

Supplementary materials

A

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Akiko et al. (2016)	+	+	+	?	?	?	+
Alam et al. (2016)	+	+	+	+	-	?	+
Anitha et al. (2010)	+	-	+	+	-	?	?
Diana et al. (2014)	+	+	+	?	?	?	+
Hong et al. (2015)	+	?	+	+	?	?	+
Jensen et al. (2016)	+	-	+	-	+	?	?
Kim et al. (2016)	-	+	+	?	+	?	+
Kim et al. (2019)	+	?	?	?	+	+	+
Kwak et al. (2012)	+	?	+	-	+	?	+
Lee et al. (2008)	+	+	+	+	+	+	?
Maryam et al. (2015)	+	?	+	+	?	?	+
Merhrangiz et al. (2014)	+	+	+	?	?	?	+
Mikami et al. (2017)	+	?	+	?	-	+	?
Miyazawa et al. (2013)	?	?	+	-	-	-	?
Otsuki et al. (2015)	+	?	+	-	?	?	?
Panahi et al. (2012)	+	?	-	?	-	?	?
Parikh et al. (2001)	+	-	+	+	-	-	?
Park et al. (2008)	+	+	+	+	?	?	+
Park et al. (2016)	+	+	+	?	+	?	+
Ramamoorthy et al. (1996)	+	-	-	?	?	-	?
Sakai et al. (2019)	+	+	+	+	+	+	+
Samules et al. (2002)	?	?	+	?	-	-	?
Sansawa et al. (2002)	+	-	-	-	-	?	?
Sun et al. (2008)	+	+	-	-	-	+	?
Szulinska et al. (2017)	+	+	+	+	+	+	+
Yousefi et al. (2018)	+	+	+	+	+	+	+
Zeinalian et al. (2017)	+	+	+	?	+	+	+

B

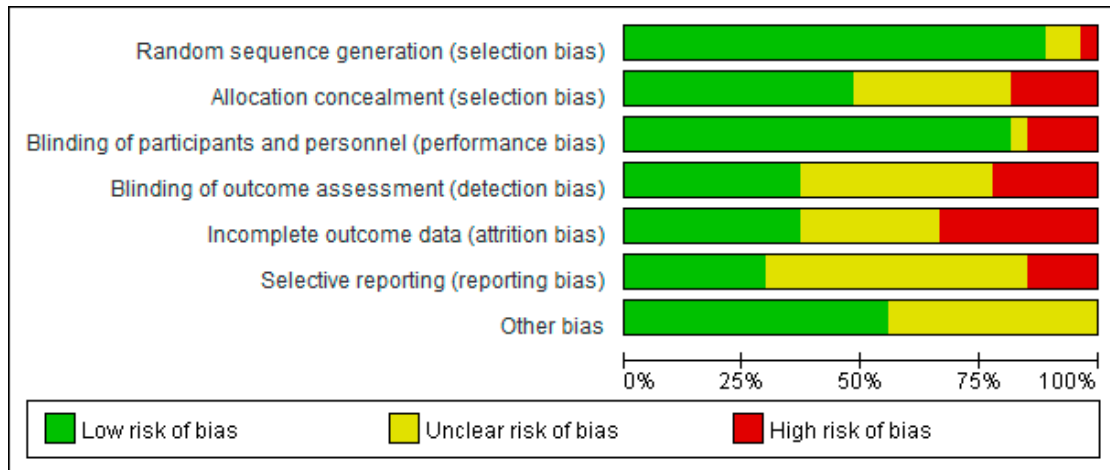
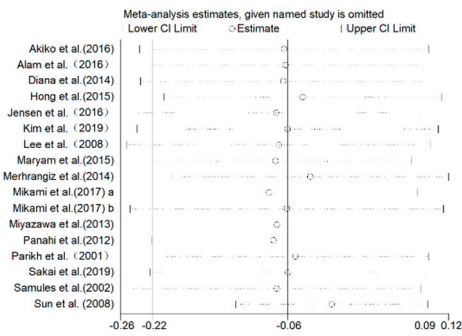
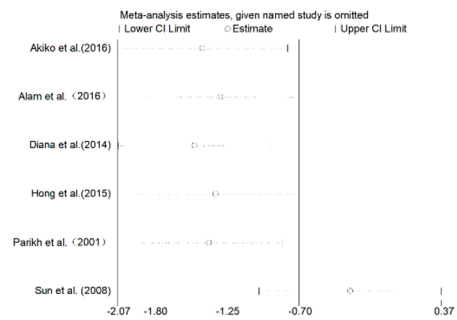


Figure S1. Quality assessment of the included studies. labeling an item as a “question mark” indicated an unclear or unknown risk of bias; labeling an item as a “negative sign” indicated a high risk of bias; labeling an item as a “positive sign” indicated a low risk of bias.

