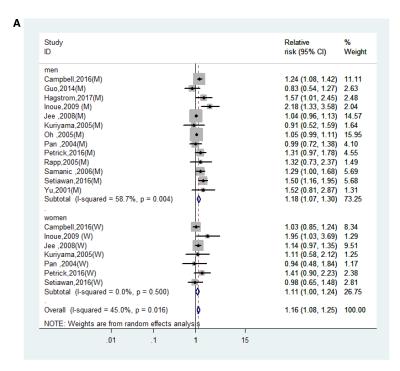
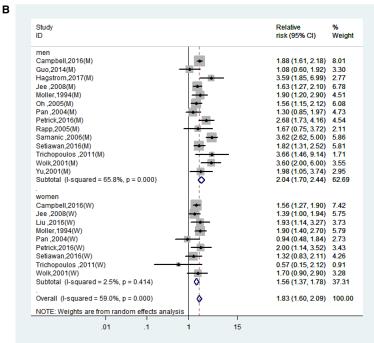
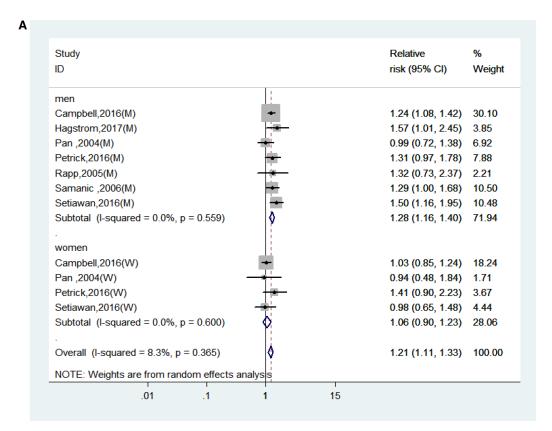
## Meta-analysis reveals gender difference in the association of liver cancer incidence and excess BMI

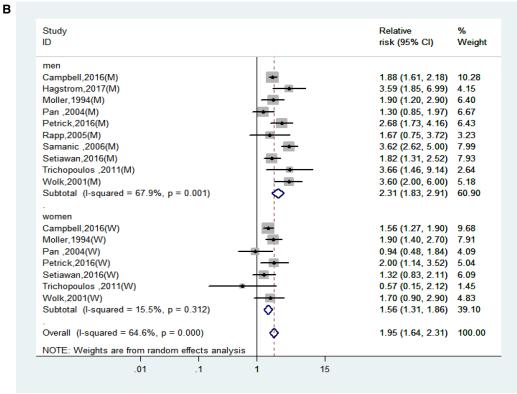
## SUPPLEMENTARY MATERIALS



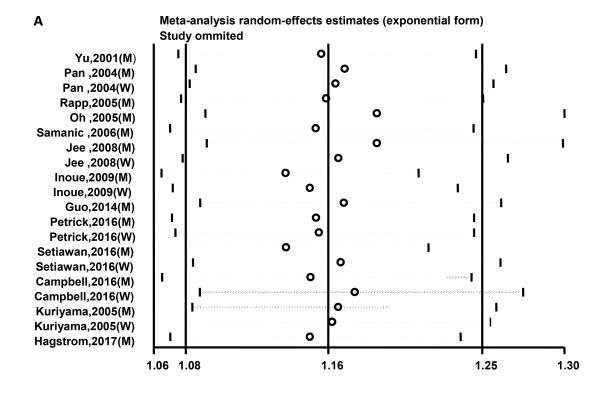


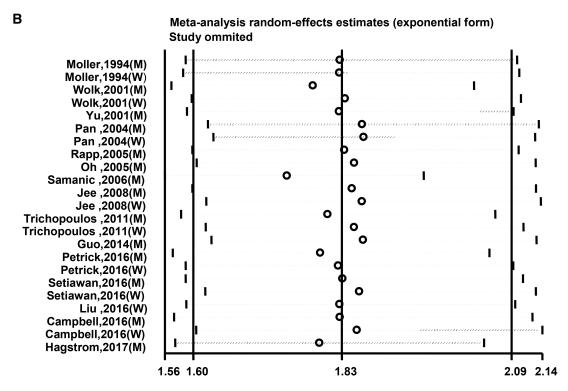
**Supplementary Figure 1: The relative risks of liver cancer incidence in overweight and obesity.** (A) Forest plots of the overweight vs. normal weight; (B) Forest plots of the obesity vs. normal weight. CI, confidence intervals; W, women; M, men.



