

SUPPORTING MATERIAL

Body-mass index correlates with severity and mortality in acute pancreatitis – a meta-analysis

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Search strategy

The following free-text terms were used: “acute pancreatitis” AND “BMI” AND “severity” OR “mortality”. A hand search in each reference list of the included articles was also carried out.

Database	Raw search	Filters
Embase	197	Human
PubMed (MEDLINE)	55	-
Cochrane Trials	10	-
Σ	262	
Records screened after removing duplicates	218	

Supporting Table 1 Search results per database.

Data extraction

Data were abstracted by three independent review authors. The groups of extracted data were as follows:

1. Study number
2. Publication data (first author, year of publication and country)
3. Study type
4. Patient group

5. Subgroups
6. BMI groups
7. Sample size
8. Definition of severity
9. Mean BMI in the different subgroups
10. Number of severe AP cases
11. Number of fatal cases
12. Mean length of hospitalization
13. Mean Intensive Care Unit stay in days
14. Mean/median APACHE II score
15. Mean/median Ranson's score
16. Number of cases with necrosis development

Quality assessment

The Newcastle–Ottawa Scale (NOS) tool was adjusted to the design of acute pancreatitis studies. Quality was assessed by two investigators who evaluated each study by item. The modified scale consists of five items. Items were rated as 'high risk', 'low risk' or 'unclear risk', corresponding to the definitions (as detailed below).

Item 1: Representativeness: concerns the generalizability of the findings to the average acute pancreatitis population

✓ *Low risk:* consecutive AP patients above 18 were enrolled regardless of the etiology of the disease

✗ *High risk:* patients below the age of 18 were involved, or the study excluded a whole group of patients based on the etiology of the disease or any comorbidities

? *Unknown risk:* no data reported

Item 2: Selection

- ✓ *Low risk:* normal weight patients were drawn from the same patient group as the underweight or overweight ones
- ✗ *High risk:* any other modalities
- ? *Unknown risk:* data on the item is not reported

Item 3: Comparability

- ✓ *Low risk:* the study controls for age or comorbidities
- ✗ *High risk:* significant difference between groups
- ? *Unknown risk:* data on the item is not reported

Item 4: Assessment of outcome: the person(s) evaluating disease severity was (were) blinded to the BMI of the patient

- ✓ *Low risk:* appropriate blinding
- ✗ *High risk:* unblinded design
- ? *Unknown risk:* data on the item is not reported

Item 5: Adequacy of follow-up: indicates the difference between the number of patients included in the study and that of patients included in the analysis or on whom data were reported

- ✓ *Low risk:* no or minimal attrition unlikely to introduce bias
- ✗ *High risk:* considerable attrition likely to introduce bias
- ? *Unknown risk:* no data about the loss

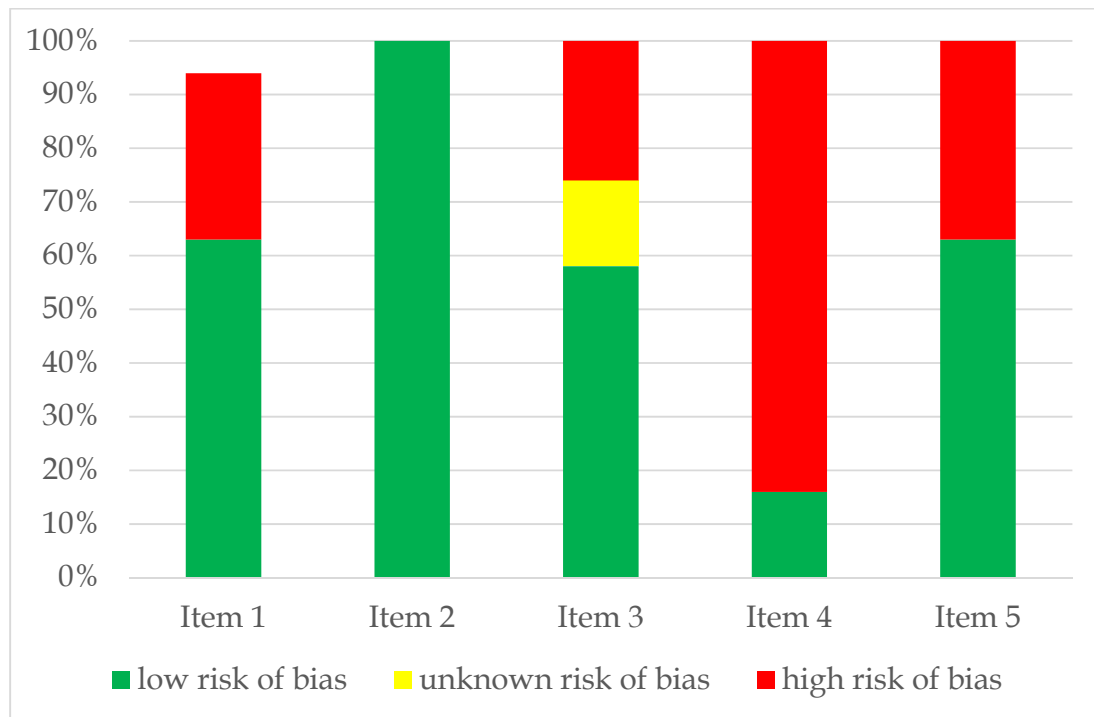
We did not evaluate the length of follow-up in the different studies as we only considered in-hospital mortality, so both investigated outcomes occurred during hospitalization.

