



**Figure 1** PRISMA flow diagram of study selection.

**Table S1** Assessment of study-level risk of bias with the Newcastle-Ottawa Scale (NOS)

Case Control NOS											
Study	Adequate case definition	Representativeness of case	Community controls	Definition of controls	Adjusts for age	Adjusts for obesity	Secure database records / blinded interview	Same method of ascertainment for cases/ controls	Similar non-response rate	Total	Risk of bias*
Fang 2015	1	1	1	1	1	0	1	1	1	8	Low
Cohort NOS											
Study	Representativeness of exposed cohort	Non-exposed cohort drawn from same community as exposed cohort	Ascertainment of exposure (secure record, structured interview)	Demonstrates that cancer was not initially present	Adjusts for age	Adjusts for obesity	Assessment of outcome (record linkage)	Follow-up at least 3 years	Adequacy of follow-up (complete, or describes characteristics of missing subjects)	Total	Risk of bias*
Chen 2020	1	1	1	1	1	0	1	1	1	8	Low
Gozal 2016	1	1	1	1	1	1	1	1	0	8	Low
Justeau 2020	1	1	1	1	1	1	1	1	1	9	Low
Jara 2020	0	1	1	1	1	1	1	1	0	7	Moderate
Sillah 2018	1	1	1	0	1	0	1	1	0	6	Moderate
Huang 2020	0	1	0	1	0	1	1	1	0	5	Moderate

\*, high (<5 stars), moderate (5–7 stars), low risk of bias (≥8 stars).

**Table S2** Assessment of quality of pooled evidence with the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system

Outcomes	Pooled outcomes (95% CI)	No. of patients (no. of included studies)	Statistical heterogeneity	Quality of evidence (GRADE)
Colorectal cancer incidence	1.23 (0.82, 1.85)	5,112,089 (6 studies)	$I^2=99%$ ( $P<0.001$ )	⊕⊕⊕⊖ <sup>a</sup>
Liver cancer incidence	0.99 (0.81, 1.22)	4,991,457 (3 studies)	$I^2=84%$ ( $P=0.002$ )	⊕⊕⊕⊖ <sup>a</sup>
Pancreatic cancer incidence	1.36 (0.88, 2.09)	4,851,521 (3 studies)	$I^2=96%$ ( $P<0.001$ )	⊕⊕⊕⊖ <sup>a</sup>

<sup>a</sup>, Downgraded by one level for inconsistency (statistical heterogeneity  $I^2\geq 50%$ ). No studies were downgraded for risk of bias since all studies  $\geq 5$  based on NOS.