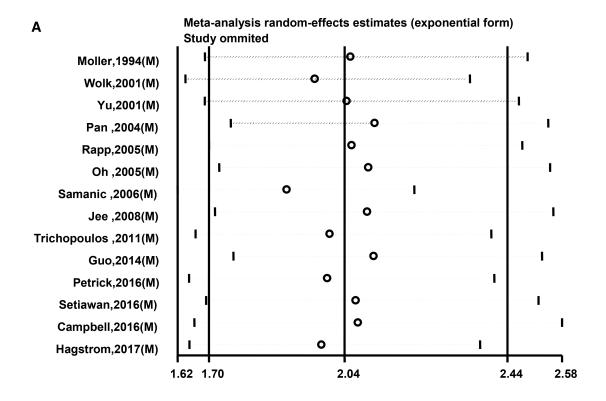


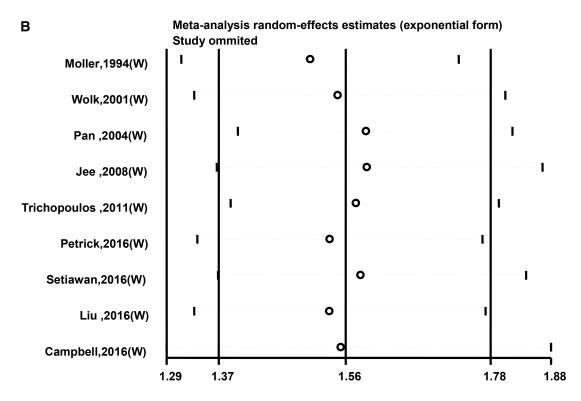
**Supplementary Figure 2: The relative risks of non-Asian overweight and obesity.** (A) Forest plots of the non-Asian overweight vs. normal weight; (B) Forest plots of the non-Asian obesity vs. normal weight. CI, confidence intervals; W, women; M, men.



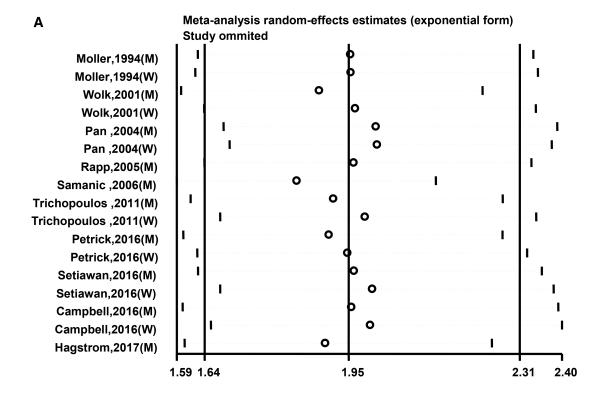


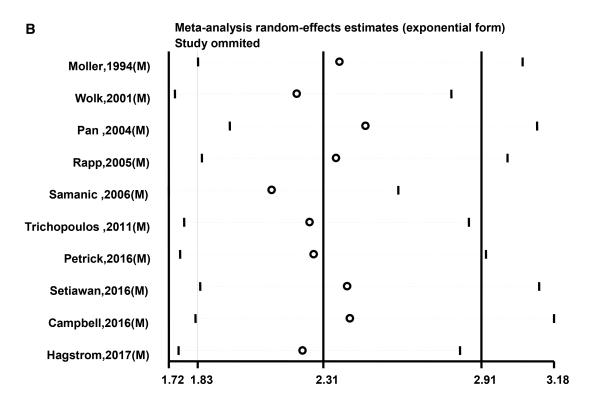
Supplementary Figure 3: Sensitivity analysis of the studies included in overall overweight (A) and obesity (B). W, women; M, men.

