

Supplementary File 1. Detailed Electronic Search strategy.

• PubMed:

#1. "Obesity"[MeSH Terms] OR "overweight"[MeSH Terms] OR "body mass index"[MeSH Terms]

#2. "Obesity"[Title/Abstract] OR "overweight"[Title/Abstract] OR "body mass index"[Title/Abstract] OR "BMI"[Title/Abstract] OR "Waist circumference"[Title/Abstract] OR "Waist-Hip Ratio"[Title/Abstract] OR "visceral fat area"[Title/Abstract]

#3. #1 OR #2

#4. "kidney neoplasms"[MeSH Terms]

#5. "kidney neoplasms"[Title/Abstract] OR "kidney Neoplasms"[Title/Abstract] OR "renal neoplasms"[Title/Abstract] OR "renal Neoplasm"[Title/Abstract] OR "cancer of kidney"[Title/Abstract] OR "kidney cancers"[Title/Abstract] OR "renal cancer"[Title/Abstract] OR "renal cancers"[Title/Abstract] OR "kidney cancer"[Title/Abstract]

#6. #4 OR #5

#7. "mortality"[MeSH Terms] OR "survival"[MeSH Terms] OR "prognosis"[MeSH Terms]

#8. "mortality"[Title/Abstract] OR "mortalities"[Title/Abstract] OR "survival"[Title/Abstract] OR "prognosis"[Title/Abstract] OR "Prognoses"[Title/Abstract]

#9. #7 OR #8

#10. #3 AND #6 AND #9

- **Embase:**

#1. 'obesity':ti,ab,kw OR 'overweight':ti,ab,kw OR BMI:ti,ab,kw OR 'body mass index':ti,ab,kw OR 'waist circumference':ti,ab,kw OR 'Waist-Hip Ratio':ti,ab,kw OR 'visceral fat area':ti,ab,kw

#2. 'kidney neoplasms':ti,ab,kw OR 'kidney neoplasm':ti,ab,kw OR 'renal neoplasms':ti,ab,kw OR 'renal neoplasm':ti,ab,kw OR 'cancer of kidney':ti,ab,kw OR 'kidney cancers':ti,ab,kw OR 'kidney cancer':ti,ab,kw OR 'renal cancers':ti,ab,kw OR 'renal cancer':ti,ab,kw

#3. 'mortality':ti,ab,kw OR 'mortalities':ti,ab,kw OR 'survival':ti,ab,kw OR 'prognosis':ti,ab,kw OR 'prognoses':ti,ab,kw

#4. #1 AND #2 AND #3

- **ProQuest:**

#1. mesh(Overweight) OR mesh(obesity) OR mesh(body mass index)

#2.ab(overweight) OR ab(obesity) OR ab(body mass index) OR ab(BMI) OR ab(waist circumference) OR ab(Waist-Hip Ratio) OR ab(visceral fat area)

#3. #1 OR #2

#4. mesh(kidney neoplasms)

#5. ab(kidney neoplasms) OR ab(kidney Neoplasms) OR ab(renal neoplasms) OR ab(renal neoplasm) OR ab(cancer of kidney) OR ab(kidney cancers) OR ab(renal cancer) OR ab(renal cancers) OR ab(kidney cancer)

#6. #4 OR #5

#7. mesh(mortality) OR mesh(survival) OR mesh(prognosis)

#8. ab(mortality) OR ab(mortalities) OR ab(survival) OR ab(prognosis) OR ab(Prognoses)

#9. #7 OR #8

#10. #3 AND #6 AND #9

Study	Study characteristics			Population characteristics				Exposure characteristics			Outcomes characteristics				Quality score (NOS)
First author, Publication year	Study design	Study period (year),	Mean/median duration of follow-up (months), only for cohort	Country or region	Sample size	Age Median (range)/Mean age (SD), years	Gender Female /Male	Definition of overweight or obesity	Measure ment method	Comparator	Outcomes	Analysis models	Effect estimates	Adjusted potential confound ers	
Study 1															
Study 2															
Study 3															
Study 4															
Study 5															
Study 6															
...															

Supplementary File 2. Main Characteristics extracted from individual studies included in this study.

Supplementary File 3. Detailed risk of bias judgement of individual studies assessed with the Risk Of Bias In Non-randomized Studies of Interventions(ROBINS-I).

Study	Pre-intervention		At intervention	Post-intervention				Overall bias
	Bias due to confounding	Bias in selection of participants into the study	Bias in classification of interventions	Bias due to deviations from intended interventions	Bias due to missing data	Bias in measurement of outcomes	Bias in selection of the reported result	
Study 1								
Study 2								
Study 3								
Study 4								
Study 5								
Study 6								
...								