	Item 1	Item 2	Item 3	Item 4	Item 5
Bota et al.	✓	✓	✗	?	✗
Duarte-Rojó et al.	✓	✓	?	✓	✓
Funnel et al.	✓	✓	?	?	✗
Karpavicius et al.	✗	✓	✓	?	✗
Katuchova et al.	✓	✓	✓	?	✓
Mery et al.	✗	✓	✓	✓	✓
Papachristou et al.	✓	✓	✓	?	✓
Párniczky et al.	✓	✓	✗	?	✓
Sharma et al.	✓	✓	✓	?	✓
Shin et al.	✗	✓	✓	?	✗
Suazo-Barahona et al.	✗	✓	✓	?	✓
Taguchi et al.	✓	✓	✓	✓*	✓
Thandassery et al.	✗	✓	✓	?	✓
Tsai et al.	✓	✓	✗	?	✓
Türkoglu et al.	✗	✓	✓	?	✗
Yang et al.	✓	✓	✓	?	✗
Yashima et al.	✓	✓	✗	?	✓
Yeung et al.	✓	✓	?	?	✓
Yoon et al.	✗	✓	✗	?	✗

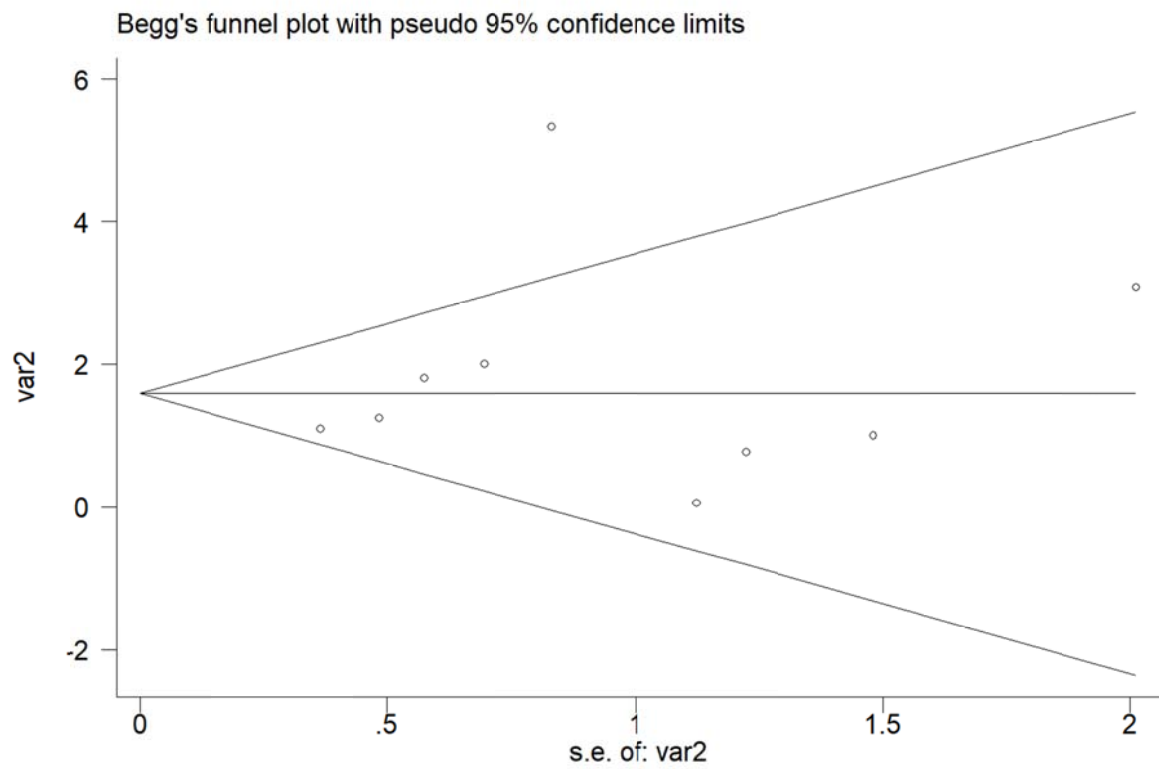
✓, ✗ and ? represent low, high and unknown risks of bias, respectively.