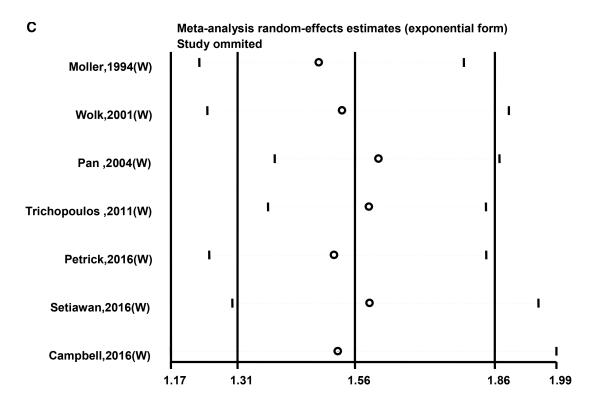




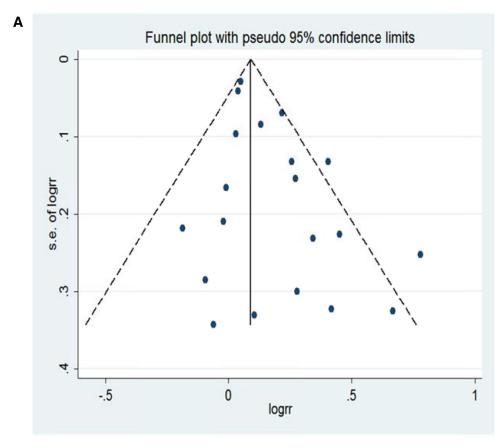
Supplementary Figure 4: Sensitivity analysis of the studies included in overall obesity men (A) and women (B). W, women; M, men.

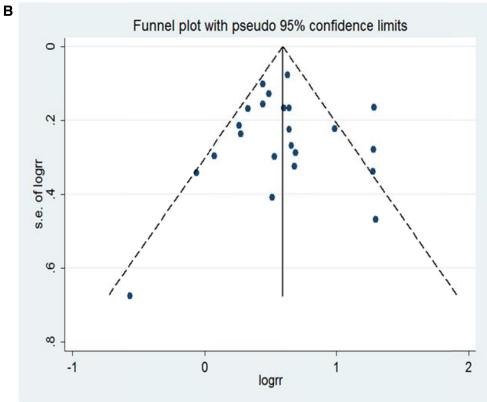




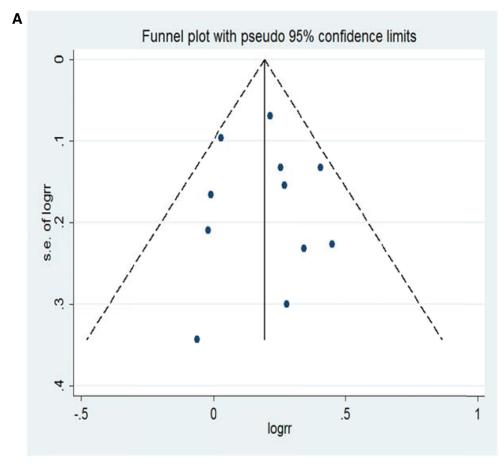


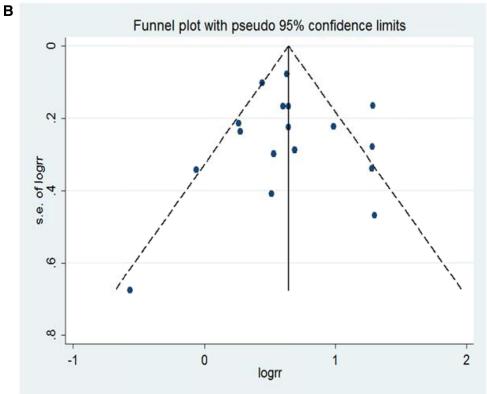
**Supplementary Figure 5:** Sensitivity analysis of the studies included in non-Asian overall obesity (A), men (B) and women (C). W, women; M, men.



