovascular outcomes in chronic peritoneal dialysis patients	2007	Population data from before 2004
246	Wang, A. Y., Sea, M. M., Tang, N., Sanderson, J. E., Lui, S. F., Li, P. K. and Woo, J.	Resting energy expenditure and subsequent mortality risk in peritoneal dialysis patients	2004	Population data from before 2004
247	Wang, A. Y., Wang, M., Woo, J., Lam, C. W., Lui, S. F., Li, P. K. and Sanderson, J. E.	Inflammation, residual kidney function, and cardiac hypertrophy are interrelated and combine adversely to enhance mortality and cardiovascular death risk of peritoneal dialysis patients	2004	Population data from before 2004
248	Wang, Z. and Hoy, W. E.	The predictive value of albuminuria for renal and nonrenal natural deaths over 14 years follow-up in a remote aboriginal community	2012	Population data from before 2004
249	Wanner, C. and Metzger, T.	C-reactive protein a marker for all-cause and cardiovascular mortality in haemodialysis patients	2002	Population data from before 2004
250	Wetmore, J. B., Liu, J., Li, S., Hu, Y., Peng, Y., Gilbertson, D. T. and Collins, A. J.	The Healthy People 2020 Objectives for Kidney Disease: How Far Have We Come, and Where Do We Need to Go?	2017	Population data from before 2004
251	Xiong, Z., Xu, H., Huang, X., Arnlov, J., Qureshi, A. R., Cederholm, T., Sjogren, P., Lindholm, B., Riserus, U. and Carrero, J. J.	Nonesterified fatty acids and cardiovascular mortality in elderly men with CKD	2015	Population data from before 2004
252	Yahalom, G., Schwartz, R., Schwammenthal, Y., Merzeliak, O., Toashi, M., Orion, D., Sela, B. A. and Tanne, D.	Chronic kidney disease and clinical outcome in patients with acute stroke	2009	Population data from before 2004
253	Yoshino, M., Kuhlmann, M. K., Kotanko, P., Greenwood, R. N., Pisoni, R. L., Port, F. K., Jager, K. J., Homel, P., Augustijn, H., De Charro, F. T., Collart, F., Erek, E., Finne, P., Garcia-Garcia, G., Grönhagen-Riska, C., Ioannidis, G. A., Ivis, F., Leivestad, T., Løkkegaard, H., Lopot, F., Jin, D. C., Kramar, R., Nakao, T., Nandakumar, M., Ramirez, S., Van Der Sande, F. M., Schön, S., Simpson, K., Walker, R. G., Zaluska, W. and Levin, N. W.	International differences in dialysis mortality reflect background general population atherosclerotic cardiovascular mortality	2006	Population data from before 2004

254	Young, E. W., Albert, J. M., Satayathum, S., Goodkin, D. A., Pisoni, R. L., Akiba, T., Akizawa, T., Kurokawa, K., Bommer, J., Piera, L. and Port, F. K.	Predictors and consequences of altered mineral metabolism: the Dialysis Outcomes and Practice Patterns Study	2005	Population data from before 2004
255	Yu, W. C., Lin, Y. P., Chuang, S. Y., Lin, I. F. and Chenb, C. H.	Cardiovascular determinants of prognosis in normotensive haemodialysis patients	2012	Population data from before 2004
256	Euctr, C. Z.	A randomised, double blind, placebo controlled, parallel group study to assess the effect of the endothelin receptor antagonist avosentan on time to doubling of serum creatinine, end stage renal disease or death in patients with type 2 diabetes mellitus and diabetic nephropathy - ASCEND	2005	Focused on diabetic population
257	Hirata, A., Okamura, T., Sugiyama, D., Kuwabara, K., Kadota, A., Fujiyoshi, A., Miura, K., Okuda, N., Ohkubo, T., Okayama, A. and Ueshima, H.	Impacts of chronic kidney disease and diabetes on cardiovascular mortality in a general Japanese population: A 20-year follow-up of the NIPPON DATA90 study	2017	Focused on diabetic population
258	Kacso, I. M., Potra, A. R., Bondor, C. I., Moldovan, D., Rusu, C., Patiu, I. M., Racasan, S., Orasan, R., Moldovan, R., Ghigolea, B., Vladutiu, D., Spanu, C., Nita, C. and Rusu, A.	ESAM predicts cardiovascular mortality in diabetic haemodialysis patients	2015	Focused on diabetic population
259	Peng, F., Xia, X., He, F., Li, Z., Huang, F. and Yu, X.	The effect of glycated haemoglobin and albumin-corrected glycated serum protein on mortality in diabetic patients receiving continuous peritoneal dialysis	2015	Focused on diabetic population
260	Poulter, N., Mann, J., Fonseca, V., Mosenzon, O., Raz, I., Frimer-Larsen, H., Von Scholten, B. and Idorn, T.	Liraglutide reduces major cardiovascular events in patients with chronic kidney disease: results from the LEADER trial	2018	Focused on diabetic population
261	Salinero-Fort, M. A., San Andres-Rebollo, F. J., de Burgos-Lunar, C., Abanades-Herranz, J. C., Carrillo-de-Santa-Pau, E., Chico-Moraleja, R. M., Jimenez-Garcia, R., Lopez-de-Andres, A. and Gomez-Campelo, P.	Cardiovascular and all-cause mortality in patients with type 2 diabetes mellitus in the MADIABETES Cohort Study: Association with chronic kidney disease	2016	Focused on diabetic population

262	Seferovic, J. P., Pfeffer, M. A., Claggett, B., Desai, A. S., de Zeeuw, D., Haffner, S. M., McMurray, J. J. V., Parving, H. H., Solomon, S. D. and Chaturvedi, N.	Three-question set from Michigan Neuropathy Screening Instrument adds independent prognostic information on cardiovascular outcomes: analysis of ALTITUDE trial	2018	Focused on diabetic population
263	Wanner, C., Lachin, J. M., Inzucchi, S. E., Fitchett, D., Mattheus, M., George, J., Woerle, H. J., Broedl, U. C., von Eynatten, M. and Zinman, B.	Empagliflozin and Clinical Outcomes in Patients With Type 2 Diabetes Mellitus, Established Cardiovascular Disease, and Chronic Kidney Disease	2018	Focused on diabetic population
264		Mortality and associated risk factors in dialysis patients with cardiovascular disease	2016	No CKD associated cardiovascular mortality stratified by sex
265	Aalten, J., Hoogeveen, E. K., Roodnat, J. I., Weimar, W., Borm, G. F., De Fijter, J. W. and Hoitsma, A. J.	Associations between pre-kidney-transplant risk factors and post-transplant cardiovascular events and death	2008	No CKD associated cardiovascular mortality stratified by sex
266	Abbott, K. C., Trespalacios, F. C. and Agodoa, L. Y.	Arteriovenous fistula use and heart disease in long-term elderly haemodialysis patients: analysis of United States Renal Data System Dialysis Morbidity and Mortality Wave II	2003	No CKD associated cardiovascular mortality stratified by sex
267	Abbott, K. C., Trespalacios, F. C., Agodoa, L. Y., Taylor, A. J. and Bakris, G. L.	beta-Blocker use in long-term dialysis patients: association with hospitalized heart failure and mortality	2004	No CKD associated cardiovascular mortality stratified by sex
268	Abdallah, E., Waked, E., Nabil, M. and El-Bendary, O.	Adiponectin and cardiovascular outcomes among haemodialysis patients	2012	No CKD associated cardiovascular mortality stratified by sex
269	Abedini, S., Meinitzer, A., Holme, I., Marz, W., Weihrauch, G., Fellstrom, B., Jardine, A. and Holdaas, H.	Asymmetrical dimethylarginine is associated with renal and cardiovascular outcomes and all-cause mortality in renal transplant recipients	2010	No CKD associated cardiovascular mortality stratified by sex
270	Abuzeid, W., Iwanochko, R. M., Wang, X., Kim, S. J., Husain, M. and Lee, D. S.	Prognostic impact of SPECT-MPI after renal transplantation	2017	No CKD associated cardiovascular mortality stratified by sex
271	Adragao, T., Pires, A., Branco, P., Castro, R., Oliveira, A., Nogueira, C., Bordalo, J., Curto, J. D. and Prata, M. M.	Ankle-brachial index, vascular calcifications and mortality in dialysis patients	2012	No CKD associated cardiovascular mortality stratified by sex
272	Afkarian, M., Katz, R., Bansal, N., Correa, A., Kestenbaum, B., Himmelfarb, J., de Boer, I. H. and Young, B.	Diabetes, Kidney Disease, and Cardiovascular Outcomes in the Jackson Heart Study	2016	No CKD associated cardiovascular mortality stratified by sex

273	Afshinnia, F., Ayazi, P. and Chadow, H. L.	Glomerular filtration rate on admission independently predicts short-term in-hospital mortality after acute myocardial infarction	2006	No CKD associated cardiovascular mortality stratified by sex
274	Agarwal, R.	Blood pressure and mortality among haemodialysis patients	2010	No CKD associated cardiovascular mortality stratified by sex
275	Agarwal, R.	Ambulatory blood pressure monitoring trumps estimated glomerular filtration rate in predicting cardiovascular risk in low-risk populations	2013	No CKD associated cardiovascular mortality stratified by sex
276	Agrinier, N., Thilly, N., Briancon, S., Juilliere, Y., Mertes, P. M., Villemot, J. P., Alla, F. and Zannad, F.	Prognostic factors associated with 15-year mortality in patients with hospitalized systolic HF: Results of the observational community-based EPICAL cohort study	2017	No CKD associated cardiovascular mortality stratified by sex
277	Ahmed, A., Rich, M. W., Sanders, P. W., Perry, G. J., Bakris, G. L., Zile, M. R., Love, T. E., Aban, I. B. and Shlipak, M. G.	Chronic kidney disease associated mortality in diastolic versus systolic heart failure: a propensity matched study	2007	No CKD associated cardiovascular mortality stratified by sex
278	Ahmed, S., Cannon, C. P., Giugliano, R. P., Murphy, S. A., Morrow, D. A., Antman, E. M., Braunwald, E. and Gibson, C. M.	The independent and combined risk of diabetes and non-endstage renal impairment in non-ST-segment elevation acute coronary syndromes	2008	No CKD associated cardiovascular mortality stratified by sex
279	Airy, M., Schold, J. D., Jolly, S. E., Arrigain, S., Bansal, N., Winkelmayer, W. C., Nally, J. V. and Navaneethan, S. D.	Cause-Specific Mortality in Patients with Chronic Kidney Disease and Atrial Fibrillation	2018	No CKD associated cardiovascular mortality stratified by sex
280	Akashi, N., Sakakura, K., Watanabe, Y., Noguchi, M., Taniguchi, Y., Yamamoto, K., Wada, H., Momomura, S. I. and Fujita, H.	The comparison of clinical outcomes in patients with acute myocardial infarction and advanced chronic kidney disease on chronic haemodialysis versus off haemodialysis	2018	No CKD associated cardiovascular mortality stratified by sex
281	Akdag, I., Yilmaz, Y., Kahvecioglu, S., Bolca, N., Ercan, I., Ersoy, A. and Gullulu, M.	Clinical value of the malnutrition-inflammation-atherosclerosis syndrome for long-term prediction of cardiovascular mortality in patients with end-stage renal disease: a 5-year prospective study	2008	No CKD associated cardiovascular mortality stratified by sex
282	Aker, S., Bantis, C., Reis, P., Kuhr, N., Schwandt, C., Grabensee, B., Heering, P. and Ivens, K.	Influence of interleukin-6 G-174C gene polymorphism on coronary artery disease, cardiovascular complications and mortality in dialysis patients	2009	No CKD associated cardiovascular mortality stratified by sex
283	Alam, A., Palumbo, A., Mucsi, I., Barre, P. E. and Sniderman, A. D.	Elevated troponin I levels but not low grade chronic inflammation is associated with cardiac-specific mortality in stable haemodialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex

284	Alderson, H. V., Ritchie, J. P., Middleton, R., Larsson, A., Larsson, T. E. and Kalra, P. A.	FGF-23 and Osteoprotegerin but not Fetuin-A are associated with death and enhance risk prediction in non-dialysis chronic kidney disease stages 3-5	2016	No CKD associated cardiovascular mortality stratified by sex
285	Alderson, H. V., Ritchie, J. P., Pagano, S., Middleton, R. J., Pruijm, M., Vuilleumier, N. and Kalra, P. A.	The Associations of Blood Kidney Injury Molecule-1 and Neutrophil Gelatinase-Associated Lipocalin with Progression from CKD to ESRD	2016	No CKD associated cardiovascular mortality stratified by sex
286	AlJaroudi, W., Campagnoli, T., Fughhi, I., Wassouf, M., Ali, A. and Doukky, R.	Prognostic value of heart rate response during regadenoson stress myocardial perfusion imaging in patients with end stage renal disease	2016	No CKD associated cardiovascular mortality stratified by sex
287	Almeida, F. A. A., Machado, F. C., Moura Jr, J. A. and Guimarães, A. C.	Global and cardiovascular mortality and risk factors in patients under haemodialysis treatment	2010	No CKD associated cardiovascular mortality stratified by sex
288	Amabile, N., Guerin, A. P., Tedgui, A., Boulanger, C. M. and London, G. M.	Predictive value of circulating endothelial microparticles for cardiovascular mortality in end-stage renal failure: a pilot study	2012	No CKD associated cardiovascular mortality stratified by sex
289	Amaral, T. L. M., Amaral, C. A., Miranda Filho, A. L. and Monteiro, G. T. R.	Trends and multiple causes of death due to chronic renal failure in a municipality in the Brazilian Amazon	2018	No CKD associated cardiovascular mortality stratified by sex
290	An, W. S. and Son, Y. K.	Vascular calcification on plain radiographs is associated with carotid intima media thickness, malnutrition and cardiovascular events in dialysis patients: A prospective observational study	2013	No CKD associated cardiovascular mortality stratified by sex
291	Anaya, P., Blomquist, G. A., Davenport, D. L., Monier-Faugere, M. C., Sorrell, V. L. and Malluche, H. H.	Coronary artery calcification in CKD-5D patients is tied to adverse cardiac function and increased mortality	2016	No CKD associated cardiovascular mortality stratified by sex
292	Ani, C. and Ovbiagele, B.	Relation of baseline presence and severity of renal disease to long-term mortality in persons with known stroke	2010	No CKD associated cardiovascular mortality stratified by sex
293	Antonelou, M. H., Georgatzakou, H. T., Tzounakas, V. L., Velentzas, A. D., Kokkalis, A. C., Kriebardis, A. G. and Papassideri, I. S.	Blood modifications associated with end stage renal disease duration, progression and cardiovascular mortality: a 3-year follow-up pilot study	2014	No CKD associated cardiovascular mortality stratified by sex
294	Arase, H., Yamada, S., Yotsueda, R., Taniguchi, M., Yoshida, H., Tokumoto, M., Nakano, T., Tsuruya, K. and Kitazono, T.	Modified creatinine index and risk for cardiovascular events and all-cause mortality in patients undergoing haemodialysis: The Q-Cohort study	2018	No CKD associated cardiovascular mortality stratified by sex
295	Arikan, H., Koc, M., Tuglular, S., Ozener, C. and Akoglu, E.	Elevated plasma levels of PAI-1 predict cardiovascular events and cardiovascular mortality in prevalent peritoneal dialysis patients	2009	No CKD associated cardiovascular mortality stratified by sex

296	Aronson, D. and Burger, A. J.	The relationship between transient and persistent worsening renal function and mortality in patients with acute decompensated heart failure	2010	No CKD associated cardiovascular mortality stratified by sex
297	Artunc, F., Nowak, A., Mueller, C., Breidthardt, T., Twerenbold, R., Wagner, R., Peter, A., Haering, H. U., Ebmeyer, S. and Friedrich, B.	Plasma concentrations of the vasoactive peptide fragments mid-regional pro-adrenomedullin, C-terminal pro-endothelin 1 and copeptin in haemodialysis patients: Associated factors and prediction of mortality	2014	No CKD associated cardiovascular mortality stratified by sex
298	Astor, B. C., Hallan, S. I., Miller, E. R., 3rd, Yeung, E. and Coresh, J.	Glomerular filtration rate, albuminuria, and risk of cardiovascular and all-cause mortality in the US population	2008	No CKD associated cardiovascular mortality stratified by sex
299	Astor, B. C., Shafi, T., Hoogeveen, R. C., Matsushita, K., Ballantyne, C. M., Inker, L. A. and Coresh, J.	Novel markers of kidney function as predictors of ESRD, cardiovascular disease, and mortality in the general population	2012	No CKD associated cardiovascular mortality stratified by sex
300	Astor, B. C., Yi, S., Hiremath, L., Corbin, T., Pogue, V., Wilkening, B., Peterson, G., Lewis, J., Lash, J. P., Van Lente, F., Gassman, J., Wang, X., Bakris, G., Appel, L. J. and Contreras, G.	N-terminal prohormone brain natriuretic peptide as a predictor of cardiovascular disease and mortality in blacks with hypertensive kidney disease: the African American Study of Kidney Disease and Hypertension (AASK)	2008	No CKD associated cardiovascular mortality stratified by sex
301	Astrup, A. S., Tarnow, L., Rossing, P., Pietraszek, L., Riis Hansen, P. and Parving, H. H.	Improved prognosis in type 1 diabetic patients with nephropathy: a prospective follow-up study	2005	No CKD associated cardiovascular mortality stratified by sex
302	Ates, K., Nergizoglu, G., Keven, K., Sen, A., Kutlay, S., Erturk, S., Duman, N., Karatan, O. and Ertug, A. E.	Effect of fluid and sodium removal on mortality in peritoneal dialysis patients	2001	No CKD associated cardiovascular mortality stratified by sex
303	Atkinson, P., Chiu, D. Y., Sharma, R., Kalra, P. R., Ward, C., Foley, R. N., Venning, M. C., Waldek, S., O'Donoghue, D. J. and Kalra, P. A.	Predictive value of myocardial and coronary imaging in the long-term outcome of potential renal transplant recipients	2011	No CKD associated cardiovascular mortality stratified by sex
304	Avramovski, P., Avramovska, M. and Sikole, A.	B-flow imaging estimation of carotid and femoral atherosclerotic plaques: vessel walls rheological damage or strong predictor of cardiovascular mortality in chronic dialysis patients	2016	No CKD associated cardiovascular mortality stratified by sex
305	Awan, A. A., Niu, J., Pan, J. S., Erickson, K. F., Mandayam, S., Winkelmayer, W. C., Navaneethan, S. D. and Ramanathan, V.	Trends in the causes of death among kidney transplant recipients in the United States (1996-2014)	2018	No CKD associated cardiovascular mortality stratified by sex
306	Ayer, A., Mills, C., Donovan, C., Christenson, R. H., Ganz, P. and Dubin, R. F.	Associations of microvascular dysfunction with cardiovascular outcomes: The cardiac, endothelial function and arterial stiffness in ESRD (CERES) cohort	2019	No CKD associated cardiovascular mortality stratified by sex

307	Baber, U., Stone, G. W., Weisz, G., Moreno, P., Dangas, G., Maehara, A., Mintz, G. S., Cristea, E., Fahy, M., Xu, K., Lansky, A. J., Wennerblom, B., Mathey, D. G., Templin, B., Zhang, Z., Serruys, P. W. and Mehran, R.	Coronary plaque composition, morphology, and outcomes in patients with and without chronic kidney disease presenting with acute coronary syndromes	2012	No CKD associated cardiovascular mortality stratified by sex
308	Backholer, K., Hirakawa, Y., Tonkin, A., Giles, G., Magliano, D. J., Colagiuri, S., Harris, M., Mitchell, P., Nelson, M., Shaw, J. E., Simmons, D., Simons, L., Taylor, A., Harding, J., Gopinath, B. and Woodward, M.	Development of an Australian cardiovascular disease mortality risk score using multiple imputation and recalibration from national statistics	2017	No CKD associated cardiovascular mortality stratified by sex
309	Badiou, S., Cristol, J. P., Jaussent, I., Terrier, N., Morena, M., Maurice, F., Leray-Moragues, H., Rivory, J. P., Chalabi, L., Delcourt, C., Canaud, B. and Dupuy, A. M.	Fine-tuning of the prediction of mortality in haemodialysis patients by use of cytokine proteomic determination	2008	No CKD associated cardiovascular mortality stratified by sex
310	Baek, S. D., Baek, C. H., Kim, J. S., Kim, S. M., Kim, J. H. and Kim, S. B.	Does stage III chronic kidney disease always progress to end-stage renal disease? A ten-year follow-up study	2012	No CKD associated cardiovascular mortality stratified by sex
311	Bagheri, N., Taziki, O. and Falaknazi, K.	C- Reactive protein, cardiac troponin T and low albumin are predictors of mortality in haemodialysis patients	2009	No CKD associated cardiovascular mortality stratified by sex
312	Bai, K., Pan, Y., Lu, F., Zhao, Y., Wang, F. and Zhang, L.	Cognitive function and 3-year mortality in the very elderly Chinese population with chronic kidney disease	2018	No CKD associated cardiovascular mortality stratified by sex
313	Bajaj, A., Damrauer, S. M., Anderson, A. H., Xie, D., Budoff, M. J., Go, A. S., He, J., Lash, J. P., Ojo, A., Post, W. S., Rahman, M., Reilly, M. P., Saleheen, D., Townsend, R. R., Chen, J. and Rader, D. J.	Lipoprotein(a) and Risk of Myocardial Infarction and Death in Chronic Kidney Disease: Findings From the CRIC Study (Chronic Renal Insufficiency Cohort)	2017	No CKD associated cardiovascular mortality stratified by sex
314	Banerjee, A., Fauchier, L., Vourc'h, P., Andres, C. R., Taillandier, S., Halimi, J. M. and Lip, G. Y. H.	A prospective study of estimated glomerular filtration rate and outcomes in patients with atrial fibrillation: the Loire Valley Atrial Fibrillation Project	2014	No CKD associated cardiovascular mortality stratified by sex
315	Bansal, N., McCulloch, C. E., Rahman, M., Kusek, J. W., Anderson, A. H., Xie, D., Townsend, R. R., Lora, C. M., Wright, J., Go, A. S. and et al.	Blood pressure and risk of all-cause mortality in advanced chronic kidney disease and haemodialysis the chronic renal insufficiency cohort study	2015	No CKD associated cardiovascular mortality stratified by sex

316	Bao, W., Wang, F. and Tang, W.	Aortic-brachial stiffness mismatch and mortality in peritoneal dialysis patients	2019	No CKD associated cardiovascular mortality stratified by sex
317	Bargnoux, A. S., Morena, M., Jaussent, I., Maurice, F., Chalabi, L., Leray-Moragues, H., Terrier, N., Dupuy, A. M., Badiou, S., Canaud, B. and Cristol, J. P.	A combined index of cardiac biomarkers as a risk factor for early cardiovascular mortality in haemodialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex
318	Barr, E. L., Reutens, A., Magliano, D. J., Wolfe, R., Lu, Z. X., Sikaris, K. A., Tanamas, S. K., Atkins, R., Chadban, S., Shaw, J. E. and Polkinghorne, K. R.	Cystatin C estimated glomerular filtration rate and all-cause and cardiovascular disease mortality risk in the general population: AusDiab study	2017	No CKD associated cardiovascular mortality stratified by sex
319	Barreto, D. V., Barreto, F. C., Liabeuf, S., Temmar, M., Lemke, H. D., Tribouilloy, C., Choukroun, G., Vanholder, R. and Massy, Z. A.	Plasma interleukin-6 is independently associated with mortality in both haemodialysis and pre-dialysis patients with chronic kidney disease	2010	No CKD associated cardiovascular mortality stratified by sex
320	Barreto, F. C., Barreto, D. V., Liabeuf, S., Meert, N., Glorieux, G., Temmar, M., Choukroun, G., Vanholder, R. and Massy, Z. A.	Serum indoxyl sulphate is associated with vascular disease and mortality in chronic kidney disease patients	2009	No CKD associated cardiovascular mortality stratified by sex
321	Baumann, M., Wassertheurer, S., Suttmann, Y., Burkhardt, K. and Heemann, U.	Aortic pulse wave velocity predicts mortality in chronic kidney disease stages 2-4	2014	No CKD associated cardiovascular mortality stratified by sex
322	Bavanandan, S., Ajayi, S., Fentum, B., Paul, S. K., Carr, S. J. and Robinson, T. G.	Cardiac baroreceptor sensitivity: a prognostic marker in predialysis chronic kidney disease patients?	2005	No CKD associated cardiovascular mortality stratified by sex
323	Beaubien, E. R., Pylypchuk, G. B., Akhtar, J. and Biem, H. J.	Value of corrected QT interval dispersion in identifying patients initiating dialysis at increased risk of total and cardiovascular mortality	2002	No CKD associated cardiovascular mortality stratified by sex
324	Beberashvili, I., Katkov, A., Sinuani, I., Azar, A., Shapiro, G., Feldman, L., Gorelik, O., Stav, K. and Efrati, S.	Serum Obestatin: A Biomarker of Cardiovascular and All-Cause Mortality in Haemodialysis Patients	2018	No CKD associated cardiovascular mortality stratified by sex
325	Beberashvili, I., Sinuani, I., Azar, A., Kadoshi, H., Shapiro, G., Feldman, L., Sandbank, J. and Averbukh, Z.	Increased basal nitric oxide amplifies the association of inflammation with all-cause and cardiovascular mortality in prevalent haemodialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex
326	Beberashvili, I., Sinuani, I., Azar, A., Kadoshi, H., Shapiro, G., Feldman, L., Sandbank, J. and Averbukh, Z.	Decreased IGF-1 levels potentiate association of inflammation with all-cause and cardiovascular mortality in prevalent haemodialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex

327	Beberashvili, I., Sinuani, I., Azar, A., Kadoshi, H., Shapiro, G., Feldman, L., Sandbank, J. and Averbukh, Z.	Low serum concentration of obestatin as a predictor of mortality in maintenance haemodialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex
328	Beberashvili, I., Sinuani, I., Azar, A., Shapiro, G., Feldman, L., Doenyas-Barak, K., Stav, K. and Efrati, S.	Interaction between acyl-ghrelin and BMI predicts clinical outcomes in haemodialysis patients	2017	No CKD associated cardiovascular mortality stratified by sex
329	Beddhu, S., Allen-Brady, K., Cheung, A. K., Horne, B. D., Bair, T., Muhlestein, J. B. and Anderson, J. L.	Impact of renal failure on the risk of myocardial infarction and death	2002	No CKD associated cardiovascular mortality stratified by sex
330	Beddhu, S., Nigwekar, S. U., Ma, X. and Greene, T.	Associations of resting heart rate with insulin resistance, cardiovascular events and mortality in chronic kidney disease	2009	No CKD associated cardiovascular mortality stratified by sex
331	Bellizzi, V., Chiodini, P., Cupisti, A., Viola, B. F., Pezzotta, M., De Nicola, L., Minutolo, R., Barsotti, G., Piccoli, G. B. and Di Iorio, B.	Very low-protein diet plus ketoacids in chronic kidney disease and risk of death during end-stage renal disease: a historical cohort controlled study	2015	No CKD associated cardiovascular mortality stratified by sex
332	Bevc, S., Purg, D., Knehtl, M., Hren, M., Turnšek, N., Hojs, N., Zorman, T., Dvoršak, B., Ekart, R. and Hojs, R.	Ankle-Brachial Index and Long-Term (10 Years) Survival of Nondiabetic Haemodialysis Patients	2016	No CKD associated cardiovascular mortality stratified by sex
333	Bevc, S., Purg, D., Turnšek, N., Hren, M., Hojs, N., Zorman, T., Pečovnik-Balon, B., Dvoršak, B., Ekart, R. and Hojs, R.	Ankle-Brachial index and cardiovascular mortality in nondiabetic haemodialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex
334	Bhatti, S., Hakeem, A., Dhanalakota, S., Palani, G., Husain, Z., Jacobsen, G. and Ananthasubramaniam, K.	Prognostic value of regadenoson myocardial single-photon emission computed tomography in patients with different degrees of renal dysfunction	2014	No CKD associated cardiovascular mortality stratified by sex
335	Bian, X., Liu, N., Bai, Y., Zheng, L., He, P., Su, X., Du, F., Yang, X. and Li, D.	Association of leptin with mortality in patients on maintenance haemodialysis: a prospective study	2014	No CKD associated cardiovascular mortality stratified by sex
336	Biesenbach, G., Loipl, J., Schmekal, B. and Janko, O.	Different risk factors and causes for early death after initiating dialysis in diabetic and non-diabetic patients	2007	No CKD associated cardiovascular mortality stratified by sex

337	Bittencourt, M. S., Hulten, E. A., Ghoshhajra, B., Abbara, S., Murthy, V. L., Divakaran, S., Nasir, K., Gowdak, L. H., Riella, L. V., Chiumiento, M., Hoffmann, U., Di Carli, M. F. and Blankstein, R.	Incremental prognostic value of kidney function decline over coronary artery disease for cardiovascular event prediction after coronary computed tomography	2015	No CKD associated cardiovascular mortality stratified by sex
338	Blacher, J., Safar, M. E., Guerin, A. P., Pannier, B., Marchais, S. J. and London, G. M.	Aortic pulse wave velocity index and mortality in end-stage renal disease	2003	No CKD associated cardiovascular mortality stratified by sex
339	Block, G. A., Klassen, P. S., Lazarus, J. M., Ofsthun, N., Lowrie, E. G. and Chertow, G. M.	Mineral metabolism, mortality, and morbidity in maintenance haemodialysis	2004	No CKD associated cardiovascular mortality stratified by sex
340	Boger, C. A., Gotz, A., Stubanus, M., Banas, B., Deinzer, M., Kruger, B., Holmer, S. R., Schmitz, G., Riegger, G. A. and Kramer, B. K.	C-reactive protein as predictor of death in end-stage diabetic nephropathy: role of peripheral arterial disease	2005	No CKD associated cardiovascular mortality stratified by sex
341	Bolignano, D., Lennartz, S., Leonardis, D., D'Arrigo, G., Tripepi, R., Emrich, I. E., Mallamaci, F., Fliser, D., Heine, G. and Zoccali, C.	High estimated pulmonary artery systolic pressure predicts adverse cardiovascular outcomes in stage 2-4 chronic kidney disease	2015	No CKD associated cardiovascular mortality stratified by sex
342	Bonato, F. O., Watanabe, R., Lemos, M. M., Cassiolato, J. L., Wolf, M. and Canziani, M. E.	Asymptomatic Ventricular Arrhythmia and Clinical Outcomes in Chronic Kidney Disease: A Pilot Study	2016	No CKD associated cardiovascular mortality stratified by sex
343	Boriani, G., Laroche, C., Diemberger, I., Fantecchi, E., Popescu, M. I., Rasmussen, L. H., Sinagra, G., Petrescu, L., Tavazzi, L., Maggioni, A. P. and Lip, G. Y.	Asymptomatic atrial fibrillation: clinical correlates, management, and outcomes in the EORP-AF Pilot General Registry	2015	No CKD associated cardiovascular mortality stratified by sex
344	Bostom, A. G., Carpenter, M. A., Kusek, J. W., Levey, A. S., Hunsicker, L., Pfeffer, M. A., Selhub, J., Jacques, P. F., Cole, E., Gravens-Mueller, L. and et al.	Homocysteine-lowering and cardiovascular disease outcomes in kidney transplant recipients: primary results from the Folic Acid for Vascular Outcome Reduction in Transplantation trial	2011	No CKD associated cardiovascular mortality stratified by sex
345	Bozic, M., Mendez-Barbero, N., Gutierrez-Munoz, C., Betriu, A., Egido, J., Fernandez, E., Martin-Ventura, J. L., Valdivielso, J. M. and Blanco-Colio, L. M.	Combination of biomarkers of vascular calcification and sTWEAK to predict cardiovascular events in chronic kidney disease	2018	No CKD associated cardiovascular mortality stratified by sex

346	Brandenburg, V. M., Schlieper, G., Heussen, N., Holzmann, S., Busch, B., Evenepoel, P., Vanholder, R., Meijers, B., Meert, N., Fassbender, W. J., Floege, J., Jahnen-Dechent, W. and Ketteler, M.	Serological cardiovascular and mortality risk predictors in dialysis patients receiving sevelamer: a prospective study	2010	No CKD associated cardiovascular mortality stratified by sex
347	Brantsma, A. H., Bakker, S. J., Hillege, H. L., de Zeeuw, D., de Jong, P. E. and Gansevoort, R. T.	Cardiovascular and renal outcome in subjects with K/DOQI stage 1-3 chronic kidney disease: the importance of urinary albumin excretion	2008	No CKD associated cardiovascular mortality stratified by sex
348	Bray, B. D., Boyd, J., Daly, C., Donaldson, K., Doyle, A., Fox, J. G., Innes, A., Khan, I., Peel, R. K., Severn, A., Shilliday, I., Simpson, K., Stewart, G. A., Traynor, J. and Metcalfe, W.	Vascular access type and risk of mortality in a national prospective cohort of haemodialysis patients	2012	No CKD associated cardiovascular mortality stratified by sex
349	Brenner, B. M., Cooper, M. E., de Zeeuw, D., Keane, W. F., Mitch, W. E., Parving, H. H., Remuzzi, G., Snapinn, S. M., Zhang, Z. and Shahinfar, S.	Effects of losartan on renal and cardiovascular outcomes in patients with type 2 diabetes and nephropathy	2001	No CKD associated cardiovascular mortality stratified by sex
350	Bruch, C., Fischer, C., Sindermann, J., Stypmann, J., Breithardt, G. and Gradaus, R.	Comparison of the prognostic usefulness of N-terminal pro-brain natriuretic Peptide in patients with heart failure with versus without chronic kidney disease	2008	No CKD associated cardiovascular mortality stratified by sex
351	Bruch, C., Reinecke, H., Rothenburger, M., Scheld, H. H., Whalley, G. A., Stypmann, J., Breithardt, G., Wichter, T. and Gradaus, R.	Transmitral flow patterns and the presence of chronic kidney disease provide independent and incremental prognostic information in patients with heart failure and systolic dysfunction	2007	No CKD associated cardiovascular mortality stratified by sex
352	Bruch, C., Reinecke, H., Stypmann, J., Rothenburger, M., Schmid, C., Breithardt, G., Wichter, T. and Gradaus, R.	N-terminal pro-brain natriuretic peptide, kidney disease and outcome in patients with chronic heart failure	2006	No CKD associated cardiovascular mortality stratified by sex
353	Brunelli, S. M., Sibbel, S., Do, T. P., Cooper, K. and Bradbury, B. D.	Facility Dialysate Calcium Practices and Clinical Outcomes Among Patients Receiving Haemodialysis: A Retrospective Observational Study	2015	No CKD associated cardiovascular mortality stratified by sex
354	Buccianti, G., Baragetti, I., Bamonti, F., Furiani, S., Dorighet, V. and Patrosso, C.	Plasma homocysteine levels and cardiovascular mortality in patients with end-stage renal disease	2004	No CKD associated cardiovascular mortality stratified by sex
355	Busch, M., Fleck, C., Wolf, G. and Stein, G.	Asymmetrical (ADMA) and symmetrical dimethylarginine (SDMA) as potential risk factors for cardiovascular and renal	2006	No CKD associated cardiovascular mortality stratified by sex

		outcome in chronic kidney disease - possible candidates for paradoxical epidemiology?		
356	Byungsu Yoo, B. S., Son, J. W., Kim, J. Y., Ahn, M. S., Lee, S. H. and Yoon, J. H.	Gender difference of obesity paradox in systolic heart failure	2017	No CKD associated cardiovascular mortality stratified by sex
357	Cabrera, C., Brunelli, S. M., Rosenbaum, D., Anum, E., Ramakrishnan, K., Jensen, D. E., Stalhammar, N. O. and Stefansson, B. V.	A retrospective, longitudinal study estimating the association between interdialytic weight gain and cardiovascular events and death in haemodialysis patients	2015	No CKD associated cardiovascular mortality stratified by sex
358	Cai, K., Luo, Q., Dai, Z., Zhu, B., Fei, J., Xue, C. and Wu, D.	Hypomagnesemia Is Associated with Increased Mortality among Peritoneal Dialysis Patients	2016	No CKD associated cardiovascular mortality stratified by sex
359	Campbell, R. C., Sui, X., Filippatos, G., Love, T. E., Wahle, C., Sanders, P. W. and Ahmed, A.	Association of chronic kidney disease with outcomes in chronic heart failure: a propensity-matched study	2009	No CKD associated cardiovascular mortality stratified by sex
360	Cannata-Andia, J. B., Fernandez-Martin, J. L., Locatelli, F., London, G., Gorriz, J. L., Floege, J., Ketteler, M., Ferreira, A., Covic, A., Rutkowski, B., Memmos, D., Bos, W. J., Teplan, V., Nagy, J., Tielemans, C., Verbeelen, D., Goldsmith, D., Kramar, R., Martin, P. Y., Wuthrich, R. P., Pavlovic, D., Benedik, M., Sanchez, J. E., Martinez-Camblor, P., Naves-Diaz, M., Carrero, J. J. and Zoccali, C.	Use of phosphate-binding agents is associated with a lower risk of mortality	2013	No CKD associated cardiovascular mortality stratified by sex
361	Carrero, J. J., Kyriazis, J., Sonmez, A., Tzanakis, I., Qureshi, A. R., Stenvinkel, P., Saglam, M., Stylianou, K., Yaman, H., Taslipinar, A., Vural, A., Gok, M., Yenicesu, M., Daphnis, E. and Yilmaz, M. I.	Prolactin levels, endothelial dysfunction, and the risk of cardiovascular events and mortality in patients with CKD	2012	No CKD associated cardiovascular mortality stratified by sex
362	Carrero, J. J., Ortiz, A., Qureshi, A. R., Martin-Ventura, J. L., Barany, P., Heimburger, O., Marron, B., Metry, G., Snaedal, S., Lindholm, B., Egido, J., Stenvinkel, P. and Blanco-Colio, L. M.	Additive effects of soluble TWEAK and inflammation on mortality in haemodialysis patients	2009	No CKD associated cardiovascular mortality stratified by sex

363	Carrero, J. J., Qureshi, A. R., Axelsson, J., Yilmaz, M. I., Rehnmark, S., Witt, M. R., Barany, P., Heimburger, O., Suliman, M. E., Alvestrand, A., Lindholm, B. and Stenvinkel, P.	Clinical and biochemical implications of low thyroid hormone levels (total and free forms) in euthyroid patients with chronic kidney disease	2007	No CKD associated cardiovascular mortality stratified by sex
364	Chamberlain, A. M., Alonso, A., Gersh, B. J., Manemann, S. M., Killian, J. M., Weston, S. A., Byrne, M. and Roger, V. L.	Multimorbidity and the risk of hospitalization and death in atrial fibrillation: A population-based study	2017	No CKD associated cardiovascular mortality stratified by sex
365	Chang, J. F., Hsu, S. P., Pai, M. F., Yang, J. Y., Chen, H. Y., Wu, H. Y. and Peng, Y. S.	High soluble vascular cell adhesion molecule-1 concentrations predict long-term mortality in haemodialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex
366	Chang, J. M., Chen, S. C., Huang, J. C., Su, H. M. and Chen, H. C.	Anaemia and left ventricular hypertrophy with renal function decline and cardiovascular events in chronic kidney disease	2014	No CKD associated cardiovascular mortality stratified by sex
367	Chang, T. I., Streja, E., Soohoo, M., Kim, T. W., Rhee, C. M., Kovesdy, C. P., Kashyap, M. L., Vaziri, N. D., Kalantar-Zadeh, K. and Moradi, H.	Association of Serum Triglyceride to HDL Cholesterol Ratio with All-Cause and Cardiovascular Mortality in Incident Haemodialysis Patients	2017	No CKD associated cardiovascular mortality stratified by sex
368	Chang, Y. K., Hsu, C. C., Hwang, S. J., Chen, P. C., Huang, C. C., Li, T. C. and Sung, F. C.	A comparative assessment of survival between propensity score-matched patients with peritoneal dialysis and haemodialysis in Taiwan	2012	No CKD associated cardiovascular mortality stratified by sex
369	Charytan, D. M., Skali, H., Shah, N. R., Veeranna, V., Cheezum, M. K., Taqueti, V. R., Kato, T., Bibbo, C. R., Hainer, J., Dorbala, S., Blankstein, R. and Di Carli, M. F.	Coronary flow reserve is predictive of the risk of cardiovascular death regardless of chronic kidney disease stage	2018	No CKD associated cardiovascular mortality stratified by sex
370	Charytan, D. M., Solomon, S. D., Ivanovich, P., Remuzzi, G., Cooper, M. E., McGill, J. B., Parving, H. H., Parfrey, P., Singh, A. K., Burdmann, E. A., Levey, A. S., Eckardt, K. U., McMurray, J. J. V., Weinrauch, L. A., Liu, J., Claggett, B., Lewis, E. F. and Pfeffer, M. A.	Metformin use and cardiovascular events in patients with type 2 diabetes and chronic kidney disease	2019	No CKD associated cardiovascular mortality stratified by sex
371	Chen, D. Y., Wang, S. H., Mao, C. T., Tsai, M. L., Lin, Y. S., Chou, C. C., Wen, M. S., Wang, C. C., Hsieh, I. C., Hung, K. C. and Chen, T. H.	Sitagliptin and cardiovascular outcomes in diabetic patients with chronic kidney disease and acute myocardial infarction: A nationwide cohort study	2015	No CKD associated cardiovascular mortality stratified by sex