*The study was not included in the severity analysis; only data on mortality were considered.

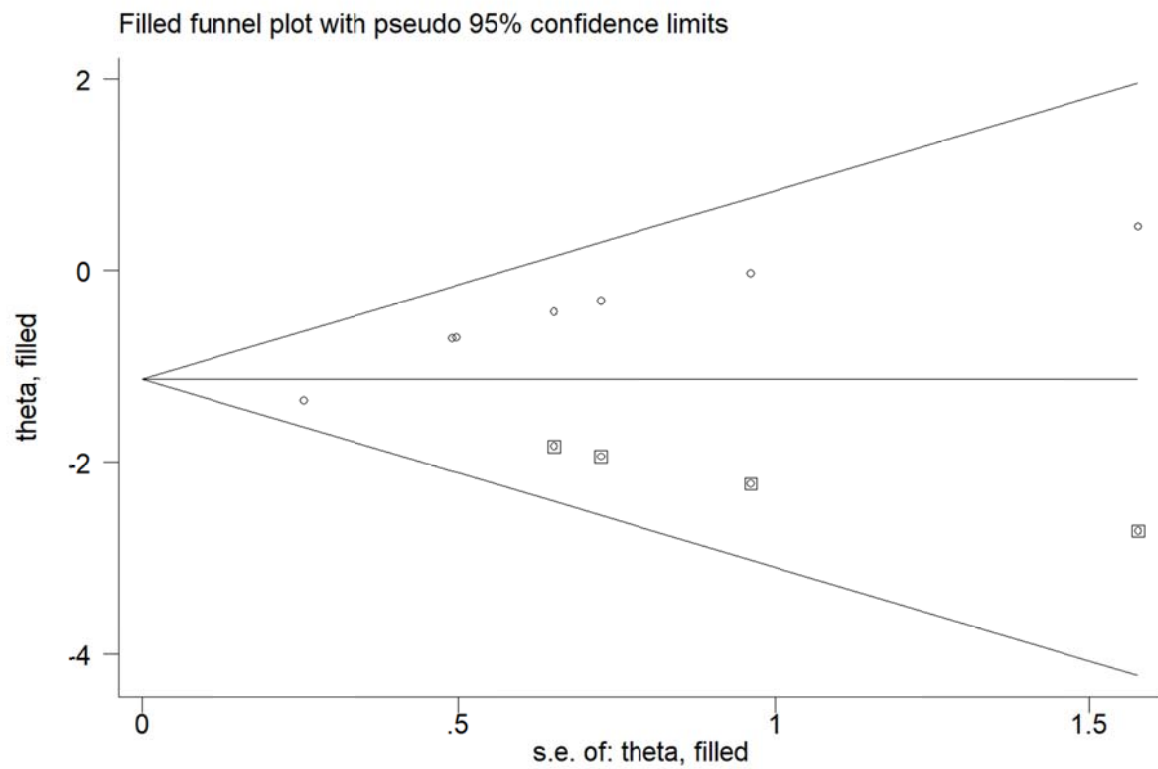
Supporting Table 2 Quality of each included study.