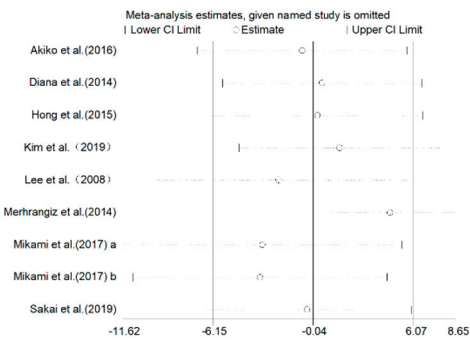
A



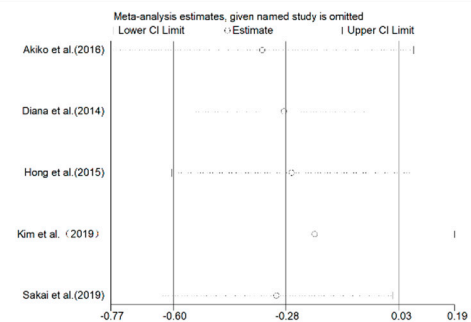
B



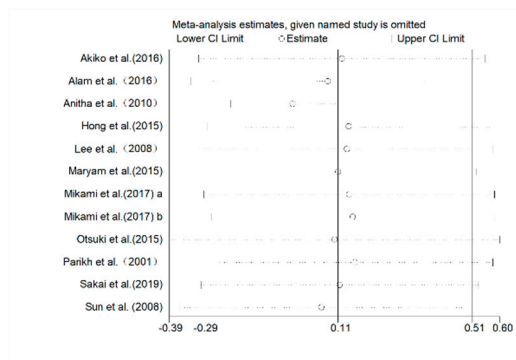
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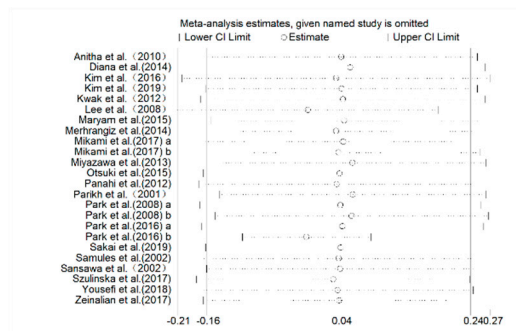
D