372	Chen, F. A., Yang, C. Y., Yang, W. C., Chen, J. Y., Ng, Y. Y., Li, S. Y., Liu, W. S., Cheng, S. T., Wang, Y. J. and Lin, C. C.	Ankle-brachial index is a powerful predictor of renal outcome and cardiovascular events in patients with chronic kidney disease	2012	No CKD associated cardiovascular mortality stratified by sex
373	Chen, H. H., Wu, C. J., Chen, Y. C., Tsai, C. S., Lin, F. J. and Yeh, H. I.	Metabolic syndrome is associated with severe coronary artery disease and poor cardiac outcome in end-stage renal disease patients with acute coronary syndrome	2006	No CKD associated cardiovascular mortality stratified by sex
374	Chen, H. Y., Chiu, Y. L., Hsu, S. P., Pai, M. F., Yang, J. Y. and Peng, Y. S.	Fetuin A/nutritional status predicts cardiovascular outcomes and survival in haemodialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex
375	Chen, H. Y., Tsai, W. C., Chiu, Y. L., Hsu, S. P., Pai, M. F., Yang, J. Y. and Peng, Y. S.	Triglyceride to high-density lipoprotein cholesterol ratio predicts cardiovascular outcomes in prevalent dialysis patients	2015	No CKD associated cardiovascular mortality stratified by sex
376	Chen, H. Y., Wei, F., Wang, L. H., Wang, Z., Meng, J., Yu, H. B., Zhang, R. N., Sun, G. J., Jiang, A. L. and Wang, L.	Abnormal ankle-brachial index and risk of cardiovascular or all-cause mortality in patients with chronic kidney disease: a meta-analysis	2017	No CKD associated cardiovascular mortality stratified by sex
377	Chen, J. B., Cheng, B. C., Yang, C. H. and Hua, M. S.	An association between time-varying serum albumin level and the mortality rate in maintenance haemodialysis patients: a five-year clinical cohort study	2016	No CKD associated cardiovascular mortality stratified by sex
378	Chen, L. P., Chiang, C. K., Peng, Y. S., Hsu, S. P., Lin, C. Y., Lai, C. F. and Hung, K. Y.	Relationship between periodontal disease and mortality in patients treated with maintenance haemodialysis	2011	No CKD associated cardiovascular mortality stratified by sex
379	Chen, P. C., Huang, J. C., Chen, S. C., Wu, P. Y., Lee, J. J., Chiu, Y. W., Chang, J. M., Chen, H. C. and Huang, Y. L.	Association of type 2 diabetes mellitus and ratio of transmitral E wave velocity to early diastole mitral velocity with cardiovascular events in chronic kidney disease	2017	No CKD associated cardiovascular mortality stratified by sex
380	Chen, R., Kumar, S., Timmis, A., Feder, G., Yaqoob, M. M. and Hemingway, H.	Comparison of the relation between renal impairment, angiographic coronary artery disease, and long-term mortality in women versus men	2006	No CKD associated cardiovascular mortality stratified by sex
381	Chen, S. C., Chang, J. M., Hwang, S. J., Tsai, J. C., Liu, W. C., Wang, C. S., Lin, T. H., Su, H. M. and Chen, H. C.	Ankle brachial index as a predictor for mortality in patients with chronic kidney disease and undergoing haemodialysis	2010	No CKD associated cardiovascular mortality stratified by sex
382	Chen, S. C., Chang, J. M., Liu, W. C., Huang, J. C., Tsai, J. C., Lin, M. Y., Su, H. M., Hwang, S. J. and Chen, H. C.	Echocardiographic parameters are independently associated with increased cardiovascular events in patients with chronic kidney disease	2012	No CKD associated cardiovascular mortality stratified by sex

383	Chen, S. C., Chang, J. M., Tsai, J. C., Hsu, P. C., Lin, T. H., Su, H. M., Voon, W. C., Hwang, S. J. and Chen, H. C.	A new systolic parameter defined as the ratio of brachial pre-ejection period to brachial ejection time predicts overall and cardiovascular mortality in haemodialysis patients	2010	No CKD associated cardiovascular mortality stratified by sex
384	Chen, S. C., Chang, J. M., Tsai, J. C., Lin, T. H., Hsu, P. C., Su, H. M., Voon, W. C., Hwang, S. J. and Chen, H. C.	A systolic parameter defined as the ratio of brachial pre-ejection period to brachial ejection time predicts cardiovascular events in patients with chronic kidney disease	2010	No CKD associated cardiovascular mortality stratified by sex
385	Chen, S. C., Chang, J. M., Tsai, Y. C., Huang, J. C., Chen, L. I., Su, H. M., Hwang, S. J. and Chen, H. C.	Ratio of transmitral E-wave velocity to early diastole mitral annulus velocity with cardiovascular and renal outcomes in chronic kidney disease	2013	No CKD associated cardiovascular mortality stratified by sex
386	Chen, S. C., Chang, J. M., Tsai, Y. C., Tsai, J. C., Su, H. M., Hwang, S. J. and Chen, H. C.	Association of interleg BP difference with overall and cardiovascular mortality in haemodialysis	2012	No CKD associated cardiovascular mortality stratified by sex
387	Chen, S. C., Huang, J. C., Tsai, Y. C., Chen, L. I., Su, H. M., Chang, J. M. and Chen, H. C.	Body Mass Index, Left Ventricular Mass Index and Cardiovascular Events in Chronic Kidney Disease	2016	No CKD associated cardiovascular mortality stratified by sex
388	Chen, S. C., Huang, J. C., Tsai, Y. C., Hsiu-Chin Mai, R. N., Jui-Hsin Chen, R. N., Kuo, P. L., Chang, J. M., Hwang, S. J. and Chen, H. C.	Heart Rate Variability Change Before and After Haemodialysis is Associated with Overall and Cardiovascular Mortality in Haemodialysis	2016	No CKD associated cardiovascular mortality stratified by sex
389	Chen, S. C., Hung, C. C., Tsai, Y. C., Huang, J. C., Kuo, M. C., Lee, J. J., Chiu, Y. W., Chang, J. M., Hwang, S. J. and Chen, H. C.	Association of cholesterol levels with mortality and cardiovascular events among patients with CKD and different amounts of proteinuria	2013	No CKD associated cardiovascular mortality stratified by sex
390	Chen, S. C., Lee, M. Y., Huang, J. C., Shih, M. C. P., Chang, J. M. and Chen, H. C.	Association of ankle-brachial index and aortic arch calcification with overall and cardiovascular mortality in haemodialysis	2016	No CKD associated cardiovascular mortality stratified by sex
391	Chen, S. C., Su, H. M., Huang, J. C., Chang, K., Tsai, Y. C., Chen, L. I., Chang, J. M., Hwang, S. J. and Chen, H. C.	Association of P-Wave Dispersion with Overall and Cardiovascular Mortality in Haemodialysis Patients	2015	No CKD associated cardiovascular mortality stratified by sex
392	Chen, T. K., Appel, L. J., Grams, M. E., Tin, A., Choi, M. J., Lipkowitz, M. S., Winkler, C. A. and Estrella, M. M.	APOL1 Risk Variants and Cardiovascular Disease: Results From the AASK (African American Study of Kidney Disease and Hypertension)	2017	No CKD associated cardiovascular mortality stratified by sex
393	Chen, Y. H., Hung, S. C. and Tarng, D. C.	Length polymorphism in heme oxygenase-1 and cardiovascular events and mortality in haemodialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex

394	Cheung, A. K., Sarnak, M. J., Yan, G., Berkoben, M., Heyka, R., Kaufman, A., Lewis, J., Rocco, M., Toto, R., Windus, D. and et al.	Cardiac diseases in maintenance haemodialysis patients: results of the HEMO Study	2004	No CKD associated cardiovascular mortality stratified by sex
395	Cheung, C. L., Sahni, S., Cheung, B. M., Sing, C. W. and Wong, I. C.	Vitamin K intake and mortality in people with chronic kidney disease from NHANES III	2015	No CKD associated cardiovascular mortality stratified by sex
396	Chiu, D., Abidin, N., Johnstone, L., Chong, M., Kataria, V., Sewell, J., Sinha, S., Kalra, P. A. and Green, D.	Novel Approach to Cardiovascular Outcome Prediction in Haemodialysis Patients	2016	No CKD associated cardiovascular mortality stratified by sex
397	Chiu, D. Y., Kalra, P. A., Sinha, S. and Green, D.	Association of serum sodium levels with all-cause and cardiovascular mortality in chronic kidney disease: Results from a prospective observational study	2016	No CKD associated cardiovascular mortality stratified by sex
398	Choi, C. Y., Park, J. S., Yoon, K. T., Gil, H. W., Lee, E. Y. and Hong, S. Y.	Intra-dialytic hypertension is associated with high mortality in haemodialysis patients	2017	No CKD associated cardiovascular mortality stratified by sex
399	Choi, J. S., Kim, C. S., Bae, E. H., Ma, S. K., Ahn, Y. K., Jeong, M. H., Kim, Y. J., Cho, M. C., Kim, C. J. and Kim, S. W.	Predicting outcomes after myocardial infarction by using the Chronic Kidney Disease Epidemiology Collaboration equation in comparison with the Modification of Diet in Renal Disease study equation: results from the Korea Acute Myocardial Infarction Registry	2012	No CKD associated cardiovascular mortality stratified by sex
400	Chonchol, M., Greene, T., Zhang, Y., Hoofnagle, A. N. and Cheung, A. K.	Low Vitamin D and High Fibroblast Growth Factor 23 Serum Levels Associate with Infectious and Cardiac Deaths in the HEMO Study	2016	No CKD associated cardiovascular mortality stratified by sex
401	Chou, M. T., Wang, J. J., Sun, Y. M., Sheu, M. J., Chu, C. C., Weng, S. F., Chio, C. C., Kan, W. C. and Chien, C. C.	Epidemiology and mortality among dialysis patients with acute coronary syndrome: Taiwan National Cohort Study	2013	No CKD associated cardiovascular mortality stratified by sex
402	Chowdhury, E. K., Langham, R. G., Ademi, Z., Owen, A., Krum, H., Wing, L. M., Nelson, M. R. and Reid, C. M.	Rate of change in renal function and mortality in elderly treated hypertensive patients	2015	No CKD associated cardiovascular mortality stratified by sex
403	Chowdhury, M. M., Makris, G. C., Tarkin, J. M., Joshi, F. R., Hayes, P. D., Rudd, J. H. F. and Coughlin, P. A.	Lower limb arterial calcification (LLAC) scores in patients with symptomatic peripheral arterial disease are associated with increased cardiac mortality and morbidity	2017	No CKD associated cardiovascular mortality stratified by sex

404	Chronic Kidney Disease Prognosis, C., Matsushita, K., van der Velde, M., Astor, B. C., Woodward, M., Levey, A. S., de Jong, P. E., Coresh, J. and Gansevoort, R. T.	Association of estimated glomerular filtration rate and albuminuria with all-cause and cardiovascular mortality in general population cohorts: a collaborative meta-analysis	2010	No CKD associated cardiovascular mortality stratified by sex
405	Chuang, Y. W., Yu, T. M., Huang, S. T., Sun, K. T., Lo, Y. C., Fu, P. K., Lee, B. J., Chen, C. H., Lin, C. L. and Kao, C. H.	Young-adult polycystic kidney disease is associated with major cardiovascular complications	2018	No CKD associated cardiovascular mortality stratified by sex
406	Cimbaljevic, S., Suvakov, S., Matic, M., Pljesa-Ercegovac, M., Pekmezovic, T., Radic, T., Coric, V., Damjanovic, T., Dimkovic, N., Markovic, R., Savic-Radojevic, A. and Simic, T.	Association of GSTO1 and GSTO2 polymorphism with risk of end-stage renal disease development and patient survival	2016	No CKD associated cardiovascular mortality stratified by sex
407	Claes, K. J., Heye, S., Bammens, B., Kuypers, D. R., Meijers, B., Naesens, M., Vanrenterghem, Y. and Evenepoel, P.	Aortic calcifications and arterial stiffness as predictors of cardiovascular events in incident renal transplant recipients	2013	No CKD associated cardiovascular mortality stratified by sex
408	Cohen, S. D., Kimmel, P. L., Neff, R., Agodoa, L. and Abbott, K. C.	Association of incident gout and mortality in dialysis patients	2008	No CKD associated cardiovascular mortality stratified by sex
409	Coll, M., Ferrer-Costa, C., Pich, S., Allegue, C., Rodrigo, E., Fernández-Fresnedo, G., Barreda, P., Mates, J., De Francisco, A. L. M., Ortega, I., Iglesias, A., Campuzano, O., Salas, E., Arias, M. and Brugada, R.	Role of genetic and electrolyte abnormalities in prolonged QTc interval and sudden cardiac death in end-stage renal disease patients	2018	No CKD associated cardiovascular mortality stratified by sex
410	Collado, S., Coll, E., Nicolau, C., Azqueta, M., Pons, M., Cruzado, J. M., de la Torre, B., Deulofeu, R., Mojal, S., Pascual, J. and Cases, A.	Serum osteoprotegerin in prevalent haemodialysis patients: associations with mortality, atherosclerosis and cardiac function	2017	No CKD associated cardiovascular mortality stratified by sex
411	Cooper, B. A., Branley, P., Bulfone, L., Collins, J. F., Craig, J. C., Fraenkel, M. B., Harris, A., Johnson, D. W., Kesselhut, J., Li, J. J. and et al.	A randomized, controlled trial of early versus late initiation of dialysis	2010	No CKD associated cardiovascular mortality stratified by sex

412	Cooper, C. J., Murphy, T. P., Cutlip, D. E., D'Agostino, R., Jamerson, K., Matsumoto, A. H., Jaff, M. R., Michael, S., Solomon, S., Cohen, D. and et al.	A randomized multicenter clinical trial of renal artery stenting in preventing cardiovascular and renal events: results of the CORAL study	2013	No CKD associated cardiovascular mortality stratified by sex
413	Cordeiro, A. C., Amparo, F. C., Oliveira, M. A., Amodeo, C., Smanio, P., Pinto, I. M., Lindholm, B., Stenvinkel, P. and Carrero, J. J.	Epicardial fat accumulation, cardiometabolic profile and cardiovascular events in patients with stages 3-5 chronic kidney disease	2015	No CKD associated cardiovascular mortality stratified by sex
414	Cordeiro, A. C., Moraes, A. A., Cerutti, V., Franca, F., Quiroga, B., Amodeo, C., Picotti, J. C., Dutra, L. V., Rodrigues, G. D., Amparo, F. C., Lindholm, B. and Carrero, J. J.	Clinical determinants and prognostic significance of the electrocardiographic strain pattern in chronic kidney disease patients	2014	No CKD associated cardiovascular mortality stratified by sex
415	Couchoud, C., Labeeuw, M., Moranne, O., Allot, V., Esnault, V., Frimat, L. and Stengel, B.	A clinical score to predict 6-month prognosis in elderly patients starting dialysis for end-stage renal disease	2009	No CKD associated cardiovascular mortality stratified by sex
416	Couchoud, C., Moranne, O., Frimat, L., Labeeuw, M., Allot, V. and Stengel, B.	Associations between comorbidities, treatment choice and outcome in the elderly with end-stage renal disease	2007	No CKD associated cardiovascular mortality stratified by sex
417	Cozzolino, M., Biondi, M. L., Banfi, E., Riser, B. L., Mehmeti, F., Cusi, D. and Gallieni, M.	CCN2 (CTGF) gene polymorphism is a novel prognostic risk factor for cardiovascular outcomes in haemodialysis patients	2010	No CKD associated cardiovascular mortality stratified by sex
418	Cseprekal, O., Egresits, J., Tabak, A., Nemcsik, J., Jarai, Z., Babos, L., Fodor, E., Farkas, K., Godina, G., Karpathi, K. I., Kerkovits, L., Marton, A., Nemcsik-Bencze, Z., Nemeth, Z., Sallai, L., Kiss, I. and Tisler, A.	The significance of micro- and macrovascular biomarkers on cardiovascular outcome in chronic kidney disease: a prospective cohort study	2016	No CKD associated cardiovascular mortality stratified by sex
419	Dad, T., Tighiouart, H., Joseph, A., Bostom, A., Carpenter, M., Hunsicker, L., Kusek, J. W., Pfeffer, M., Levey, A. S. and Weiner, D. E.	Aspirin Use and Incident Cardiovascular Disease, Kidney Failure, and Death in Stable Kidney Transplant Recipients: A Post Hoc Analysis of the Folic Acid for Vascular Outcome Reduction in Transplantation (FAVORIT) Trial	2016	No CKD associated cardiovascular mortality stratified by sex
420	Dalrymple, L. S., Katz, R., Kestenbaum, B., Shlipak, M. G., Sarnak, M. J., Stehman-Breen, C., Seliger, S., Siscovick, D., Newman, A. B. and Fried, L.	Chronic kidney disease and the risk of end-stage renal disease versus death	2011	No CKD associated cardiovascular mortality stratified by sex

421	Damman, K., Andersen, K., Belohlavek, J., Lefkowitz, M. P., Rouleau, J. L., Solomon, S. D., Swedberg, K., Zile, M., Packer, M. and McMurray, J. J. V.	Angiotensin receptor neprilysin inhibition and renal function and in heart failure: results from PARADIGM-HF	2015	No CKD associated cardiovascular mortality stratified by sex
422	Dasgupta, I., Thomas, G. N., Clarke, J., Sitch, A., Martin, J., Bieber, B., Hecking, M., Karaboyas, A., Pisoni, R., Port, F., Robinson, B. and Rayner, H.	Associations between haemodialysis facility practices to manage fluid volume and intradialytic hypotension and patient outcomes	2019	No CKD associated cardiovascular mortality stratified by sex
423	David, S., John, S. G., Jefferies, H. J., Sigrist, M. K., Kumpers, P., Kielstein, J. T., Haller, H. and McIntyre, C. W.	Angiopoietin-2 levels predict mortality in CKD patients	2012	No CKD associated cardiovascular mortality stratified by sex
424	de Bie, M. K., Koopman, M. G., Gaasbeek, A., Dekker, F. W., Maan, A. C., Swenne, C. A., Scherptong, R. W., van Dessel, P. F., Wilde, A. A., Schalij, M. J., Rabelink, T. J. and Jukema, J. W.	Incremental prognostic value of an abnormal baseline spatial QRS-T angle in chronic dialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex
425	de Roij van Zuijdewijn, C. L., Hansildaar, R., Bots, M. L., Blankestijn, P. J., van den Dorpel, M. A., Grooteman, M. P., Kamp, O., ter Wee, P. M. and Nube, M. J.	Eccentric Left Ventricular Hypertrophy and Sudden Death in Patients with End-Stage Kidney Disease	2015	No CKD associated cardiovascular mortality stratified by sex
426	de Roij van Zuijdewijn, C. L., ter Wee, P. M., Chapdelaine, I., Bots, M. L., Blankestijn, P. J., van den Dorpel, M. A., Nube, M. J. and Grooteman, M. P.	A Comparison of 8 Nutrition-Related Tests to Predict Mortality in Haemodialysis Patients	2015	No CKD associated cardiovascular mortality stratified by sex
427	De Roij Van Zuijdewijn, C. L. M., Grooteman, M. P. C., Bots, M. L., Blankestijn, P. J., Steppan, S., Büchel, J., Groenwold, R. H. H., Brandenburg, V., Van Den Dorpel, M. A., Ter Wee, P. M., Nubé, M. J. and Vervloet, M. G.	Serum magnesium and sudden death in European haemodialysis patients	2015	No CKD associated cardiovascular mortality stratified by sex
428	Del Fabbro, P., Luthi, J. C., Carrera, E., Michel, P., Burnier, M. and Burnand, B.	Anaemia and chronic kidney disease are potential risk factors for mortality in stroke patients: a historic cohort study	2010	No CKD associated cardiovascular mortality stratified by sex

429	DeLoach, S. S., Joffe, M. M., Mai, X., Goral, S. and Rosas, S. E.	Aortic calcification predicts cardiovascular events and all-cause mortality in renal transplantation	2009	No CKD associated cardiovascular mortality stratified by sex
430	Demirci, C., Aşçı, G., Demirci, M. S., Özkahya, M., Töz, H., Duman, S., Sipahi, S., Erten, S., Tanrısev, M. and Ok, E.	Impedance ratio: a novel marker and a powerful predictor of mortality in haemodialysis patients	2016	No CKD associated cardiovascular mortality stratified by sex
431	Deo, R., Shou, H., Soliman, E. Z., Yang, W., Arkin, J. M., Zhang, X., Townsend, R. R., Go, A. S., Shlipak, M. G. and Feldman, H. I.	Electrocardiographic Measures and Prediction of Cardiovascular and Noncardiovascular Death in CKD	2016	No CKD associated cardiovascular mortality stratified by sex
432	Desideri, G., Panichi, V., Paoletti, S., Grassi, D., Bigazzi, R., Beati, S., Bernabini, G., Rosati, A., Ferri, C., Taddei, S. and et al.	Soluble CD40 ligand is predictive of combined cardiovascular morbidity and mortality in patients on haemodialysis at a relatively short-term follow-up	2011	No CKD associated cardiovascular mortality stratified by sex
433	Di Angelantonio, E., Chowdhury, R., Sarwar, N., Aspelund, T., Danesh, J. and Gudnason, V.	Chronic kidney disease and risk of major cardiovascular disease and non-vascular mortality: prospective population based cohort study	2010	No CKD associated cardiovascular mortality stratified by sex
434	Di Micco, L., Salvi, P., Bellasi, A., Sirico, M. L. and Di Iorio, B.	Subendocardial viability ratio predicts cardiovascular mortality in chronic kidney disease patients	2013	No CKD associated cardiovascular mortality stratified by sex
435	Dierkes, J., Domrose, U., Westphal, S., Ambrosch, A., Bosselmann, H. P., Neumann, K. H. and Luley, C.	Cardiac troponin T predicts mortality in patients with end-stage renal disease	2000	No CKD associated cardiovascular mortality stratified by sex
436	Diez, J. J., Estrada, P., Bajo, M. A., Fernandez-Reyes, M. J., Grande, C., del Peso, G., Heras, M., Molina, A., Iglesias, P., Sanchez-Villanueva, R. and Selgas, R.	High stable serum adiponectin levels are associated with a better outcome in prevalent dialysis patients	2009	No CKD associated cardiovascular mortality stratified by sex
437	Dobre, M., Brateanu, A., Rashidi, A. and Rahman, M.	Electrocardiogram abnormalities and cardiovascular mortality in elderly patients with CKD	2012	No CKD associated cardiovascular mortality stratified by sex
438	Dong, K., Huang, X., Zhang, Q., Yu, Z., Ding, J. and Song, H.	A lower baseline glomerular filtration rate predicts high mortality and newly cerebrovascular accidents in acute ischemic stroke patients	2017	No CKD associated cardiovascular mortality stratified by sex

439	Dos Reis Santos, I., Danaga, A. R., De Carvalho Aguiar, I., Oliveira, E. F., Dias, I. S., Urbano, J. J., Martins, A. A., Ferraz, L. M., Fonseca, N. T., Fernandes, V. and et al.	Cardiovascular risk and mortality in end-stage renal disease patients undergoing dialysis: sleep study, pulmonary function, respiratory mechanics, upper airway collapsibility, autonomic nervous activity, depression, anxiety, stress and quality of life: a prospective, double blind, randomized controlled clinical trial	2013	No CKD associated cardiovascular mortality stratified by sex
440	Doukky, R., Fughhi, I., Campagnoli, T., Wassouf, M. and Ali, A.	The prognostic value of regadenoson SPECT myocardial perfusion imaging in patients with end-stage renal disease	2017	No CKD associated cardiovascular mortality stratified by sex
441	Doulgerakis, D., Moyssakis, I., Kapelios, C. J., Eleftheriadou, I., Chorepsima, S., Michail, S. and Tentolouris, N.	Cardiac Autonomic Neuropathy Predicts All-Cause and Cardiovascular Mortality in Patients With End-Stage Renal Failure: A 5-Year Prospective Study	2017	No CKD associated cardiovascular mortality stratified by sex
442	Dousdampanis, P., Trigka, K. and Fourtounas, C.	Hypomagnesemia, chronic kidney disease and cardiovascular mortality: Pronounced association but unproven causation	2014	No CKD associated cardiovascular mortality stratified by sex
443	Dragovic, J. T., Popovic, J., Djuric, P., Bulatovic, A., Jankovic, A., Buzadzic, I. and Dimkovic, N.	The 5A Allele of the MMP3-Gene Promoter Polymorphism Is a Risk Factor for Poor Outcome of Haemodialysis Patients	2017	No CKD associated cardiovascular mortality stratified by sex
444	Dratch, A., Kleine, C. E., Streja, E., Soohoo, M., Park, C., Hsiung, J. T., Rhee, C. M., Obi, Y., Molnar, M. Z., Kovesdy, C. P. and Kalantar-Zadeh, K.	Mean Corpuscular Volume and Mortality in Incident Haemodialysis Patients	2019	No CKD associated cardiovascular mortality stratified by sex
445	Drawz, P. E., Babineau, D. C., Brecklin, C., He, J., Kallem, R. R., Soliman, E. Z., Xie, D., Appleby, D., Anderson, A. H. and Rahman, M.	Heart rate variability is a predictor of mortality in chronic kidney disease: A report from the CRIC study: CRIC study investigators	2014	No CKD associated cardiovascular mortality stratified by sex
446	Drechsler, C., Delgado, G., Wanner, C., Blouin, K., Pilz, S., Tomaschitz, A., Kleber, M. E., Dressel, A., Willmes, C., Krane, V., Kramer, B. K., Marz, W., Ritz, E., van Gilst, W. H., van der Harst, P. and de Boer, R. A.	Galectin-3, Renal Function, and Clinical Outcomes: Results from the LURIC and 4D Studies	2015	No CKD associated cardiovascular mortality stratified by sex
447	Drechsler, C., Evenepoel, P., Vervloet, M. G., Wanner, C., Ketteler, M., Marx, N., Floege, J., Dekker, F. W. and Brandenburg, V. M.	High levels of circulating sclerostin are associated with better cardiovascular survival in incident dialysis patients: results from the NECOSAD study	2015	No CKD associated cardiovascular mortality stratified by sex

448	Drechsler, C., Grootendorst, D. C., Pilz, S., Tomaschitz, A., Krane, V., Dekker, F., Marz, W., Ritz, E. and Wanner, C.	Wasting and sudden cardiac death in haemodialysis patients: a post hoc analysis of 4D (Die Deutsche Diabetes Dialyse Studie)	2011	No CKD associated cardiovascular mortality stratified by sex
449	Drechsler, C., Kalim, S., Wenger, J. B., Suntharalingam, P., Hod, T., Thadhani, R. I., Karumanchi, S. A., Wanner, C. and Berg, A. H.	Protein carbamylation is associated with heart failure and mortality in diabetic patients with end-stage renal disease	2015	No CKD associated cardiovascular mortality stratified by sex
450	Drechsler, C., Krane, V., Winkler, K., Dekker, F. W. and Wanner, C.	Changes in adiponectin and the risk of sudden death, stroke, myocardial infarction, and mortality in haemodialysis patients	2009	No CKD associated cardiovascular mortality stratified by sex
451	Drechsler, C., Meinitzer, A., Pilz, S., Krane, V., Tomaschitz, A., Ritz, E., Marz, W. and Wanner, C.	Homoarginine, heart failure, and sudden cardiac death in haemodialysis patients	2011	No CKD associated cardiovascular mortality stratified by sex
452	Drechsler, C., Pilz, S., Obermayer-Pietsch, B., Verduijn, M., Tomaschitz, A., Krane, V., Espe, K., Dekker, F., Brandenburg, V., März, W., Ritz, E. and Wanner, C.	Vitamin D deficiency is associated with sudden cardiac death, combined cardiovascular events, and mortality in haemodialysis patients	2010	No CKD associated cardiovascular mortality stratified by sex
453	Drechsler, C., Verduijn, M., Pilz, S., Krediet, R. T., Dekker, F. W., Wanner, C., Ketteler, M., Boeschoten, E. W. and Brandenburg, V.	Bone alkaline phosphatase and mortality in dialysis patients	2011	No CKD associated cardiovascular mortality stratified by sex
454	Dubin, R. F., Deo, R., Bansal, N., Anderson, A. H., Yang, P., Go, A. S., Keane, M., Townsend, R., Porter, A., Budoff, M., Malik, S., He, J., Rahman, M., Wright, J., Cappola, T., Kallem, R., Roy, J., Sha, D. and Shlipak, M. G.	Associations of conventional echocardiographic measures with incident heart failure and mortality: The chronic renal insufficiency cohort	2017	No CKD associated cardiovascular mortality stratified by sex
455	Edner, M., Benson, L., Dahlstrom, U. and Lund, L. H.	Association between renin-angiotensin system antagonist use and mortality in heart failure with severe renal insufficiency: a prospective propensity score-matched cohort study	2015	No CKD associated cardiovascular mortality stratified by sex
456	Eisenga, M. F., Nolte, I. M., van der Meer, P., Bakker, S. J. L. and Gaillard, C.	Association of different iron deficiency cutoffs with adverse outcomes in chronic kidney disease	2018	No CKD associated cardiovascular mortality stratified by sex
457	Ekart, R., Bevc, S., Hojs, N. and Hojs, R.	Derived Subendocardial Viability Ratio and Cardiovascular Events in Patients with Chronic Kidney Disease	2019	No CKD associated cardiovascular mortality stratified by sex
458	El Amrani, M. and El Kabbaj, D.	Isolated diastolic hypotension in haemodialysis: Risk factor for novel cardiovascular complications and all-cause mortality	2019	No CKD associated cardiovascular mortality stratified by sex

459	El Hadj Othmane, T., Nemcsik, J., Fekete, B. C., Deák, G., Egresits, J., Fodor, E., Logan, A. G., Németh, Z. K., Járai, Z., Szabó, T., Szathmári, M., Kiss, I. and Tislér, A.	Arterial stiffness in haemodialysis: Which parameter to measure to predict cardiovascular mortality?	2009	No CKD associated cardiovascular mortality stratified by sex
460	El Said, H. W., Mohamed, O. M., El Said, T. W. and El Serwi, A. B.	Central obesity and risks of cardiovascular events and mortality in prevalent haemodialysis patients	2017	No CKD associated cardiovascular mortality stratified by sex
461	Elsayed, E. T., Nassra, R. A. and Naga, Y. S.	Peroxisome proliferator-activated receptor-γ–coactivator 1α (PGC-1α) gene expression in chronic kidney disease patients on haemodialysis: relation to haemodialysis-related cardiovascular morbidity and mortality	2017	No CKD associated cardiovascular mortality stratified by sex
462	Elsharif, M. E.	Mortality rate of patients with end stage renal disease on regular haemodialysis: a single center study	2011	No CKD associated cardiovascular mortality stratified by sex
463	Engelbertz, C., Reinecke, H., Breithardt, G., Schmieder, R. E., Fobker, M., Fischer, D., Schmitz, B., Pinnschmidt, H. O., Wegscheider, K., Pavenstadt, H. and Brand, E.	Two-year outcome and risk factors for mortality in patients with coronary artery disease and renal failure: The prospective, observational CAD-REF Registry	2017	No CKD associated cardiovascular mortality stratified by sex
464	Ertas, G., Kozdag, G., Emre, E., Vural, A., Akbulut, T., Ural, D. and Goktekin, O.	Renal function has an effect on cardiovascular mortality in patients with dilated cardiomyopathy	2012	No CKD associated cardiovascular mortality stratified by sex
465	Esteve-Pastor, M. A., Rivera-Caravaca, J. M., Roldan-Rabadan, I., Roldan, V., Muniz, J., Rana-Miguez, P., Ruiz-Ortiz, M., Cequier, A., Bertomeu-Martinez, V., Badimon, L., Anguita, M., Lip, G. Y. H. and Marin, F.	Relation of Renal Dysfunction to Quality of Anticoagulation Control in Patients with Atrial Fibrillation: The FANTASIIA Registry	2018	No CKD associated cardiovascular mortality stratified by sex
466	Etter, C., Straub, Y., Hersberger, M., Raz, H. R., Kistler, T., Kiss, D., Wuthrich, R. P., Gloor, H. J., Aerne, D., Wahl, P., Klaghofer, R. and Ambuhl, P. M.	Pregnancy-associated plasma protein-A is an independent short-time predictor of mortality in patients on maintenance haemodialysis	2010	No CKD associated cardiovascular mortality stratified by sex
467	Fabbian, F., Gallerani, M., Pala, M., De Giorgi, A., Salmi, R., Dentali, F., Ageno, W. and Manfredini, R.	Association between in-hospital mortality and renal dysfunction in 186,219 patients hospitalized for acute stroke in the Emilia-Romagna region of Italy	2014	No CKD associated cardiovascular mortality stratified by sex

468	Fahrleitner-Pammer, A., Herberth, J., Browning, S. R., Obermayer-Pietsch, B., Wirnsberger, G., Holzer, H., Dobnig, H. and Malluche, H. H.	Bone markers predict cardiovascular events in chronic kidney disease	2008	No CKD associated cardiovascular mortality stratified by sex
469	Fan, Q., Yan, Y., Gu, L., He, L., Chen, N., Jiang, G., Yuan, L., Xue, J., Zhang, Y., Ma, J. and et al.	Prognostic Value of the Delivery Dialysis Dose on Twice-Weekly Haemodialysis Patients	2017	No CKD associated cardiovascular mortality stratified by sex
470	Fan, Y., Jin, X., Jiang, M. and Fang, N.	Elevated serum alkaline phosphatase and cardiovascular or all-cause mortality risk in dialysis patients: A meta-Analysis	2017	No CKD associated cardiovascular mortality stratified by sex
471	Fang, W., Yang, X., Bargman, J. M. and Oreopoulos, D. G.	Association between pulse pressure and mortality in patients undergoing peritoneal dialysis	2009	No CKD associated cardiovascular mortality stratified by sex
472	Fang, Y. W., Leu, J. G., Tsai, M. H. and Liou, H. H.	Higher intra-dialysis serum phosphorus reduction ratio as a predictor of mortality in patients on long-term haemodialysis	2019	No CKD associated cardiovascular mortality stratified by sex
473	Farias, M. A., McClellan, W., Soucie, J. M. and Mitch, W. E.	A prospective comparison of methods for determining if cardiovascular disease is a predictor of mortality in dialysis patients	1994	No CKD associated cardiovascular mortality stratified by sex
474	Farshid, A., Pathak, R., Shadbolt, B., Arnolda, L. and Talaulikar, G.	Diastolic function is a strong predictor of mortality in patients with chronic kidney disease	2013	No CKD associated cardiovascular mortality stratified by sex
475	Feldreich, T., Nowak, C., Fall, T., Carlsson, A. C., Carrero, J. J., Ripsweden, J., Qureshi, A. R., Heimburger, O., Barany, P., Stenvinkel, P., Vuilleumier, N., Kalra, P. A., Green, D. and Arnlov, J.	Circulating proteins as predictors of cardiovascular mortality in end-stage renal disease	2019	No CKD associated cardiovascular mortality stratified by sex
476	Feng, S. J., Li, H. and Wang, S. X.	Lower Hydrogen Sulfide Is Associated with Cardiovascular Mortality, Which Involves cPKCbetaII/Akt Pathway in Chronic Haemodialysis Patients	2015	No CKD associated cardiovascular mortality stratified by sex
477	Feng, Y., Li, Z., Liu, J., Sun, F., Ma, L., Shen, Y. and Zhou, Y.	Association of short-term blood pressure variability with cardiovascular mortality among incident haemodialysis patients	2018	No CKD associated cardiovascular mortality stratified by sex
478	Fenske, W., Wanner, C., Allolio, B., Drechsler, C., Blouin, K., Lilienthal, J. and Krane, V.	Copeptin levels associate with cardiovascular events in patients with ESRD and type 2 diabetes mellitus	2011	No CKD associated cardiovascular mortality stratified by sex
479	Fensterseifer, D. M., Karohl, C., Schvartzman, P., Costa, C. A. and Veronese, F. J.	Coronary calcification and its association with mortality in haemodialysis patients	2009	No CKD associated cardiovascular mortality stratified by sex

480	Fernandez-Laso, V., Sastre, C., Valdivielso, J. M., Betriu, A., Fernandez, E., Egido, J., Martin-Ventura, J. L. and Blanco-Colio, L. M.	Soluble TWEAK and Major Adverse Cardiovascular Events in Patients with CKD	2016	No CKD associated cardiovascular mortality stratified by sex
481	Ferreira, J. P., Girerd, N., Pellicori, P., Duarte, K., Girerd, S., Pfeffer, M. A., McMurray, J. J., Pitt, B., Dickstein, K., Jacobs, L. and et al.	Renal function estimation and Cockroft-Gault formulas for predicting cardiovascular mortality in population-based, cardiovascular risk, heart failure and post-myocardial infarction cohorts: the Heart 'OMics' in AGEing (HOMAGE) and the high-risk myocardial infarction database initiatives	2016	No CKD associated cardiovascular mortality stratified by sex
482	Fick, G. M., Johnson, A. M., Hammond, W. S. and Gabow, P. A.	Causes of death in autosomal dominant polycystic kidney disease	1995	No CKD associated cardiovascular mortality stratified by sex
483	Filippatos, G. S., Ahmed, M. I., Gladden, J. D., Mujib, M., Aban, I. B., Love, T. E., Sanders, P. W., Pitt, B., Anker, S. D. and Ahmed, A.	Hyperuricaemia, chronic kidney disease, and outcomes in heart failure: potential mechanistic insights from epidemiological data	2011	No CKD associated cardiovascular mortality stratified by sex
484	Fischer, M. J., Ho, P. M., McDermott, K., Lowy, E. and Parikh, C. R.	Chronic kidney disease is associated with adverse outcomes among elderly patients taking clopidogrel after hospitalization for acute coronary syndrome	2013	No CKD associated cardiovascular mortality stratified by sex
485	Fischer, M. J., Kimmel, P. L., Greene, T., Gassman, J. J., Wang, X., Brooks, D. H., Charleston, J., Dowie, D., Thornley-Brown, D., Cooper, L. A., Bruce, M. A., Kusek, J. W., Norris, K. C. and Lash, J. P.	Elevated depressive affect is associated with adverse cardiovascular outcomes among African Americans with chronic kidney disease	2011	No CKD associated cardiovascular mortality stratified by sex
486	Fitzpatrick, J., Sozio, S. M., Jaar, B. G., McAdams-DeMarco, M. A., Estrella, M. M., Tereshchenko, L. G., Monroy-Trujillo, J. M. and Parekh, R. S.	Association of Abdominal Adiposity with Cardiovascular Mortality in Incident Haemodialysis	2018	No CKD associated cardiovascular mortality stratified by sex
487	Flores Gama, C., Rosales, L. M., Ouellet, G., Dou, Y., Thijssen, S., Usvyat, L., Zhang, H., Kuntsevich, V., Levin, N. W. and Kotanko, P.	Plasma Gelsolin and Its Association with Mortality and Hospitalization in Chronic Haemodialysis Patients	2017	No CKD associated cardiovascular mortality stratified by sex
488	Flueckiger, P., Pastan, S., Goyal, A., McClellan, W. W. and Patzer, R. E.	Associations of ECG interval prolongations with mortality among ESRD patients evaluated for renal transplantation	2014	No CKD associated cardiovascular mortality stratified by sex