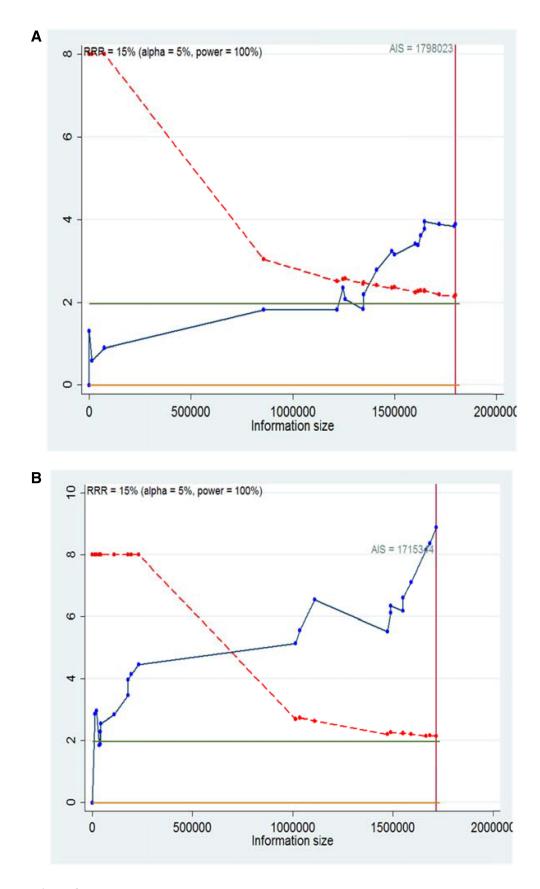


Supplementary Figure 6: Funnel plot for all studies included in the meta-analysis of BMI and liver cancer incidence. (A) overweight study (p = 0.022 by Egger's test); (B) obesity study (p = 0.900 by Egger's test).

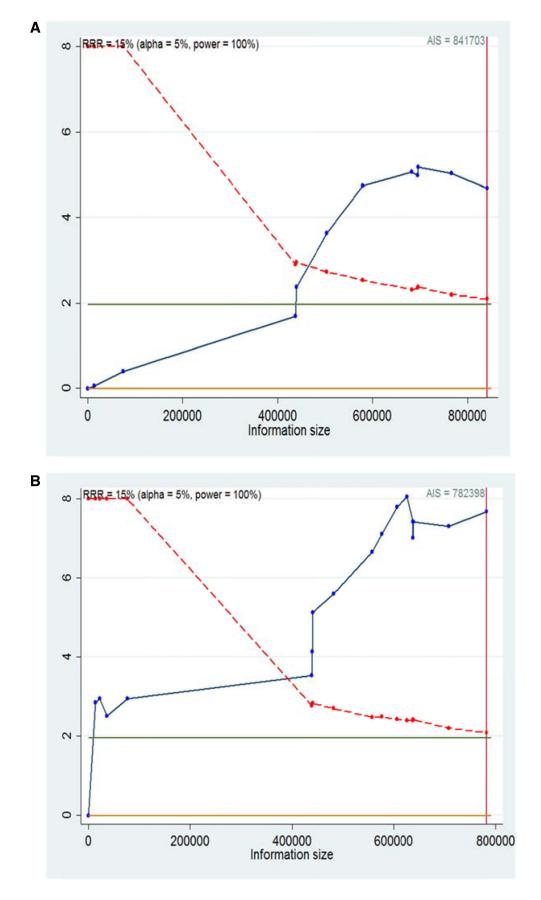




**Supplementary Figure 7: Funnel plot for non-Asian studies included in the meta-analysis.** (A) overweight, p = 0.877 by Egger's test; (B) obesity, p = 0.794 by Egger's test.



**Supplementary Figure 8:** Trial sequential analysis for the study of overall overweight (**A**) or obesity (**B**) and liver cancer incidence. (A) the AIS = 1798023,  $\alpha = 0.05$ , power = 100%; (B) Trial sequential analysis of the obesity. b, the AIS = 1715144,  $\alpha = 0.05$ , power = 100%. AIS: accrued information size.