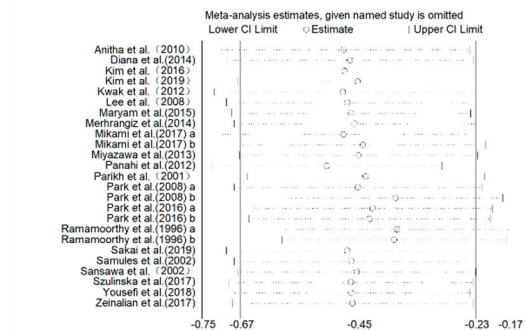
E



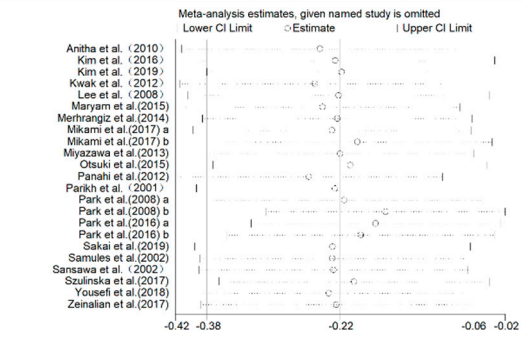
G



I



F



H

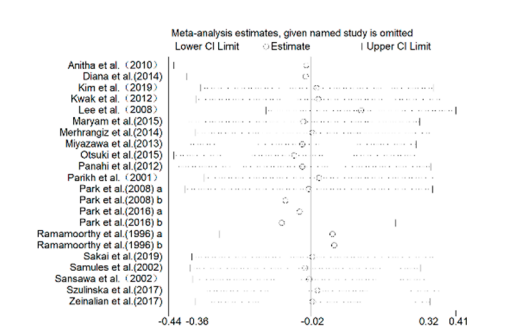
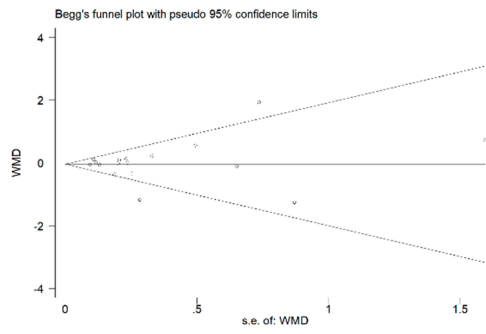
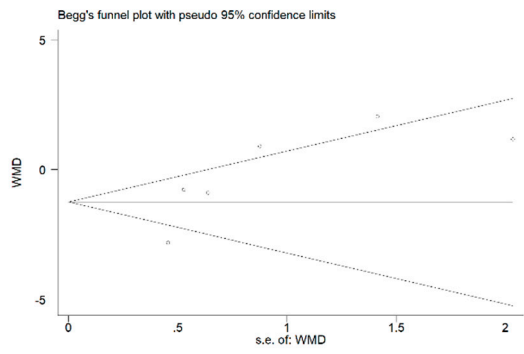
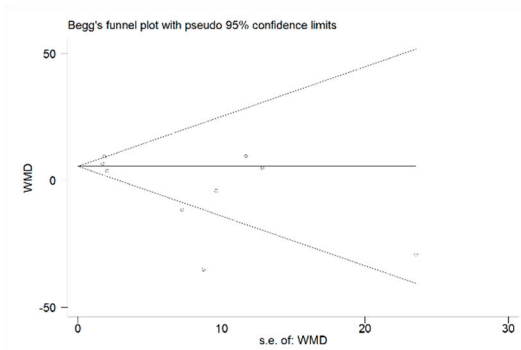
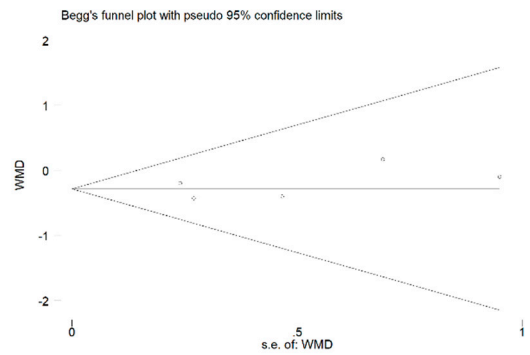
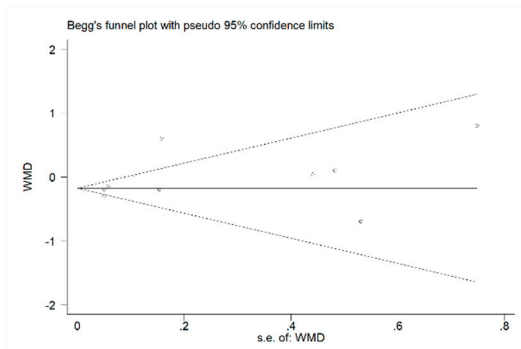
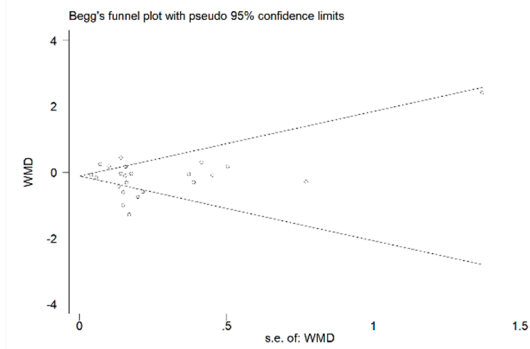
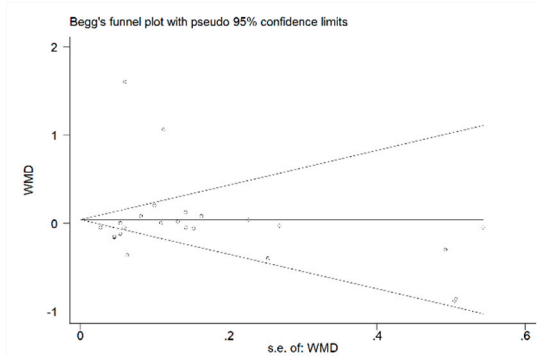
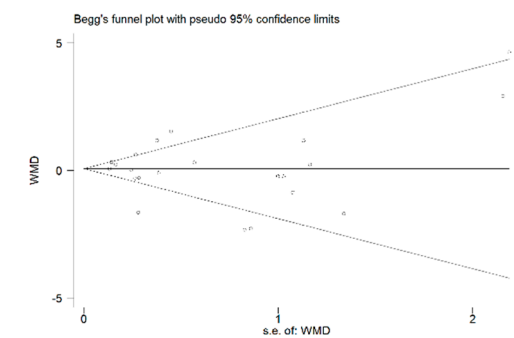


Figure S2. Sensitivity analysis was conducted on outcomes of FPG (A), 2hPBG (B), insulin (C), HOMA-IR (D), HbA1c (E), HDL-C (F), LDL-C (G), TG (H) and TC (I) using the leave-one-out method.

A**B****C****D****E****F****G****H**

I

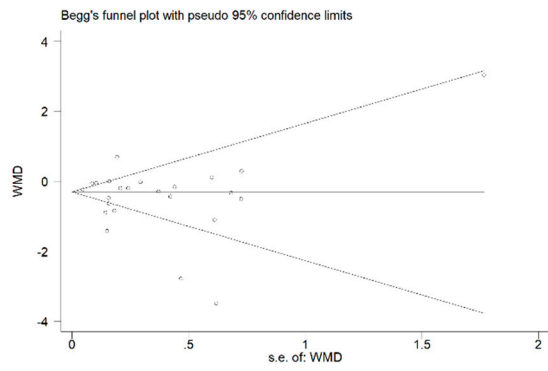


Figure S3. Funnel plots with pseudo 95% CIs for publication bias of FPG (A), 2hPBG (B), insulin (C), HOMA-IR (D), HbA1c (E), HDL-C (F), LDL-C (G), TG (H) and TC (I).