489	Flythe, J. E., Inrig, J. K., Shafi, T., Chang, T. I., Cape, K., Dinesh, K., Kunaparaju, S. and Brunelli, S. M.	Association of intradialytic blood pressure variability with increased all-cause and cardiovascular mortality in patients treated with long-term haemodialysis	2013	No CKD associated cardiovascular mortality stratified by sex
490	Flythe, J. E., Kimmel, S. E. and Brunelli, S. M.	Rapid fluid removal during dialysis is associated with cardiovascular morbidity and mortality	2011	No CKD associated cardiovascular mortality stratified by sex
491	Foley, R. N. and Collins, A. J.	A novel model of cardiovascular risk based on kidney function	2011	No CKD associated cardiovascular mortality stratified by sex
492	Foley, R. N., Gilbertson, D. T., Murray, T. and Collins, A. J.	Long interdialytic interval and mortality among patients receiving haemodialysis	2011	No CKD associated cardiovascular mortality stratified by sex
493	Foley, R. N., Herzog, C. A. and Collins, A. J.	Blood pressure and long-term mortality in United States haemodialysis patients: USRDS Waves 3 and 4 Study	2002	No CKD associated cardiovascular mortality stratified by sex
494	Foley, R. N., Murray, A. M., Li, S., Herzog, C. A., McBean, A. M., Eggers, P. W. and Collins, A. J.	Chronic kidney disease and the risk for cardiovascular disease, renal replacement, and death in the United States Medicare population, 1998 to 1999	2005	No CKD associated cardiovascular mortality stratified by sex
495	Foley, R. N., Parfrey, P. S., Harnett, J. D., Kent, G. M., Murray, D. C. and Barre, P. E.	Hypoalbuminemia, cardiac morbidity, and mortality in end-stage renal disease	1996	No CKD associated cardiovascular mortality stratified by sex
496	Formanowicz, D., Wanic-Kossowska, M., Pawliczak, E., Radom, M. and Formanowicz, P.	Usefulness of serum interleukin-18 in predicting cardiovascular mortality in patients with chronic kidney disease-systems and clinical approach	2015	No CKD associated cardiovascular mortality stratified by sex
497	Formiga, F., Moreno-Gonzalez, R., Chivite, D., Casado, J., Escrihuela-Vidal, F. and Corbella, X.	Clinical characteristics and one-year mortality according to admission renal function in patients with a first acute heart failure hospitalization	2018	No CKD associated cardiovascular mortality stratified by sex
498	Formiga, F., Moreno-Gonzalez, R., Chivite, D., Yun, S., Franco, J., Ariza-Solé, A. and Corbella, X.	Sex differences in 1-year mortality risks in older patients experiencing a first acute heart failure hospitalization	2019	No CKD associated cardiovascular mortality stratified by sex
499	Fortier, C., Mac-Way, F., Desmeules, S., Marquis, K., De Serres, S. A., Lebel, M., Boutouyrie, P. and Agharazii, M.	Aortic-brachial stiffness mismatch and mortality in dialysis population	2015	No CKD associated cardiovascular mortality stratified by sex
500	Fox, C. S., Matsushita, K., Woodward, M., Bilo, H. J., Chalmers, J., Heerspink, H. J., Lee, B. J., Perkins, R. M., Rossing, P., Sairenchi, T., Tonelli, M., Vassalotti, J. A., Yamagishi, K., Coresh, J., de Jong, P. E., Wen, C. P. and Nelson, R. G.	Associations of kidney disease measures with mortality and end-stage renal disease in individuals with and without diabetes: a meta-analysis	2012	No CKD associated cardiovascular mortality stratified by sex

501	Freisinger, E., Sehner, S., Malyar, N. M., Suling, A., Reinecke, H. and Wegscheider, K.	Nationwide Routine-Data Analysis of Sex Differences in Outcome of Acute Myocardial Infarction	2018	No CKD associated cardiovascular mortality stratified by sex
502	Friedman, A. N., Yu, Z., Denski, C., Tamez, H., Wenger, J., Thadhani, R., Li, Y. and Watkins, B.	Fatty acids and other risk factors for sudden cardiac death in patients starting haemodialysis	2013	No CKD associated cardiovascular mortality stratified by sex
503	Frostegård, A. G., Hua, X., Su, J., Carrero, J. J., Heimbürger, O., Bárány, P., Stenvinkel, P. and Frostegård, J.	Immunoglobulin (Ig)M antibodies against oxidized cardiolipin but not native cardiolipin are novel biomarkers in haemodialysis patients, associated negatively with mortality	2013	No CKD associated cardiovascular mortality stratified by sex
504	Fujii, H., Kim, J. I., Yoshiya, K., Nishi, S. and Fukagawa, M.	Clinical characteristics and cardiovascular outcomes of haemodialysis patients with atrial fibrillation: A prospective follow-up study	2011	No CKD associated cardiovascular mortality stratified by sex
505	Fukasawa, H., Ishibuchi, K., Kaneko, M., Niwa, H., Yasuda, H., Kumagai, H. and Furuya, R.	Red Blood Cell Distribution Width Is Associated With All-Cause and Cardiovascular Mortality in Haemodialysis Patients	2017	No CKD associated cardiovascular mortality stratified by sex
506	Fukasawa, H., Kaneko, M., Niwa, H., Matsuyama, T., Yasuda, H., Kumagai, H. and Furuya, R.	Lower thigh muscle mass is associated with all-cause and cardiovascular mortality in elderly haemodialysis patients	2017	No CKD associated cardiovascular mortality stratified by sex
507	Fukuma, S., Yamaguchi, T., Hashimoto, S., Nakai, S., Iseki, K., Tsubakihara, Y. and Fukuhara, S.	Erythropoiesis-stimulating agent responsiveness and mortality in haemodialysis patients: Results from a cohort study from the dialysis registry in Japan	2012	No CKD associated cardiovascular mortality stratified by sex
508	Fukuoka, K., Nakao, K., Morimoto, H., Nakao, A., Takatori, Y., Arimoto, K., Taki, M., Wada, J. and Makino, H.	Glycated albumin levels predict long-term survival in diabetic patients undergoing haemodialysis	2008	No CKD associated cardiovascular mortality stratified by sex
509	Furuhashi, T., Moroi, M., Joki, N., Hase, H., Minakawa, M., Masai, H., Kunimasa, T., Fukuda, H. and Sugi, K.	Predictors of cardiovascular events in haemodialysis patients after stress myocardial perfusion imaging	2013	No CKD associated cardiovascular mortality stratified by sex
510	Furuhashi, T., Moroi, M., Joki, N., Hase, H., Minakawa, M., Masai, H., Kunimasa, T., Fukuda, H. and Sugi, K.	Prediction of cardiovascular events in pre-dialysis chronic kidney disease patients with normal SPECT myocardial perfusion imaging	2014	No CKD associated cardiovascular mortality stratified by sex
511	Furuya, F., Shimura, H., Takahashi, K., Akiyama, D., Motosugi, A., Ikegishi, Y., Haraguchi, K. and Kobayashi, T.	Skin autofluorescence is a predictor of cardiovascular disease in chronic kidney disease patients	2015	No CKD associated cardiovascular mortality stratified by sex
512	Galil, A. G., Pinheiro, H. S., Chaoubah, A., Costa, D. M. and Bastos, M. G.	Chronic kidney disease increases cardiovascular unfavourable outcomes in outpatients with heart failure	2009	No CKD associated cardiovascular mortality stratified by sex

513	Ganesh, S. K., Stack, A. G., Levin, N. W., Hulbert-Shearon, T. and Port, F. K.	Association of elevated serum PO(4), Ca x PO(4) product, and parathyroid hormone with cardiac mortality risk in chronic haemodialysis patients	2001	No CKD associated cardiovascular mortality stratified by sex
514	Gao, B., Wu, S., Wang, J., Yang, C., Chen, S., Hou, J., Li, J., Yang, Y., He, K., Zhao, M., Chen, M. and Zhang, L.	Clinical features and long-term outcomes of diabetic kidney disease – A prospective cohort study from China	2019	No CKD associated cardiovascular mortality stratified by sex
515	Gao, S., Xu, J., Zhang, S. and Jin, J.	Meta-Analysis of the Association between Fibroblast Growth Factor 23 and Mortality and Cardiovascular Events in Haemodialysis Patients	2019	No CKD associated cardiovascular mortality stratified by sex
516	Garimella, P. S., Katz, R., Patel, K. V., Kritchevsky, S. B., Parikh, C. R., Ix, J. H., Fried, L. F., Newman, A. B., Shlipak, M. G., Harris, T. B. and Sarnak, M. J.	Association of Serum Erythropoietin With Cardiovascular Events, Kidney Function Decline, and Mortality: The Health Aging and Body Composition Study	2016	No CKD associated cardiovascular mortality stratified by sex
517	Genovesi, S., Rossi, E., Gallieni, M., Stella, A., Badiali, F., Conte, F., Pasquali, S., Bertoli, S., Ondei, P., Bonforte, G., Pozzi, C., Rebora, P., Valsecchi, M. G. and Santoro, A.	Warfarin use, mortality, bleeding and stroke in haemodialysis patients with atrial fibrillation	2015	No CKD associated cardiovascular mortality stratified by sex
518	Genovesi, S., Vincenti, A., Rossi, E., Pogliani, D., Acquistapace, I., Stella, A. and Valsecchi, M. G.	Atrial Fibrillation and Morbidity and Mortality in a Cohort of Long-term Haemodialysis Patients	2008	No CKD associated cardiovascular mortality stratified by sex
519	Gheorghiade, M., Böhm, M., Greene, S. J., Fonarow, G. C., Lewis, E. F., Zannad, F., Solomon, S. D., Baschiera, F., Botha, J., Hua, T. A. and et al.	Effect of aliskiren on postdischarge mortality and heart failure readmissions among patients hospitalized for heart failure: the ASTRONAUT randomized trial	2013	No CKD associated cardiovascular mortality stratified by sex
520	Giamouzis, G., Sui, X., Love, T. E., Butler, J., Young, J. B. and Ahmed, A.	A propensity-matched study of the association of cardiothoracic ratio with morbidity and mortality in chronic heart failure	2008	No CKD associated cardiovascular mortality stratified by sex
521	Go, A. S., Chertow, G. M., Fan, D., McCulloch, C. E. and Hsu, C. Y.	Chronic kidney disease and the risks of death, cardiovascular events, and hospitalization	2004	No CKD associated cardiovascular mortality stratified by sex
522	Gohda, T., Maruyama, S., Kamei, N., Yamaguchi, S., Shibata, T., Murakoshi, M., Horikoshi, S., Tomino, Y., Ohsawa, I., Gotoh, H., Nojiri, S. and Suzuki, Y.	Circulating TNF Receptors 1 and 2 Predict Mortality in Patients with End-stage Renal Disease Undergoing Dialysis	2017	No CKD associated cardiovascular mortality stratified by sex

523	Gowdak, L. H., de Paula, F. J., Cesar, L. A., Filho, E. E., Ianhez, L. E., Krieger, E. M., Ramires, J. A. and De Lima, J. J.	Diabetes and coronary artery disease impose similar cardiovascular morbidity and mortality on renal transplant candidates	2007	No CKD associated cardiovascular mortality stratified by sex
524	Gracia-Iguacel, C., Gonzalez-Parra, E., Egido, J., Lindholm, B., Mahillo, I., Carrero, J. J. and Ortiz, A.	Cortisol levels are associated with mortality risk in haemodialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex
525	Green, D., Ritchie, J. P., Abidin, N., New, D. I. and Kalra, P. A.	The association of ECG and echocardiographic abnormalities with sudden cardiac death in a dialysis patient cohort	2014	No CKD associated cardiovascular mortality stratified by sex
526	Gregg, L. P., Adams-Huet, B., Li, X., Colbert, G., Jain, N., de Lemos, J. A. and Hedayati, S. S.	Effect Modification of Chronic Kidney Disease on the Association of Circulating and Imaging Cardiac Biomarkers With Outcomes	2017	No CKD associated cardiovascular mortality stratified by sex
527	Gregg, L. P., Tio, M. C., Li, X., Adams-Huet, B., Lemos, J. A. D. and Hedayati, S. S.	Association of Monocyte Chemoattractant Protein-1 with Death and Atherosclerotic Events in Chronic Kidney Disease	2018	No CKD associated cardiovascular mortality stratified by sex
528	Grooteman, M. P., van den Dorpel, M. A., Bots, M. L., Penne, E. L., van der Weerd, N. C., Mazairac, A. H., den Hoedt, C. H., van der Tweel, I., Lévesque, R., Nubé, M. J. and et al.	Effect of online hemodiafiltration on all-cause mortality and cardiovascular outcomes	2012	No CKD associated cardiovascular mortality stratified by sex
529	Grzegorzewska, A. E., Niepolski, L., Swiderska, M. K., Mostowska, A., Stolarek, I., Warchol, W., Figlerowicz, M. and Jagodzinski, P. P.	ENHO, RXRA, and LXRA polymorphisms and dyslipidaemia, related comorbidities and survival in haemodialysis patients	2018	No CKD associated cardiovascular mortality stratified by sex
530	Guerrero-Riscos, M. A., Montes-Delgado, R., Seda-Guzman, M. and Praena-Fernandez, J. M.	Erythropoietin resistance and survival in non-dialysis patients with stage 4-5 chronic kidney disease and heart disease	2012	No CKD associated cardiovascular mortality stratified by sex
531	Hamada, S. and Gulliford, M. C.	Multiple risk factor control, mortality and cardiovascular events in type 2 diabetes and chronic kidney disease: A population-based cohort study	2018	No CKD associated cardiovascular mortality stratified by sex
532	Hamaguchi, S., Tsuchihashi-Makaya, M., Kinugawa, S., Yokota, T., Ide, T., Takeshita, A. and Tsutsui, H.	Chronic kidney disease as an independent risk for long-term adverse outcomes in patients hospitalized with heart failure in Japan. Report from the Japanese Cardiac Registry of Heart Failure in Cardiology (JCARE-CARD)	2009	No CKD associated cardiovascular mortality stratified by sex
533	Hanada, S., Ando, R., Naito, S., Kobayashi, N., Wakabayashi, M., Hata, T. and Sasaki, S.	Assessment and significance of abdominal aortic calcification in chronic kidney disease	2010	No CKD associated cardiovascular mortality stratified by sex

534	Hanatani, S., Izumiya, Y., Onoue, Y., Tanaka, T., Yamamoto, M., Ishida, T., Yamamura, S., Kimura, Y., Araki, S., Arima, Y., Nakamura, T., Fujisue, K., Takashio, S., Sueta, D., Sakamoto, K., Yamamoto, E., Kojima, S., Kaikita, K. and Tsujita, K.	Non-invasive testing for sarcopenia predicts future cardiovascular events in patients with chronic kidney disease	2018	No CKD associated cardiovascular mortality stratified by sex
535	Hasegawa, M., Ishii, J., Kitagawa, F., Kanayama, K., Takahashi, H., Ozaki, Y. and Yuzawa, Y.	Prognostic value of highly sensitive troponin T on cardiac events in patients with chronic kidney disease not on dialysis	2013	No CKD associated cardiovascular mortality stratified by sex
536	Hasegawa, M., Ishii, J., Kitagawa, F., Takahashi, H., Sugiyama, K., Tada, M., Kanayama, K., Takahashi, K., Hayashi, H., Koide, S., Nakai, S., Ozaki, Y. and Yuzawa, Y.	Plasma Neutrophil Gelatinase-Associated Lipocalin as a Predictor of Cardiovascular Events in Patients with Chronic Kidney Disease	2016	No CKD associated cardiovascular mortality stratified by sex
537	Hasegawa, M., Ishii, J., Kitagawa, F., Takahashi, K., Hayashi, H., Koide, S., Tomita, M., Takahashi, H., Ozaki, Y. and Yuzawa, Y.	Urinary neutrophil gelatinase-associated lipocalin as a predictor of cardiovascular events in patients with chronic kidney disease	2015	No CKD associated cardiovascular mortality stratified by sex
538	Hashemi, A., Nourbakhsh, S., Asgari, S., Mirbolouk, M., Azizi, F. and Hadaegh, F.	Blood pressure components and incident cardiovascular disease and mortality events among Iranian adults with chronic kidney disease during over a decade long follow-up: A prospective cohort study	2018	No CKD associated cardiovascular mortality stratified by sex
539	Hassan, H. C., Howlin, K., Jefferys, A., Spicer, S. T., Aravindan, A. N., Suryanarayanan, G., Hall, B. M., Cleland, B. D., Wong, J. K., Suranyi, M. G. and Makris, A.	High-sensitivity troponin as a predictor of cardiac events and mortality in the stable dialysis population	2014	No CKD associated cardiovascular mortality stratified by sex
540	Hassan, S. B., El-demery, A. B., Ahmed, A. I. and Abukhalil, R. E.	Soluble TWEAK and cardiovascular morbidity and mortality in chronic kidney disease patients	2012	No CKD associated cardiovascular mortality stratified by sex
541	Havel, M., Kaminek, M., Metelkova, I., Budikova, M., Henzlova, L., Koranda, P., Zadrazil, J. and Kincl, V.	Prognostic value of myocardial perfusion imaging and coronary artery calcium measurements in patients with end-stage renal disease	2015	No CKD associated cardiovascular mortality stratified by sex

542	Hayano, J., Yasuma, F., Watanabe, E., Carney, R. M., Stein, P. K., Blumenthal, J. A., Arsenos, P., Gatzoulis, K. A., Takahashi, H., Ishii, H., Kiyono, K., Yamamoto, Y., Yoshida, Y., Yuda, E. and Kodama, I.	Blunted cyclic variation of heart rate predicts mortality risk in post-myocardial infarction, end-stage renal disease, and chronic heart failure patients	2017	No CKD associated cardiovascular mortality stratified by sex
543	Hayashi, T., Kimura, T., Yasuda, K., Sasaki, K., Obi, Y., Nagayama, H., Ohno, M., Uematsu, K., Tamai, T., Nishide, T., Rakugi, H. and Isaka, Y.	Early nephrology referral 6 months before dialysis initiation can reduce early death but does not improve long-term cardiovascular outcome on dialysis	2016	No CKD associated cardiovascular mortality stratified by sex
544	Hayashi, T., Kimura, T., Yasuda, K., Sasaki, K., Obi, Y., Rakugi, H. and Isaka, Y.	Cardiac troponin T elevation at dialysis initiation is associated with all-cause and cardiovascular mortality on dialysis in patients without diabetic nephropathy	2017	No CKD associated cardiovascular mortality stratified by sex
545	Hebert, K., Dias, A., Delgado, M. C., Franco, E., Tamariz, L., Steen, D., Trahan, P., Major, B. and Arcement, L. M.	Epidemiology and survival of the five stages of chronic kidney disease in a systolic heart failure population	2010	No CKD associated cardiovascular mortality stratified by sex
546	Hee, L., Nguyen, T., Whatmough, M., Descallar, J., Chen, J., Kapila, S., French, J. K. and Thomas, L.	Left atrial volume and adverse cardiovascular outcomes in unselected patients with and without CKD	2014	No CKD associated cardiovascular mortality stratified by sex
547	Heine, G. H., Ulrich, C., Seibert, E., Seiler, S., Marell, J., Reichart, B., Krause, M., Schlitt, A., Köhler, H. and Girndt, M.	CD14++CD16+ monocytes but not total monocyte numbers predict cardiovascular events in dialysis patients	2008	No CKD associated cardiovascular mortality stratified by sex
548	Helve, S., Laine, M., Sinisalo, J., Helantera, I., Hanninen, H., Lammintausta, O., Lehtonen, J., Finne, P. and Nieminen, T.	Even mild reversible myocardial perfusion defects predict mortality in patients evaluated for kidney transplantation	2018	No CKD associated cardiovascular mortality stratified by sex
549	Herselman, M., Esau, N., Kruger, J. M., Labadarios, D. and Moosa, M. R.	Relationship between body mass index and mortality in adults on maintenance haemodialysis: a systematic review	2010	No CKD associated cardiovascular mortality stratified by sex
550	Hinderliter, A., Padilla, R. L., Gillespie, B. W., Levin, N. W., Kotanko, P., Kiser, M., Finkelstein, F., Rajagopalan, S. and Saran, R.	Association of carotid intima-media thickness with cardiovascular risk factors and patient outcomes in advanced chronic kidney disease: the RRI-CKD study	2015	No CKD associated cardiovascular mortality stratified by sex

551	Hirata, Y., Sugiyama, S., Yamamoto, E., Matsuzawa, Y., Akiyama, E., Kusaka, H., Fujisue, K., Kurokawa, H., Matsubara, J., Sugamura, K., Maeda, H., Iwashita, S., Jinnouchi, H., Matsui, K. and Ogawa, H.	Endothelial function and cardiovascular events in chronic kidney disease	2014	No CKD associated cardiovascular mortality stratified by sex
552	Hitsumoto, T.	Clinical Usefulness of the Cardio-Ankle Vascular Index as a Predictor of Primary Cardiovascular Events in Patients With Chronic Kidney Disease	2018	No CKD associated cardiovascular mortality stratified by sex
553	Hocher, B., Ziebig, R., Altermann, C., Krause, R., Asmus, G., Richter, C. M., Slowinski, T., Sinha, P. and Neumayer, H. H.	Different impact of biomarkers as mortality predictors among diabetic and nondiabetic patients undergoing haemodialysis	2003	No CKD associated cardiovascular mortality stratified by sex
554	Holme, I., Fayyad, R., Faergeman, O., Kastelein, J. J., Olsson, A. G., Tikkanen, M. J., Larsen, M. L., Lindahl, C., Holdaas, H. and Pedersen, T. R.	Cardiovascular outcomes and their relationships to lipoprotein components in patients with and without chronic kidney disease: results from the IDEAL trial	2010	No CKD associated cardiovascular mortality stratified by sex
555	Hong, D., Wu, S., Pu, L., Wang, F., Wang, J., Wang, Z., Gao, H., Zhang, Y., Deng, F., Li, G., He, Q. and Wang, L.	Abdominal aortic calcification is not superior over other vascular calcification in predicting mortality in haemodialysis patients: A retrospective observational study	2013	No CKD associated cardiovascular mortality stratified by sex
556	Hoppe, K., Schwermer, K., Olewicz-Gawlik, A., Klysz, P., Kawka, A., Baum, E., Sikorska, D., Ścigacz, K., Roszak, M., Lindholm, B., Pawlaczyk, K. and Oko, A.	Dialysis vintage and cardiovascular injury as factors influencing long-term survival in peritoneal dialysis and haemodialysis	2017	No CKD associated cardiovascular mortality stratified by sex
557	Hoshino, J., Nagai, K., Kai, H., Saito, C., Ito, Y., Asahi, K., Kondo, M., Iseki, K., Iseki, C., Okada, H., Kashihara, N., Narita, I., Wada, T., Combe, C., Pisoni, R. L., Robinson, B. M. and Yamagata, K.	A nationwide prospective cohort study of patients with advanced chronic kidney disease in Japan: The reach-J CKD cohort study	2018	No CKD associated cardiovascular mortality stratified by sex
558	Hov, G. G., Aasarod, K. I., Sagen, E. and Asberg, A.	Arginine, dimethylated arginine and homoarginine in relation to cardiovascular risk in patients with moderate chronic kidney disease	2015	No CKD associated cardiovascular mortality stratified by sex
559	Hsieh, Y. P., Chang, C. C., Kor, C. T., Yang, Y., Wen, Y. K. and Chiu, P. F.	The Predictive Role of Red Cell Distribution Width in Mortality among Chronic Kidney Disease Patients	2016	No CKD associated cardiovascular mortality stratified by sex

560	Hsieh, Y. P., Chang, C. C., Kor, C. T., Yang, Y., Wen, Y. K. and Chiu, P. F.	Mean Corpuscular Volume and Mortality in Patients with CKD	2017	No CKD associated cardiovascular mortality stratified by sex
561	Hsu, C. W., Yen, T. H., Chen, K. H., Lin-Tan, D. T., Lin, J. L., Weng, C. H. and Huang, W. H.	Effect of blood cadmium level on mortality in patients undergoing maintenance haemodialysis	2015	No CKD associated cardiovascular mortality stratified by sex
562	Hsu, H. J., Yen, C. H., Hsu, K. H., Lee, C. C., Chang, S. J., Wu, I. W., Sun, C. Y., Chou, C. C., Yu, C. C., Hsieh, M. F., Chen, C. Y., Hsu, C. Y., Weng, C. H., Tsai, C. J. and Wu, M. S.	Association between cold dialysis and cardiovascular survival in haemodialysis patients	2012	No CKD associated cardiovascular mortality stratified by sex
563	Hsu, W. L., Li, S. Y., Liu, J. S., Huang, P. H., Lin, S. J., Hsu, C. C., Lin, Y. P. and Tarng, D. C.	High Uric Acid Ameliorates Indoxyl Sulphate-Induced Endothelial Dysfunction and Is Associated with Lower Mortality among Haemodialysis Patients	2017	No CKD associated cardiovascular mortality stratified by sex
564	Hu, W. S., Lee, J. H., Tsai, M. K. and Wen, C. P.	A novel cardiovascular death prediction model for Chinese individuals: A prospective cohort study of 381,963 study participants	2017	No CKD associated cardiovascular mortality stratified by sex
565	Huang, C. L., Jong, Y. S., Wu, Y. W., Wang, W. J., Hsieh, A. R., Chao, C. L., Chen, W. J. and Yang, W. S.	Association of plasma thrombospondin-1 level with cardiovascular disease and mortality in haemodialysis patients	2015	No CKD associated cardiovascular mortality stratified by sex
566	Huang, J. C., Chen, S. C., Su, H. M., Chang, J. M., Hwang, S. J. and Chen, H. C.	Performance of the Framingham risk score in patients receiving haemodialysis	2013	No CKD associated cardiovascular mortality stratified by sex
567	Huang, J. C., Lin, H. Y. H., Lim, L. M., Chen, S. C., Chang, J. M., Hwang, S. J., Tsai, J. C., Hung, C. C. and Chen, H. C.	Body mass index, mortality, and gender difference in advanced chronic kidney disease	2015	No CKD associated cardiovascular mortality stratified by sex
568	Huang, J. C., Tsai, Y. C., Wu, P. Y., Lee, J. J., Chen, S. C., Chiu, Y. W., Hsu, Y. L., Chang, J. M. and Chen, H. C.	Independent Association of Overhydration with All-Cause and Cardiovascular Mortality Adjusted for Global Left Ventricular Longitudinal Systolic Strain and E/E' Ratio in Maintenance Haemodialysis Patients	2018	No CKD associated cardiovascular mortality stratified by sex
569	Huang, S. T., Yu, T. M., Ke, T. Y., Wu, M. J., Chuang, Y. W., Li, C. Y., Chiu, C. W., Lin, C. L., Liang, W. M., Chou, T. C. and Kao, C. H.	Syncope and collapse are associated with an increased risk of cardiovascular disease and mortality in patients undergoing dialysis	2018	No CKD associated cardiovascular mortality stratified by sex
570	Huang, W. Y., Weng, W. C., Peng, T. I., Chien, Y. Y., Wu, C. L., Lee, M., Hung, C. C. and Chen, K. H.	Association of hyponatremia in acute stroke stage with three-year mortality in patients with first-ever ischemic stroke	2012	No CKD associated cardiovascular mortality stratified by sex

571	Hughes, J., Green, D., Chiu, D. Y. Y., Abidin, N. and Kalra, P. A.	The Association of Echocardiographic Peak Systolic Strain Rate with Cardiovascular Outcomes in Haemodialysis Patients	2018	No CKD associated cardiovascular mortality stratified by sex
572	Hung, S. C., Hsu, T. W., Lin, Y. P. and Tarng, D. C.	Decoy receptor 3, a novel inflammatory marker, and mortality in haemodialysis patients	2012	No CKD associated cardiovascular mortality stratified by sex
573	Hung, Y. M. and Lee, S. S. J.	Analysis of early and late mortality of chronic haemodialysis patients in a haemodialysis center of Southern Taiwan	2003	No CKD associated cardiovascular mortality stratified by sex
574	Hur, S. H., Won, K. B., Kim, I. C., Bae, J. H., Choi, D. J., Ahn, Y. K., Park, J. S., Kim, H. S., Choi, R. K., Choi, D., Kim, J. H., Han, K. R., Park, H. S., Choi, S. Y., Yoon, J. H., Gwon, H. C., Rha, S. W., Jang, W., Bae, J. W., Hwang, K. K., Lim, D. S., Jung, K. T., Oh, S. K., Lee, J. H., Shin, E. S. and Kim, K. S.	Comparison of 2-year clinical outcomes between diabetic versus nondiabetic patients with acute myocardial infarction after 1-month stabilization: Analysis of the prospective registry of DIAMOND (DIabetic acute myocardial infarctiON Disease) in Korea: an observational registry study	2016	No CKD associated cardiovascular mortality stratified by sex
575	Hutton, H. L., Levin, A., Gill, J., Djurdjev, O., Tang, M. and Barbour, S. J.	Cardiovascular risk is similar in patients with glomerulonephritis compared to other types of chronic kidney disease: a matched cohort study	2017	No CKD associated cardiovascular mortality stratified by sex
576	Hwang, H. S., Kim, S. Y., Hong, Y. A., Cho, W. K., Chang, Y. K., Shin, S. J., Yang, C. W., Kim, S. Y. and Yoon, H. E.	Clinical impact of coexisting retinopathy and vascular calcification on chronic kidney disease progression and cardiovascular events	2016	No CKD associated cardiovascular mortality stratified by sex
577	Hwang, H. S., Park, M. W., Yoon, H. E., Chang, Y. K., Yang, C. W., Kim, S. Y., Cho, J. S., Kim, C. J., Park, G. M., Park, C. S., Choi, Y. S., Koh, Y. S., Lee, J. M., Shin, D. I., Seo, S. M., Jeon, D. S., Moon, K. W., Yoo, K. D., Kim, H. Y., Kim, D. B., Park, H. J., Kim, P. J., Chang, K., Chung, W. S., Seung, K. B., Jeong, M. H., Her, S. H. and Ahn, Y.	Clinical significance of chronic kidney disease and atrial fibrillation on morbidity and mortality in patients with acute myocardial infarction	2014	No CKD associated cardiovascular mortality stratified by sex
578	Ignjatovic, A. M., Cvetkovic, T. P., Pavlovic, R. M., Dordevic, V. M., Milosevic, Z. G., Dordevic, V. B., Pavlovic, D. D., Stojanovic, I. R. and Bogdanovic, D.	Endothelial dysfunction, inflammation and malnutrition markers as predictors of mortality in dialysis patients: multimarker approach	2013	No CKD associated cardiovascular mortality stratified by sex

579	Iimori, S., Mori, Y., Akita, W., Takada, S., Kuyama, T., Ohnishi, T., Shikuma, S., Ishigami, J., Tajima, M., Asai, T. and et al.	Effects of sevelamer hydrochloride on mortality, lipid abnormality and arterial stiffness in hemodialyzed patients: a propensity-matched observational study	2012	No CKD associated cardiovascular mortality stratified by sex
580	Iimori, S., Naito, S., Noda, Y., Nishida, H., Kihira, H., Yui, N., Okado, T., Sasaki, S., Uchida, S. and Rai, T.	Anaemia management and mortality risk in newly visiting patients with chronic kidney disease in Japan: The CKD-ROUTE study	2015	No CKD associated cardiovascular mortality stratified by sex
581	Inaguma, D., Koide, S., Takahashi, K., Hayashi, H., Hasegawa, M. and Yuzawa, Y.	Association between resting heart rate just before starting the first dialysis session and mortality: A multicentre prospective cohort study	2018	No CKD associated cardiovascular mortality stratified by sex
582	Inaguma, D., Murata, M., Tanaka, A. and Shinjo, H.	Relationship between mortality and speed of eGFR decline in the 3 months prior to dialysis initiation	2017	No CKD associated cardiovascular mortality stratified by sex
583	Inaguma, D., Tanaka, A. and Shinjo, H.	Physical function at the time of dialysis initiation is associated with subsequent mortality	2017	No CKD associated cardiovascular mortality stratified by sex
584	Inoue, T., Ogawa, T., Ishida, H., Ando, Y. and Nitta, K.	Aortic arch calcification evaluated on chest X-ray is a strong independent predictor of cardiovascular events in chronic haemodialysis patients	2012	No CKD associated cardiovascular mortality stratified by sex
585	Inrig, J. K., Oddone, E. Z., Hasselblad, V., Gillespie, B., Patel, U. D., Reddan, D., Toto, R., Himmelfarb, J., Winchester, J. F., Stivelman, J. and et al.	Association of intradialytic blood pressure changes with hospitalization and mortality rates in prevalent ESRD patients	2007	No CKD associated cardiovascular mortality stratified by sex
586	Ishii, H., Takahashi, H., Ito, Y., Aoyama, T., Kamoi, D., Sakakibara, T., Umemoto, N., Kumada, Y., Suzuki, S. and Murohara, T.	The Association of Ankle Brachial Index, Protein-Energy Wasting, and Inflammation Status with Cardiovascular Mortality in Patients on Chronic Haemodialysis	2017	No CKD associated cardiovascular mortality stratified by sex
587	Ishimura, E., Okuno, S., Kono, K., Fujino-Kato, Y., Maeno, Y., Kagitani, S., Tsuboniwa, N., Nagasue, K., Maekawa, K., Yamakawa, T., Inaba, M. and Nishizawa, Y.	Glycemic control and survival of diabetic haemodialysis patients--importance of lower haemoglobin A1C levels	2009	No CKD associated cardiovascular mortality stratified by sex
588	Isshiki, K., Nishio, T., Isono, M., Makiishi, T., Shikano, T., Tomita, K., Nishio, T., Kanasaki, M., Maegawa, H. and Uzu, T.	Glycated Albumin Predicts the Risk of Mortality in Type 2 Diabetic Patients on Haemodialysis: Evaluation of a Target Level for Improving Survival	2014	No CKD associated cardiovascular mortality stratified by sex

589	Ix, J. H., Shlipak, M. G., Sarnak, M. J., Beck, G. J., Greene, T., Wang, X., Kusek, J. W., Collins, A. J., Levey, A. S. and Menon, V.	Fetuin-A is not associated with mortality in chronic kidney disease	2007	No CKD associated cardiovascular mortality stratified by sex
590	Jaar, B. G., Coresh, J., Plantinga, L. C., Fink, N. E., Klag, M. J., Levey, A. S., Levin, N. W., Sadler, J. H., Kliger, A. and Powe, N. R.	Comparing the risk for death with peritoneal dialysis and haemodialysis in a national cohort of patients with chronic kidney disease	2005	No CKD associated cardiovascular mortality stratified by sex
591	Jamison, R. L., Hartigan, P., Kaufman, J. S., Goldfarb, D. S., Warren, S. R., Guarino, P. D. and Gaziano, J. M.	Effect of homocysteine lowering on mortality and vascular disease in advanced chronic kidney disease and end-stage renal disease: a randomized controlled trial	2007	No CKD associated cardiovascular mortality stratified by sex
592	Janda, K., Krzanowski, M., Dumnicka, P., Kusnierz-Cabala, B., Miarka, P. and Sulowicz, W.	Peritoneal solute transport rate as an independent risk factor for total and cardiovascular mortality in a population of peritoneal dialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex
593	Janda, K., Krzanowski, M., Gajda, M., Dumnicka, P., Jasek, E., Fedak, D., Pietrzycka, A., Kuzniewski, M., Litwin, J. A. and Sulowicz, W.	Vascular effects of advanced glycation end-products: content of immunohistochemically detected AGEs in radial artery samples as a predictor for arterial calcification and cardiovascular risk in asymptomatic patients with chronic kidney disease	2015	No CKD associated cardiovascular mortality stratified by sex
594	Jaroszyński, A., Jaroszyńska, A., Zaborowski, T., Drelich-Zbroja, A., Zapolski, T. and Dabrowski, W.	Serum heat shock protein 27 levels predict cardiac mortality in haemodialysis patients 11 Medical and Health Sciences 1102 Cardiorespiratory Medicine and Haematology	2018	No CKD associated cardiovascular mortality stratified by sex
595	Jin, H., Shin, J. Y., Lee, S. H., Song, J. H., Kim, M. J. and Lee, S. W.	Abdominal obesity and mortality in continuous ambulatory peritoneal dialysis patients	2015	No CKD associated cardiovascular mortality stratified by sex
596	Johansson, M., Gao, S. A., Friberg, P., Annerstedt, M., Carlstrom, J., Ivarsson, T., Jensen, G., Ljungman, S., Mathillas, O., Nielsen, F. D. and Strombom, U.	Baroreflex effectiveness index and baroreflex sensitivity predict all-cause mortality and sudden death in hypertensive patients with chronic renal failure	2007	No CKD associated cardiovascular mortality stratified by sex
597	Johnson, D. W., Dent, H., Hawley, C. M., McDonald, S. P., Rosman, J. B., Brown, F. G., Bannister, K. and Wiggins, K. J.	Association of dialysis modality and cardiovascular mortality in incident dialysis patients	2009	No CKD associated cardiovascular mortality stratified by sex
598	Johnson, D. W., Wiggins, K. J., Armstrong, K. A., Campbell, S. B., Isbel, N. M. and Hawley, C. M.	Elevated white cell count at commencement of peritoneal dialysis predicts overall and cardiac mortality	2005	No CKD associated cardiovascular mortality stratified by sex

599	Joki, N., Hase, H., Kawano, Y., Nakamura, S., Nakajima, K., Hatta, T., Nishimura, S., Moroi, M., Nakagawa, S., Kasai, T., Kusuoka, H., Takeishi, Y., Momose, M., Takehana, K., Nanasato, M., Yoda, S., Nishina, H., Matsumoto, N. and Nishimura, T.	Myocardial perfusion imaging for predicting cardiac events in Japanese patients with advanced chronic kidney disease: 1-year interim report of the J-ACCESS 3 investigation	2014	No CKD associated cardiovascular mortality stratified by sex
600	Jung, H. Y., Kim, S. H., Jang, H. M., Lee, S., Kim, Y. S., Kang, S. W., Yang, C. W., Kim, N. H., Choi, J. Y., Cho, J. H., Kim, C. D., Park, S. H. and Kim, Y. L.	Individualized prediction of mortality using multiple inflammatory markers in patients on dialysis	2018	No CKD associated cardiovascular mortality stratified by sex
601	Jung, J. H., Chae, Y. J., Lee, D. H., Cho, Y. I., Ko, M. M., Park, S. K. and Kim, W.	Changes in whole blood viscosity during haemodialysis and mortality in patients with end-stage renal disease	2017	No CKD associated cardiovascular mortality stratified by sex
602	Kacso, I. M., Potra, A. R., Bondor, C. I., Moldovan, D., Rusu, C., Patiu, I. M., Racasan, S., Orasan, R., Vladutiu, D., Spanu, C., Rusu, A., Nita, C., Moldovan, R., Ghigolea, B. and Kacso, G.	Adiponectin predicts cardiovascular events in diabetes dialysis patients	2015	No CKD associated cardiovascular mortality stratified by sex
603	Kalantar-Zadeh, K., Block, G., Humphreys, M. H., McAllister, C. J. and Kopple, J. D.	A Low, Rather than a High, Total Plasma Homocysteine Is an Indicator of Poor Outcome in Haemodialysis Patients	2004	No CKD associated cardiovascular mortality stratified by sex
604	Kalantar-Zadeh, K., Kopple, J. D., Kilpatrick, R. D., McAllister, C. J., Shinaberger, C. S., Gjertson, D. W. and Greenland, S.	Association of morbid obesity and weight change over time with cardiovascular survival in haemodialysis population	2005	No CKD associated cardiovascular mortality stratified by sex
605	Kalantar-Zadeh, K., Regidor, D. L., Kovesdy, C. P., Van Wyck, D., Bunnapradist, S., Horwich, T. B. and Fonarow, G. C.	Fluid retention is associated with cardiovascular mortality in patients undergoing long-term haemodialysis	2009	No CKD associated cardiovascular mortality stratified by sex
606	Kalim, S., Clish, C. B., Wenger, J., Elmariah, S., Yeh, R. W., Deferio, J. J., Pierce, K., Deik, A., Gerszten, R. E., Thadhani, R. and Rhee, E. P.	A plasma long-chain acylcarnitine predicts cardiovascular mortality in incident dialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex
607	Kalousová, M., Jáchymová, M., Muravská, A., Kuběna, A. A., Dusilová-Sulková, S., Tesař, V. and Zima, T.	Cys327Cys polymorphism of the PAPP-A gene (pregnancy associated plasma protein A) is related to mortality of long term haemodialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex