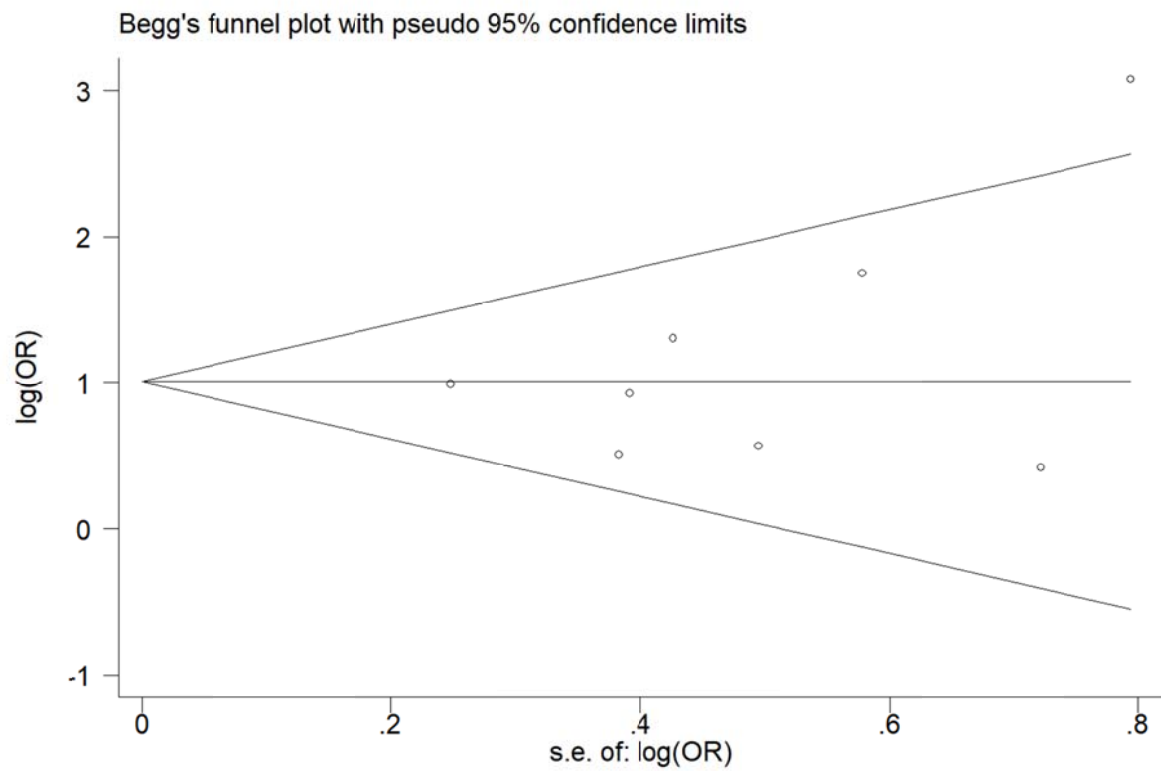
Supporting Figure 1 Quality assessment graph.



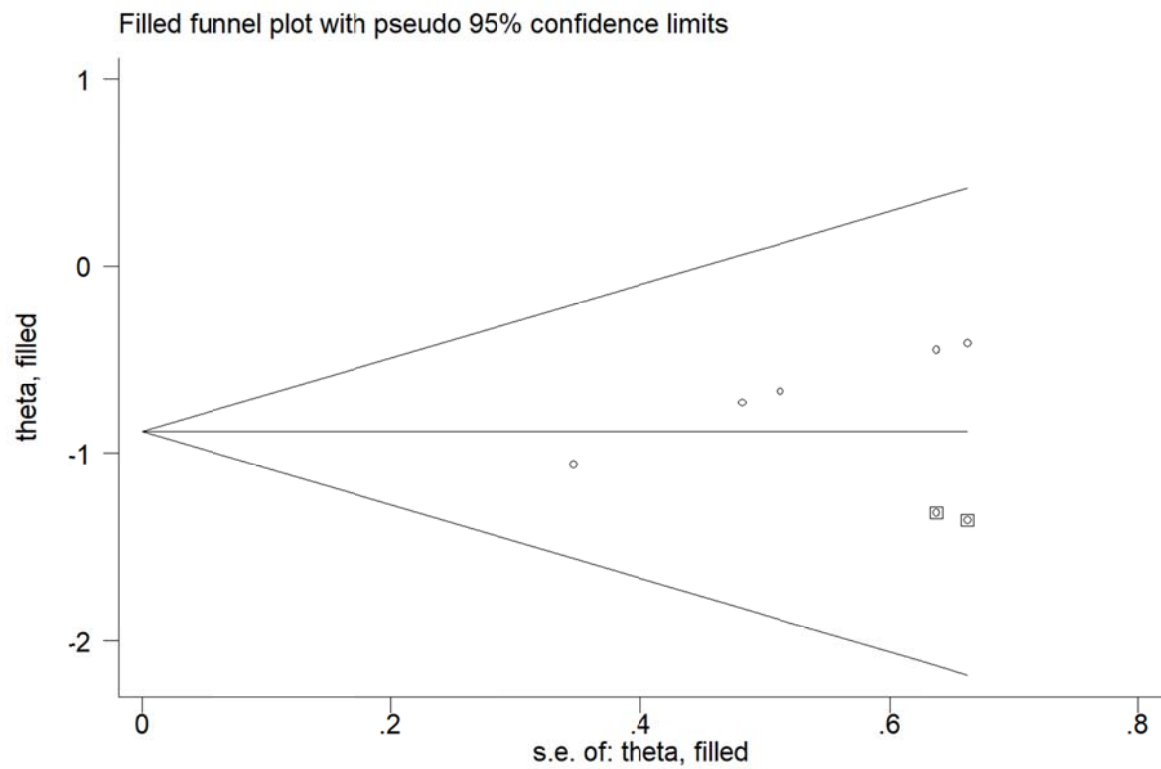
Supporting Figure 2 Funnel plot of mean BMI showing the effect size (circles) as a function of their standard error.