**Supplementary Figure 9:** Trial sequential analysis for the study of non-Asian overweight (**A**) or obesity (**B**). a, the AIS = 841703,  $\alpha = 0.05$ , power = 100%. b, the AIS = 782398,  $\alpha = 0.05$ , power = 100%. AIS: accrued information size.

## **Supplementary Table 1: Assessment of study quality**

Studies (all cohort studies)	Quality Indicators From Newcastle-Ottawa Scale								
	1	2	3	4	5A	5B	6	7	8
Campbell et al. 2016	☆	$\Rightarrow$		$\Rightarrow$	$\Rightarrow$	$\Rightarrow$	$\Rightarrow$	$\Rightarrow$	☆
Guo et al. 2014	☆	$\Rightarrow$	☆	$\Rightarrow$	$\Rightarrow$	$\stackrel{\wedge}{\sim}$	$\Rightarrow$		☆
Hagstrom, 2017	☆	$\Rightarrow$	☆	$\Rightarrow$			$\Rightarrow$	$\Rightarrow$	☆
Inoue et al. 2009,	☆	$\Rightarrow$	$\Rightarrow$	$\Rightarrow$	$\Rightarrow$	$\stackrel{\wedge}{\sim}$	$\Rightarrow$	$\stackrel{\wedge}{\Rightarrow}$	☆
Jee et al. 2008	☆	$\Rightarrow$	$\Rightarrow$	$\Rightarrow$		$\Rightarrow$	$\Rightarrow$	$\Rightarrow$	☆
Kuriyama et al. 2005	☆	$\Rightarrow$		$\Rightarrow$	$\Rightarrow$	$\stackrel{\wedge}{\sim}$	$\Rightarrow$		☆
Liu et al. 2016	☆	$\Rightarrow$	☆	$\Rightarrow$	$\Rightarrow$	$\Rightarrow$	$\Rightarrow$	$\Rightarrow$	☆
Moller et al. 1994	☆	$\Rightarrow$	$\Rightarrow$	$\Rightarrow$			$\Rightarrow$	$\Rightarrow$	☆
Oh et al. 2005	☆	$\Rightarrow$	$\Rightarrow$	$\Rightarrow$		$\stackrel{\wedge}{\sim}$		$\stackrel{\wedge}{\Rightarrow}$	☆
Pan et al. 2004		$\Rightarrow$	☆	$\Rightarrow$	$\Rightarrow$	$\stackrel{\wedge}{\sim}$	$\Rightarrow$	$\Rightarrow$	☆
Petrick et al. 2016	☆	☆	$\stackrel{\wedge}{\sim}$	$\stackrel{\wedge}{\sim}$		$\stackrel{\wedge}{\sim}$		$\stackrel{\wedge}{\leadsto}$	☆
Rapp et al. 2005	☆	☆	☆	☆	☆	☆	☆		☆
Samanic et al. 2006,	☆	☆	☆	☆		☆	☆	☆	☆
Setiawan et al. 2016	☆		☆	$\Rightarrow$	$\Rightarrow$	$\stackrel{\wedge}{\sim}$	$\Rightarrow$	$\Rightarrow$	☆
Trichopoulosetal, 2011	☆	$\stackrel{\wedge}{\sim}$	$\stackrel{\wedge}{\sim}$	$\stackrel{\wedge}{\sim}$	$\stackrel{\wedge}{\sim}$	$\stackrel{\wedge}{\sim}$	$\stackrel{\wedge}{\sim}$	$\stackrel{\wedge}{\Rightarrow}$	☆
Wolk et al. 2001	☆	$\stackrel{\wedge}{\sim}$	$\stackrel{\wedge}{\sim}$	$\stackrel{\wedge}{\sim}$			$\stackrel{\wedge}{\sim}$	$\stackrel{\wedge}{\sim}$	☆
Yu et al. 2001		$\stackrel{\wedge}{\sim}$	$\stackrel{\wedge}{\sim}$	$\stackrel{\wedge}{\sim}$	$\stackrel{\wedge}{\Rightarrow}$	$\stackrel{\wedge}{\Rightarrow}$	$\stackrel{\wedge}{\Rightarrow}$	$\stackrel{\wedge}{\Rightarrow}$	☆