608	Kalousová, M., Zima, T., Krane, V., März, W., Wanner, C., Tesař, V. and Drechsler, C.	Pregnancy-associated plasma protein A associates with cardiovascular events in diabetic haemodialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex
609	Kamiura, N., Yamamoto, K., Okada, S., Sakai, M. and Fujimori, A.	Calcification of the thoracic aorta determined by three-dimensional computed tomography predicts cardiovascular complications in patients undergoing haemodialysis	2014	No CKD associated cardiovascular mortality stratified by sex
610	Kanbay, M., Afsar, B., Siriopol, D., Unal, H. U., Karaman, M., Saglam, M., Gezer, M., Tas, A., Eyileten, T., Guler, A. K., Aydin, I., Oguz, Y., Tarim, K., Covic, A. and Yilmaz, M. I.	Endostatin in chronic kidney disease: Associations with inflammation, vascular abnormalities, cardiovascular events and survival	2016	No CKD associated cardiovascular mortality stratified by sex
611	Kanbay, M., Yilmaz, M. I., Apetrii, M., Saglam, M., Yaman, H., Unal, H. U., Gok, M., Caglar, K., Oguz, Y., Yenicesu, M., Cetinkaya, H., Eyileten, T., Acikel, C., Vural, A. and Covic, A.	Relationship between serum magnesium levels and cardiovascular events in chronic kidney disease patients	2012	No CKD associated cardiovascular mortality stratified by sex
612	Kasama, S., Toyama, T., Sato, M., Sano, H., Ueda, T., Sasaki, T., Nakahara, T., Higuchi, T., Tsushima, Y. and Kurabayashi, M.	Prognostic value of myocardial perfusion single photon emission computed tomography for major adverse cardiac cerebrovascular and renal events in patients with chronic kidney disease: results from first year of follow-up of the Gunma-CKD SPECT multicenter study	2016	No CKD associated cardiovascular mortality stratified by sex
613	Kato, A., Takita, T., Furuhashi, M., Maruyama, Y., Kumagai, H. and Hishida, A.	Blood monocyte count is a predictor of total and cardiovascular mortality in haemodialysis patients	2008	No CKD associated cardiovascular mortality stratified by sex
614	Kato, A., Takita, T., Furuhashi, M., Maruyama, Y., Miyajima, H. and Kumagai, H.	Brachial-ankle pulse wave velocity and the cardio-ankle vascular index as a predictor of cardiovascular outcomes in patients on regular haemodialysis	2012	No CKD associated cardiovascular mortality stratified by sex
615	Katzenellenbogen, J. M., Sanfilippo, F. M., Hobbs, M. S., Briffa, T. G., Ridout, S. C., Knuiman, M. W., Dimer, L., Taylor, K. P., Thompson, P. L. and Thompson, S. C.	Aboriginal to non-Aboriginal differentials in 2-year outcomes following non-fatal first-ever acute MI persist after adjustment for comorbidity	2012	No CKD associated cardiovascular mortality stratified by sex
616	Kawaguchi, T., Tong, L., Robinson, B. M., Sen, A., Fukuhara, S., Kurokawa, K., Canaud, B., Lameire, N., Port, F. K. and Pisoni, R. L.	C-reactive protein and mortality in haemodialysis patients: the Dialysis Outcomes and Practice Patterns Study (DOPPS)	2011	No CKD associated cardiovascular mortality stratified by sex

617	Kaysen, G. A., Johansen, K. L., Chertow, G. M., Dalrymple, L. S., Kornak, J., Grimes, B., Dwyer, T., Chassy, A. W. and Fiehn, O.	Associations of Trimethylamine N-Oxide With Nutritional and Inflammatory Biomarkers and Cardiovascular Outcomes in Patients New to Dialysis	2015	No CKD associated cardiovascular mortality stratified by sex
618	Kazmi, W. H., Gilbertson, D. T., Obrador, G. T., Guo, H., Pereira, B. J., Collins, A. J. and Kausz, A. T.	Effect of comorbidity on the increased mortality associated with early initiation of dialysis	2005	No CKD associated cardiovascular mortality stratified by sex
619	Kerns, E. S., Kim, E. D., Meoni, L. A., Sozio, S. M., Jaar, B. G., Estrella, M. M., Parekh, R. S. and Bourjeily, G.	Obstructive Sleep Apnea Increases Sudden Cardiac Death in Incident Haemodialysis Patients	2018	No CKD associated cardiovascular mortality stratified by sex
620	Khilji, F., Baloch, M., Iqbal, J., Iqbal, Q. and Saleem, F.	Frequency, prognosis and risk factors among congestive heart failure in dialysis patients attending public hospitals of Quetta city, Pakistan	2017	No CKD associated cardiovascular mortality stratified by sex
621	Kim, C. S., Jin, D. C., Yun, Y. C., Bae, E. H., Ma, S. K. and Kim, S. W.	Relationship between serum uric acid and mortality among haemodialysis patients: Retrospective analysis of Korean end-stage renal disease registry data	2017	No CKD associated cardiovascular mortality stratified by sex
622	Kim, D., Shim, C. Y., Hong, G. R., Cho, I. J., Chang, H. J., Ha, J. W. and Chung, N.	Effect of End-Stage Renal Disease on Rate of Progression of Aortic Stenosis	2016	No CKD associated cardiovascular mortality stratified by sex
623	Kim, H. J., Lee, H., Kim, D. K., Oh, K. H., Kim, Y. S., Ahn, C., Han, J. S., Min, S. K., Min, S. I., Kim, H. C. and Joo, K. W.	Recurrent Vascular Access Dysfunction as a Novel Marker of Cardiovascular Outcome and Mortality in Haemodialysis Patients	2016	No CKD associated cardiovascular mortality stratified by sex
624	Kim, J. S. and Wen, Y.	A comparative study on mortality patterns among Koreans, Korean-Chinese and Chinese	1999	No CKD associated cardiovascular mortality stratified by sex
625	Kim, N. H., Kim, K. J., Choi, J., Lee, J., Bae, J. H., An, J. H., Kim, H. Y., Yoo, H. J., Seo, J. A., Kim, N. H., Choi, K. M., Baik, S. H. and Kim, S. G.	Dipeptidyl peptidase-4 inhibitor compared with sulfonylurea in combination with metformin: Cardiovascular and renal outcomes in a propensity-matched cohort study	2019	No CKD associated cardiovascular mortality stratified by sex
626	Kim, R. B., Morse, B. L., Djurdjev, O., Tang, M., Muirhead, N., Barrett, B., Holmes, D. T., Madore, F., Clase, C. M., Rigatto, C., Levin, A. and Can, P. I.	Advanced chronic kidney disease populations have elevated trimethylamine N-oxide levels associated with increased cardiovascular events	2016	No CKD associated cardiovascular mortality stratified by sex

627	Kim, S., Molnar, M. Z., Fonarow, G. C., Streja, E., Wang, J., Gillen, D. L., Mehrotra, R., Brunelli, S. M., Kovesdy, C. P., Kalantar-Zadeh, K. and Rhee, C. M.	Mean platelet volume and mortality risk in a national incident haemodialysis cohort	2016	No CKD associated cardiovascular mortality stratified by sex
628	Kim, S. J., Oh, H. J., Yoo, D. E., Shin, D. H., Lee, M. J., Kim, H. R., Park, J. T., Han, S. H., Yoo, T. H., Choi, K. H. and Kang, S. W.	Electrocardiographic left ventricular hypertrophy and outcome in haemodialysis patients	2012	No CKD associated cardiovascular mortality stratified by sex
629	Kim, T., Rhee, C. M., Streja, E., Soohoo, M., Obi, Y., Chou, J. A., Tortorici, A. R., Ravel, V. A., Kovesdy, C. P. and Kalantar-Zadeh, K.	Racial and Ethnic Differences in Mortality Associated with Serum Potassium in a Large Haemodialysis Cohort	2017	No CKD associated cardiovascular mortality stratified by sex
630	Kimata, N., Albert, J. M., Akiba, T., Yamazaki, S., Kawaguchi, Y., Fukuhara, S., Akizawa, T., Saito, A., Asano, Y., Kurokawa, K., Pisoni, R. L. and Port, F. K.	Association of mineral metabolism factors with all-cause and cardiovascular mortality in haemodialysis patients: The Japan dialysis outcomes and practice patterns study	2007	No CKD associated cardiovascular mortality stratified by sex
631	Kiran, V. R., Zhu, T. Y., Yip, T., Lui, S. L. and Lo, W. K.	Body mass index and mortality risk in Asian peritoneal dialysis patients in Hong Kong-impact of diabetes and cardiovascular disease status	2014	No CKD associated cardiovascular mortality stratified by sex
632	Klassen, P. S., Lowrie, E. G., Reddan, D. N., DeLong, E. R., Coladonato, J. A., Szczech, L. A., Lazarus, J. M. and Owen, W. F., Jr.	Association between pulse pressure and mortality in patients undergoing maintenance haemodialysis	2002	No CKD associated cardiovascular mortality stratified by sex
633	Kleine, C. E., Soohoo, M., Ranasinghe, O. N., Park, C., Marroquin, M. V., Obi, Y., Rhee, C. M., Moradi, H., Kovesdy, C. P., Kalantar-Zadeh, K. and Streja, E.	Association of Pre-End-Stage Renal Disease Haemoglobin with Early Dialysis Outcomes	2018	No CKD associated cardiovascular mortality stratified by sex
634	Ko, K. I., Park, K. S., Lee, M. J., Doh, F. M., Kim, C. H., Koo, H. M., Oh, H. J., Park, J. T., Han, S. H., Kang, S. W. and Yoo, T. H.	Increased dialysate MCP-1 is associated with cardiovascular mortality in peritoneal dialysis patients: a prospective observational study	2014	No CKD associated cardiovascular mortality stratified by sex
635	Koch, M., Kohnle, M., Trapp, R., Haastert, B., Rump, L. C. and Aker, S.	Comparable outcome of acute unplanned peritoneal dialysis and haemodialysis	2012	No CKD associated cardiovascular mortality stratified by sex

636	Kohara, M., Masuda, T., Shiizaki, K., Akimoto, T., Watanabe, Y., Honma, S., Sekiguchi, C., Miyazawa, Y., Kusano, E., Kanda, Y., Asano, Y., Kuro-O, M. and Nagata, D.	Association between circulating fibroblast growth factor 21 and mortality in end-stage renal disease	2017	No CKD associated cardiovascular mortality stratified by sex
637	Kollerits, B., Krane, V., Drechsler, C., Lamina, C., Marz, W., Ritz, E., Wanner, C. and Kronenberg, F.	Apolipoprotein A-IV concentrations and clinical outcomes in haemodialysis patients with type 2 diabetes mellitus--a post hoc analysis of the 4D Study	2012	No CKD associated cardiovascular mortality stratified by sex
638	Komatsu, M., Okazaki, M., Tsuchiya, K., Kawaguchi, H. and Nitta, K.	Aortic arch calcification predicts cardiovascular and all-cause mortality in maintenance haemodialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex
639	Koo, H. M., Kim, C. H., Doh, F. M., Lee, M. J., Kim, E. J., Han, J. H., Han, J. S., Oh, H. J., Han, S. H., Yoo, T. H. and Kang, S. W.	The impact of low triiodothyronine levels on mortality is mediated by malnutrition and cardiac dysfunction in incident haemodialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex
640	Kovesdy, C. P., Alrifai, A., Gosmanova, E. O., Lu, J. L., Canada, R. B., Wall, B. M., Hung, A. M., Molnar, M. Z. and Kalantar-Zadeh, K.	Age and Outcomes Associated with BP in Patients with Incident CKD	2016	No CKD associated cardiovascular mortality stratified by sex
641	Kovesdy, C. P., Lott, E. H., Lu, J. L., Malakauskas, S. M., Ma, J. Z., Molnar, M. Z. and Kalantar-Zadeh, K.	Hyponatremia, hypernatremia, and mortality in patients with chronic kidney disease with and without congestive heart failure	2012	No CKD associated cardiovascular mortality stratified by sex
642	Krane, V., Genser, B., Kleber, M. E., Drechsler, C., Marz, W., Delgado, G., Allolio, B., Wanner, C. and Fenske, W.	Copeptin associates with cause-specific mortality in patients with impaired renal function: results from the LURIC and the 4D study	2017	No CKD associated cardiovascular mortality stratified by sex
643	Krane, V., Krieter, D. H., Olschewski, M., Marz, W., Mann, J. F., Ritz, E. and Wanner, C.	Dialyzer membrane characteristics and outcome of patients with type 2 diabetes on maintenance haemodialysis	2007	No CKD associated cardiovascular mortality stratified by sex
644	Krane, V., Winkler, K., Drechsler, C., Lilienthal, J., März, W. and Wanner, C.	Association of LDL Cholesterol and Inflammation With Cardiovascular Events and Mortality in Haemodialysis Patients With Type 2 Diabetes Mellitus	2009	No CKD associated cardiovascular mortality stratified by sex
645	Krishnasamy, R., Isbel, N. M., Hawley, C. M., Pascoe, E. M., Burrage, M., Leano, R., Haluska, B. A., Marwick, T. H. and Stanton, T.	Left Ventricular Global Longitudinal Strain (GLS) Is a Superior Predictor of All-Cause and Cardiovascular Mortality When Compared to Ejection Fraction in Advanced Chronic Kidney Disease	2015	No CKD associated cardiovascular mortality stratified by sex

646	Krzanowski, M., Krzanowska, K., Dumnicka, P., Gajda, M., Woziwodzka, K., Fedak, D., Grodzicki, T., Litwin, J. A. and Sulowicz, W.	Elevated Circulating Osteoprotegerin Levels in the Plasma of Hemodialyzed Patients With Severe Artery Calcification	2018	No CKD associated cardiovascular mortality stratified by sex
647	Krzanowski, M., Krzanowska, K., Gajda, M., Dumnicka, P., Dziewierz, A., Woziwodzka, K., Litwin, J. A. and Sulowicz, W.	Pentraxin 3 as a new indicator of cardiovascular-related death in patients with advanced chronic kidney disease	2017	No CKD associated cardiovascular mortality stratified by sex
648	Kshirsagar, A. V., Craig, R. G., Moss, K. L., Beck, J. D., Offenbacher, S., Kotanko, P., Klemmer, P. J., Yoshino, M., Levin, N. W., Yip, J. K., Almas, K., Lupovici, E. M., Usvyat, L. A. and Falk, R. J.	Periodontal disease adversely affects the survival of patients with end-stage renal disease	2009	No CKD associated cardiovascular mortality stratified by sex
649	Kuo, H. L., Liu, Y. L., Liang, C. C., Chang, C. T., Wang, S. M., Liu, J. H., Lin, H. H., Wang, I. K., Yang, Y. F., Chou, C. Y. and Huang, C. C.	Prolonged QT interval is linked to all-cause and cardiac mortality in chronic peritoneal dialysis patients	2017	No CKD associated cardiovascular mortality stratified by sex
650	Kuo, K. L., Hung, S. C., Tseng, W. C., Tsai, M. T., Liu, J. S., Lin, M. H., Hsu, C. C. and Tarng, D. C.	Association of anaemia and iron parameters with mortality among patients undergoing prevalent haemodialysis in Taiwan: The AIM-HD study	2018	No CKD associated cardiovascular mortality stratified by sex
651	Kuragano, T., Matsumura, O., Matsuda, A., Hara, T., Kiyomoto, H., Murata, T., Kitamura, K., Fujimoto, S., Hase, H., Joki, N., Fukatsu, A., Inoue, T., Itakura, I. and Nakanishi, T.	Association between haemoglobin variability, serum ferritin levels, and adverse events/mortality in maintenance haemodialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex
652	Kuwahara, M., Hasumi, S., Mandai, S., Tanaka, T., Shikuma, S., Akita, W., Mori, Y. and Sasaki, S.	Rate of ankle-brachial index decline predicts cardiovascular mortality in haemodialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex
653	Kuwahara, M., Takehara, E., Sasaki, Y., Azetsu, H., Kusaka, K., Shikuma, S. and Akita, W.	Effects of Cardiovascular Events on End-Stage Renal Disease and Mortality in Patients With Chronic Kidney Disease Before Dialysis	2016	No CKD associated cardiovascular mortality stratified by sex
654	Kuwamura, Y., Shoji, T., Okute, Y., Yamazaki, Y., Motoyama, K., Morioka, T., Mori, K., Fukumoto, S., Tsujimoto, Y., Shioi, A., Emoto, M. and Inaba, M.	Altered Serum n-6 Polyunsaturated Fatty Acid Profile and Risks of Mortality and Cardiovascular Events in a Cohort of Haemodialysis Patients	2018	No CKD associated cardiovascular mortality stratified by sex

655	Kuzniewski, M., Fedak, D., Dumnicka, P., Stepien, E., Kusnierz-Cabala, B., Cwynar, M. and Sulowicz, W.	Osteoprotegerin and osteoprotegerin/TRAIL ratio are associated with cardiovascular dysfunction and mortality among patients with renal failure	2016	No CKD associated cardiovascular mortality stratified by sex
656	Kyto, V., Sipila, J. and Rautava, P.	Gender and in-hospital mortality of ST-segment elevation myocardial infarction (from a multihospital nationwide registry study of 31,689 patients)	2015	No CKD associated cardiovascular mortality stratified by sex
657	Ladhani, M., Craig, J. C., Irving, M., Clayton, P. A. and Wong, G.	Obesity and the risk of cardiovascular and all-cause mortality in chronic kidney disease: A systematic review and meta-analysis	2017	No CKD associated cardiovascular mortality stratified by sex
658	Lahrach, H., Lebrazi, H., Saïle, R., Ghalim, N. and Ramdani, B.	Inflammation, cardiovascular risk and mortality among long term haemodialysis patients	2012	No CKD associated cardiovascular mortality stratified by sex
659	Lai, X., Zhang, A. H., Chen, S. Y., He, L., Su, C. Y., Fan, M. H. and Wang, T.	Outcomes of stage 1-5 chronic kidney disease in Mainland China	2014	No CKD associated cardiovascular mortality stratified by sex
660	Lajer, M., Tarnow, L., Jorsal, A., Teerlink, T., Parving, H. H. and Rossing, P.	Plasma concentration of asymmetric dimethylarginine (ADMA) predicts cardiovascular morbidity and mortality in type 1 diabetic patients with diabetic nephropathy	2008	No CKD associated cardiovascular mortality stratified by sex
661	Lam, C. S., Carson, P. E., Anand, I. S., Rector, T. S., Kuskowski, M., Komajda, M., McKelvie, R. S., McMurray, J. J., Zile, M. R., Massie, B. M. and et al.	Sex differences in clinical characteristics and outcomes in elderly patients with heart failure and preserved ejection fraction: the Irbesartan in Heart Failure with Preserved Ejection Fraction (I-PRESERVE) trial	2012	No CKD associated cardiovascular mortality stratified by sex
662	Langsford, D., Tang, M., Cheikh Hassan, H. I., Djurdjev, O., Sood, M. M. and Levin, A.	The Association between Biomarker Profiles, Etiology of Chronic Kidney Disease, and Mortality	2017	No CKD associated cardiovascular mortality stratified by sex
663	Lawson, C. A., Testani, J. M., Mamas, M., Damman, K., Jones, P. W., Teece, L. and Kadam, U. T.	Chronic kidney disease, worsening renal function and outcomes in a heart failure community setting: A UK national study	2018	No CKD associated cardiovascular mortality stratified by sex
664	Lee, M. J., Park, J. T., Han, S. H., Kim, Y. L., Kim, Y. S., Yang, C. W., Kim, N. H., Kang, S. W., Kim, H. J. and Yoo, T. H.	The atherogenic index of plasma and the risk of mortality in incident dialysis patients: Results from a nationwide prospective cohort in Korea	2017	No CKD associated cardiovascular mortality stratified by sex
665	Lee, M. J., Shin, D. H., Kim, S. J., Yoo, D. E., Ko, K. I., Koo, H. M., Kim, C. H., Doh, F. M., Oh, H. J., Park, J. T., Han, S. H., Yoo, T. H., Choi, K. H. and Kang, S. W.	Sagittal abdominal diameter is an independent predictor of all-cause and cardiovascular mortality in incident peritoneal dialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex

666	Lee, S., Kang, E., Yoo, K. D., Choi, Y., Kim, D. K., Joo, K. W., Yang, S. H., Kim, Y. L., Kang, S. W., Yang, C. W., Kim, N. H., Kim, Y. S. and Lee, H.	Lower serum potassium associated with increased mortality in dialysis patients: A nationwide prospective observational cohort study in Korea	2017	No CKD associated cardiovascular mortality stratified by sex
667	Lee, T., Thamer, M., Zhang, Q., Zhang, Y. and Allon, M.	Reduced Cardiovascular Mortality Associated with Early Vascular Access Placement in Elderly Patients with Chronic Kidney Disease	2016	No CKD associated cardiovascular mortality stratified by sex
668	Lee, W. C., Fang, H. Y., Chen, H. C., Chen, C. J., Yang, C. H., Hang, C. L., Wu, C. J. and Fang, C. Y.	Anaemia: A significant cardiovascular mortality risk after ST-segment elevation myocardial infarction complicated by the comorbidities of hypertension and kidney disease	2017	No CKD associated cardiovascular mortality stratified by sex
669	Lertdumrongluk, P., Rhee, C. M., Park, J., Lau, W. L., Moradi, H., Jing, J., Molnar, M. Z., Brunelli, S. M., Nissenson, A. R., Kovesdy, C. P. and Kalantar-Zadeh, K.	Association of serum phosphorus concentration with mortality in elderly and nonelderly haemodialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex
670	Lesaffre, F., Wynckel, A., Nazeyrollas, P., Rieu, P. and Metz, D.	Echocardiography to predict adverse cardiac and vascular events in patients with severe chronic kidney disease (stage 4): a prospective study	2013	No CKD associated cardiovascular mortality stratified by sex
671	Levin, A., Rigatto, C., Brendan, B., Madore, F., Muirhead, N., Holmes, D., Clase, C. M., Tang, M. and Djurdjev, O.	Cohort profile: Canadian study of prediction of death, dialysis and interim cardiovascular events (CanPREDDICT)	2013	No CKD associated cardiovascular mortality stratified by sex
672	Li, C., Hu, D., Shi, X., Li, L., Yang, J., Song, L. and Ma, C.	A multicentre prospective evaluation of the impact of renal insufficiency on in-hospital and long-term mortality of patients with acute ST-elevation myocardial infarction	2015	No CKD associated cardiovascular mortality stratified by sex
673	Li, H., Lu, X., Xiong, R. and Wang, S.	High Neutrophil-to-Lymphocyte Ratio Predicts Cardiovascular Mortality in Chronic Haemodialysis Patients	2017	No CKD associated cardiovascular mortality stratified by sex
674	Li, T., Liu, J., An, S., Dai, Y. and Yu, Q.	Body mass index and mortality in patients on maintenance haemodialysis: A meta-analysis	2014	No CKD associated cardiovascular mortality stratified by sex
675	Li, W., Xu, R., Wang, Y., Shen, J., Li, Z., Yu, X. and Mao, H.	Association of body mass index and uncontrolled blood pressure with cardiovascular mortality in peritoneal dialysis patients	2019	No CKD associated cardiovascular mortality stratified by sex
676	Li, W. J., Chen, X. M., Nie, X. Y., Zhang, J., Cheng, Y. J., Lin, X. X. and Wu, S. H.	Cardiac troponin and C-reactive protein for predicting all-cause and cardiovascular mortality in patients with chronic kidney disease: a meta-analysis. Review	2015	No CKD associated cardiovascular mortality stratified by sex
677	Liabeuf, S., Barreto, D. V., Kretschmer, A., Barreto, F. C., Renard, C., Andrejak, M., Choukroun, G. and Massy, Z.	High circulating levels of large splice variants of tenascin-C is associated with mortality and cardiovascular disease in chronic kidney disease patients	2011	No CKD associated cardiovascular mortality stratified by sex

678	Liabeuf, S., Glorieux, G., Lenglet, A., Diouf, M., Schepers, E., Desjardins, L., Choukroun, G., Vanholder, R. and Massy, Z. A.	Does p-cresylglucuronide have the same impact on mortality as other protein-bound uremic toxins?	2013	No CKD associated cardiovascular mortality stratified by sex
679	Liabeuf, S., Lenglet, A., Desjardins, L., Neirynck, N., Glorieux, G., Lemke, H. D., Vanholder, R., Diouf, M., Choukroun, G. and Massy, Z. A.	Plasma beta-2 microglobulin is associated with cardiovascular disease in uremic patients	2012	No CKD associated cardiovascular mortality stratified by sex
680	Lim, C. C., Teo, B. W., Ong, P. G., Cheung, C. Y., Lim, S. C., Chow, K. Y., Meng, C. C., Lee, J., Tai, E. S., Wong, T. Y. and Sabanayagam, C.	Chronic kidney disease, cardiovascular disease and mortality: A prospective cohort study in a multi-ethnic Asian population	2015	No CKD associated cardiovascular mortality stratified by sex
681	Lima, H. N., Cabral, N. L., Franklin, J., Moro, C. H., Pecoits-Filho, R. and Goncalves, A. R.	Age dependent impact of estimated glomerular filtration rate on long-term survival after ischaemic stroke	2012	No CKD associated cardiovascular mortality stratified by sex
682	Lin, C., Zhang, Q., Zhang, H. and Lin, A.	Long-Term Effects of Low-Dose Spironolactone on Chronic Dialysis Patients: a Randomized Placebo-Controlled Study	2016	No CKD associated cardiovascular mortality stratified by sex
683	Lin, C. Y., Leu, J. G., Fang, Y. W. and Tsai, M. H.	Association of interleg difference of ankle brachial index with overall and cardiovascular mortality in chronic haemodialysis patients	2015	No CKD associated cardiovascular mortality stratified by sex
684	Lin, F. J., Zhang, X., Huang, L. S., Ji, G., Huang, H. D., Xie, Y., Jiang, G. R., Zhou, X. and Lu, W.	Impact of haemoglobin variability on cardiovascular mortality in maintenance haemodialysis patients	2018	No CKD associated cardiovascular mortality stratified by sex
685	Lin, J. H., Yen, T. H., Weng, C. H. and Huang, W. H.	Environmental NO2 level is associated with 2-year mortality in patients undergoing peritoneal dialysis	2015	No CKD associated cardiovascular mortality stratified by sex
686	Lin, M. Y., Cheng, L. J., Chiu, Y. W., Hsieh, H. M., Wu, P. H., Lin, Y. T., Wang, S. L., Jian, F. X., Hsu, C. C., Yang, S. A., Lee, H. L. and Hwang, S. J.	Effect of national pre-ESRD care program on expenditures and mortality in incident dialysis patients: A population-based study	2018	No CKD associated cardiovascular mortality stratified by sex
687	Lin, S. W., Weng, W. C., Huang, Y. H., Su, F. C., Peng, T. I., Chien, Y. Y., Wu, C. L., Lee, K. Y., Yu, Y. J., Zhu, J. X. and Huang, W. Y.	Association between renal dysfunction and 3-year mortality in patients with acute first-ever ischemic stroke	2015	No CKD associated cardiovascular mortality stratified by sex
688	Lin, T. H., Lai, W. T., Hsin, H. T., Li, A. H., Wang, C. L., Kuo, C. T., Hwang, J. J., Chiang, F. T. and Chang, S. C.	Effects of clopidogrel on mortality, cardiovascular and bleeding outcomes in patients with chronic kidney disease - data from Taiwan acute coronary syndrome full spectrum registry	2013	No CKD associated cardiovascular mortality stratified by sex
689	Lin, T. Y., Lim, P. S. and Hung, S. C.	Normal-weight obesity and clinical outcomes in nondiabetic chronic kidney disease patients: a cohort study	2018	No CKD associated cardiovascular mortality stratified by sex

690	Lin, T. Y., Peng, C. H., Hung, S. C. and Tarng, D. C.	Body composition is associated with clinical outcomes in patients with non-dialysis-dependent chronic kidney disease	2018	No CKD associated cardiovascular mortality stratified by sex
691	Lipsic, E., Asselbergs, F. W., van der Meer, P., Tio, R. A., Voors, A. A., van Gilst, W. H., Zijlstra, F. and van Veldhuisen, D. J.	Anaemia predicts cardiovascular events in patients with stable coronary artery disease	2005	No CKD associated cardiovascular mortality stratified by sex
692	Liu, J. H., Chen, C. C., Wang, S. M., Chou, C. Y., Liu, Y. L., Kuo, H. L., Lin, H. H., Wang, I. K., Yang, Y. F. and Huang, C. C.	Association between pulse pressure and 30-month all-cause mortality in peritoneal dialysis patients	2008	No CKD associated cardiovascular mortality stratified by sex
693	Liu, S. H., Li, Y. J., Wu, H. H., Lee, C. C., Lin, C. Y., Weng, C. H., Chen, Y. C., Chang, M. Y., Hsu, H. H., Fang, J. T., Hung, C. C., Yang, C. W. and Tian, Y. C.	High-sensitivity C-reactive protein predicts mortality and technique failure in peritoneal dialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex
694	Liu, T., Liang, K. V., Rosenbaum, A., Stephenson, R., Pike, F., Weissfeld, L. and Unruh, M. L.	Peripheral vascular disease severity impacts health outcomes and health-related quality of life in maintenance haemodialysis patients in the HEMO Study	2012	No CKD associated cardiovascular mortality stratified by sex
695	Liu, X., Guo, Q., Feng, X., Wang, J., Wu, J., Mao, H., Huang, F., Yu, X. and Yang, X.	Alkaline phosphatase and mortality in patients on peritoneal dialysis	2014	No CKD associated cardiovascular mortality stratified by sex
696	Liu, Y., Lee, W. C., Cheng, B. C., Li, L. C., Lee, C. H., Chang, W. X. and Chen, J. B.	Association between the achievement of target range CKD-MBD markers and mortality in prevalent haemodialysis patients in Taiwan by Using the Kidney Disease: Improving Global Outcomes Clinical Guidelines	2016	No CKD associated cardiovascular mortality stratified by sex
697	Liu, Y., Zhu, J. G., Cheng, B. C., Liao, S. C., Lee, C. H., Chang, W. X. and Chen, J. B.	An association between time-varying serum alkaline phosphatase concentrations and mortality rate in patients undergoing peritoneal dialysis: a five-year cohort study	2017	No CKD associated cardiovascular mortality stratified by sex
698	Liu, Y. L., Liu, J. H., Wang, I. K., Ju, S. W., Yu, T. M., Chen, I. R., Liu, Y. C., Huang, C. M., Lin, S. Y., Chang, C. T. and Huang, C. C.	Association of inflammatory cytokines with mortality in peritoneal dialysis patients	2017	No CKD associated cardiovascular mortality stratified by sex
699	Liu, Y. W., Su, C. T., Sung, J. M., Wang, S. P., Su, Y. R., Yang, C. S., Tsai, L. M., Chen, J. H. and Tsai, W. C.	Association of left ventricular longitudinal strain with mortality among stable haemodialysis patients with preserved left ventricular ejection fraction	2013	No CKD associated cardiovascular mortality stratified by sex
700	Liu, Y. W., Tseng, C. C., Su, C. T., Chang, Y. T., Chen, J. Y., Chen, L. Y., Tsai, L. M., Chen, J. H., Wang, M. C. and Tsai, W. C.	The prognostic value of left ventricular global peak systolic longitudinal strain in chronic peritoneal dialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex

701	Lofman, I., Szummer, K., Dahlstrom, U., Jernberg, T. and Lund, L. H.	Associations with and prognostic impact of chronic kidney disease in heart failure with preserved, mid-range, and reduced ejection fraction	2017	No CKD associated cardiovascular mortality stratified by sex
702	London, G. M., Guerin, A. P., Marchais, S. J., Metivier, F., Pannier, B. and Adda, H.	Arterial media calcification in end-stage renal disease: impact on all-cause and cardiovascular mortality	2003	No CKD associated cardiovascular mortality stratified by sex
703	Longenecker, J. C., Klag, M. J., Marcovina, S. M., Liu, Y. M., Jaar, B. G., Powe, N. R., Fink, N. E., Levey, A. S. and Coresh, J.	High lipoprotein(a) levels and small apolipoprotein(a) size prospectively predict cardiovascular events in dialysis patients	2005	No CKD associated cardiovascular mortality stratified by sex
704	Lorenz, G., Schmalenberg, M., Kemmner, S., Haller, B., Steubl, D., Pham, D., Schreiegg, A., Bachmann, Q., Schmidt, A., Haderer, S., Huber, M., Angermann, S., Gunthner, R., Braunisch, M., Hauser, C., Reichelt, A. L., Matschkal, J., Suttmann, Y., Moog, P., Stock, K., Kuchle, C., Thurmel, K., Renders, L., Bauer, A., Baumann, M., Heemann, U., Luppa, P. B. and Schmaderer, C.	Mortality prediction in stable haemodialysis patients is refined by YKL-40, a 40-kDa glycoprotein associated with inflammation	2018	No CKD associated cardiovascular mortality stratified by sex
705	Lorenzen, J., David, S., Bahlmann, F. H., Groot, K., Bahlmann, E., Kielstein, J. T., Haller, H. and Fliser, D.	Endothelial progenitor cells and cardiovascular events in patients with chronic kidney disease - A prospective follow-up study	2010	No CKD associated cardiovascular mortality stratified by sex
706	Losito, A., Del Vecchio, L., Del Rosso, G. and Locatelli, F.	Postdialysis Hypertension: Associated Factors, Patient Profiles, and Cardiovascular Mortality	2016	No CKD associated cardiovascular mortality stratified by sex
707	Losito, A., Del Vecchio, L., Del Rosso, G. and Malandra, R.	Blood pressure and cardiovascular mortality in dialysis patients with left ventricular systolic dysfunction	2014	No CKD associated cardiovascular mortality stratified by sex
708	Losito, A., Kalidas, K., Santoni, S., Errico, R. and Jeffery, S.	Association of the -159C/T polymorphism of the endotoxin receptor (CD14) with carotid artery disease and cardiovascular mortality in dialysis patients	2005	No CKD associated cardiovascular mortality stratified by sex
709	Lowbeer, C., Stenvinkel, P., Pecoits-Filho, R., Heimburger, O., Lindholm, B., Gustafsson, S. A. and Seeberger, A.	Elevated cardiac troponin T in predialysis patients is associated with inflammation and predicts mortality	2003	No CKD associated cardiovascular mortality stratified by sex

710	Lu, C. L., Leu, J. G., Liu, W. C., Zheng, C. M., Lin, Y. F., Shyu, J. F., Wu, C. C. and Lu, K. C.	Endothelial progenitor cells predict long-term mortality in haemodialysis patients	2016	No CKD associated cardiovascular mortality stratified by sex
711	Lu, J., Zhu, M., Liu, S., Zhu, M., Pang, H., Lin, X., Ni, Z., Qian, J., Cai, H. and Zhang, W.	The relationship between survival rate and intradialytic blood pressure changes in maintenance haemodialysis patients	2017	No CKD associated cardiovascular mortality stratified by sex
712	Lu, T. M., Chung, M. Y., Lin, C. C., Hsu, C. P. and Lin, S. J.	Asymmetric dimethylarginine and clinical outcomes in chronic kidney disease	2011	No CKD associated cardiovascular mortality stratified by sex
713	Lu, W., Pang, W. F., Jin, L., Li, H., Chow, K. M., Kwan, B. C. H., Leung, C. B., Li, P. K. T. and Szeto, C. C.	Peritoneal protein clearance predicts mortality in peritoneal dialysis patients	2019	No CKD associated cardiovascular mortality stratified by sex
714	Lu, X., Wang, S., Zhang, G., Xiong, R. and Li, H.	High Neutrophil-to-Lymphocyte Ratio is a Significant Predictor of Cardiovascular and All-Cause Mortality in Patients Undergoing Peritoneal Dialysis	2018	No CKD associated cardiovascular mortality stratified by sex
715	Lukowsky, L. R., Kheifets, L., Arah, O. A., Nissenson, A. R. and Kalantar-Zadeh, K.	Patterns and predictors of early mortality in incident hemodialysis patients: new insights	2012	No CKD associated cardiovascular mortality stratified by sex
716	Luo, Q., Xia, X., Li, B., Lin, Z., Yu, X. and Huang, F.	Serum uric acid and cardiovascular mortality in chronic kidney disease: A meta-analysis	2019	No CKD associated cardiovascular mortality stratified by sex
717	Luo, Y., Li, X., Li, J., Wang, X., Xu, Y., Qiao, Y., Hu, D. and Ma, Y.	Peripheral arterial disease, chronic kidney disease, and mortality: the Chinese Ankle Brachial Index Cohort Study	2010	No CKD associated cardiovascular mortality stratified by sex
718	Luthi, J. C., Flanders, W. D., Burnier, M., Burnand, B. and McClellan, W. M.	Anaemia and chronic kidney disease are associated with poor outcomes in heart failure patients	2006	No CKD associated cardiovascular mortality stratified by sex
719	Madero, M., Sarnak, M. J., Wang, X., Sceppa, C. C., Greene, T., Beck, G. J., Kusek, J. W., Collins, A. J., Levey, A. S. and Menon, V.	Body mass index and mortality in CKD	2007	No CKD associated cardiovascular mortality stratified by sex
720	Maduell, F., Moreso, F., Pons, M., Ramos, R., Mora-Macia, J., Carreras, J., Soler, J., Torres, F., Campistol, J. M. and Martinez-Castelao, A.	High-efficiency postdilution online hemodiafiltration reduces all-cause mortality in hemodialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex
721	Maduell, F., Varas, J., Ramos, R., Martin-Malo, A., Perez-Garcia, R., Berdud, I., Moreso, F., Canaud, B., Stuard, S., Gauly, A., Aljama, P. and Merello, J. I.	Hemodiafiltration Reduces All-Cause and Cardiovascular Mortality in Incident Haemodialysis Patients: A Propensity-Matched Cohort Study	2017	No CKD associated cardiovascular mortality stratified by sex

722	Mahmoodi, B. K., Matsushita, K., Woodward, M., Blankestijn, P. J., Cirillo, M., Ohkubo, T., Rossing, P., Sarnak, M. J., Stengel, B., Yamagishi, K., Yamashita, K., Zhang, L., Coresh, J., de Jong, P. E. and Astor, B. C.	Associations of kidney disease measures with mortality and end-stage renal disease in individuals with and without hypertension: a meta-analysis	2012	No CKD associated cardiovascular mortality stratified by sex
723	Mallamaci, F., Zoccali, C., Tripepi, G., Fermo, I., Benedetto, F. A., Cataliotti, A., Bellanuova, I., Malatino, L. S. and Soldarini, A.	Hyperhomocysteinemia predicts cardiovascular outcomes in haemodialysis patients	2002	No CKD associated cardiovascular mortality stratified by sex
724	Mann, J. F., Lonn, E. M., Yi, Q., Gerstein, H. C., Hoogwerf, B. J., Pogue, J., Bosch, J., Dagenais, G. R. and Yusuf, S.	Effects of vitamin E on cardiovascular outcomes in people with mild-to-moderate renal insufficiency: results of the HOPE study	2004	No CKD associated cardiovascular mortality stratified by sex
725	Marcais, C., Maucort-Boulch, D., Drai, J., Dantony, E., Carlier, M. C., Blond, E., Genet, L., Kuentz, F., Lataillade, D., Legrand, E., Moreau-Gaudry, X., Jean, G. and Fouque, D.	Circulating Klotho Associates With Cardiovascular Morbidity and Mortality During Haemodialysis	2017	No CKD associated cardiovascular mortality stratified by sex
726	Mark, P. B., Doyle, A., Blyth, K. G., Patel, R. K., Weir, R. A., Steedman, T., Foster, J. E., Dargie, H. J. and Jardine, A. G.	Vascular function assessed with cardiovascular magnetic resonance predicts survival in patients with advanced chronic kidney disease	2008	No CKD associated cardiovascular mortality stratified by sex
727	Marouga, A., Dalamaga, M., Kastania, A. N., Kroupis, C., Lagiou, M., Saounatsou, K., Dimas, K. and Vlahakos, D. V.	Circulating resistin is a significant predictor of mortality independently from cardiovascular comorbidities in elderly, non-diabetic subjects with chronic kidney disease	2016	No CKD associated cardiovascular mortality stratified by sex
728	Martin, R. S. S., Martin, L. C., Franco, R. J. S., Barretti, P., Caramori, J. C. T., Castro, J. H., Antunes, A. A., Zanati-Basan, S. G., Matsubara, B. B. and Martins, A. S.	Ventricular hypertrophy and cardiovascular mortality in haemodialysis patients with low educational level	2012	No CKD associated cardiovascular mortality stratified by sex
729	Maruyama, Y., Taniguchi, M., Kazama, J. J., Yokoyama, K., Hosoya, T., Yokoo, T., Shigematsu, T., Iseki, K. and Tsubakihara, Y.	A higher serum alkaline phosphatase is associated with the incidence of hip fracture and mortality among patients receiving haemodialysis in Japan	2014	No CKD associated cardiovascular mortality stratified by sex

730	Maruyama, Y., Yokoyama, K., Yokoo, T., Shigematsu, T., Iseki, K. and Tsubakihara, Y.	The Different Association between Serum Ferritin and Mortality in Haemodialysis and Peritoneal Dialysis Patients Using Japanese Nationwide Dialysis Registry	2015	No CKD associated cardiovascular mortality stratified by sex
731	März, W., Genser, B., Drechsler, C., Krane, V., Grammer, T. B., Ritz, E., Stojakovic, T., Scharnagl, H., Winkler, K., Holme, I. and et al.	Atorvastatin and low-density lipoprotein cholesterol in type 2 diabetes mellitus patients on haemodialysis	2011	No CKD associated cardiovascular mortality stratified by sex
732	Mason, N. A., Bailie, G. R., Satayathum, S., Bragg-Gresham, J. L., Akiba, T., Akizawa, T., Combe, C., Rayner, H. C., Saito, A., Gillespie, B. W. and et al.	HMG-coenzyme a reductase inhibitor use is associated with mortality reduction in haemodialysis patients	2005	No CKD associated cardiovascular mortality stratified by sex
733	Masuda, T., Murata, M., Honma, S., Iwazu, Y., Sasaki, N., Ogura, M., Onishi, A., Ando, Y., Muto, S., Shimada, K., Kario, K., Kusano, E. and Asano, Y.	Sleep-disordered breathing predicts cardiovascular events and mortality in haemodialysis patients	2011	No CKD associated cardiovascular mortality stratified by sex
734	Matias, P. J., Azevedo, A., Laranjinha, I., Navarro, D., Mendes, M., Ferreira, C., Amaral, T., Jorge, C., Aires, I., Gil, C. and Ferreira, A.	Lower serum magnesium is associated with cardiovascular risk factors and mortality in haemodialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex
735	Matschkal, J., Mayer, C. C., Sarafidis, P. A., Lorenz, G., Braunisch, M. C., Guenthner, R., Angermann, S., Steubl, D., Kemmner, S., Bachmann, Q., Hauser, C., Nerl, L., Baumann, M., Mann, J. F., Moog, P., Kuechle, C., Renders, L., Heemann, U., Wassertheurer, S. and Schmaderer, C.	Comparison of 24-hour and Office Pulse Wave Velocity for Prediction of Mortality in Haemodialysis Patients	2019	No CKD associated cardiovascular mortality stratified by sex
736	Matsubara, K., Suliman, M. E., Qureshi, A. R., Axelsson, J., Martola, L., Heimburger, O., Barany, P., Stenvinkel, P. and Lindholm, B.	Bone mineral density in end-stage renal disease patients: association with wasting, cardiovascular disease and mortality	2008	No CKD associated cardiovascular mortality stratified by sex
737	Matsumoto, Y., Mori, Y., Kageyama, S., Arihara, K., Sugiyama, T., Ohmura, H., Yakushigawa, T., Sugiyama, H., Shimada, Y., Nojima, Y. and et al.	Spironolactone reduces cardiovascular and cerebrovascular morbidity and mortality in haemodialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex

738	Matsuo, S., Nakajima, K., Takeishi, Y. and Nishimura, T.	Prognostic value of normal stress myocardial perfusion imaging and ventricular function in Japanese patients with chronic kidney disease: a study based on the J-ACCESS-3 database	2018	No CKD associated cardiovascular mortality stratified by sex
739	Matsushita, K., Coresh, J., Sang, Y., Chalmers, J., Fox, C., Guallar, E., Jafar, T., Jassal, S. K., Landman, G. W., Muntner, P., Roderick, P., Sairenchi, T., Schottker, B., Shankar, A., Shlipak, M., Tonelli, M., Townend, J., van Zuilen, A., Yamagishi, K., Yamashita, K., Gansevoort, R., Sarnak, M., Warnock, D. G., Woodward, M., Arnlov, J. and Consortium, C. K. D. P.	Estimated glomerular filtration rate and albuminuria for prediction of cardiovascular outcomes: a collaborative meta-analysis of individual participant data	2015	No CKD associated cardiovascular mortality stratified by sex
740	Matsushita, K., Sang, Y., Ballew, S. H., Astor, B. C., Hoogeveen, R. C., Solomon, S. D., Ballantyne, C. M., Woodward, M. and Coresh, J.	Cardiac and kidney markers for cardiovascular prediction in individuals with chronic kidney disease: the Atherosclerosis Risk in Communities study	2014	No CKD associated cardiovascular mortality stratified by sex
741	Mavrakanas, T. A., Sniderman, A. D., Barre, P. E. and Alam, A.	Serial versus single troponin measurements for the prediction of cardiovascular events and mortality in stable chronic haemodialysis patients	2018	No CKD associated cardiovascular mortality stratified by sex
742	Mayer, C. C., Matschkal, J., Sarafidis, P. A., Hagmair, S., Lorenz, G., Angermann, S., Braunisch, M. C., Baumann, M., Heemann, U., Wassertheurer, S. and Schmaderer, C.	Association of ambulatory blood pressure with all-cause and cardiovascular mortality in haemodialysis patients: Effects of heart failure and atrial fibrillation	2018	No CKD associated cardiovascular mortality stratified by sex
743	McClellan, W. M., Flanders, W. D., Langston, R. D., Jurkovitz, C. and Presley, R.	Anaemia and renal insufficiency are independent risk factors for death among patients with congestive heart failure admitted to community hospitals: a population-based study	2002	No CKD associated cardiovascular mortality stratified by sex
744	McGovern, A. P., Rusholme, B., Jones, S., van Vlymen, J. N., Liyanage, H., Gallagher, H., Tomson, C. R., Khunti, K., Harris, K. and de Lusignan, S.	Association of chronic kidney disease (CKD) and failure to monitor renal function with adverse outcomes in people with diabetes: a primary care cohort study	2013	No CKD associated cardiovascular mortality stratified by sex
745	McMullan, C. J., Bakris, G. L., Phillips, R. A. and Forman, J. P.	Association of BP variability with mortality among African Americans with CKD	2013	No CKD associated cardiovascular mortality stratified by sex

746	McMullan, C. J., Lambers Heerspink, H. J., Parving, H. H., Dwyer, J. P., Forman, J. P. and de Zeeuw, D.	Visit-to-visit variability in blood pressure and kidney and cardiovascular outcomes in patients with type 2 diabetes and nephropathy: a post hoc analysis from the RENAAL study and the Irbesartan Diabetic Nephropathy Trial	2014	No CKD associated cardiovascular mortality stratified by sex
747	Mehrotra, R., Kermah, D. A., Salusky, I. B., Wolf, M. S., Thadhani, R. I., Chiu, Y. W., Martins, D., Adler, S. G. and Norris, K. C.	Chronic kidney disease, hypovitaminosis D, and mortality in the United States	2009	No CKD associated cardiovascular mortality stratified by sex
748	Mehta, N. N., Matthews, G. J., Krishnamoorthy, P., Shah, R., McLaughlin, C., Patel, P., Budoff, M., Chen, J., Wolman, M., Go, A., He, J., Kanetsky, P. A., Master, S. R., Rader, D. J., Raj, D., Gadegbeku, C. A., Shah, R., Schreiber, M., Fischer, M. J., Townsend, R. R., Kusek, J., Feldman, H. I., Foulkes, A. S. and Reilly, M. P.	Higher plasma CXCL12 levels predict incident myocardial infarction and death in chronic kidney disease: Findings fromthe chronic renal insufficiency cohort study	2014	No CKD associated cardiovascular mortality stratified by sex
749	Melloni, C., Cornel, J. H., Hafley, G., Neely, M. L., Clemmensen, P., Zamoryakhin, D., Prabhakaran, D., White, H. D., Fox, K. A., Ohman, E. M., Armstrong, P. W. and Roe, M. T.	Impact of chronic kidney disease on long-term ischemic and bleeding outcomes in medically managed patients with acute coronary syndromes: Insights from the TRILOGY ACS Trial	2016	No CKD associated cardiovascular mortality stratified by sex
750	Menon, V., Greene, T., Pereira, A. A., Wang, X., Beck, G. J., Kusek, J. W., Collins, A. J., Levey, A. S. and Sarnak, M. J.	Glycosylated haemoglobin and mortality in patients with nondiabetic chronic kidney disease	2005	No CKD associated cardiovascular mortality stratified by sex
751	Menon, V., Greene, T., Wang, X., Pereira, A. A., Marcovina, S. M., Beck, G. J., Kusek, J. W., Collins, A. J., Levey, A. S. and Sarnak, M. J.	C-reactive protein and albumin as predictors of all-cause and cardiovascular mortality in chronic kidney disease	2005	No CKD associated cardiovascular mortality stratified by sex
752	Menon, V., Sarnak, M. J., Greene, T., Wang, X., Pereira, A. A., Beck, G. J., Kusek, J. W., Selhub, J., Collins, A. J., Levey, A. S. and et al.	Relationship between homocysteine and mortality in chronic kidney disease	2006	No CKD associated cardiovascular mortality stratified by sex

753	Mercadal, L., Franck, J. E., Metzger, M., Urena Torres, P., de Cornelissen, F., Edet, S., Bechade, C., Vigneau, C., Drueke, T., Jacquelinet, C. and Stengel, B.	Hemodiafiltration Versus Haemodialysis and Survival in Patients With ESRD: The French Renal Epidemiology and Information Network (REIN) Registry	2016	No CKD associated cardiovascular mortality stratified by sex
754	Meuwese, C. L., Dekker, F. W., Lindholm, B., Qureshi, A. R., Heimburger, O., Barany, P., Stenvinkel, P. and Carrero, J. J.	Baseline levels and trimestral variation of triiodothyronine and thyroxine and their association with mortality in maintenance haemodialysis patients	2012	No CKD associated cardiovascular mortality stratified by sex
755	Mezue, K., Goyal, A., Pressman, G. S., Horrow, J. C. and Rangaswami, J.	Blood Pressure Variability Predicts Adverse Events and Cardiovascular Outcomes in Chronic Kidney Disease: A Post-Hoc Analysis of the SPRINT Trial	2017	No CKD associated cardiovascular mortality stratified by sex
756	Mielniczuk, L. M., Pfeffer, M. A., Lewis, E. F., Blazing, M. A., de Lemos, J. A., Mohanavelu, S., Rouleau, J., Fox, K., Pedersen, T. R. and Califf, R. M.	Acute decline in renal function, inflammation, and cardiovascular risk after an acute coronary syndrome	2009	No CKD associated cardiovascular mortality stratified by sex
757	Minami, Y., Kajimoto, K., Sato, N., Hagiwara, N. and Takano, T.	End-stage renal disease patients on chronic maintenance haemodialysis in a hospitalized acute heart failure cohort: Prevalence, clinical characteristics, therapeutic options, and mortality	2016	No CKD associated cardiovascular mortality stratified by sex
758	Miskulin, D. C., Tangri, N., Bandeen-Roche, K., Zhou, J., McDermott, A., Meyer, K. B., Ephraim, P. L., Michels, W. M., Jaar, B. G., Crews, D. C., Scialla, J. J., Sozio, S. M., Shafi, T., Wu, A. W., Cook, C. and Boulware, L. E.	Intravenous iron exposure and mortality in patients on haemodialysis	2014	No CKD associated cardiovascular mortality stratified by sex
759	Mitsuma, W., Matsubara, T., Hatada, K., Imai, S., Saito, N., Shimada, H. and Miyazaki, S.	Clinical characteristics of haemodialysis patients with atrial fibrillation: The RAKUEN (Registry of atrial fibrillation in chronic kidney disease under haemodialysis from Niigata) study	2016	No CKD associated cardiovascular mortality stratified by sex
760	Miura, M., Shiba, N., Nochioka, K., Takada, T., Takahashi, J., Kohno, H. and Shimokawa, H.	Urinary albumin excretion in heart failure with preserved ejection fraction: an interim analysis of the CHART 2 study	2012	No CKD associated cardiovascular mortality stratified by sex

761	Miura, S., Yoshihisa, A., Takiguchi, M., Shimizu, T., Nakamura, Y., Yamauchi, H., Iwaya, S., Owada, T., Miyata, M., Abe, S., Sato, T., Suzuki, S., Oikawa, M., Yamaki, T., Sugimoto, K., Kunii, H., Nakazato, K., Suzuki, H., Saitoh, S. I. and Takeishi, Y.	Association of Hypocalcemia with Mortality in Hospitalized Patients with Heart Failure and Chronic Kidney Disease	2015	No CKD associated cardiovascular mortality stratified by sex
762	Molnar, M. Z., Mehrotra, R., Duong, U., Kovesdy, C. P. and Kalantar-Zadeh, K.	Association of haemoglobin and survival in peritoneal dialysis patients	2011	No CKD associated cardiovascular mortality stratified by sex
763	Moradi, H., Streja, E., Kashyap, M. L., Vaziri, N. D., Fonarow, G. C. and Kalantar-Zadeh, K.	Elevated high-density lipoprotein cholesterol and cardiovascular mortality in maintenance haemodialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex
764	Moroi, M., Tamaki, N., Nishimura, M., Haze, K., Nishimura, T., Kusano, E., Akiba, T., Sugimoto, T., Hase, H., Hara, K., Nakata, T., Kumita, S., Nagai, Y., Hashimoto, A., Momose, M., Miyakoda, K., Hasebe, N. and Kikuchi, K.	Association between abnormal myocardial fatty acid metabolism and cardiac-derived death among patients undergoing haemodialysis: Results from a cohort study in japan	2013	No CKD associated cardiovascular mortality stratified by sex
765	Mourad, A., Khoshdel, A., Carney, S., Gillies, A., Jones, B., Nanra, R. and Trevillian, P.	Haemodialysis-unresponsive blood pressure: cardiovascular mortality predictor?	2005	No CKD associated cardiovascular mortality stratified by sex
766	Movilli, E., Camerini, C., Gaggia, P., Zubani, R., Feller, P., Poiatti, P., Pola, A., Carli, O. and Cancarini, G.	Magnitude of end-dialysis overweight is associated with all-cause and cardiovascular mortality: a 3-year prospective study	2013	No CKD associated cardiovascular mortality stratified by sex
767	Muiesan, M. L., Ambrosioni, E., Costa, F. V., Leonetti, G., Pessina, A. C., Salvetti, M., Trimarco, B., Volpe, M., Pontremoli, R., Deferrari, G. and Rosei, E. A.	Sex differences in hypertension-related renal and cardiovascular diseases in Italy: the I-DEMAND study	2012	No CKD associated cardiovascular mortality stratified by sex
768	Nagashima, M., Hagiwara, N., Koyanagi, R., Yamaguchi, J., Takagi, A., Kawada-Watanabe, E., Shiga, T. and Ogawa, H.	Chronic kidney disease and long-term outcomes of myocardial infarction	2013	No CKD associated cardiovascular mortality stratified by sex

769	Nagata, M., Ninomiya, T., Kiyohara, Y., Murakami, Y., Irie, F., Sairenchi, T., Miura, K., Okamura, T. and Ueshima, H.	Prediction of cardiovascular disease mortality by proteinuria and reduced kidney function: Pooled analysis of 39,000 individuals from 7 cohort studies in Japan	2013	No CKD associated cardiovascular mortality stratified by sex
770	Naiman, N., Cheung, A. K. and Goldfarb-Rumyantzev, A. S.	Familiality of cardiovascular mortality in end-stage renal disease patients	2009	No CKD associated cardiovascular mortality stratified by sex
771	Nakagawa, N., Matsuki, M., Yao, N., Hirayama, T., Ishida, H., Kikuchi, K. and Hasebe, N.	Impact of metabolic disturbances and malnutrition-inflammation on 6-year mortality in Japanese patients undergoing haemodialysis	2015	No CKD associated cardiovascular mortality stratified by sex
772	Nakamura, K., Okamura, T., Hayakawa, T., Kadowaki, T., Kita, Y., Ohnishi, H., Saitoh, S., Sakata, K., Okayama, A. and Ueshima, H.	Chronic kidney disease is a risk factor for cardiovascular death in a community-based population in Japan: NIPPON DATA90	2006	No CKD associated cardiovascular mortality stratified by sex
773	Nakamura, S., Nakata, H., Yoshihara, F., Kamide, K., Horio, T., Nakahama, H. and Kawano, Y.	Effect of early nephrology referral on the initiation of haemodialysis and survival in patients with chronic kidney disease and cardiovascular diseases	2007	No CKD associated cardiovascular mortality stratified by sex
774	Nakamura, S., Ogata, C., Aihara, N., Sasaki, O., Yoshihara, F., Nakahama, H., Inenaga, T., Kimura, G. and Kawano, Y.	QTc dispersion in haemodialysis patients with cardiac complications	2005	No CKD associated cardiovascular mortality stratified by sex
775	Nakayama, M., Sato, T., Miyazaki, M., Matsushima, M., Sato, H., Taguma, Y. and Ito, S.	Increased risk of cardiovascular events and mortality among non-diabetic chronic kidney disease patients with hypertensive nephropathy: the Gonryo study	2011	No CKD associated cardiovascular mortality stratified by sex
776	Nakayama, M., Sato, T., Sato, H., Yamaguchi, Y., Obara, K., Kurihara, I., Sato, K., Hotta, O., Seino, J., Miyata, M., Takeuchi, K., Nakayama, K., Matsushima, M., Otaka, T., Kinoshita, Y., Taguma, Y. and Ito, S.	Different clinical outcomes for cardiovascular events and mortality in chronic kidney disease according to underlying renal disease: the Gonryo study	2010	No CKD associated cardiovascular mortality stratified by sex
777	Nakayama, M., Ura, Y., Nagata, M., Okada, Y., Sumida, Y., Nishida, K., Ikeda, H. and Kaizu, Y.	Carotid artery calcification at the initiation of haemodialysis is a risk factor for cardiovascular events in patients with end-stage renal disease: a cohort study	2011	No CKD associated cardiovascular mortality stratified by sex

778	Naruse, H., Ishii, J., Takahashi, H., Kitagawa, F., Okuyama, R., Kawai, H., Muramatsu, T., Harada, M., Yamada, A., Motoyama, S., Matsui, S., Hayashi, M., Sarai, M., Watanabe, E., Izawa, H. and Ozaki, Y.	Prognostic value of combination of plasma D-dimer concentration and estimated glomerular filtration rate in predicting long-term mortality of patients with stable coronary artery disease	2017	No CKD associated cardiovascular mortality stratified by sex
779	Nauta, S. T., van Domburg, R. T., Nuis, R. J., Akkerhuis, M. and Deckers, J. W.	Decline in 20-year mortality after myocardial infarction in patients with chronic kidney disease: evolution from the prethrombolysis to the percutaneous coronary intervention era	2013	No CKD associated cardiovascular mortality stratified by sex
780	Navaneethan, S. D. and Beddhu, S.	Associations of serum uric acid with cardiovascular events and mortality in moderate chronic kidney disease	2009	No CKD associated cardiovascular mortality stratified by sex
781	Navaneethan, S. D., Schold, J. D., Arrigain, S., Kirwan, J. P. and Nally, J. V.	Body mass index and causes of death in chronic kidney disease	2016	No CKD associated cardiovascular mortality stratified by sex
782	Navaneethan, S. D., Schold, J. D., Jolly, S. E., Arrigain, S., Blum, M. F., Winkelmayer, W. C. and Nally, J. V., Jr.	Blood pressure parameters are associated with all-cause and cause-specific mortality in chronic kidney disease	2017	No CKD associated cardiovascular mortality stratified by sex
783	Naves-Diaz, M., Passlick-Deetjen, J., Guinsburg, A., Marelli, C., Fernandez-Martin, J. L., Rodriguez-Puyol, D. and Cannata-Andia, J. B.	Calcium, phosphorus, PTH and death rates in a large sample of dialysis patients from Latin America. The CORES Study	2011	No CKD associated cardiovascular mortality stratified by sex
784	Nemcsik, J., Cseprekal, O., Egresits, J., Kielstein, J., Kumpers, P., Lukasz, A., Tabak, A., Marton, A., Nemeth, Z. K., Jarai, Z., Godina, G., Sallai, L., Farkas, K., Kiss, I. and Tisler, A.	The role of laser Doppler flowmetry tests, serum angiopoietin-2, asymmetric and symmetric dimethylarginine to predict outcome in chronic kidney disease	2017	No CKD associated cardiovascular mortality stratified by sex
785	Ng, Y. H., Meyer, K. B., Kusek, J. W., Yan, G., Rocco, M. V., Kimmel, P. L., Benz, R. L., Beddhu, S., Dwyer, J. T., Toto, R. D., Eknoyan, G. and Unruh, M. L.	Haemodialysis timing, survival, and cardiovascular outcomes in the Haemodialysis (HEMO) Study	2006	No CKD associated cardiovascular mortality stratified by sex
786	Nishikawa, K., Takahashi, K., Yamada, R., Kinaga, T., Masato, M. and Yamamoto, M.	Influence of chronic kidney disease on hospitalization, chronic dialysis, and mortality in Japanese men: a longitudinal analysis	2017	No CKD associated cardiovascular mortality stratified by sex
787	Nishimura, M., Tokoro, T., Takatani, T., Sato, N., Hashimoto, T., Kobayashi, H. and Ono, T.	Circulating Aminoterminal Propeptide of Type III Procollagen as a Biomarker of Cardiovascular Events in Patients Undergoing Haemodialysis	2019	No CKD associated cardiovascular mortality stratified by sex

788	Nishizawa, Y., Koyama, H. and Inaba, M.	AGEs and cardiovascular diseases in patients with end-stage renal diseases	2012	No CKD associated cardiovascular mortality stratified by sex
789	Noce, A., Canale, M. P., Capria, A., Rovella, V., Tesauro, M., Splendiani, G., Annicchiarico-Petruzzelli, M., Manzuoli, M., Simonetti, G. and Di Daniele, N.	Coronary artery calcifications predict long term cardiovascular events in non diabetic Caucasian haemodialysis patients	2015	No CKD associated cardiovascular mortality stratified by sex
790	Norris, K., Bourgoigne, J., Gassman, J., Hebert, L., Middleton, J., Phillips, R. A., Randall, O., Rostand, S., Sherer, S., Toto, R. D. and et al.	Cardiovascular outcomes in the African American Study of Kidney Disease and Hypertension (AASK) Trial	2006	No CKD associated cardiovascular mortality stratified by sex
791	Ntr	To what extent does high dose hemodiafiltration compared to high flux haemodialysis reduce risk of death in end stage kidney disease patients	2018	No CKD associated cardiovascular mortality stratified by sex
792	Nube, M. J., Peters, S. A. E., Blankestijn, P. J., Canaud, B., Davenport, A., Grooteman, M. P. C., Asci, G., Locatelli, F., Maduell, F., Morena, M., Ok, E., Torres, F. and Bots, M. L.	Mortality reduction by post-dilution online-haemodiafiltration: a cause-specific analysis	2017	No CKD associated cardiovascular mortality stratified by sex
793	Obermayr, R. P., Temml, C., Gutjahr, G., Kainz, A., Klauser-Braun, R., Fugger, R. and Oberbauer, R.	Body mass index modifies the risk of cardiovascular death in proteinuric chronic kidney disease	2009	No CKD associated cardiovascular mortality stratified by sex
794	Obi, Y., Hamano, T., Wada, A. and Tsubakihara, Y.	Vitamin D receptor activator use and cause-specific death among dialysis patients: A nationwide cohort study using coarsened exact matching	2017	No CKD associated cardiovascular mortality stratified by sex
795	Obi, Y., Nguyen, D. V., Streja, E., Rivara, M. B., Rhee, C. M., Lau, W. L., Chen, Y., Kovesdy, C. P., Mehrotra, R. and Kalantar-Zadeh, K.	Development and Validation of a Novel Laboratory-Specific Correction Equation for Total Serum Calcium and Its Association With Mortality Among Haemodialysis Patients	2017	No CKD associated cardiovascular mortality stratified by sex
796	Obi, Y., Park, C., Soohoo, M., Sumida, K., Hamano, T., Rhee, C. M., Kovesdy, C. P., Kalantar-Zadeh, K. and Streja, E.	Association of Pre-ESRD Serum Calcium With Post-ESRD Mortality Among Incident ESRD Patients: A Cohort Study	2018	No CKD associated cardiovascular mortality stratified by sex
797	Obokata, M., Negishi, K., Sunaga, H., Ishida, H., Ito, K., Ogawa, T., Iso, T., Ando, Y. and Kurabayashi, M.	Association Between Circulating Ketone Bodies and Worse Outcomes in Haemodialysis Patients	2017	No CKD associated cardiovascular mortality stratified by sex

798	Odutayo, A., Wong, C. X., Hsiao, A. J., Hopewell, S., Altman, D. G. and Emdin, C. A.	Atrial fibrillation and risks of cardiovascular disease, renal disease, and death: systematic review and meta-analysis	2016	No CKD associated cardiovascular mortality stratified by sex
799	Ogata, H., Kumasawa, J., Fukuma, S., Mizobuchi, M., Kinugasa, E., Fukagawa, M., Fukuhara, S. and Akizawa, T.	The cardiothoracic ratio and all-cause and cardiovascular disease mortality in patients undergoing maintenance haemodialysis: results of the MBD-5D study	2017	No CKD associated cardiovascular mortality stratified by sex
800	Ohtake, T., Ishioka, K., Honda, K., Oka, M., Maesato, K., Mano, T., Ikee, R., Moriya, H., Hidaka, S. and Kobayashi, S.	Impact of coronary artery calcification in haemodialysis patients: Risk factors and associations with prognosis	2010	No CKD associated cardiovascular mortality stratified by sex
801	Ok, E. S., Asci, G., Toz, H., Ritz, E., Kircelli, F., Sever, M. S., Ozkahya, M., Sipahi, S., Dheir, H., Bozkurt, D. and et al.	Glycated haemoglobin predicts overall and cardiovascular mortality in non-diabetic haemodialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex
802	Okada, T., Nakao, T., Matsumoto, H., Shino, T., Nagaoka, Y., Tomaru, R. and Wada, T.	Association between markers of glycemic control, cardiovascular complications and survival in type 2 diabetic patients with end-stage renal disease	2007	No CKD associated cardiovascular mortality stratified by sex
803	Omae, K., Ogawa, T., Yoshikawa, M., Sakura, H. and Nitta, K.	Use of Beta-Blockers on Maintenance Dialysis Patients and Ischemic Cerebral and Cardiovascular Deaths: An Examination Using Propensity Score	2018	No CKD associated cardiovascular mortality stratified by sex
804	Omersa, D., Lainscak, M., Erzen, I. and Farkas, J.	Mortality and readmissions in heart failure: an analysis of 36,824 elderly patients from the Slovenian national hospitalization database	2016	No CKD associated cardiovascular mortality stratified by sex
805	Ono, K., Tsuchida, A., Kawai, H., Matsuo, H., Wakamatsu, R., Maezawa, A., Yano, S., Kawada, T. and Nojima, Y.	Ankle-brachial blood pressure index predicts all-cause and cardiovascular mortality in haemodialysis patients	2003	No CKD associated cardiovascular mortality stratified by sex
806	Onuigbo, M., Onuigbo, N., Bellasi, A., Russo, D. and Di Iorio, B. R.	Penultimate pulse wave velocity, better than baseline pulse wave velocity, predicted mortality in Italian ESRD cohort study - a case for daily haemodialysis for ESRD patients with accelerated pulse wave velocity changes	2013	No CKD associated cardiovascular mortality stratified by sex
807	Opelz, G. and Dohler, B.	Association of HLA mismatch with death with a functioning graft after kidney transplantation: a collaborative transplant study report	2012	No CKD associated cardiovascular mortality stratified by sex
808	O'Seaghdha, C. M., Tin, A., Yang, Q., Katz, R., Liu, Y., Harris, T., Astor, B., Coresh, J., Fox, C. S., Kao, W. H. and Shlipak, M. G.	Association of a cystatin C gene variant with cystatin C levels, CKD, and risk of incident cardiovascular disease and mortality	2014	No CKD associated cardiovascular mortality stratified by sex

809	O'Shaughnessy, M. M., Liu, S., Montez-Rath, M. E., Lafayette, R. A. and Winkelmayer, W. C.	Cause of kidney disease and cardiovascular events in a national cohort of US patients with end-stage renal disease on dialysis: A retrospective analysis	2019	No CKD associated cardiovascular mortality stratified by sex
810	Otani-Takei, N., Masuda, T., Akimoto, T., Honma, S., Watanabe, Y., Shiizaki, K., Miki, T., Kusano, E., Asano, Y., Kuro-O, M. and Nagata, D.	Association between Serum Soluble Klotho Levels and Mortality in Chronic Haemodialysis Patients	2015	No CKD associated cardiovascular mortality stratified by sex
811	Otsubo, S., Kitamura, M., Wakaume, T., Yajima, A., Ishihara, M., Takasaki, M., Ueda, S., Sugimoto, H., Otsubo, K., Kimata, N., Akiba, T. and Nitta, K.	Association of peripheral artery disease and long-term mortality in haemodialysis patients	2012	No CKD associated cardiovascular mortality stratified by sex
812	Ou, S. M., Chen, Y. T., Hung, S. C., Shih, C. J., Lin, C. H., Chiang, C. K. and Tarng, D. C.	Association of estimated glomerular filtration rate with all-cause and cardiovascular mortality: The role of malnutrition-inflammation-cachexia syndrome	2016	No CKD associated cardiovascular mortality stratified by sex
813	Ovbiagele, B.	Chronic kidney disease and risk of death during hospitalization for stroke	2011	No CKD associated cardiovascular mortality stratified by sex
814	Owaki, A., Inaguma, D., Tanaka, A., Shinjo, H., Inaba, S. and Kurata, K.	Evaluation of the Relationship between the Serum Alkaline Phosphatase Level at Dialysis Initiation and All-Cause Mortality: A Multicenter, Prospective Study	2017	No CKD associated cardiovascular mortality stratified by sex
815	Palau, V., Riera, M., Duran, X., Valdivielso, J. M., Betriu, A., Fernandez, E., Pascual, J. and Soler, M. J.	Circulating ADAMs are associated with renal and cardiovascular outcomes in chronic kidney disease patients	2018	No CKD associated cardiovascular mortality stratified by sex
816	Palmer, S. C., Ruospo, M., Wong, G., Craig, J. C., Petruzzi, M., De Benedittis, M., Ford, P., Johnson, D. W., Tonelli, M., Natale, P., Saglimbene, V., Pellegrini, F., Celia, E., Gelfman, R., Leal, M. R., Torok, M., Stroumza, P., Bednarek-Skublewska, A., Dulawa, J., Frantzen, L., Ferrari, J. N., Del Castillo, D., Bernat, A. G., Hegbrant, J., Wollheim, C., Gargano, L., Bots, C. P., Strippoli, G. F. and Investigators, O. D. S.	Dental Health and Mortality in People With End-Stage Kidney Disease Treated With Haemodialysis: A Multinational Cohort Study	2015	No CKD associated cardiovascular mortality stratified by sex
817	Palomino, H. L., Rifkin, D. E., Anderson, C., Criqui, M. H., Whooley, M. A. and Ix, J. H.	24-hour urine phosphorus excretion and mortality and cardiovascular events	2013	No CKD associated cardiovascular mortality stratified by sex

818	Pan, Y., Jing, J., Chen, W., Wang, Y. and He, Y.	Association between impaired renal function and stroke outcome in patients with versus without atrial fibrillation	2018	No CKD associated cardiovascular mortality stratified by sex
819	Panaghiu, L., Veisa, G., Covic, A., Alexa, I. D., Arsenescu, C. and Covic, M.	Risk of sudden death in patients with chronic renal failure and haemodialysis	2004	No CKD associated cardiovascular mortality stratified by sex
820	Pang, P. S., Teerlink, J. R., Voors, A. A., Ponikowski, P., Greenberg, B. H., Filippatos, G., Felker, G. M., Davison, B. A., Cotter, G., Kriger, J. and et al.	Use of High-Sensitivity Troponin T to Identify Patients With Acute Heart Failure at Lower Risk for Adverse Outcomes. An Exploratory Analysis From the RELAX-AHF Trial	2016	No CKD associated cardiovascular mortality stratified by sex
821	Paniagua, R., Amato, D., Vonesh, E., Correa-Rotter, R., Ramos, A., Moran, J. and Mujais, S.	Effects of increased peritoneal clearances on mortality rates in peritoneal dialysis: aDEMEX, a prospective, randomized, controlled trial	2002	No CKD associated cardiovascular mortality stratified by sex
822	Panichi, V., Bigazzi, R., Paoletti, S., Mantuano, E., Beati, S., Marchetti, V., Bernabini, G., Grazi, G., Giusti, R., Rosati, A., Migliori, M., Betti, G., Pasquariello, A., Panicucci, E., Barsotti, G. and Bellasi, A.	Impact of calcium, phosphate, PTH abnormalities and management on mortality in haemodialysis: Results from the RISCAVID study	2010	No CKD associated cardiovascular mortality stratified by sex
823	Panichi, V., Rizza, G. M., Paoletti, S., Bigazzi, R., Aloisi, M., Barsotti, G., Rindi, P., Donati, G., Antonelli, A., Panicucci, E., Tripepi, G., Tetta, C. and Palla, R.	Chronic inflammation and mortality in haemodialysis: effect of different renal replacement therapies. Results from the RISCAVID study	2008	No CKD associated cardiovascular mortality stratified by sex
824	Papademetriou, V., Zaheer, M., Doumas, M., Lovato, L., Applegate, W. B., Tsioufis, C., Mottle, A., Punthakee, Z. and Cushman, W. C.	Cardiovascular Outcomes in Action to Control Cardiovascular Risk in Diabetes: impact of Blood Pressure Level and Presence of Kidney Disease	2016	No CKD associated cardiovascular mortality stratified by sex
825	Park, C. H., Kang, E. W., Park, J. T., Han, S. H., Yoo, T. H., Kang, S. W. and Chang, T. I.	Association of serum lipid levels over time with survival in incident peritoneal dialysis patients	2017	No CKD associated cardiovascular mortality stratified by sex
826	Park, J., Rhee, C. M., Sim, J. J., Kim, Y. L., Ricks, J., Streja, E., Vashistha, T., Tolouian, R., Kovesdy, C. P. and Kalantar-Zadeh, K.	A comparative effectiveness research study of the change in blood pressure during haemodialysis treatment and survival	2013	No CKD associated cardiovascular mortality stratified by sex
827	Park, J. T., Yoo, T. H., Kim, J. K., Oh, H. J., Kim, S. J., Yoo, D. E., Lee, M. J., Shin, D. H., Han, S. H., Han, D. S. and Kang, S. W.	Leptin/adiponectin ratio is an independent predictor of mortality in nondiabetic peritoneal dialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex

828	Park, W. Y., Koh, E. S., Kim, S. H., Kim, Y. O., Jin, D. C., Song, H. C., Choi, E. J., Kim, Y. L., Kim, Y. S., Kang, S. W., Kim, N. H., Yang, C. W. and Kim, Y. K.	Serum Gamma-Glutamyltransferase Levels Predict Clinical Outcomes in Haemodialysis Patients	2015	No CKD associated cardiovascular mortality stratified by sex
829	Patel, K. K., Shah, S. Y., Arrigain, S., Jolly, S., Schold, J. D., Navaneethan, S. D., Griffin, B. P., Nally, J. V. and Desai, M. Y.	Characteristics and Outcomes of Patients With Aortic Stenosis and Chronic Kidney Disease	2019	No CKD associated cardiovascular mortality stratified by sex
830	Patel, R. K., Jardine, A. G., Mark, P. B., Cunningham, A. F., Steedman, T., Powell, J. R., McQuarrie, E. P., Stevens, K. K., Dargie, H. J. and Jardine, A. G.	Association of left atrial volume with mortality among ESRD patients with left ventricular hypertrophy referred for kidney transplantation	2010	No CKD associated cardiovascular mortality stratified by sex
831	Pei, J., Tang, W., Li, L. X., Su, C. Y. and Wang, T.	Heart rate variability predicts mortality in peritoneal dialysis patients	2015	No CKD associated cardiovascular mortality stratified by sex
832	Pena de la Vega, L., Miller, R. S., Benda, M. M., Grill, D. E., Johnson, M. G., McCarthy, J. T. and McBane, R. D., 2nd	Association of heparin-dependent antibodies and adverse outcomes in haemodialysis patients: a population-based study	2005	No CKD associated cardiovascular mortality stratified by sex
833	Peng, F., Li, Z., Yi, C., Guo, Q., Yang, R., Long, H., Huang, F., Yu, X. and Yang, X.	Platelet index levels and cardiovascular mortality in incident peritoneal dialysis patients: a cohort study	2017	No CKD associated cardiovascular mortality stratified by sex
834	Peng, F., Li, Z., Zhong, Z., Luo, Q., Guo, Q., Huang, F., Yu, X. and Yang, X.	An increasing of red blood cell distribution width was associated with cardiovascular mortality in patients on peritoneal dialysis	2014	No CKD associated cardiovascular mortality stratified by sex
835	Peng, Y., Chen, F., Huang, F. Y., Xia, T. L., Huang, B. T., Chai, H., Wang, P. J., Zuo, Z. L., Liu, W., Zhang, C., Gui, Y. Y., Chen, M. and Huang, D. J.	Body Composition and Mortality in Coronary Artery Disease With Mild Renal Insufficiency in Chinese Patients	2017	No CKD associated cardiovascular mortality stratified by sex
836	Peralta, C. A., Lee, A., Odden, M. C., Lopez, L., Zeki Al Hazzouri, A., Neuhaus, J. and Haan, M. N.	Association between chronic kidney disease detected using creatinine and cystatin C and death and cardiovascular events in elderly Mexican Americans: the Sacramento Area Latino Study on Aging	2013	No CKD associated cardiovascular mortality stratified by sex
837	Perkins, R. M., Tang, X., Bengier, A. C., Kirchner, H. L. and Bucaloiu, I. D.	Variability in estimated glomerular filtration rate is an independent risk factor for death among patients with stage 3 chronic kidney disease	2012	No CKD associated cardiovascular mortality stratified by sex
838	Perkovic, V., Levin, A., Wheeler, D., Koitka-Weber, A., Mattheus, M., George, J., Von Eynatten, M. and Wanner, C.	Effects of empagliflozin on cardiovascular outcomes across kdigo risk categories: results from the EMPA-REG outcome® trial	2017	No CKD associated cardiovascular mortality stratified by sex

839	Perry, R. J., Griffiths, W., Dextraze, P., Solomon, R. J. and Trebbin, W. M.	Elevated nicotine levels in patients undergoing haemodialysis. A role in cardiovascular mortality and morbidity?	1984	No CKD associated cardiovascular mortality stratified by sex
840	Peters, S. A., Bots, M. L., Canaud, B., Davenport, A., Grooteman, M. P., Kircelli, F., Locatelli, F., Maduell, F., Morena, M., Nubé, M. J. and et al.	Haemodiafiltration and mortality in end-stage kidney disease patients: a pooled individual participant data analysis from four randomized controlled trials	2016	No CKD associated cardiovascular mortality stratified by sex
841	Petreski, T., Bevc, S., Ekart, R. and Hojs, R.	Hyperuricemia and long-term survival in patients with chronic kidney disease undergoing haemodialysis	2017	No CKD associated cardiovascular mortality stratified by sex
842	Petreski, T., Ekart, R., Hojs, R. and Bevc, S.	Asymptomatic hyperuricemia and cardiovascular mortality in patients with chronic kidney disease who progress to haemodialysis	2019	No CKD associated cardiovascular mortality stratified by sex
843	Petrović, D. and Stojimirović, B.	Cardiovascular morbidity and mortality in patients treated with haemodialysis - Epidemiological analysis	2008	No CKD associated cardiovascular mortality stratified by sex
844	Petrovic, D. and Stojimirovic, B. B.	Cardiac troponins: outcome predictors in haemodialysis patients	2009	No CKD associated cardiovascular mortality stratified by sex
845	Pfeffer, M. A., Burdmann, E. A., Chen, C. Y., Cooper, M. E., de Zeeuw, D., Eckardt, K. U., Feyzi, J. M., Ivanovich, P., Kewalramani, R., Levey, A. S. and et al.	A trial of darbepoetin alfa in type 2 diabetes and chronic kidney disease	2009	No CKD associated cardiovascular mortality stratified by sex
846	Plantinga, L. C., Fink, N. E., Finkelstein, F. O., Powe, N. R. and Jaar, B. G.	Association of peritoneal dialysis clinic size with clinical outcomes	2009	No CKD associated cardiovascular mortality stratified by sex
847	Poesen, R., Viaene, L., Verbeke, K., Augustijns, P., Bammens, B., Claes, K., Kuypers, D., Evenepoel, P. and Meijers, B.	Cardiovascular disease relates to intestinal uptake of p-cresol in patients with chronic kidney disease	2014	No CKD associated cardiovascular mortality stratified by sex
848	Port, F. K., Wolfe, R. A., Hulbert-Shearon, T. E., McCullough, K. P., Ashby, V. B. and Held, P. J.	High dialysis dose is associated with lower mortality among women but not among men	2004	No CKD associated cardiovascular mortality stratified by sex
849	Porter, A., Fischer, M. J., Wang, X., Brooks, D., Bruce, M., Charleston, J., Cleveland, W. H., Dowie, D., Faulkner, M., Gassman, J., Hiremath, L., Kendrick, C., Kusek, J. W., Norris, K. C., Thornley-Brown, D., Greene, T. and Lash, J. P.	Quality of life and outcomes in African Americans with CKD	2014	No CKD associated cardiovascular mortality stratified by sex

850	Postorino, M., Marino, C., Tripepi, G. and Zoccali, C.	Gammaglutamyltransferase in ESRD as a predictor of all-cause and cardiovascular mortality: another facet of oxidative stress burden	2008	No CKD associated cardiovascular mortality stratified by sex
851	Postorino, M., Marino, C., Tripepi, G. and Zoccali, C.	Abdominal obesity and all-cause and cardiovascular mortality in end-stage renal disease	2009	No CKD associated cardiovascular mortality stratified by sex
852	Postorino, M., Marino, C., Tripepi, G. and Zoccali, C.	Abdominal obesity modifies the risk of hypertriglyceridemia for all-cause and cardiovascular mortality in haemodialysis patients	2011	No CKD associated cardiovascular mortality stratified by sex
853	Poulikakos, D., Hnatkova, K., Banerjee, D. and Malik, M.	Association of QRS-T angle and heart rate variability with major cardiac events and mortality in haemodialysis patients	2018	No CKD associated cardiovascular mortality stratified by sex
854	Pressman, G. S., Seetha Rammohan, H. R., Romero-Corral, A., Fumo, P., Figueredo, V. M. and Gorcsan, J., 3rd	Echocardiographic strain and mortality in Black Americans with end-stage renal disease on haemodialysis	2015	No CKD associated cardiovascular mortality stratified by sex
855	Proietti, M., Raparelli, V., Laroche, C., Dan, G. A., Janion, M., Popescu, R., Sinagra, G., Vijgen, J., Boriani, G., Maggioni, A. P., Tavazzi, L. and Lip, G. Y. H.	Adverse outcomes in patients with atrial fibrillation and peripheral arterial disease: A report from the EURObservational research programme pilot survey on atrial fibrillation	2017	No CKD associated cardiovascular mortality stratified by sex
856	Pun, P. H., Horton, J. R. and Middleton, J. P.	Dialysate calcium concentration and the risk of sudden cardiac arrest in haemodialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex
857	Pun, P. H., Smarz, T. R., Honeycutt, E. F., Shaw, L. K., Al-Khatib, S. M. and Middleton, J. P.	Chronic kidney disease is associated with increased risk of sudden cardiac death among patients with coronary artery disease	2009	No CKD associated cardiovascular mortality stratified by sex
858	Quiroga, B., Verdalles, U., Reque, J., Garcia de Vinuesa, S., Goicoechea, M. and Luno, J.	Cardiovascular events and mortality in chronic kidney disease (stages I-IV)	2013	No CKD associated cardiovascular mortality stratified by sex
859	Quiroga, B., Villaverde, M., Abad, S., Vega, A., Reque, J. and Lopez-Gomez, J. M.	Diastolic dysfunction and high levels of new cardiac biomarkers as risk factors for cardiovascular events and mortality in haemodialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex
860	Racki, S., Zaputovic, L., Mavric, Z., Vujicic, B. and Dvornik, S.	C-reactive protein is a strong predictor of mortality in haemodialysis patients	2006	No CKD associated cardiovascular mortality stratified by sex

861	Rahman, M., Hsu, J. Y., Desai, N., Hsu, C. Y., Anderson, A. H., Appel, L. J., Chen, J., Cohen, D. L., Drawz, P. E., He, J., Qiang, P., Ricardo, A. C., Steigerwalt, S., Weir, M. R., Wright, J. T., Zhang, X. and Townsend, R. R.	Central blood pressure and cardiovascular outcomes in chronic kidney disease	2018	No CKD associated cardiovascular mortality stratified by sex
862	Raikou, V. D. and Kyriaki, D.	Mortality and low serum bicarbonate level in patients on hemodiafiltration versus peritoneal dialysis	2018	No CKD associated cardiovascular mortality stratified by sex
863	Rakhit, D. J., Marwick, T. H., Armstrong, K. A., Johnson, D. W., Leano, R. and Isbel, N. M.	Effect of aggressive risk factor modification on cardiac events and myocardial ischaemia in patients with chronic kidney disease	2006	No CKD associated cardiovascular mortality stratified by sex
864	Raman, M., Green, D., Middleton, R. J. and Kalra, P. A.	Comparing the impact of older age on outcome in chronic kidney disease of different etiologies: a prospective cohort study	2018	No CKD associated cardiovascular mortality stratified by sex
865	Rambod, M., Heine, G. H., Seiler, S., Dominic, E. A., Rogacev, K. S., Dwivedi, R., Ramezani, A., Wing, M. R., Amdur, R. L., Fliser, D. and Raj, D. S.	Association of vascular endothelial factors with cardiovascular outcome and mortality in chronic kidney disease patients: a 4-year cohort study	2014	No CKD associated cardiovascular mortality stratified by sex
866	Refaat, H., Sany, D., Mohab, A. and Ezzat, H.	Comparing Dialysis Modality and Cardiovascular Mortality in Patients on Haemodialysis and Peritoneal Dialysis	2016	No CKD associated cardiovascular mortality stratified by sex
867	Rhee, C. M., Kovesdy, C. P., Ravel, V. A., Streja, E., Brunelli, S. M., Soohoo, M., Sumida, K., Molnar, M. Z., Brent, G. A., Nguyen, D. V. and Kalantar-Zadeh, K.	Association of Glycemic Status During Progression of Chronic Kidney Disease With Early Dialysis Mortality in Patients With Diabetes	2017	No CKD associated cardiovascular mortality stratified by sex
868	Rhee, J. J., Zheng, Y., Montez-Rath, M. E., Chang, T. I. and Winkelmayer, W. C.	Associations of Glycemic Control With Cardiovascular Outcomes Among US Haemodialysis Patients With Diabetes Mellitus	2017	No CKD associated cardiovascular mortality stratified by sex
869	Ricardo, A. C., Athavale, A., Chen, J., Hampole, H., Garside, D., Marucha, P. and Lash, J. P.	Periodontal disease, chronic kidney disease and mortality: results from the third National Health and Nutrition Examination Survey	2015	No CKD associated cardiovascular mortality stratified by sex
870	Ricardo, A. C., Goh, V., Chen, J., Cedillo-Couvert, E., Kapella, M., Prasad, B., Parvathaneni, S., Knutson, K. and Lash, J. P.	Association of Sleep Duration, Symptoms, and Disorders with Mortality in Adults with Chronic Kidney Disease	2017	No CKD associated cardiovascular mortality stratified by sex
871	Ricks, J., Molnar, M. Z., Kovesdy, C. P., Shah, A., Nissenson, A. R., Williams, M. and Kalantar-Zadeh, K.	Glycemic control and cardiovascular mortality in haemodialysis patients with diabetes: A 6-year cohort study	2012	No CKD associated cardiovascular mortality stratified by sex

872	Ridker, P. M., MacFadyen, J. G., Glynn, R. J., Koenig, W., Libby, P., Everett, B. M., Lefkowitz, M., Thuren, T. and Cornel, J. H.	Inhibition of Interleukin-1beta by Canakinumab and Cardiovascular Outcomes in Patients With Chronic Kidney Disease	2018	No CKD associated cardiovascular mortality stratified by sex
873	Ritchie, C., Ekundayo, O. J., Muchimba, M., Campbell, R. C., Frank, S. J., Liu, B., Aban, I. B. and Ahmed, A.	Effects of diabetes mellitus in patients with heart failure and chronic kidney disease: a propensity-matched study of multimorbidity in chronic heart failure	2009	No CKD associated cardiovascular mortality stratified by sex
874	Ritchie, J., Assi, L. K., Burmeister, A., Hoefield, R., Cockwell, P. and Kalra, P. A.	Association of Serum Ig Free Light Chains with Mortality and ESRD among Patients with Nondialysis-Dependent CKD	2015	No CKD associated cardiovascular mortality stratified by sex
875	Roberts, J. L.	Analysis and outcome of 1063 patients trained for home haemodialysis	1976	No CKD associated cardiovascular mortality stratified by sex
876	Roberts, M. A., Srivastava, P. M., Macmillan, N., Hare, D. L., Ratnaike, S., Sikaris, K. and Ierino, F. L.	B-type natriuretic peptides strongly predict mortality in patients who are treated with long-term dialysis	2008	No CKD associated cardiovascular mortality stratified by sex
877	Robinson, B. M., Tong, L., Zhang, J., Wolfe, R. A., Goodkin, D. A., Greenwood, R. N., Kerr, P. G., Morgenstern, H., Li, Y., Pisoni, R. L., Saran, R., Tentori, F., Akizawa, T., Fukuhara, S. and Port, F. K.	Blood pressure levels and mortality risk among haemodialysis patients in the Dialysis Outcomes and Practice Patterns Study	2012	No CKD associated cardiovascular mortality stratified by sex
878	Robinson, P., McEwan, P., Ong, A. C. M., Orskov, B., Sandford, R., Scolari, F., Walz, G., Bennet-Wilton, H. and O'Reilly, K.	Assessing the long term outcomes of autosomal dominant polycystic kidney disease (ADPKD) using the ADPKD outcomes model: a UK case study	2015	No CKD associated cardiovascular mortality stratified by sex
879	Rocco, M., Daugirdas, J., Greene, T., Lockridge, R., Chan, C., Pierratos, A., Lindsay, R., Larive, B., Chertow, G., Beck, G. and et al.	Mortality during extended follow-up in the frequent haemodialysis network nocturnal trial	2014	No CKD associated cardiovascular mortality stratified by sex
880	Rodríguez-Osorio, L., de la Piedra, C., Rubert, M., Martín-Fernández, M., González Casaus, M. L., Gracia-Iguacel, C., Egido, J., Villa-Bellosta, R. and González Parra, E.	Differences between 2nd and 3rd generation seric parathormone determination methods on mortality in haemodialysis patients	2017	No CKD associated cardiovascular mortality stratified by sex

881	Rogacev, K. S., Seiler, S., Zawada, A. M., Reichart, B., Herath, E., Roth, D., Ulrich, C., Fliser, D. and Heine, G. H.	CD14++CD16+ monocytes and cardiovascular outcome in patients with chronic kidney disease	2011	No CKD associated cardiovascular mortality stratified by sex
882	Rong, R., Zhou, Q., Lin, J., Huang, N., Li, W., Qiu, Y., Yu, X. and Mao, H.	Maintained Folic Acid Supplementation Reduces the Risk of Mortality in Continuous Ambulatory Peritoneal Dialysis Patients	2018	No CKD associated cardiovascular mortality stratified by sex
883	Rothuizen, T. C., Ocak, G., Verschuren, J. J., Dekker, F. W., Rabelink, T. J., Jukema, J. W. and Rotmans, J. I.	Candidate Gene Analysis of Mortality in Dialysis Patients	2015	No CKD associated cardiovascular mortality stratified by sex
884	Roumeliotis, A. K., Roumeliotis, S. K., Panagoutsos, S. A., Tsetsos, F., Georgitsi, M., Manolopoulos, V., Paschou, P. and Passadakis, P. S.	Association of ALOX12 gene polymorphism with all-cause and cardiovascular mortality in diabetic nephropathy	2018	No CKD associated cardiovascular mortality stratified by sex
885	Roumeliotis, S., Roumeliotis, A., Panagoutsos, S., Giannakopoulou, E., Papanas, N., Manolopoulos, V. G., Passadakis, P. and Tavridou, A.	Matrix Gla protein T-138C polymorphism is associated with carotid intima media thickness and predicts mortality in patients with diabetic nephropathy	2017	No CKD associated cardiovascular mortality stratified by sex
886	Rufino, J. M., Garcia, C., Vega, N., Macia, M., Hernandez, D., Rodriguez, A., Maceira, B. and Lorenzo, V.	Current peritoneal dialysis compared with haemodialysis: medium-term survival analysis of incident dialysis patients in the Canary Islands in recent years	2011	No CKD associated cardiovascular mortality stratified by sex
887	Ruospo, M., Palmer, S. C., Wong, G., Craig, J. C., Petruzzi, M., De Benedittis, M., Ford, P., Johnson, D. W., Tonelli, M., Natale, P., Saglimbene, V., Pellegrini, F., Celia, E., Gelfman, R., Leal, M. R., Torok, M., Stroumza, P., Bednarek-Skublewska, A., Dulawa, J., Frantzen, L., Del Castillo, D., Schon, S., Bernat, A. G., Hegbrant, J., Wollheim, C., Gargano, L., Bots, C. P., Strippoli, G. F. and Investigators, O.	Periodontitis and early mortality among adults treated with haemodialysis: a multinational propensity-matched cohort study	2017	No CKD associated cardiovascular mortality stratified by sex

888	Rusu, C., Racasan, S., Moldovan, D., Kacso, I. M., Potra, A., Bondor, C. I., Patiu, I. M., Vladutiu, D. and Caprioara, M. G.	Soluble CD40 ligand in haemodialysis patients: survival impact and cardiovascular prognostic role	2017	No CKD associated cardiovascular mortality stratified by sex
889	Ryu, D. R., Park, J. T., Chung, J. H., Song, E. M., Roh, S. H., Lee, J. M., An, H. R., Yu, M., Pyun, W. B., Shin, G. J., Kim, S. J., Kang, D. H. and Choi, K. B.	A more appropriate cardiac troponin T level that can predict outcomes in end-stage renal disease patients with acute coronary syndrome	2011	No CKD associated cardiovascular mortality stratified by sex
890	Saglimbene, V., Palmer, S., Scardapane, M., Craig, J. C., Ruospo, M., Natale, P., Gargano, L., Leal, M., Bednarek-Skublewska, A., Dulawa, J., Ecder, T., Stroumza, P., Marco Murgo, A., Schon, S., Wollheim, C., Hegbrant, J. and Strippoli, G. F.	Depression and all-cause and cardiovascular mortality in patients on haemodialysis: a multinational cohort study	2017	No CKD associated cardiovascular mortality stratified by sex
891	Sahin, O. Z., Asci, G., Kircelli, F., Yilmaz, M., Duman, S., Ozkahya, M., Dogan, C., Odabas, A. R., Cirit, M. and Ok, E.	The impact of low serum sodium level on mortality depends on glycemic control	2012	No CKD associated cardiovascular mortality stratified by sex
892	Saji, N., Sato, T., Sakuta, K., Aoki, J., Kobayashi, K., Matsumoto, N., Uemura, J., Shibazaki, K. and Kimura, K.	Chronic kidney disease is an independent predictor of adverse clinical outcomes in patients with recent small subcortical infarcts	2014	No CKD associated cardiovascular mortality stratified by sex
893	Sakaguchi, Y., Fujii, N., Shoji, T., Hayashi, T., Rakugi, H. and Isaka, Y.	Hypomagnesemia is a significant predictor of cardiovascular and non-cardiovascular mortality in patients undergoing haemodialysis	2014	No CKD associated cardiovascular mortality stratified by sex
894	Sakaguchi, Y., Fujii, N., Shoji, T., Hayashi, T., Rakugi, H., Iseki, K., Tsubakihara, Y. and Isaka, Y.	Magnesium modifies the cardiovascular mortality risk associated with hyperphosphatemia in patients undergoing haemodialysis: A cohort study	2014	No CKD associated cardiovascular mortality stratified by sex
895	Sakao, Y., Ojima, T., Yasuda, H., Hashimoto, S., Hasegawa, T., Iseki, K., Tsubakihara, Y. and Kato, A.	Serum Creatinine Modifies Associations between Body Mass Index and Mortality and Morbidity in Prevalent Haemodialysis Patients	2016	No CKD associated cardiovascular mortality stratified by sex

896	Salvador-Gonzalez, B., Gil-Terron, N., Cerain-Herrero, M. J., Subirana, I., Guell-Miro, R., Rodriguez-Latre, L. M., Cunillera-Puertolas, O., Elosua, R., Grau, M., Vila, J., Pascual-Benito, L., Mestre-Ferrer, J., Ramos, R., Baena-Diez, J. M., Soler-Vila, M., Alonso-Bes, E., Ruiperez-Guijarro, L., Alvarez-Funes, V., Freixes-Villaro, E., Rodriguez-Pascual, M. and Martinez-Castelao, A.	Estimated Glomerular Filtration Rate, Cardiovascular Events and Mortality Across Age Groups Among Individuals Older Than 60 Years in Southern Europe	2018	No CKD associated cardiovascular mortality stratified by sex
897	Sampaio, M. S., Molnar, M. Z., Kovesdy, C. P., Mehrotra, R., Mucsi, I., Sim, J. J., Krishnan, M., Nissenson, A. R. and Kalantar-Zadeh, K.	Association of pretransplant serum phosphorus with posttransplant outcomes	2011	No CKD associated cardiovascular mortality stratified by sex
898	Sanchez-Villanueva, R., Estrada, P., del Peso, G., Grande, C., Diez, J. J., Iglesias, P., Gonzalez, E., Aguilar-Rodriguez, A., Selgas, R., Bajo, M. A., Grupo de Estudios Peritoneales de Madrid de, R. and del, I.	Repeated analysis of estimated insulin resistance using the HOMAIR index in nondiabetic patients on peritoneal dialysis and its relationship with cardiovascular disease and mortality	2013	No CKD associated cardiovascular mortality stratified by sex
899	Sandesara, P. B., O'Neal, W. T., Tahhan, A. S., Hayek, S. S., Lee, S. K., Khambhati, J., Topel, M. L., Hammadah, M., Alkhoder, A., Ko, Y. A., Gafeer, M. M., Beshiri, A., Murtagh, G., Kim, J. H., Wilson, P., Shaw, L., Epstein, S. E., Sperling, L. S. and Quyyumi, A. A.	Comparison of the Association Between High-Sensitivity Troponin I and Adverse Cardiovascular Outcomes in Patients With Versus Without Chronic Kidney Disease	2018	No CKD associated cardiovascular mortality stratified by sex
900	Santos, P. W., He, J., Tuffaha, A. and Wetmore, J. B.	Clinical characteristics and risk factors associated with mortality in calcific uremic arteriolopathy	2017	No CKD associated cardiovascular mortality stratified by sex
901	Sarafidis, P. A., Loutradis, C., Karpetas, A., Tzanis, G., Piperidou, A., Koutroumpas, G., Raptis, V., Syrgkanis, C., Liakopoulos, V., Efstratiadis, G., London, G. and Zoccali, C.	Ambulatory Pulse Wave Velocity Is a Stronger Predictor of Cardiovascular Events and All-Cause Mortality Than Office and Ambulatory Blood Pressure in Haemodialysis Patients	2017	No CKD associated cardiovascular mortality stratified by sex

902	Sato, H., Nagasawa, T., Saito, A. and Miyazaki, M.	Risk of cardiovascular mortality predicted by the serum calcium level and calcification score at the initiation of dialysis	2018	No CKD associated cardiovascular mortality stratified by sex
903	Sato, H., Takeuchi, Y., Matsuda, K., Saito, A., Kagaya, S., Fukami, H., Ojima, Y. and Nagasawa, T.	Evaluation of the Predictive Value of the Serum Calcium-Magnesium Ratio for All-Cause and Cardiovascular Mortality in Incident Dialysis Patients	2017	No CKD associated cardiovascular mortality stratified by sex
904	Sato, Y., Fujimoto, S., Toida, T., Nakagawa, H., Yamashita, Y., Iwakiri, T., Fukuda, A. and Iwatsubo, S.	Apoprotein B/Apoprotein A-1 Ratio and Mortality among Prevalent Dialysis Patients	2016	No CKD associated cardiovascular mortality stratified by sex
905	Sato, Y., Hayashi, T., Joki, N. and Fujimoto, S.	Association of Lead aVR T-wave Amplitude With Cardiovascular Events or Mortality Among Prevalent Dialysis Patients	2017	No CKD associated cardiovascular mortality stratified by sex
906	Sattar, A., Argyropoulos, C., Weissfeld, L., Younas, N., Fried, L., Kellum, J. A. and Unruh, M.	All-cause and cause-specific mortality associated with diabetes in prevalent haemodialysis patients	2012	No CKD associated cardiovascular mortality stratified by sex
907	Saunders, M. R., Ricardo, A. C., Chen, J., Chin, M. H. and Lash, J. P.	Association between insurance status and mortality in individuals with albuminuria: an observational cohort study	2016	No CKD associated cardiovascular mortality stratified by sex
908	Schlackow, I., Kent, S., Herrington, W., Emberson, J., Haynes, R., Reith, C., Wanner, C., Fellstrom, B., Gray, A., Landray, M. J., Baigent, C. and Mihaylova, B.	A policy model of cardiovascular disease in moderate-to-advanced chronic kidney disease	2017	No CKD associated cardiovascular mortality stratified by sex
909	Schlieper, G., Westenfeld, R., Kruger, T., Cranenburg, E. C., Magdeleyns, E. J., Brandenburg, V. M., Djuric, Z., Damjanovic, T., Ketteler, M., Vermeer, C., Dimkovic, N., Floege, J. and Schurgers, L. J.	Circulating nonphosphorylated carboxylated matrix gla protein predicts survival in ESRD	2011	No CKD associated cardiovascular mortality stratified by sex
910	Schmaderer, C., Braunisch, M. C., Suttmann, Y., Lorenz, G., Pham, D., Haller, B., Angermann, S., Matschkal, J., Renders, L., Baumann, M., Braun, J. R., Heemann, U. and Kuchle, C.	Reduced Mortality in Maintenance Haemodialysis Patients on High versus Low Dialysate Magnesium: A Pilot Study	2017	No CKD associated cardiovascular mortality stratified by sex
911	Schneider, C., Coll, B., Jick, S. S. and Meier, C. R.	Doubling of serum creatinine and the risk of cardiovascular outcomes in patients with chronic kidney disease and type 2 diabetes mellitus: a cohort study	2016	No CKD associated cardiovascular mortality stratified by sex

912	Schrauben, S. J., Jepson, C., Hsu, J. Y., Wilson, F. P., Zhang, X., Lash, J. P., Robinson, B. M., Townsend, R. R., Chen, J., Fogelfeld, L., Kao, P., Landis, J. R., Rader, D. J., Hamm, L. L., Anderson, A. H. and Feldman, H. I.	Insulin resistance and chronic kidney disease progression, cardiovascular events, and death: Findings from the chronic renal insufficiency cohort study 11 Medical and Health Sciences 1103 Clinical Sciences	2019	No CKD associated cardiovascular mortality stratified by sex
913	Schuett, K., Savvaidis, A., Maxeiner, S., Lysaja, K., Jankowski, V., Schirmer, S. H., Dimkovic, N., Boor, P., Kaesler, N., Dekker, F. W., Floege, J., Marx, N. and Schlieper, G.	Clot Structure: A Potent Mortality Risk Factor in Patients on Haemodialysis	2017	No CKD associated cardiovascular mortality stratified by sex
914	Schwaiger, J. P., Neyer, U., Sprenger-Mahr, H., Kollerits, B., Mundle, M., Langle, M. and Kronenberg, F.	A simple score predicts future cardiovascular events in an inception cohort of dialysis patients	2006	No CKD associated cardiovascular mortality stratified by sex
915	Schwantes-An, T. H., Liu, S., Stedman, M., Decker, B. S., Wetherill, L., Edenberg, H. J., Vatta, M., Foroud, T. M., Chertow, G. M. and Moe, S. M.	Fibroblast growth factor 23 genotype and cardiovascular disease in patients undergoing haemodialysis	2019	No CKD associated cardiovascular mortality stratified by sex
916	Schwedler, S. B., Metzger, T., Schinzel, R. and Wanner, C.	Advanced glycation end products and mortality in haemodialysis patients	2002	No CKD associated cardiovascular mortality stratified by sex
917	Schwermer, K., Hoppe, K., Radziszewska, D., Kłysz, P., Sawatiuk, P., Nealis, J., Kałuzna, M., Kaczmarek, J., Baum, E., Lindholm, B., Pawlaczyk, K. and Oko, A.	N-terminal pro-B-type natriuretic peptide as a marker of hypervolemia and predictor of increased mortality in patients on haemodialysis	2015	No CKD associated cardiovascular mortality stratified by sex
918	Scialla, J. J., Kao, W. H., Crainiceanu, C., Sozio, S. M., Oberai, P. C., Shafi, T., Coresh, J., Powe, N. R., Plantinga, L. C., Jaar, B. G. and Parekh, R. S.	Biomarkers of vascular calcification and mortality in patients with ESRD	2014	No CKD associated cardiovascular mortality stratified by sex

919	Scrutinio, D., Agostoni, P., Gesualdo, L., Corra, U., Mezzani, A., Piepoli, M., Di Lenarda, A., Iorio, A., Passino, C., Magri, D., Masarone, D., Battaia, E., Girola, D., Re, F., Cattadori, G., Parati, G., Sinagra, G., Villani, G. Q., Limongelli, G., Pacileo, G., Guazzi, M., Metra, M., Frigerio, M., Cicoira, M., Mina, C., Malfatto, G., Caravita, S., Bussotti, M., Salvioni, E., Veglia, F., Correale, M., Scardovi, A. B., Emdin, M., Giannuzzi, P., Gargiulo, P., Giovannardi, M., Perrone-Filardi, P., Raimondo, R., Ricci, R., Paolillo, S., Farina, S., Belardinelli, R., Passantino, A., La Gioia, R., Metabolic Exercise test data combined with, C. and Kidney Indexes Score Research, G.	Renal function and peak exercise oxygen consumption in chronic heart failure with reduced left ventricular ejection fraction	2015	No CKD associated cardiovascular mortality stratified by sex
920	Sederholm Lawesson, S., Alfredsson, J., Szummer, K., Fredrikson, M. and Swahn, E.	Prevalence and prognostic impact of chronic kidney disease in STEMI from a gender perspective: data from the SWEDEHEART register, a large Swedish prospective cohort	2015	No CKD associated cardiovascular mortality stratified by sex
921	Seiler, S., Schlitt, A., Jiang, X. C., Ulrich, C., Blankenberg, S., Lackner, K. J., Girndt, M., Werdan, K., Buerke, M., Fliser, D. and Heine, G. H.	Cholesteryl ester transfer protein activity and cardiovascular events in patients with chronic kidney disease stage V	2008	No CKD associated cardiovascular mortality stratified by sex
922	Selim, G., Stojceva-Taneva, O., Ivanovski, N., Zafirovska, K., Sikole, A., Trajcevska, L., Asani, A. and Polenakovic, M.	Inflammation and anaemia as predictors of cardiovascular mortality in haemodialysis patients	2007	No CKD associated cardiovascular mortality stratified by sex
923	Selim, G., Stojceva-Taneva, O., Spasovski, G., Georgievska-Ismail, L., Zafirovska-Ivanovska, B., Gelev, S., Dzekova, P., Trajcevska, L., Trojacanec-Piponska, S. and Sikole, A.	Brain natriuretic peptide between traditional and nontraditional risk factors in haemodialysis patients: analysis of cardiovascular mortality in a two-year follow-up	2011	No CKD associated cardiovascular mortality stratified by sex

924	Selim, G. N., Spasovski, G., Tozija, L., Georgievska-Ismail, L., Zafirova-Ivanovska, B., Masin-Spasovska, J., Rambabova-Busletic, I., Petronijevic, Z., Dzekova-Vidimliski, P., Ristovska, V., Pusevski, V. and Stojceva-Taneva, O.	Hypomagnesemia and cause-specific mortality in haemodialysis patients: 5-year follow-up analysis	2017	No CKD associated cardiovascular mortality stratified by sex
925	Serrano, A., Garcia, F., Serrano, M., Ramirez, E., Alfaro, F. J., Lora, D., de la Camara, A. G., Paz-Artal, E., Praga, M. and Morales, J. M.	IgA antibodies against beta2 glycoprotein I in haemodialysis patients are an independent risk factor for mortality	2012	No CKD associated cardiovascular mortality stratified by sex
926	Sessa, M., Mascolo, A., Andersen, M. P., Rosano, G., Rossi, F., Capuano, A. and Torp-Pedersen, C.	Effect of Chronic Kidney Diseases on Mortality among Digoxin Users Treated for Non-Valvular Atrial Fibrillation: A Nationwide Register-Based Retrospective Cohort Study	2016	No CKD associated cardiovascular mortality stratified by sex
927	Shafi, T., Jaar, B. G., Plantinga, L. C., Fink, N. E., Sadler, J. H., Parekh, R. S., Powe, N. R. and Coresh, J.	Association of residual urine output with mortality, quality of life, and inflammation in incident haemodialysis patients: the Choices for Healthy Outcomes in Caring for End-Stage Renal Disease (CHOICE) Study	2010	No CKD associated cardiovascular mortality stratified by sex
928	Shafi, T., Meyer, T. W., Hostetter, T. H., Melamed, M. L., Parekh, R. S., Hwang, S., Banerjee, T., Coresh, J. and Powe, N. R.	Free Levels of Selected Organic Solutes and Cardiovascular Morbidity and Mortality in Haemodialysis Patients: Results from the Retained Organic Solutes and Clinical Outcomes (ROSCO) Investigators	2015	No CKD associated cardiovascular mortality stratified by sex
929	Shafi, T., Sozio, S. M., Luly, J., Bandeen-Roche, K. J., St Peter, W. L., Ephraim, P. L., McDermott, A., Herzog, C. A., Crews, D. C., Scialla, J. J., Tangri, N., Miskulin, D. C., Michels, W. M., Jaar, B. G., Zager, P. G., Meyer, K. B., Wu, A. W. and Boulware, L. E.	Antihypertensive medications and risk of death and hospitalizations in US haemodialysis patients	2017	No CKD associated cardiovascular mortality stratified by sex
930	Shah, A. N., Mentz, R. J., Gheorghiade, M., Kwasny, M. J., Fought, A. J., Zannad, F., Swedberg, K., Maggioni, A. P. and Konstam, M. A.	Gender does not affect postdischarge outcomes in patients hospitalized for worsening heart failure with reduced ejection fraction (from the Efficacy of Vasopressin Antagonism in Heart Failure Outcome Study with Tolvaptan EVEREST Trial)	2012	No CKD associated cardiovascular mortality stratified by sex

931	Shah, N. R., Charytan, D. M., Murthy, V. L., Skali Lami, H., Veeranna, V., Cheezum, M. K., Taqueti, V. R., Kato, T., Foster, C. R., Hainer, J., Gaber, M., Klein, J., Dorbala, S., Blankstein, R. and Di Carli, M. F.	Prognostic Value of Coronary Flow Reserve in Patients with Dialysis-Dependent ESRD	2016	No CKD associated cardiovascular mortality stratified by sex
932	Shardlow, A., McIntyre, N. J., Fluck, R. J., McIntyre, C. W. and Taal, M. W.	Chronic Kidney Disease in Primary Care: Outcomes after Five Years in a Prospective Cohort Study	2016	No CKD associated cardiovascular mortality stratified by sex
933	Shen, H., Chang, X., Zheng, X., Du, W., Zhao, B., Wang, W. and Lou, X.	Association between C-reactive protein and mortality in peritoneal dialysis patients: A meta-analysis	2016	No CKD associated cardiovascular mortality stratified by sex
934	Shen, J. I., Saxena, A. B., Montez-Rath, M. E., Chang, T. I. and Winkelmayer, W. C.	Angiotensin-converting enzyme inhibitor/angiotensin receptor blocker use and cardiovascular outcomes in patients initiating peritoneal dialysis	2017	No CKD associated cardiovascular mortality stratified by sex
935	Sheng, X., Murphy, M. J., Macdonald, T. M. and Wei, L.	Effectiveness of statins in chronic kidney disease	2012	No CKD associated cardiovascular mortality stratified by sex
936	Shima, H., Mori, T., Ooi, M., Sonoda, M., Shoji, T., Ishimura, E., Okamura, M., Ishizaka, N. and Inaba, M.	Silent Cerebral Microbleeds and Longitudinal Risk of Renal and Cardiovascular Events in Patients with CKD	2016	No CKD associated cardiovascular mortality stratified by sex
937	Shimizu, T., Yoshihisa, A., Kanno, Y., Takiguchi, M., Sato, A., Miura, S., Nakamura, Y., Yamauchi, H., Owada, T., Abe, S., Sato, T., Suzuki, S., Oikawa, M., Yamaki, T., Sugimoto, K., Kunii, H., Nakazato, K., Suzuki, H., Saitoh, S. and Takeishi, Y.	Relationship of hyperuricemia with mortality in heart failure patients with preserved ejection fraction	2015	No CKD associated cardiovascular mortality stratified by sex
938	Shimoyama, Y., Mitsuda, Y., Tsuruta, Y., Hamajima, N. and Niwa, T.	Polymorphism of Nrf2, an antioxidative gene, is associated with blood pressure and cardiovascular mortality in haemodialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex
939	Shimoyama, Y., Tsuruta, Y. and Niwa, T.	Coronary artery calcification score is associated with mortality in Japanese haemodialysis patients	2012	No CKD associated cardiovascular mortality stratified by sex
940	Shishehbor, M. H., Oliveira, L. P., Lauer, M. S., Sprecher, D. L., Wolski, K., Cho, L., Hoogwerf, B. J. and Hazen, S. L.	Emerging cardiovascular risk factors that account for a significant portion of attributable mortality risk in chronic kidney disease	2008	No CKD associated cardiovascular mortality stratified by sex

941	Shlipak, M. G., Fried, L. F., Cushman, M., Manolio, T. A., Peterson, D., Stehman-Breen, C., Bleyer, A., Newman, A., Siscovick, D. and Psaty, B.	Cardiovascular mortality risk in chronic kidney disease: Comparison of traditional and novel risk factors	2005	No CKD associated cardiovascular mortality stratified by sex
942	Shoji, T., Marubayashi, S., Shigematsu, T., Iseki, K. and Tsubakihara, Y.	Use of Vitamin D Receptor Activator, Incident Cardiovascular Disease and Death in a Cohort of Haemodialysis Patients	2015	No CKD associated cardiovascular mortality stratified by sex
943	Shurraw, S., Hemmelgarn, B., Lin, M., Majumdar, S. R., Klarenbach, S., Manns, B., Bello, A., James, M., Turin, T. C., Tonelli, M. and Alberta Kidney Disease, N.	Association between glycemic control and adverse outcomes in people with diabetes mellitus and chronic kidney disease: a population-based cohort study	2011	No CKD associated cardiovascular mortality stratified by sex
944	Silberberg, J. S., Barre, P. E., Prichard, S. S. and Sniderman, A. D.	Impact of left ventricular hypertrophy on survival in end-stage renal disease	1989	No CKD associated cardiovascular mortality stratified by sex
945	Silva, A. P., Fragoso, A., Pinho, A., Tavares, N., Camacho, A., Faisca, M. and Leao Neves, P.	Phosphorus as an early marker of morbidity and mortality in type 2 chronic kidney disease diabetic patients	2013	No CKD associated cardiovascular mortality stratified by sex
946	Sim, J. J., Bhandari, S. K., Shi, J., Reynolds, K., Calhoun, D. A., Kalantar-Zadeh, K. and Jacobsen, S. J.	Comparative risk of renal, cardiovascular, and mortality outcomes in controlled, uncontrolled resistant, and nonresistant hypertension	2015	No CKD associated cardiovascular mortality stratified by sex
947	Sin, H. Y.	Prospective cohort study: Cinacalcet-mediated lowering of PTH level and cardiovascular disease mortality in younger Korean patients with stage 5 CKD at a Korean secondary hospital	2017	No CKD associated cardiovascular mortality stratified by sex
948	Sipahioglu, M. H., Kucuk, H., Unal, A., Kaya, M. G., Oguz, F., Tokgoz, B., Oymak, O. and Utas, C.	Impact of arterial stiffness on adverse cardiovascular outcomes and mortality in peritoneal dialysis patients	2012	No CKD associated cardiovascular mortality stratified by sex
949	Smilowitz, N. R., Gupta, N., Guo, Y., Mauricio, R. and Bangalore, S.	Management and outcomes of acute myocardial infarction in patients with chronic kidney disease	2017	No CKD associated cardiovascular mortality stratified by sex
950	Smith, D. H., Johnson, E. S., Thorp, M. L., Petrik, A., Yang, X. and Blough, D. K.	Outcomes predicted by phosphorous in chronic kidney disease: a retrospective CKD-inception cohort study	2010	No CKD associated cardiovascular mortality stratified by sex
951	Smith, D. H., Thorp, M. L., Gurwitz, J. H., McManus, D. D., Goldberg, R. J., Allen, L. A., Hsu, G., Sung, S. H., Magid, D. J. and Go, A. S.	Chronic kidney disease and outcomes in heart failure with preserved versus reduced ejection fraction: the Cardiovascular Research Network PRESERVE Study	2013	No CKD associated cardiovascular mortality stratified by sex

952	Sokolski, M., Zymlinski, R., Biegus, J., Siwolowski, P., Nawrocka-Millward, S., Todd, J., Yerramilli, M. R., Estis, J., Jankowska, E. A., Banasiak, W. and Ponikowski, P.	Urinary levels of novel kidney biomarkers and risk of true worsening renal function and mortality in patients with acute heart failure	2017	No CKD associated cardiovascular mortality stratified by sex
953	Solak, Y., Yilmaz, M. I., Saglam, M., Demirbas, S., Verim, S., Unal, H. U., Gaipov, A., Oguz, Y., Kayrak, M., Caglar, K., Vural, A., Turk, S., Covic, A. and Kanbay, M.	Mean corpuscular volume is associated with endothelial dysfunction and predicts composite cardiovascular events in patients with chronic kidney disease	2013	No CKD associated cardiovascular mortality stratified by sex
954	Sonmez, A., Yilmaz, M. I., Saglam, M., Unal, H. U., Gok, M., Cetinkaya, H., Karaman, M., Haymana, C., Eyileten, T., Oguz, Y., Vural, A., Rizzo, M. and Toth, P. P.	The role of plasma triglyceride/high-density lipoprotein cholesterol ratio to predict cardiovascular outcomes in chronic kidney disease	2015	No CKD associated cardiovascular mortality stratified by sex
955	Sood, M. M., Akbari, A., Manuel, D. G., Ruzicka, M., Hiremath, S., Zimmerman, D., McCormick, B. and Taljaard, M.	Longitudinal blood pressure in late-stage chronic kidney disease and the risk of end-stage kidney disease or mortality (Best blood pressure in chronic kidney disease study)	2017	No CKD associated cardiovascular mortality stratified by sex
956	Spencer-Hwang, R., Knutsen, S. F., Soret, S., Ghamsary, M., Beeson, W. L., Oda, K., Shavlik, D. and Jaipaul, N.	Ambient air pollutants and risk of fatal coronary heart disease among kidney transplant recipients	2011	No CKD associated cardiovascular mortality stratified by sex
957	Spiegel, D. M., Raggi, P., Smits, G. and Block, G. A.	Factors associated with mortality in patients new to haemodialysis	2007	No CKD associated cardiovascular mortality stratified by sex
958	Stack, A. G., Donigiewicz, U., Abdalla, A. A., Weiland, A., Casserly, L. F., Cronin, C. J., Nguyen, H. T. and Hannigan, A.	Plasma fibrinogen associates independently with total and cardiovascular mortality among subjects with normal and reduced kidney function in the general population	2014	No CKD associated cardiovascular mortality stratified by sex
959	Stack, A. G., Neylon, A. M., Abdalla, A. A., Hegarty, A., Hannigan, A., Cronin, C. J., Nguyen, H. T. and Casserly, L. F.	Declining mortality rates despite increases in clinical coronary artery disease among US dialysis patients: a national registry study	2013	No CKD associated cardiovascular mortality stratified by sex
960	Stack, A. G. and Saran, R.	Clinical correlates and mortality impact of left ventricular hypertrophy among new ESRD patients in the United States	2002	No CKD associated cardiovascular mortality stratified by sex

961	Stack, A. G., Yermak, D., Roche, D. G., Ferguson, J. P., Elsayed, M., Mohammed, W., Casserly, L. F., Walsh, S. R. and Cronin, C. J.	Differential impact of smoking on mortality and kidney transplantation among adult Men and Women undergoing dialysis	2016	No CKD associated cardiovascular mortality stratified by sex
962	Stenvinkel, P., Gillespie, I. A., Tunks, J., Addison, J., Kronenberg, F., Drueke, T. B., Marcelli, D., Schernthaner, G., Eckardt, K. U., Floege, J., Froissart, M. and Anker, S. D.	Inflammation modifies the paradoxical association between body mass index and mortality in haemodialysis patients	2016	No CKD associated cardiovascular mortality stratified by sex
963	Stidley, C. A., Hunt, W. C., Tentori, F., Schmidt, D., Rohrscheib, M., Paine, S., Bedrick, E. J., Meyer, K. B., Johnson, H. K. and Zager, P. G.	Changing relationship of blood pressure with mortality over time among haemodialysis patients	2006	No CKD associated cardiovascular mortality stratified by sex
964	Stirnadel-Farrant, H. A., Luo, J., Kler, L., Cizman, B., Jones, D., Brunelli, S. M. and Cobitz, A. R.	Anaemia and mortality in patients with nondialysis-dependent chronic kidney disease	2018	No CKD associated cardiovascular mortality stratified by sex
965	Stolic, R., Trajkovic, G., Jovanovic, A., Stolic, D., Peric, V., Sovtic, S. and Subaric-Gorgieva, G.	Carotid ultrasonographic parameters as markers of atherogenesis and mortality rate in patients on haemodialysis	2010	No CKD associated cardiovascular mortality stratified by sex
966	Straw, S., Byrom, R., Gierula, J., Paton, M. F., Koshy, A., Cubbon, R., Drozd, M., Kearney, M. and Witte, K. K.	Predicting one-year mortality in heart failure using the 'Surprise Question': a prospective pilot study	2019	No CKD associated cardiovascular mortality stratified by sex
967	Stubbs, J. R., Stedman, M. R., Liu, S., Long, J., Franchetti, Y., West, R. E., Prokopienko, A. J., Mahnken, J. D., Chertow, G. M. and Nolin, T. D.	Trimethylamine N-oxide and cardiovascular outcomes in patients with ESKD receiving maintenance haemodialysis	2019	No CKD associated cardiovascular mortality stratified by sex
968	Su, C. T., Yabes, J., Pike, F., Weiner, D. E., Beddhu, S., Burrowes, J. D., Rocco, M. V. and Unruh, M. L.	Changes in anthropometry and mortality in maintenance haemodialysis patients in the HEMO Study	2013	No CKD associated cardiovascular mortality stratified by sex
969	Sud, M., Tangri, N., Pintilie, M., Levey, A. S. and Naimark, D. M.	ESRD and death after heart failure in CKD	2015	No CKD associated cardiovascular mortality stratified by sex
970	Sugimoto, H., Ogawa, T., Iwabuchi, Y., Otsuka, K. and Nitta, K.	Relationship between serum fibroblast growth factor-23 level and mortality in chronic haemodialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex

971	Sugiura, S., Inaguma, D., Kitagawa, A., Murata, M., Kamimura, Y., Sendo, S., Hamaguchi, K., Nagaya, H., Tatematsu, M., Kurata, K., Yuzawa, Y. and Matsuo, S.	Administration of alfacalcidol for patients with predialysis chronic kidney disease may reduce cardiovascular disease events	2010	No CKD associated cardiovascular mortality stratified by sex
972	Sumida, K., Molnar, M. Z., Potukuchi, P. K., Thomas, F., Lu, J. L., Jing, J., Ravel, V. A., Soohoo, M., Rhee, C. M., Streja, E., Kalantar-Zadeh, K. and Kovesdy, C. P.	Association of Slopes of Estimated Glomerular Filtration Rate With Post-End-Stage Renal Disease Mortality in Patients With Advanced Chronic Kidney Disease Transitioning to Dialysis	2016	No CKD associated cardiovascular mortality stratified by sex
973	Sumida, K., Molnar, M. Z., Potukuchi, P. K., Thomas, F., Lu, J. L., Obi, Y., Rhee, C. M., Streja, E., Yamagata, K., Kalantar-Zadeh, K. and Kovesdy, C. P.	Prognostic significance of pre-end-stage renal disease serum alkaline phosphatase for post-end-stage renal disease mortality in late-stage chronic kidney disease patients transitioning to dialysis	2018	No CKD associated cardiovascular mortality stratified by sex
974	Sumida, K., Yamagata, K., Iseki, K. and Tsubakihara, Y.	Different impact of haemodialysis vintage on cause-specific mortality in long-term haemodialysis patients	2016	No CKD associated cardiovascular mortality stratified by sex
975	Sun, H., Xian, W., Geng, L., Li, E., Peng, Z. and Tian, J.	Increased plasma level of catestatin might be associated with poor prognosis in haemodialysis patients	2017	No CKD associated cardiovascular mortality stratified by sex
976	Sun, W., Liu, D., Shi, X., Gong, P., Wang, P. and Gong, W.	Biomarkers for cardiovascular mortality in chronic kidney disease patients	2014	No CKD associated cardiovascular mortality stratified by sex
977	Suvakov, S., Damjanovic, T., Pekmezovic, T., Jakovljevic, J., Savic-Radojevic, A., Pljesa-Ercegovac, M., Radovanovic, S., Simic, D. V., Pljesa, S., Zarkovic, M., Mimic-Oka, J., Dimkovic, N. and Simic, T.	Associations of GSTM1 0 and GSTA1 A genotypes with the risk of cardiovascular death among hemodialyses patients	2014	No CKD associated cardiovascular mortality stratified by sex
978	Suzuki, A., Obi, Y., Hayashi, T., Kotani, N., Uemura, Y., Imai, E., Makino, H. and Hishida, A.	Visit-to-visit variability in estimated glomerular filtration rate predicts hospitalization and death due to cardiovascular events	2019	No CKD associated cardiovascular mortality stratified by sex
979	Suzuki, H., Kanno, Y., Sugahara, S., Ikeda, N., Shoda, J., Takenaka, T., Inoue, T. and Araki, R.	Effect of angiotensin receptor blockers on cardiovascular events in patients undergoing haemodialysis: an open-label randomized controlled trial	2008	No CKD associated cardiovascular mortality stratified by sex

980	Suzuki, S., Shino, M., Fujikawa, T., Itoh, Y., Ueda, E., Hashimoto, T., Kuji, T., Kobayashi, N., Ohnishi, T., Hirawa, N., Tamura, K. and Toya, Y.	Plasma Cystine Levels and Cardiovascular and All-Cause Mortality in Haemodialysis Patients	2018	No CKD associated cardiovascular mortality stratified by sex
981	Szeto, C. C., Wong, T. Y., Chow, K. M., Leung, C. B. and Li, P. K.	Are peritoneal dialysis patients with and without residual renal function equivalent for survival study? Insight from a retrospective review of the cause of death	2003	No CKD associated cardiovascular mortality stratified by sex
982	Takagi, A., Iwama, Y., Yamada, A., Aihara, K. and Daida, H.	Estimated glomerular filtration rate is an independent predictor for mortality of patients with acute heart failure	2010	No CKD associated cardiovascular mortality stratified by sex
983	Takahashi, R., Ito, Y., Takahashi, H., Ishii, H., Kasuga, H., Mizuno, M., Suzuki, Y., Yuzawa, Y., Maruyama, S., Murohara, T., Imai, E. and Matsuo, S.	Combined values of serum albumin, C-reactive protein and body mass index at dialysis initiation accurately predicts long-term mortality	2012	No CKD associated cardiovascular mortality stratified by sex
984	Takeda, A., Toda, T., Fujii, T., Shinohara, S., Sasaki, S. and Matsui, N.	Discordance of influence of hypertension on mortality and cardiovascular risk in haemodialysis patients	2005	No CKD associated cardiovascular mortality stratified by sex
985	Takenaka, T., Sato, T., Hoshi, H., Kato, N., Sueyoshi, K., Tsuda, M., Watanabe, Y., Takane, H., Ohno, Y. and Suzuki, H.	Height constitutes an important predictor of mortality in end-stage renal disease	2011	No CKD associated cardiovascular mortality stratified by sex
986	Taki, F. and Komatsu, Y.	Serum beta 2 microglobulin on initiation of dialysis and mortality	2017	No CKD associated cardiovascular mortality stratified by sex
987	Tan, J., Bae, S., Segal, J. B., Zhu, J., Alexander, G. C., Segev, D. L. and McAdams-DeMarco, M.	Warfarin use and the risk of stroke, bleeding, and mortality in older adults on dialysis with incident atrial fibrillation	2019	No CKD associated cardiovascular mortality stratified by sex
988	Tan, S. H., Prowant, B. F., Khanna, R., Nolph, K. D. and Twardowski, Z. J.	Cardiovascular comorbidity and mortality in patients starting peritoneal dialysis: an American midwestern center experience	2001	No CKD associated cardiovascular mortality stratified by sex
989	Tanaka, A., Inaguma, D., Shinjo, H., Murata, M. and Takeda, A.	Presence of Atrial Fibrillation at the Time of Dialysis Initiation Is Associated with Mortality and Cardiovascular Events	2016	No CKD associated cardiovascular mortality stratified by sex
990	Tanaka, K., Watanabe, T., Takeuchi, A., Ohashi, Y., Nitta, K., Akizawa, T., Matsuo, S., Imai, E., Makino, H., Hishida, A. and Investigators, C. J.	Cardiovascular events and death in Japanese patients with chronic kidney disease	2017	No CKD associated cardiovascular mortality stratified by sex

991	Tanaka, M., Ishii, H., Aoyama, T., Takahashi, H., Toriyama, T., Kasuga, H., Takeshita, K., Yoshikawa, D., Amano, T. and Murohara, T.	Ankle brachial pressure index but not brachial-ankle pulse wave velocity is a strong predictor of systemic atherosclerotic morbidity and mortality in patients on maintenance haemodialysis	2011	No CKD associated cardiovascular mortality stratified by sex
992	Tanno, K., Ohsawa, M., Itai, K., Kato, K., Turin, T. C., Onoda, T., Sakata, K., Okayama, A. and Fujioka, T.	Associations of marital status with mortality from all causes and mortality from cardiovascular disease in Japanese haemodialysis patients	2013	No CKD associated cardiovascular mortality stratified by sex
993	Temgoua, M. N., Danwang, C., Agbor, V. N. and Noubiap, J. J.	Prevalence, incidence and associated mortality of cardiovascular disease in patients with chronic kidney disease in low- and middle-income countries: a protocol for a systematic review and meta-analysis	2017	No CKD associated cardiovascular mortality stratified by sex
994	Teng, T. H., Katzenellenbogen, J. M., Hung, J., Knuiman, M., Sanfilippo, F. M., Geelhoed, E., Hobbs, M. and Thompson, S. C.	Rural-urban differentials in 30-day and 1-year mortality following first-ever heart failure hospitalisation in Western Australia: a population-based study using data linkage	2014	No CKD associated cardiovascular mortality stratified by sex
995	Tentori, F., Karaboyas, A., Robinson, B. M., Morgenstern, H., Zhang, J., Sen, A., Ikizler, T. A., Rayner, H., Fissell, R. B., Vanholder, R., Tomo, T. and Port, F. K.	Association of dialysate bicarbonate concentration with mortality in the Dialysis Outcomes and Practice Patterns Study (DOPPS)	2013	No CKD associated cardiovascular mortality stratified by sex
996	Tepel, M., Giet, M. V., Park, A. and Zidek, W.	Association of calcium channel blockers and mortality in haemodialysis patients	2002	No CKD associated cardiovascular mortality stratified by sex
997	Tereshchenko, L. G., Kim, E. D., Oehler, A., Meoni, L. A., Ghafoori, E., Rami, T., Maly, M., Kabir, M., Hawkins, L., Tomaselli, G. F., Lima, J. A., Jaar, B. G., Sozio, S. M., Estrella, M., Kao, W. H. and Parekh, R. S.	Electrophysiologic Substrate and Risk of Mortality in Incident Haemodialysis	2016	No CKD associated cardiovascular mortality stratified by sex
998	Testa, A., Leonardis, D., Spoto, B., Sanguedolce, M. C., Parlongo, R. M., Pisano, A., Tripepi, G., Mallamaci, F. and Zoccali, C.	A polymorphism in a major antioxidant gene (Kelch-like ECH-associated protein 1) predicts incident cardiovascular events in chronic kidney disease patients: an exploratory study	2016	No CKD associated cardiovascular mortality stratified by sex
999	Testa, A., Torino, C., Postorino, M., Spoto, B., Sanguedolce, M. C., Parlongo, R. M., Tripepi, G., Mallamaci, F. and Zoccali, C.	The nature of the association between FGF23 and mortality and cardiovascular disease in end stage kidney disease patients: a mendelian randomization study	2017	No CKD associated cardiovascular mortality stratified by sex

1000	Thompson, S., James, M., Wiebe, N., Hemmelgarn, B., Manns, B., Klarenbach, S. and Tonelli, M.	Cause of Death in Patients with Reduced Kidney Function	2015	No CKD associated cardiovascular mortality stratified by sex
1001	Thorp, M. L., Johnson, E. S., Yang, X., Petrik, A. F., Platt, R. and Smith, D. H.	Effect of anaemia on mortality, cardiovascular hospitalizations and end-stage renal disease among patients with chronic kidney disease	2009	No CKD associated cardiovascular mortality stratified by sex
1002	Tian, S. L., Tian, X. K., Han, Q. F. and Wang, T.	Peripheral arterial disease predicts overall and cardiovascular mortality in peritoneal dialysis patients	2012	No CKD associated cardiovascular mortality stratified by sex
1003	Toida, T., Iwakiri, T., Sato, Y., Komatsu, H., Kitamura, K. and Fujimoto, S.	Relationship between Haemoglobin Levels Corrected by Interdialytic Weight Gain and Mortality in Japanese Haemodialysis Patients: Miyazaki Dialysis Cohort Study	2017	No CKD associated cardiovascular mortality stratified by sex
1004	Tonelli, M., Keech, A., Shepherd, J., Sacks, F., Tonkin, A., Packard, C., Pfeffer, M., Simes, J., Isles, C., Furberg, C. and et al.	Effect of pravastatin in people with diabetes and chronic kidney disease	2005	No CKD associated cardiovascular mortality stratified by sex
1005	Torino, C., Mattace-Raso, F., van Saase, J. L., D'Arrigo, G., Tripepi, R., Tripepi, G. L., Postorino, M., Mallamaci, F. and Zoccali, C.	Snoring amplifies the risk of heart failure and mortality in dialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex
1006	Torino, C., Pizzini, P., Cutrupi, S., Postorino, M., Tripepi, G., Mallamaci, F., Reiser, J., Zoccali, C., Alati, G., Barreca, E., Boito, R., Bovino, M., Bruzzese, V., Capria, M., Cassani, S., Chiarella, S., Chippari, A., Cicchetti, T., Crifò-Gasparro, E., Curti, C., D'Agostino, F., D'Anello, E., De Gaudio, M., Foscaldi, A., Fornaciari, C., Franco, C., Gaglioti, A., Galati, D., Grandinetti, F., Gullo, M., La Gamba, M. R., Logozzo, D., Maimone, I., Mannino, M. L., Mazzuca, E., Mellace, A., Natale, G., Panuccio, V., Plutino, D., Pugliese, A., Reina, A., Roberti, R., Santangelo, M., Sellaro, A., Scicchitano, R., Vardè, C. and Zingone, F.	Soluble Urokinase Plasminogen Activator Receptor (suPAR) and All-Cause and Cardiovascular Mortality in Diverse Haemodialysis Patients	2018	No CKD associated cardiovascular mortality stratified by sex

1007	Torraca, S., Sirico, M. L., Guastaferro, P., Morrone, L. F., Nigro, F., Blasio, A. D., Romano, P., Russo, D., Bellasi, A. and Di Iorio, B.	Variability of pulse wave velocity and mortality in chronic haemodialysis patients	2011	No CKD associated cardiovascular mortality stratified by sex
1008	Townsend, R. R., Anderson, A. H., Chirinos, J. A., Feldman, H. I., Grunwald, J. E., Nessel, L., Roy, J., Weir, M. R., Wright, J. T., Jr., Bansal, N. and Hsu, C. Y.	Association of Pulse Wave Velocity With Chronic Kidney Disease Progression and Mortality: Findings From the CRIC Study (Chronic Renal Insufficiency Cohort)	2018	No CKD associated cardiovascular mortality stratified by sex
1009	Tripepi, G., Mallamaci, F. and Zoccali, C.	Inflammation markers, adhesion molecules, and all-cause and cardiovascular mortality in patients with ESRD: searching for the best risk marker by multivariate modeling	2005	No CKD associated cardiovascular mortality stratified by sex
1010	Tripepi, G., Pannier, B., D'Arrigo, G., Mallamaci, F., Zoccali, C. and London, G.	Reappraisal in two European cohorts of the prognostic power of left ventricular mass index in chronic kidney failure	2017	No CKD associated cardiovascular mortality stratified by sex
1011	Tsai, M. T., Hu, F. H., Lien, T. J., Chen, P. J., Huang, T. P. and Tarng, D. C.	Interaction between geriatric nutritional risk index and decoy receptor 3 predicts mortality in chronic haemodialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex
1012	Tsai, Y. C., Lee, C. S., Chiu, Y. W., Kuo, H. T., Lee, S. C., Hwang, S. J., Kuo, M. C. and Chen, H. C.	Angiopoietin-2 as a Prognostic Biomarker of Major Adverse Cardiovascular Events and All-Cause Mortality in Chronic Kidney Disease	2015	No CKD associated cardiovascular mortality stratified by sex
1013	Tsai, Y. C., Lee, C. S., Chiu, Y. W., Lee, J. J., Lee, S. C., Hsu, Y. L. and Kuo, M. C.	Angiopoietin-2, Renal Deterioration, Major Adverse Cardiovascular Events and All-Cause Mortality in Patients with Diabetic Nephropathy	2018	No CKD associated cardiovascular mortality stratified by sex
1014	Tseng, W. C., Liu, J. S., Hung, S. C., Kuo, K. L., Chen, Y. H., Tarng, D. C. and Hsu, C. C.	Effect of spironolactone on the risks of mortality and hospitalization for heart failure in pre-dialysis advanced chronic kidney disease: A nationwide population-based study	2017	No CKD associated cardiovascular mortality stratified by sex
1015	Tuegel, C., Katz, R., Alam, M., Bhat, Z., Bellovich, K., de Boer, I., Brosius, F., Gadegbeku, C., Gipson, D., Hawkins, J., Himmelfarb, J., Ju, W., Kestenbaum, B., Kretzler, M., Robinson-Cohen, C., Steigerwalt, S. and Bansal, N.	GDF-15, Galectin 3, Soluble ST2, and Risk of Mortality and Cardiovascular Events in CKD	2018	No CKD associated cardiovascular mortality stratified by sex

1016	Turakhia, M. P., Blankestijn, P. J., Carrero, J. J., Clase, C. M., Deo, R., Herzog, C. A., Kasner, S. E., Passman, R. S., Pecoits-Filho, R., Reinecke, H., Shroff, G. R., Zareba, W., Cheung, M., Wheeler, D. C., Winkelmayer, W. C. and Wanner, C.	Chronic kidney disease and arrhythmias: Conclusions from a Kidney Disease: Improving Global Outcomes (KDIGO) Controversies Conference	2018	No CKD associated cardiovascular mortality stratified by sex
1017	Tziomalos, K., Giampatzis, V., Baltatzi, M., Efthymiou, E., Psianou, K., Papastergiou, N., Magkou, D., Bougatsa, V., Savopoulos, C. and Hatzitolios, A. I.	Sex-specific differences in cardiovascular risk factors and blood pressure control in hypertensive patients	2014	No CKD associated cardiovascular mortality stratified by sex
1018	Ulrich, C., Heine, G. H., Seibert, E., Fliser, D. and Girndt, M.	Circulating monocyte subpopulations with high expression of angiotensin-converting enzyme predict mortality in patients with end-stage renal disease	2010	No CKD associated cardiovascular mortality stratified by sex
1019	Undas, A., Kolarz, M., Kopec, G. and Tracz, W.	Altered fibrin clot properties in patients on long-term haemodialysis: relation to cardiovascular mortality	2008	No CKD associated cardiovascular mortality stratified by sex
1020	Untersteller, K., Meissl, S., Trieb, M., Emrich, I. E., Zawada, A. M., Holzer, M., Knuplez, E., Fliser, D., Heine, G. H. and Marsche, G.	HDL functionality and cardiovascular outcome among nondialysis chronic kidney disease patients	2018	No CKD associated cardiovascular mortality stratified by sex
1021	Usvyat, L. A., Carter, M., Thijssen, S., Kooman, J. P., van der Sande, F. M., Zabetakis, P., Balter, P., Levin, N. W. and Kotanko, P.	Seasonal variations in mortality, clinical, and laboratory parameters in haemodialysis patients: A 5-year cohort study	2012	No CKD associated cardiovascular mortality stratified by sex
1022	van der Sman-de Beer, F., Verhagen, C., Rombach, S. M., Boorsma, P., van Manen, J. G., Korevaar, J. C., van den Bogaard, R., Boeschoten, E. W., Krediet, R. T., Navis, G. J., Vandenbroucke, J. P. and Dekker, F. W.	ACE I/D polymorphism is associated with mortality in a cohort study of patients starting with dialysis	2005	No CKD associated cardiovascular mortality stratified by sex

1023	van der Velde, M., Matsushita, K., Coresh, J., Astor, B. C., Woodward, M., Levey, A., de Jong, P., Gansevoort, R. T., Chronic Kidney Disease Prognosis, C., van der Velde, M., Matsushita, K., Coresh, J., Astor, B. C., Woodward, M., Levey, A. S., de Jong, P. E., Gansevoort, R. T., Levey, A., El-Nahas, M., Eckardt, K. U., Kasiske, B. L., Ninomiya, T., Chalmers, J., Macmahon, S., Tonelli, M., Hemmelgarn, B., Sacks, F., Curhan, G., Collins, A. J., Li, S., Chen, S. C., Hawaii Cohort, K. P., Lee, B. J., Ishani, A., Neaton, J., Svendsen, K., Mann, J. F., Yusuf, S., Teo, K. K., Gao, P., Nelson, R. G., Knowler, W. C., Bilo, H. J., Joosten, H., Kleefstra, N., Groenier, K. H., Auguste, P., Veldhuis, K., Wang, Y., Camarata, L., Thomas, B. and Manley, T.	Lower estimated glomerular filtration rate and higher albuminuria are associated with all-cause and cardiovascular mortality. A collaborative meta-analysis of high-risk population cohorts	2011	No CKD associated cardiovascular mortality stratified by sex
1024	van Dijk, S., van den Beukel, T. O., Kaptein, A. A., Honig, A., le Cessie, S., Siegert, C. E., Boeschoten, E. W., Krediet, R. T. and Dekker, F. W.	How baseline, new-onset, and persistent depressive symptoms are associated with cardiovascular and non-cardiovascular mortality in incident patients on chronic dialysis	2013	No CKD associated cardiovascular mortality stratified by sex
1025	Van Pottelbergh, G., Vaes, B., Adriaensen, W., Mathei, C., Legrand, D., Wallemacq, P. and Degryse, J. M.	The glomerular filtration rate estimated by new and old equations as a predictor of important outcomes in elderly patients	2014	No CKD associated cardiovascular mortality stratified by sex
1026	Vashistha, T., Kalantar-Zadeh, K., Molnar, M. Z., Torlen, K. and Mehrotra, R.	Dialysis modality and correction of uremic metabolic acidosis: relationship with all-cause and cause-specific mortality	2013	No CKD associated cardiovascular mortality stratified by sex
1027	Vega, A., Abad, S., Macías, N., Aragoncillo, I., García-Prieto, A., Linares, T., Torres, E., Hernández, A. and Luño, J.	Any grade of relative overhydration is associated with long-term mortality in patients with Stages 4 and 5 non-dialysis chronic kidney disease	2018	No CKD associated cardiovascular mortality stratified by sex

1028	Verbeke, F., Marechal, C., Van Laecke, S., Van Biesen, W., Devuyst, O., Van Bortel, L. M., Jadoul, M. and Vanholder, R.	Aortic stiffness and central wave reflections predict outcome in renal transplant recipients	2011	No CKD associated cardiovascular mortality stratified by sex
1029	Verbeke, F., Van Biesen, W., Honkanen, E., Wikström, B., Jensen, P. B., Krzesinski, J. M., Rasmussen, M., Vanholder, R. and Rensma, P. L.	Prognostic value of aortic stiffness and calcification for cardiovascular events and mortality in dialysis patients: Outcome of the Calcification Outcome in Renal Disease (CORD) study	2011	No CKD associated cardiovascular mortality stratified by sex
1030	Vlagopoulos, P. T., Tighiouart, H., Weiner, D. E., Griffith, J., Pettitt, D., Salem, D. N., Levey, A. S. and Sarnak, M. J.	Anaemia as a risk factor for cardiovascular disease and all-cause mortality in diabetes: the impact of chronic kidney disease	2005	No CKD associated cardiovascular mortality stratified by sex
1031	Voskamp, P. W. M., Rookmaaker, M. B., Verhaar, M. C., Dekker, F. W. and Ocak, G.	Vitamin K antagonist use and mortality in dialysis patients	2018	No CKD associated cardiovascular mortality stratified by sex
1032	Wagner, S., Metzger, M., Flamant, M., Houillier, P., Haymann, J. P., Vrtovsnik, F., Thervet, E., Boffa, J. J., Massy, Z. A., Stengel, B. and Rossignol, P.	Association of plasma potassium with mortality and end-stage kidney disease in patients with chronic kidney disease under nephrologist care - The NephroTest study	2017	No CKD associated cardiovascular mortality stratified by sex
1033	Waheeb, M. Q.	Investigation serum uric acid in cardiovascular mortality and all-cause mortality men and women in Al-Muthanna Province-Iraq	2019	No CKD associated cardiovascular mortality stratified by sex
1034	Waheed, S., Malik, R., Waheed, S., Parashara, D. and Perez, J.	Association of QT interval with mortality by kidney function: Results from the National Health and Nutrition Examination Survey (NHANES)	2017	No CKD associated cardiovascular mortality stratified by sex
1035	Waks, J. W., Tereshchenko, L. G. and Parekh, R. S.	Electrocardiographic predictors of mortality and sudden cardiac death in patients with end stage renal disease on haemodialysis	2016	No CKD associated cardiovascular mortality stratified by sex
1036	Waldum-Grevbo, B., Leivestad, T., Reisaeter, A. V. and Os, I.	Impact of initial dialysis modality on mortality: a propensity-matched study	2015	No CKD associated cardiovascular mortality stratified by sex
1037	Wang, A. Y., Wang, M., Lam, C. W., Chan, I. H., Lui, S. F. and Sanderson, J. E.	Heart failure with preserved or reduced ejection fraction in patients treated with peritoneal dialysis	2013	No CKD associated cardiovascular mortality stratified by sex
1038	Wang, A. Y. M., Sea, M. M. M., Ng, K., Wang, M., Chan, I. H. S., Lam, C. W. K., Sanderson, J. E. and Woo, J.	Dietary Fiber Intake, Myocardial Injury, and Major Adverse Cardiovascular Events Among End-Stage Kidney Disease Patients: A Prospective Cohort Study	2019	No CKD associated cardiovascular mortality stratified by sex
1039	Wang, A. Y. M., Wang, M., Woo, J., Lam, C. W. K., Li, P. K. T., Lui, S. F. and Sanderson, J. E.	Cardiac valve calcification as an important predictor for all-cause mortality and cardiovascular mortality in long-term peritoneal dialysis patients: A prospective study	2003	No CKD associated cardiovascular mortality stratified by sex

1040	Wang, C., Li, Y., Zhang, J., Ye, Z., Zhang, Q., Ma, X., Peng, H. and Lou, T.	Prognostic Effect of Isolated Nocturnal Hypertension in Chinese Patients With Nondialysis Chronic Kidney Disease	2016	No CKD associated cardiovascular mortality stratified by sex
1041	Wang, D., Liu, M., Hao, Z. and Tao, W.	Association between reduced kidney function and clinical outcomes after ischaemic stroke with atrial fibrillation	2014	No CKD associated cardiovascular mortality stratified by sex
1042	Wang, H., Dai, D. F., Zeng, X. Z., Yang, J. F., Liu, D. P. and Yang, J. H.	Reduced estimated glomerular filtration rate and proteinuria are associated with increased cardiovascular events rate in octogenarian population	2013	No CKD associated cardiovascular mortality stratified by sex
1043	Wang, J., Wang, F., Liu, S., Zhou, M., Zhang, L. and Zhao, M.	Reduced Kidney Function, Albuminuria, and Risks for All-cause and Cardiovascular Mortality in China: A Population-based Cohort Study	2017	No CKD associated cardiovascular mortality stratified by sex
1044	Wang, J. Y., Wang, C. Y., Juang, S. Y., Huang, K. Y., Chou, P., Chen, C. W. and Lee, C. C.	Low socioeconomic status increases short-term mortality of acute myocardial infarction despite universal health coverage	2014	No CKD associated cardiovascular mortality stratified by sex
1045	Wang, S. M., Cheng, S. Y., Chou, C. Y., Liu, J. H., Lin, H. H., Tseng, Y. H., Liu, Y. L., Chen, W. and Huang, C. C.	Association between mean arterial pressure and mortality in chronic haemodialysis patients	2009	No CKD associated cardiovascular mortality stratified by sex
1046	Wang, Y., Guo, X., Li, J., Hu, D., Zhao, D., Ma, H., Mou, Q., Liu, J. and Xu, Y.	Predictive value of ankle-brachial index to all-cause mortality and cardiovascular mortality in Chinese patients with chronic kidney disease	2012	No CKD associated cardiovascular mortality stratified by sex
1047	Wang, Y., Xiong, L., Xu, Q., Li, W., Peng, X., Shen, J., Qiu, Y., Yu, X. and Mao, H.	Association of left ventricular systolic dysfunction with mortality in incident peritoneal dialysis patients	2018	No CKD associated cardiovascular mortality stratified by sex
1048	Wang, Y., Xu, Y., Hu, D., Guo, X., Zhao, D. and Li, J.	Joint association of ankle-brachial index and serum uric acid on the outcomes of six-year all-cause mortality and cardiovascular mortality in Chinese patients	2012	No CKD associated cardiovascular mortality stratified by sex
1049	Wang, Z., Jiang, A., Wei, F. and Chen, H.	Cardiac valve calcification and risk of cardiovascular or all-cause mortality in dialysis patients: a meta-analysis	2018	No CKD associated cardiovascular mortality stratified by sex
1050	Wanner, C., Krane, V., März, W., Olschewski, M., Mann, J. F. E., Ruf, G. and Ritz, E.	Atorvastatin in patients with type 2 diabetes mellitus undergoing haemodialysis	2005	No CKD associated cardiovascular mortality stratified by sex
1051	Wasse, H., Speckman, R. A. and McClellan, W. M.	Arteriovenous fistula use is associated with lower cardiovascular mortality compared with catheter use among ESRD patients	2008	No CKD associated cardiovascular mortality stratified by sex
1052	Wassertheurer, S. and Baumann, M.	Assessment of systolic aortic pressure and its association to all cause mortality critically depends on waveform calibration	2015	No CKD associated cardiovascular mortality stratified by sex
1053	Wattanakit, K., Coresh, J., Muntner, P., Marsh, J. and Folsom, A. R.	Cardiovascular risk among adults with chronic kidney disease, with or without prior myocardial infarction	2006	No CKD associated cardiovascular mortality stratified by sex
1054	Wei, T., Wang, M., Wang, M., Gan, L. Y. and Li, X.	Relationship of sRANKL level and vascular calcification score to cardiovascular events in maintenance haemodialysis patients	2009	No CKD associated cardiovascular mortality stratified by sex

1055	Weidmann, Z. M., Breidthardt, T., Twerenbold, R., Zusli, C., Nowak, A., von Eckardstein, A., Erne, P., Rentsch, K., de Oliveira, M. T., Jr., Gualandro, D., Maeder, M. T., Rubini Gimenez, M., Pershyna, K., Stallone, F., Haas, L., Jaeger, C., Wildi, K., Puelacher, C., Honegger, U., Wagener, M., Wittmer, S., Schumacher, C., Krivoshei, L., Hillinger, P., Osswald, S. and Mueller, C.	Prediction of mortality using quantification of renal function in acute heart failure	2015	No CKD associated cardiovascular mortality stratified by sex
1056	Weiner, D. E., Krassilnikova, M., Tighiouart, H., Salem, D. N., Levey, A. S. and Sarnak, M. J.	CKD classification based on estimated GFR over three years and subsequent cardiac and mortality outcomes: a cohort study	2009	No CKD associated cardiovascular mortality stratified by sex
1057	Weiner, D. E., Tabatabai, S., Tighiouart, H., Elsayed, E., Bansal, N., Griffith, J., Salem, D. N., Levey, A. S. and Sarnak, M. J.	Cardiovascular outcomes and all-cause mortality: exploring the interaction between CKD and cardiovascular disease	2006	No CKD associated cardiovascular mortality stratified by sex
1058	Weiner, D. E., Tighiouart, H., Stark, P. C., Amin, M. G., MacLeod, B., Griffith, J. L., Salem, D. N., Levey, A. S. and Sarnak, M. J.	Kidney disease as a risk factor for recurrent cardiovascular disease and mortality	2004	No CKD associated cardiovascular mortality stratified by sex
1059	Weiner, D. E., Tighiouart, H., Vlagopoulos, P. T., Griffith, J. L., Salem, D. N., Levey, A. S. and Sarnak, M. J.	Effects of anaemia and left ventricular hypertrophy on cardiovascular disease in patients with chronic kidney disease	2005	No CKD associated cardiovascular mortality stratified by sex
1060	Weir, M. A., Dixon, S. N., Fleet, J. L., Roberts, M. A., Hackam, D. G., Oliver, M. J., Suri, R. S., Quinn, R. R., Ozair, S., Beyea, M. M., Kitchlu, A. and Garg, A. X.	beta-Blocker dialyzability and mortality in older patients receiving haemodialysis	2015	No CKD associated cardiovascular mortality stratified by sex
1061	Wen, C. P., Matsushita, K., Coresh, J., Iseki, K., Islam, M., Katz, R., McClellan, W., Peralta, C. A., Wang, H., de Zeeuw, D., Astor, B. C., Gansevoort, R. T., Levey, A. S. and Levin, A.	Relative risks of chronic kidney disease for mortality and end-stage renal disease across races are similar	2014	No CKD associated cardiovascular mortality stratified by sex
1062	Wetmore, J. B., Li, S., Yan, H., Xu, H., Peng, Y., Sinsakul, M. V., Liu, J. and Gilbertson, D. T.	Predialysis anaemia management and outcomes following dialysis initiation: A retrospective cohort analysis	2018	No CKD associated cardiovascular mortality stratified by sex

1063	Winkelmayer, W. C., Hurley, M. P., Liu, J. and Brookhart, M. A.	Altitude and the risk of cardiovascular events in incident US dialysis patients	2012	No CKD associated cardiovascular mortality stratified by sex
1064	Winkelmayer, W. C., Kramar, R., Sunder-Plassmann, G. and Födinger, M.	Effects of single-nucleotide polymorphisms in MTHFR and MTRR on mortality and allograft loss in kidney transplant recipients	2005	No CKD associated cardiovascular mortality stratified by sex
1065	Winkler, K., Hoffmann, M. M., Krane, V., Marz, W., Drechsler, C. and Wanner, C.	Apolipoprotein E genotype predicts cardiovascular endpoints in dialysis patients with type 2 diabetes mellitus	2010	No CKD associated cardiovascular mortality stratified by sex
1066	Wright, J. R., Shurrab, A. E., Cheung, C., Waldek, S., O'Donoghue, D. J., Foley, R. N., Mamtora, H. and Kalra, P. A.	A prospective study of the determinants of renal functional outcome and mortality in atherosclerotic renovascular disease	2002	No CKD associated cardiovascular mortality stratified by sex
1067	Wu, C. C., Liou, H. H., Su, P. F., Chang, M. Y., Wang, H. H., Chen, M. J. and Hung, S. Y.	Abdominal obesity is the most significant metabolic syndrome component predictive of cardiovascular events in chronic haemodialysis patients	2011	No CKD associated cardiovascular mortality stratified by sex
1068	Wu, C. K., Wu, C. L., Lin, C. H., Leu, J. G., Kor, C. T. and Tarng, D. C.	Association of vascular access flow with short-term and long-term mortality in chronic haemodialysis patients: a retrospective cohort study	2017	No CKD associated cardiovascular mortality stratified by sex
1069	Wu, D. Y., Shinaberger, C. S., Regidor, D. L., McAllister, C. J., Kopple, J. D. and Kalantar-Zadeh, K.	Association between serum bicarbonate and death in haemodialysis patients: is it better to be acidotic or alkalotic?	2006	No CKD associated cardiovascular mortality stratified by sex
1070	Wu, H., Xiong, L., Xu, Q., Wu, J., Huang, R., Guo, Q., Mao, H., Yu, X. and Yang, X.	Higher serum triglyceride to high-density lipoprotein cholesterol ratio was associated with increased cardiovascular mortality in female patients on peritoneal dialysis	2015	No CKD associated cardiovascular mortality stratified by sex
1071	Wu, H. C., Lee, L. C. and Wang, W. J.	Associations among time-average mineral values, mortality and cardiovascular events in haemodialysis patients	2015	No CKD associated cardiovascular mortality stratified by sex
1072	Wu, M., Wu, H., Huang, X., Ye, H., Huang, F., Yu, X. and Yang, X.	Associations between serum mineral metabolism parameters and mortality in patients on peritoneal dialysis	2018	No CKD associated cardiovascular mortality stratified by sex
1073	Xia, X., He, F., Wu, X., Peng, F., Huang, F. and Yu, X.	Relationship between serum uric acid and all-cause and cardiovascular mortality in patients treated with peritoneal dialysis	2014	No CKD associated cardiovascular mortality stratified by sex
1074	Xie, Q., Ge, X., Da, Shang, Li, Y., Yan, H., Tian, J., Hao, C. M. and Zhu, T.	Coronary artery calcification score as a predictor of all-cause mortality and cardiovascular outcome in peritoneal dialysis patients	2016	No CKD associated cardiovascular mortality stratified by sex
1075	Xie, X., Zhang, X., Xiang, S., Yan, X., Huang, H., Tian, Y., Shou, Z. and Chen, J.	Association of very low-density lipoprotein cholesterol with all-cause and cardiovascular mortality in peritoneal dialysis	2017	No CKD associated cardiovascular mortality stratified by sex

1076	Xiong, L., Cao, S., Xu, F., Zhou, Q., Fan, L., Xu, Q., Yu, X. and Mao, H.	Association of body mass index and body mass index change with mortality in incident peritoneal dialysis patients	2015	No CKD associated cardiovascular mortality stratified by sex
1077	Xiong, L., Fan, L., Xu, Q., Zhou, Q., Li, H., Peng, X., Yang, Y., Wang, Y., Yu, X. and Mao, H.	Faster Transport Status and Mortality in Anuric Patients Undergoing Continuous Ambulatory Peritoneal Dialysis	2015	No CKD associated cardiovascular mortality stratified by sex
1078	Xu, Q., Guo, H., Cao, S., Zhou, Q., Chen, J., Su, M., Chen, S., Jiang, S., Shi, X. and Wen, Y.	Associations of vitamin K status with mortality and cardiovascular events in peritoneal dialysis patients	2019	No CKD associated cardiovascular mortality stratified by sex
1079	Xu, Q., Xiong, L., Fan, L., Xu, F., Yang, Y., Li, H., Peng, X., Cao, S., Zheng, Z., Yang, X., Yu, X. and Mao, H.	Association of Pulmonary Hypertension with Mortality in Incident Peritoneal Dialysis Patients	2015	No CKD associated cardiovascular mortality stratified by sex
1080	Xu, Q., Xu, F., Fan, L., Xiong, L., Li, H., Cao, S., Lin, X., Zheng, Z., Yu, X. and Mao, H.	Serum potassium levels and its variability in incident peritoneal dialysis patients: Associations with mortality	2014	No CKD associated cardiovascular mortality stratified by sex
1081	Xu, R., Han, Q. F., Zhu, T. Y., Ren, Y. P., Chen, J. H., Zhao, H. P., Chen, M. H., Dong, J., Wang, Y., Hao, C. M., Zhang, R., Zhang, X. H., Wang, M., Tian, N. and Wang, H. Y.	Impact of individual and environmental socioeconomic status on peritoneal dialysis outcomes: a retrospective multicenter cohort study	2012	No CKD associated cardiovascular mortality stratified by sex
1082	Yakupoglu, U., Ozdemir, F. N., Arat, Z., Haberal, A., Agca, E. and Bilgin, N.	Can troponin-I predict cardiovascular mortality due to myocardial injury in haemodialysis patients?	2002	No CKD associated cardiovascular mortality stratified by sex
1083	Yamaguchi, S., Gohda, T., Gotoh, H., Omote, K., Furukawa, M., Ishikawa, Y. and Tomino, Y.	Factors associated with cardiovascular death and events in patients with end stage renal disease	2013	No CKD associated cardiovascular mortality stratified by sex
1084	Yamamoto, T., Shoji, S., Yamakawa, T., Wada, A., Suzuki, K., Iseki, K. and Tsubakihara, Y.	Predialysis and Postdialysis pH and Bicarbonate and Risk of All-Cause and Cardiovascular Mortality in Long-term Haemodialysis Patients	2015	No CKD associated cardiovascular mortality stratified by sex
1085	Yamashita, K., Mizuiri, S., Nishizawa, Y., Shigemoto, K., Doi, S. and Masaki, T.	Addition of Novel Biomarkers for Predicting All-Cause and Cardiovascular Mortality in Prevalent Haemodialysis Patients	2018	No CKD associated cardiovascular mortality stratified by sex
1086	Yamashita, Y., Takagi, D., Hamatani, Y., Iguchi, M., Masunaga, N., Esato, M., Chun, Y. H., Itoh, H., Nishimura, M., Wada, H. and et al.	Clinical characteristics and outcomes of dialysis patients with atrial fibrillation: the Fushimi AF Registry	2016	No CKD associated cardiovascular mortality stratified by sex
1087	Yang, J. G., Li, J., Lu, C., Hasimu, B., Yang, Y. and Hu, D.	Chronic kidney disease, all-cause mortality and cardiovascular mortality among Chinese patients with established cardiovascular disease	2010	No CKD associated cardiovascular mortality stratified by sex

1088	Yang, X., Zhang, H., Shi, Y., Yu, Z., Yan, H., Ni, Z., Qian, J. and Fang, W.	Association of serum angiopoietin-2 with malnutrition, inflammation, atherosclerosis and valvular calcification syndrome and outcome in peritoneal dialysis patients: A prospective cohort study	2018	No CKD associated cardiovascular mortality stratified by sex
1089	Yang, Z. K., Han, Q. F., Zhu, T. Y., Ren, Y. P., Chen, J. H., Zhao, H. P., Chen, M. H., Dong, J., Wang, Y., Hao, C. M., Zhang, R., Zhang, X. H., Wang, M., Tian, N. and Wang, H. Y.	The associations between the family education and mortality of patients on peritoneal dialysis	2014	No CKD associated cardiovascular mortality stratified by sex
1090	Yen, T. H., Lin, J. L., Lin-Tan, D. T. and Hsu, C. W.	Association between body mass and mortality in maintenance haemodialysis patients	2010	No CKD associated cardiovascular mortality stratified by sex
1091	Yilmaz, H., Celik, H. T., Gurel, O. M., Bilgic, M. A., Namuslu, M., Bozkurt, H., Ayyildiz, A., Inan, O., Bavbek, N. and Akcay, A.	Increased serum levels of GDF-15 associated with mortality and subclinical atherosclerosis in patients on maintenance haemodialysis	2015	No CKD associated cardiovascular mortality stratified by sex
1092	Yin, Z., Fang, Z., Yang, M., Du, X., Nie, B. and Gao, K.	Predictive value of serum uric acid levels on mortality in acute coronary syndrome patients with chronic kidney disease after drug-eluting stent implantation	2013	No CKD associated cardiovascular mortality stratified by sex
1093	Yoda, S., Nakanishi, K., Tano, A., Kasamaki, Y., Kunimoto, S., Matsumoto, N., Sato, Y. and Hirayama, A.	Risk stratification of cardiovascular events in patients at all stages of chronic kidney disease using myocardial perfusion SPECT	2012	No CKD associated cardiovascular mortality stratified by sex
1094	Yoo, H. H., Martin, L. C., Kochi, A. C., Rodrigues-Telini, L. S., Barretti, P., Caramori, J. T., Matsubara, B. B., Zannati-Bazan, S. G., Franco, R. J. and Queluz, T. T.	Could albumin level explain the higher mortality in haemodialysis patients with pulmonary hypertension?	2012	No CKD associated cardiovascular mortality stratified by sex
1095	Yoshihara, F., Horio, T., Nakamura, S., Yoshii, M., Ogata, C., Nakahama, H., Inenaga, T., Kangawa, K. and Kawano, Y.	Adrenomedullin reflects cardiac dysfunction, excessive blood volume, and inflammation in haemodialysis patients	2005	No CKD associated cardiovascular mortality stratified by sex
1096	Yoshitomi, R., Nakayama, M., Sakoh, T., Fukui, A., Katafuchi, E., Seki, M., Tsuda, S., Nakano, T., Tsuruya, K. and Kitazono, T.	High neutrophil/lymphocyte ratio is associated with poor renal outcomes in Japanese patients with chronic kidney disease	2019	No CKD associated cardiovascular mortality stratified by sex
1097	Yu, D., Cai, Y., Chen, Y., Chen, T., Qin, R., Simmons, D. and Zhao, Z.	Development and validation of risk prediction models for cardiovascular mortality in Chinese people initialising peritoneal dialysis: A cohort study	2018	No CKD associated cardiovascular mortality stratified by sex

1098	Yu, L., Li, H. and Wang, S. X.	Serum Magnesium and Mortality in Maintenance Haemodialysis Patients	2017	No CKD associated cardiovascular mortality stratified by sex
1099	Yu, T. M., Chuang, Y. W. and Chen, C. H.	Young-adult polycystic kidney disease is significantly associated with major cardiovascular complications	2017	No CKD associated cardiovascular mortality stratified by sex
1100	Yu, Z. Z., Ni, Z. H., Gu, L. Y., Lin, A. W., Fang, W., Yao, Q., Lindholm, B. and Qian, J. Q.	Adiponectin is related to carotid artery plaque and a predictor of cardiovascular outcome in a cohort of non-diabetic peritoneal dialysis patients	2008	No CKD associated cardiovascular mortality stratified by sex
1101	Yun, Y. S., Choi, S. J., Lee, J. Y., Kim, Y. S., Yoon, S. A., Park, S. C., Shin, O. R., Jang, E. J. and Kim, Y. O.	Impact of arterial microcalcification of the vascular access on cardiovascular mortality in haemodialysis patients	2014	No CKD associated cardiovascular mortality stratified by sex
1102	Zamora, E., Lupon, J., de Antonio, M., Galan, A., Domingo, M., Urrutia, A., Troya, M. and Bayes-Genis, A.	Renal function largely influences Galectin-3 prognostic value in heart failure	2014	No CKD associated cardiovascular mortality stratified by sex
1103	Zhan, X., Chen, Y., Yan, C., Liu, S., Deng, L., Yang, Y., Qiu, P., Pan, D., Zeng, B. and Chen, Q.	Apolipoprotein B/apolipoprotein A1 ratio and mortality among incident peritoneal dialysis patients	2018	No CKD associated cardiovascular mortality stratified by sex
1104	Zhang, A., Wang, S., Li, H., Yang, J. and Wu, H.	Aortic arch calcification and risk of cardiovascular or all-cause and mortality in dialysis patients: A meta-analysis	2016	No CKD associated cardiovascular mortality stratified by sex
1105	Zhang, J., Jiang, H., Sun, M. and Chen, J.	Association between periodontal disease and mortality in people with CKD: A meta-analysis of cohort studies	2017	No CKD associated cardiovascular mortality stratified by sex
1106	Zhang, Q., Ren, H., Xie, J., Li, X., Huang, X. and Chen, N.	Causes of death in peritoneal dialysis patients with different kidney diseases and comorbidities: a retrospective clinical analysis in a Chinese center	2014	No CKD associated cardiovascular mortality stratified by sex
1107	Zhang, X., Jing, J., Zhao, X., Liu, L., Wang, C., Pan, Y., Meng, X., Wang, Y. and Wang, Y.	Statin Use during Hospitalization and Short-Term Mortality in Acute Ischaemic Stroke with Chronic Kidney Disease	2018	No CKD associated cardiovascular mortality stratified by sex
1108	Zhang, X., Yu, D., Cai, Y., Shang, J., Qin, R., Tian, X., Zhao, Z. and Simmons, D.	Derivation and Validation of Risk Scores to Predict Cerebrovascular Mortality Among Incident Peritoneal Dialysis Patients	2018	No CKD associated cardiovascular mortality stratified by sex
1109	Zhang, X., Yu, D., Cai, Y., Shang, J., Qin, R., Xiao, J., Tian, X., Zhao, Z. and Simmons, D.	Dose-Response Between Cardiovascular Risk Factors and Cardiovascular Mortality Among Incident Peritoneal Dialysis Patients	2018	No CKD associated cardiovascular mortality stratified by sex
1110	Zhang, Y. F., Wang, Q., Su, Y. Y., Yang, S., Guo, J., Luo, J., Tang, J. M. and Li, H. Y.	Potassium supplementation and long-term outcomes in chronic peritoneal dialysis patients with end-stage renal disease: a propensity score matching study	2016	No CKD associated cardiovascular mortality stratified by sex
1111	Zhang, Z., Shen, B., Cao, X., Liu, Z., Chen, X., Nie, Y., Yu, J., Zou, J. and Ding, X.	Increased Soluble Suppression of Tumorigenicity 2 Level Predicts All-Cause and Cardiovascular Mortality in Maintenance Haemodialysis Patients: A Prospective Cohort Study	2017	No CKD associated cardiovascular mortality stratified by sex

1112	Zhao, X., Wang, M. and Zuo, L.	Early mortality risk in incident Chinese haemodialysis patients: a retrospective cohort study	2017	No CKD associated cardiovascular mortality stratified by sex
1113	Zheng, Z., Shi, H., Jia, J., Li, D. and Lin, S.	Vitamin D supplementation and mortality risk in chronic kidney disease: A meta-analysis of 20 observational studies	2013	No CKD associated cardiovascular mortality stratified by sex
1114	Zhu, J. G., Chen, J. B., Cheng, B. C., Lee, C. H., Long, G. and Chien, Y. S.	Association between Extreme Values of Markers of Chronic Kidney Disease: Mineral and Bone Disorder and 5-Year Mortality among Prevalent Haemodialysis Patients	2018	No CKD associated cardiovascular mortality stratified by sex
1115	Zhu, J. G., Cheng, B. C., Lee, W. C., Li, L. C., Lee, C. H., Long, G. and Chen, J. B.	Serum Alkaline Phosphatase Levels are Not Associated with Increased Death Risk in Prevalent Haemodialysis Patients: 5-Year Experience in a Single Haemodialysis Center	2016	No CKD associated cardiovascular mortality stratified by sex
1116	Zhu, M., Dou, L., Zhu, M., Liu, S., Zhan, Y., Lu, J., Ni, Z., Qian, J., Cai, H. and Zhang, W.	Variability of serum phosphorus and its association with mortality among haemodialysis patients	2018	No CKD associated cardiovascular mortality stratified by sex
1117	Zhu, Y., Peng, F., Chen, Y., Chen, W., Zhou, W., Li, P., Niu, H. and Long, H.	Mean platelet volume/platelet count ratio and mortality in patients on peritoneal dialysis	2018	No CKD associated cardiovascular mortality stratified by sex
1118	Zitt, E., Sturm, G., Kronenberg, F., Neyer, U., Knoll, F., Lhotta, K. and Weiss, G.	Iron supplementation and mortality in incident dialysis patients: An observational study	2014	No CKD associated cardiovascular mortality stratified by sex
1119	Zoccali, C., Bode-Boger, S., Mallamaci, F., Benedetto, F., Tripepi, G., Malatino, L., Cataliotti, A., Bellanuova, I., Fermo, I., Frolich, J. and Boger, R.	Plasma concentration of asymmetrical dimethylarginine and mortality in patients with end-stage renal disease: a prospective study	2001	No CKD associated cardiovascular mortality stratified by sex
1120	Zoccali, C., Mallamaci, F., Benedetto, F. A., Tripepi, G., Parlongo, S., Cataliotti, A., Cutrupi, S., Giacone, G., Bellanuova, I., Cottini, E. and Malatino, L. S.	Cardiac natriuretic peptides are related to left ventricular mass and function and predict mortality in dialysis patients	2001	No CKD associated cardiovascular mortality stratified by sex
1121	Zoccali, C., Mallamaci, F., Tripepi, G., Benedetto, F. A., Cutrupi, S., Parlongo, S., Malatino, L. S., Bonanno, G., Seminara, G., Rapisarda, F., Fatuzzo, P., Buemi, M., Nicocia, G., Tanaka, S., Ouchi, N., Kihara, S., Funahashi, T. and Matsuzawa, Y.	Adiponectin, metabolic risk factors, and cardiovascular events among patients with end-stage renal disease	2002	No CKD associated cardiovascular mortality stratified by sex

1122	Zoccali, C., Mallamaci, F., Tripepi, G., Cutrupi, S., Parlongo, S., Malatino, L. S., Bonanno, G., Rapisarda, F., Fatuzzo, P., Seminara, G., Stancanelli, B., Nicocia, G. and Buemi, M.	Fibrinogen, mortality and incident cardiovascular complications in end-stage renal failure	2003	No CKD associated cardiovascular mortality stratified by sex
1123	Zoccali, C., Postorino, M., Marino, C., Pizzini, P., Cutrupi, S. and Tripepi, G.	Waist circumference modifies the relationship between the adipose tissue cytokines leptin and adiponectin and all-cause and cardiovascular mortality in haemodialysis patients	2011	No CKD associated cardiovascular mortality stratified by sex
1124	Zoungas, S., Cameron, J. D., Kerr, P. G., Wolfe, R., Muske, C., McNeil, J. J. and McGrath, B. P.	Association of carotid intima-medial thickness and indices of arterial stiffness with cardiovascular disease outcomes in CKD	2007	No CKD associated cardiovascular mortality stratified by sex
1125	Zoungas, S., Lui, M., Kerr, P. G., Teede, H. J., McNeil, J. J., McGrath, B. P. and Polkinghorne, K. R.	Advanced chronic kidney disease, cardiovascular events and the effect of diabetes: data from the Atherosclerosis and Folic Acid Supplementation Trial	2011	No CKD associated cardiovascular mortality stratified by sex
1126	Zoungas, S., McGrath, B. P., Branley, P., Kerr, P. G., Muske, C., Wolfe, R., Atkins, R. C., Nicholls, K., Fraenkel, M., Hutchison, B. G. and et al.	Cardiovascular morbidity and mortality in the Atherosclerosis and Folic Acid Supplementation Trial (ASFAST) in chronic renal failure: a multicenter, randomized, controlled trial	2006	No CKD associated cardiovascular mortality stratified by sex
1127	Euctr, I. T.	Intensive Phosphate Control in Development of Renal End Points and Mortality in CKD (the IPeR Study)	2012	No results published
1128	Kalantar-Zadeh, K., Johansson, J., Kulikowski, E., Halliday, C., Lebioda, K., Sweeney, M., Wong, N., Nicholls, S., Schwartz, G. and Ray, K.	Design features of the betonmace chronic kidney disease sub-study; Effects of the selective betinhibitor apabetalone on kidney function and mace in post-ACS patients with estimated glomerular filtration rate below 60 and diabetes	2018	No results published
1129	Nakamura, S., Kawano, Y., Hase, H., Hatta, T., Nishimura, S., Moroi, M., Nakagawa, S., Kasai, T., Kusuoka, H., Takeishi, Y., Nakajima, K., Momose, M., Takehana, K., Nanasato, M., Yoda, S., Nishina, H., Matsumoto, N. and Nishimura, T.	Prognostic study of cardiac and renal events in Japanese patients with chronic kidney disease and cardiovascular risk using myocardial perfusion SPECT: J-ACCESS 3 study design	2010	No results published
1130	Per	A Study to Evaluate the Effect of Dapagliflozin on Renal Outcomes and Cardiovascular Mortality in Patients with Chronic Kidney Disease	2017	No results published
1131	Thethi, I., Bansal, V., Khan, H., Hoppensteadt, D. and Fareed, J.	Assessment of levels of vascular endothelial growth factor in patients with ESRD and its possible role in cardiovascular morbidity and mortality	2012	No results published

1132	Caravaca, F., Chavez, E., Alvarado, R., Garcia-Pino, G. and Luna, E.	Sudden cardiac death in non-dialysis chronic kidney disease patients	2016	Not published in English
1133	Deschamps, A., Grunfeld, J. P., Drueke, T., Zingraff, J. and Jungers, P.	Arterial hypertension and mortality due to cardiovascular complications in patients on chronic haemodialysis	1978	Not published in English
1134	El Hadj Othmane, T., Kiss, I., Nemcsik, J., Fekete, C. B., Deak, G., Egresits, J., Fodor, E., Nemeth, K. Z., Szabo, T., Szathmari, M. and Tisler, A.	Significance of arterial stiffness parameters for predicting cardiovascular mortality in haemodialysis patients: a prospective cohort study	2010	Not published in English
1135	Heras, M., Fernandez-Reyes, M. J., Sanchez, R., Guerrero, M. T., Molina, A., Rodriguez, M. A. and Alvarez-Ude, F.	Elderly patients with chronic kidney disease: outcomes after 5 years of follow-up	2012	Not published in English
1136	Meng, L., Ding, W. H., Shi, L. B., Jiang, J., Liu, Z. P. and Gong, Y. J.	Cardiovascular events in patients with chronic kidney disease	2009	Not published in English
1137	Prado-Uribe, M. D. C., Ventura, M. D., Avila-Diaz, M., Mora, C. J., Mendez-Duran, A., Villanueva-Noches, D., Cisneros, A., Ilabaca, B., Cueto-Manzano, A., Garcia-Contreras, F., Lindholm, B., Garcia-Lopez, E. and Paniagua, R.	Low triiodothyronine is associated with elevation of N-terminal pro-brain natriuretic peptide (NT-proBNP) and mortality in dialysis patients	2017	Not published in English
1138	Sanchez-Perales, C., Vazquez Ruiz de Castroviejo, E., Garcia-Cortes, M. J., Biechy Mdel, M., Gil-Cunquero, J. M., Borrego-Hinojosa, J., del Barrio, P. P., Borrego-Utiel, F. and Liebana, A.	Valvular calcifications at the start of dialysis predict the onset of cardiovascular events in the course of follow-up	2015	Not published in English
1139	Schiele, F.	Chronic renal failure: an independent factor of mortality after myocardial infarction	2005	Not published in English
1140	Terrier-Lenglet, A., Nollet, A., Liabeuf, S., Barreto, D. V., Brazier, M., Lemke, H. D., Vanholder, R., Choukroun, G. and Massy, Z. A.	Plasma malondialdehyde may not predict mortality in patient with chronic kidney disease	2011	Not published in English
1141	Brancaccio, D., Biondi, M. L., Gallieni, M., Turri, O., Galassi, A., Cecchini, F., Russo, D., Andreucci, V. and Cozzolino, M.	Matrix GLA protein gene polymorphisms: clinical correlates and cardiovascular mortality in chronic kidney disease patients	2005	Study duration not defined

1142	Cafka, M., Rroji, M., Seferi, S., Barbullushi, M., Burazeri, G., Spahia, N., Idrizi, A., Likaj, E., Seiti, J., Lazaj, J. and Goda, A.	Inflammation, Left Ventricular Hypertrophy, and Mortality in End-stage Renal Disease	2016	Study duration not defined
1143	Chen, K. H., Lin-Tan, D. T., Huang, W. H., Hung, C. C., Chang, C. T., Huang, J. Y. and Lin, J. L.	Cardiothoracic ratio, malnutrition, inflammation, and two-year mortality in non-diabetic patients on maintenance haemodialysis	2008	Study duration not defined
1144	Chmielewski, M., Bragfors-Helin, A. C., Stenvinkel, P., Lindholm, B. and Anderstam, B.	Serum soluble CD36, assessed by a novel monoclonal antibody-based sandwich ELISA, predicts cardiovascular mortality in dialysis patients	2010	Study duration not defined
1145	Cuevas, X., Garcia, F., Martin-Malo, A., Fort, J., Llados, F., Lozano, J. and Perez-Garcia, R.	Risk factors associated with cardiovascular morbidity and mortality in Spanish incident haemodialysis patients: two-year results from the ANSWER study	2012	Study duration not defined
1146	Dong, J., Han, Q. F., Zhu, T. Y., Ren, Y. P., Chen, J. H., Zhao, H. P., Chen, M. H., Xu, R., Wang, Y., Hao, C. M., Zhang, R., Zhang, X. H., Wang, M., Tian, N. and Wang, H. Y.	The associations of uric acid, cardiovascular and all-cause mortality in peritoneal dialysis patients	2014	Study duration not defined
1147	Duman, D., Tokay, S., Toprak, A., Duman, D., Oktay, A., Ozener, I. C. and Unay, O.	Elevated cardiac troponin T is associated with increased left ventricular mass index and predicts mortality in continuous ambulatory peritoneal dialysis patients	2005	Study duration not defined
1148	Furuhashi, M., Ishimura, S., Ota, H., Hayashi, M., Nishitani, T., Tanaka, M., Yoshida, H., Shimamoto, K., Hotamisligil, G. S. and Miura, T.	Serum fatty acid-binding protein 4 is a predictor of cardiovascular events in end-stage renal disease	2011	Study duration not defined
1149	Hocher, B., Ziebig, R., Krause, R., Asmus, G., Neumayer, H. H., Liefeldt, L. and Stasch, J. P.	Relaxin is an independent risk factor predicting death in male patients with end-stage kidney disease	2004	Study duration not defined
1150	Janda, K., Krzanowski, M., Dumnicka, P., Kusnierz-Cabala, B., Sorysz, D. and Sulowicz, W.	Hepatocyte growth factor as a long-term predictor for total and cardiovascular mortality in patients on peritoneal dialysis	2013	Study duration not defined
1151	Jaroszynski, A., Jaroszynska, A., Siebert, J., Dabrowski, W., Niedzialek, J., Bednarek-Skublewska, A., Zapolski, T., Wysokinski, A., Zaluska, W., Ksiazek, A. and Schlegel, T. T.	The prognostic value of positive T-wave in lead aVR in haemodialysis patients	2015	Study duration not defined
1152	Jaroszyński, A. J., Jaroszyńska, A., Przywara, S., Zaborowski, T., Ksiazek, A. and Dabrowski, W.	Syndecan-4 is an independent predictor of all-cause as well as cardiovascular mortality in haemodialysis patients	2016	Study duration not defined

1153	Karakitsos, D., Wachtel, M., Zerefos, N., Valis, D., Patrianakos, A., Saranteas, T., Daphnis, E., Boletis, J., Stefanadis, C. and Karabinis, A.	Prognostic utility of impedance cardiography measurements in elderly haemodialysis patients with coronary artery disease	2009	Study duration not defined
1154	Kimura, H., Tanaka, K., Kanno, M., Watanabe, K., Hayashi, Y., Asahi, K., Suzuki, H., Sato, K., Sakaue, M., Terawaki, H., Nakayama, M., Miyata, T. and Watanabe, T.	Skin Autofluorescence Predicts Cardiovascular Mortality in Patients on Chronic Haemodialysis	2014	Study duration not defined
1155	Lobo, J. C., Stockler-Pinto, M. B., Farage, N. E., Faulin Tdo, E., Abdalla, D. S., Torres, J. P., Velarde, L. G. and Mafra, D.	Reduced plasma zinc levels, lipid peroxidation, and inflammation biomarkers levels in haemodialysis patients: implications to cardiovascular mortality	2013	Study duration not defined
1156	London, G. M., Safar, M. E. and Pannier, B.	Aortic Aging in ESRD: Structural, Hemodynamic, and Mortality Implications	2016	Study duration not defined
1157	Ortega, O., Rodriguez, I., Cobo, G., Hinostroza, J., Gallar, P., Mon, C., Ortiz, M., Herrero, J. C., Di Gioia, C., Oliet, A. and Vigil, A.	Lack of influence of serum magnesium levels on overall mortality and cardiovascular outcomes in patients with advanced chronic kidney disease	2013	Study duration not defined
1158	Paniagua, R., Ventura, M. D., Avila-Diaz, M., Hinojosa-Heredia, H., Mendez-Duran, A., Cueto-Manzano, A., Cisneros, A., Ramos, A., Madonia-Juseino, C., Belio-Caro, F., Garcia-Contreras, F., Trinidad-Ramos, P., Vazquez, R., Ilabaca, B., Alcantara, G. and Amato, D.	NT-proBNP, fluid volume overload and dialysis modality are independent predictors of mortality in ESRD patients	2010	Study duration not defined
1159	Sevinc Ok, E., Kircelli, F., Asci, G., Altunel, E., Ertilav, M., Sipahi, S., Bozkurt, D., Duman, S., Ozkahya, M., Toz, H. and Ok, E.	Neither oxidized nor anti-oxidized low-density lipoprotein level is associated with atherosclerosis or mortality in haemodialysis patients	2012	Study duration not defined
1160	Spoto, B., Mattace-Raso, F., Sijbrands, E., Pizzini, P., Cutrupi, S., D'Arrigo, G., Tripepi, G., Zoccali, C. and Mallamaci, F.	Resistin and all-cause and cardiovascular mortality: effect modification by adiponectin in end-stage kidney disease patients	2013	Study duration not defined
1161	Stenvinkel, P., Diczfalusy, U., Lindholm, B. and Heimburger, O.	Phospholipid plasmalogen, a surrogate marker of oxidative stress, is associated with increased cardiovascular mortality in patients on renal replacement therapy	2004	Study duration not defined

1162	Stenvinkel, P., Heimburger, O. and Lindholm, B.	Wasting, but not malnutrition, predicts cardiovascular mortality in end-stage renal disease	2004	Study duration not defined
1163	Suliman, M. E., Qureshi, A. R., Heimburger, O., Lindholm, B. and Stenvinkel, P.	Soluble adhesion molecules in end-stage renal disease: a predictor of outcome	2006	Study duration not defined
1164	Testa, A., Spoto, B., Tripepi, G., Mallamaci, F., Malatino, L., Fatuzzo, P., Maas, R., Boeger, R. and Zoccali, C.	The GLU298ASP variant of nitric oxide synthase interacts with asymmetric dimethyl arginine in determining cardiovascular mortality in patients with end-stage renal disease	2005	Study duration not defined
1165	Vichairuangthum, K., Leowattana, W., Ong-Ajyooth, L. and Pokum, S.	The relationship between serum concentration of cardiac troponin I in chronic renal failure patients and cardiovascular events	2006	Study duration not defined
1166	Wang, A. Y., Lam, C. W., Chan, I. H., Wang, M., Lui, S. F. and Sanderson, J. E.	Long-term mortality and cardiovascular risk stratification of peritoneal dialysis patients using a combination of inflammation and calcification markers	2009	Study duration not defined
1167	Wei, S. Y., Huang, J. C., Chen, S. C., Chang, J. M. and Chen, H. C.	Unequal arterial stiffness with overall and cardiovascular mortality in patients receiving haemodialysis	2016	Study duration not defined
1168	Weng, C. H., Hu, C. C., Yen, T. H., Hsu, C. W. and Huang, W. H.	Uremic Pruritus is Associated with Two-Year Cardiovascular Mortality in Long Term Haemodialysis Patients	2018	Study duration not defined
1169	Winther, S., Christensen, J. H., Flyvbjerg, A., Schmidt, E. B., Jorgensen, K. A., Skou-Jorgensen, H. and Svensson, M.	Osteoprotegerin and mortality in haemodialysis patients with cardiovascular disease	2013	Study duration not defined
1170	Benjamin, E. J., Blaha, M. J., Chiuve, S. E., Cushman, M., Das, S. R., Deo, R., De Ferranti, S. D., Floyd, J., Fornage, M., Gillespie, C., Isasi, C. R., Jim'nez, M. C., Jordan, L. C., Judd, S. E., Lackland, D., Lichtman, J. H., Lisabeth, L., Liu, S., Longenecker, C. T., MacKey, R. H., Matsushita, K., Mozaffarian, D., Mussolino, M. E., Nasir, K., Neumar, R. W., Palaniappan, L., Pandey, D. K., Thiagarajan, R. R., Reeves, M. J., Ritchey, M., Rodriguez, C. J., Roth, G. A., Rosamond, W. D., Sasson, C., Towfghi, A., Tsao, C. W., Turner, M. B., Virani, S. S., Voeks, J. H., Willey, J. Z., Wilkins, J. T., Wu, J. H. Y., Alger, H. M., Wong, S. S. and Muntner, P.	Heart Disease and Stroke Statistics'2017 Update: A Report from the American Heart Association	2017	Review

1171	Courivaud, C. and Davenport, A.	Magnesium and the risk of all-cause and cardiac mortality in haemodialysis patients: agent provocateur or innocent bystander?	2014	Review
1172	Eknoyan, G.	Cardiovascular mortality and morbidity in dialysis patients	1999	Review
1173	Fabbian, F., Dentali, F., Ageno, W. and Manfredini, R.	Mortality due to pulmonary embolism, myocardial infarction, and stroke among incident dialysis patients: A rebuttal	2013	Review
1174	Herzog, C. A.	Sudden cardiac death and acute myocardial infarction in dialysis patients: perspectives of a cardiologist	2005	Review
1175	Kuhlmann, M. K., Yoshino, M. and Levin, N. W.	Differences in cardiovascular mortality rates among haemodialysis patients in the United States and Japan: The importance of background cardiovascular mortality	2004	Review
1176	Remon Rodriguez, C. and Quiros Ganga, P. L.	Current evidence shows that survival outcomes are equivalent for dialysis techniques	2011	Review
1177	Talbot, B., Sukkar, L., Smyth, B., Jun, M., Jardine, M., Cass, A., Walker, R., Reith, C., Hooi, L. and Gallagher, M.	Cause of death varies across australia, new zealand and malaysia in those on renal replacement therapy - Results from the study of heart and renal protection-extended review (sharp-er)	2018	Review
1178	Zoccali, C., Tripepi, G. and Mallamaci, F.	Predictors of cardiovascular death in ESRD	2005	Review
1179	Ozkan, G., Ulusoy, S., Mentese, A., Guvercin, B., Karahan, S. C., Yavuz, A., Altay, D. U. and Ocal, M.	Can be galectin-3 a novel marker in determining mortality in haemodialysis patients?	2015	Retracted article
1180	Ulusoy, S., Ozkan, G., Guvercin, B. and Yavuz, A.	The Relation Between Variability of Intact Parathyroid Hormone, Calcium, and Cardiac Mortality in Haemodialysis Patients	2016	Outcome not clear
1181	Einollahi, B., Taghipour, M. and Motalebi, M.	Re: Association of leptin with mortality in patients on maintenance haemodialysis: a prospective study	2014	Others including letters to the author, comments by authors
1182	Gholamrezaei, A., Amra, B. and Mortazavi, M.	Cardiovascular risk and mortality in end-stage renal disease patients with restless legs syndrome; need for further investigation and looking for underlying mechanisms	2013	Others including letters to the author, comments by authors
1183	Kannan, A., Poongkunran, C. and Balamuthusamy, S.	Effect of spironolactone in CV Mortality in haemodialysis patients	2014	Others including letters to the author, comments by authors
1184	Olszewska, M., Schwermer, K., Hoppe, K., Misian, M., Baum, E., Pawlaczyk, K. and Oko, A.	Overhydration as a modifiable cardiovascular and all-cause mortality risk factor in haemodialysis patients	2017	Others including letters to the author, comments by authors
1185	Providencia, R., Barra, S. and Paiva, L.	Chronic renal disease is associated with stroke and thromboembolism in atrial fibrillation independently from gender	2013	Others including letters to the author, comments by authors
1186	Sato, A.	Predicting cardiac and all-cause death in asymptomatic patients on haemodialysis: Importance of training in interpretation of β-	2014	Others including letters to the author, comments by authors

		methyl iodophenyl-pentadecanoic acid single-photon emission computed tomography (BMIPP SPECT) imaging		
1187	Navaneethan, S. D.	Cause-specific deaths in non-dialysis-dependent CKD	2015	Study population with malignancy
1188	Kato, A.	Association between seroprevalence of anti-chlamydial antibodies and long-term cardiovascular mortality in chronic haemodialysis patients	2006	Study population with infection
1189	Assimon MM, Brookhart MA, Fine JP, Heiss G, Layton JB, Flythe JE	A Comparative Study of Carvedilol Versus Metoprolol Initiation and 1-Year Mortality Among Individuals Receiving Maintenance Haemodialysis.	2018	Wrong study design
1190	Depner T, Daugirdas J, Greene T, Allon M, Beck G, Chumlea C, et al.	Dialysis dose and the effect of gender and body size on outcome in the HEMO Study	2004	Wrong study design
1191	Fernández-Juárez G, Luño J, Barrio V, de Vinuesa SG, Praga M, Goicoechea M, et al.	25 (OH) vitamin D levels and renal disease progression in patients with type 2 diabetic nephropathy and blockade of the renin-angiotensin system	2013	Wrong study population
1192	Cai Q, Serrano R, Kalyanasundaram A, Shirani J.	A preoperative echocardiographic predictive model for assessment of cardiovascular outcome after renal transplantation. Journal of the American Society of Echocardiography. 2010;23(5):560-6.	2010	Wrong study population
1193	Sapir-Pichhadze R, Tinckam KJ, Laupacis A, Logan AG, Beyene J, Kim SJ.	Immune Sensitization and Mortality in Wait-Listed Kidney Transplant Candidates. 2016;1(2):570-8.	2016	Wrong study population
1194	Lanaro E, Caixeta A, Soares JA, Alves CMR, Barbosa AHP, Souza JAM, et al.	Influence of gender on the risk of death and adverse events in patients with acute myocardial infarction undergoing pharmacoinvasive strategy. Journal of Thrombosis and Thrombolysis. 2014;38(4):510-6.	2014	Wrong study population
1195	Molnar MZ, Gosmanova EO, Sumida K, Potukuchi PK, Lu JL, Jing J, et al.	Predialysis Cardiovascular Disease Medication Adherence and Mortality After Transition to Dialysis. American Journal of Kidney Diseases. 2016;68(4):609-18.	2016	Wrong study population
1196	Soohoo M, Streja E, Obi Y, Rhee CM, Gillen DL, Sumida K, et al.	Predialysis Kidney Function and Its Rate of Decline Predict Mortality and Hospitalizations After Starting Dialysis. Mayo Clinic Proceedings. 2018;93(8):1074-85.	2018	Wrong study population
1197	Sumida K, Molnar MZ, Potukuchi PK, Thomas F, Lu JL, Yamagata K, et al.	Pre-end-stage renal disease visit-To-visit systolic blood pressure variability and post-end-stage renal disease mortality in incident dialysis patients. Journal of Hypertension. 2017;35(9):1816-24.	2017	Wrong study population
1198	Kramann R, Erpenbeck J, Schneider RK, Rohl AB, Hein M, Brandenburg VM, et al.	Speckle tracking echocardiography detects uremic cardiomyopathy early and predicts cardiovascular mortality in ESRD. Journal of the American Society of Nephrology. 2014;25(10):2351-65.	2014	Wrong study population

Appendix 8: Risk of Bias summary for individual studies

Reference	Similar distribution of men and women in the study population	Study controlled for age and diabetes mellitus	Study controlled for other confounders	Source of outcome data	Was enough data available to estimate sex differences	Adequate length of follow-up for outcomes to occur	Adequacy of follow-up of study population	NOS score out of 7	Quality
Wu (2019)	1	0	0	1	0	1	1	4	High
Saglimbene (2019)	1	1	1	1	0	1	1	6	High
Gong (2018)	1	0	0	1	0	1	0	3	Low
Zhang (2017)	0	1	1	1	0	0	1	4	High
Wu (2017)	1	1	1	1	0	1	1	6	High
Peng (2017)	0	0	0	1	0	1	1	3	Low
Jeng (2017)	1	0	0	1	0	1	1	4	High
Isla (2016)	1	0	0	1	1	1	0	4	High
Lu (2016)	1	1	1	1	0	1	1	6	High
Merle (2016)	0	1	1	1	0	1	0	4	High
Chen (2015)	1	0	0	1	0	1	0	3	Low
Flythe (2015)	1	1	1	1	0	1	0	5	High
Tsai (2015)	1	1	1	1	0	1	1	6	High
Oh (2015)	0	1	1	1	0	0	1	4	High
Yoshitomi (2014)	0	0	0	1	0	0	0	1	Low
Okamoto (2014)	0	0	0	1	0	1	0	2	Low
Li (2014)	1	1	1	1	0	0	1	5	High

nneger Bloch (2014)	1	0	0	1	0	1	1	4	High
Oh (2014)	0	1	1	1	0	0	0	3	Low
Arsov (2013)	0	0	0	1	0	1	1	3	Low
Lim (2013)	1	0	0	1	0	1	1	4	High
Li (2013)	1	0	0	1	0	1	1	4	High
Murthy (2012)	1	0	0	1	1	0	0	3	Low
An (2012)	1	1	1	1	0	1	1	6	High
Wu (2012)	0	0	0	1	0	1	0	2	Low
Lee (2012)	1	1	1	1	0	1	1	6	High
Ogawa (2010)	0	0	0	1	0	1	1	3	Low
Yayar (2018)	1	0	0	1	1	1	1	5	High
Kawagoe (2018)	1	0	0	1	1	1	1	5	High
Kon (2018)	0	0	0	1	1	1	0	3	Low
Navaneethan (2018)	1	0	0	1	1	1	0	4	High
Antunovic (2017)	1	0	0	1	1	0	0	3	Low
Ulusoy (2015)	1	0	0	1	1	1	0	4	High
Avramovski (2014)	0	0	0	1	1	1	0	3	Low
Genovesi (2013)	0	0	0	1	1	1	0	3	Low
den Hoedt (2013)	0	0	0	1	1	1	1	4	High
Kakiya (2012)	0	0	0	1	1	1	1	4	High