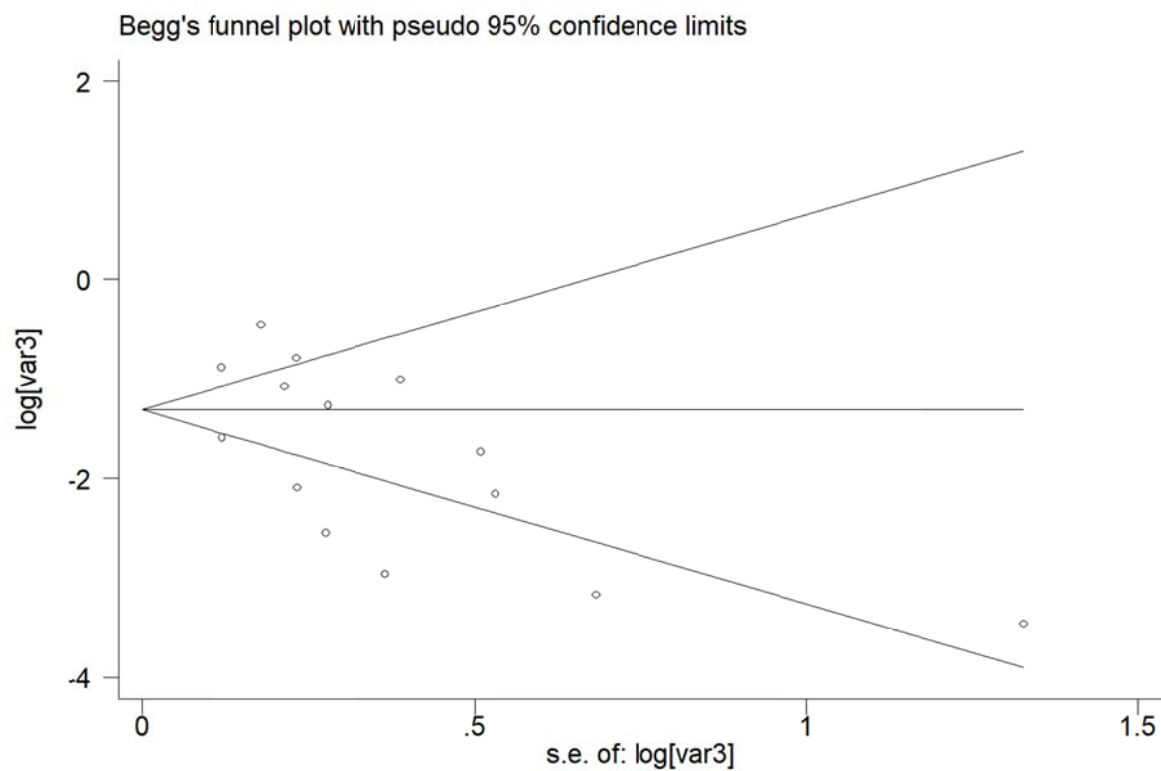
Supporting Figure 3 Funnel plot of AP severity comparing the normal BMI group (BMI 18.5–25) to other BMI categories. Circles represent studies, and circles in squares represent filled studies.



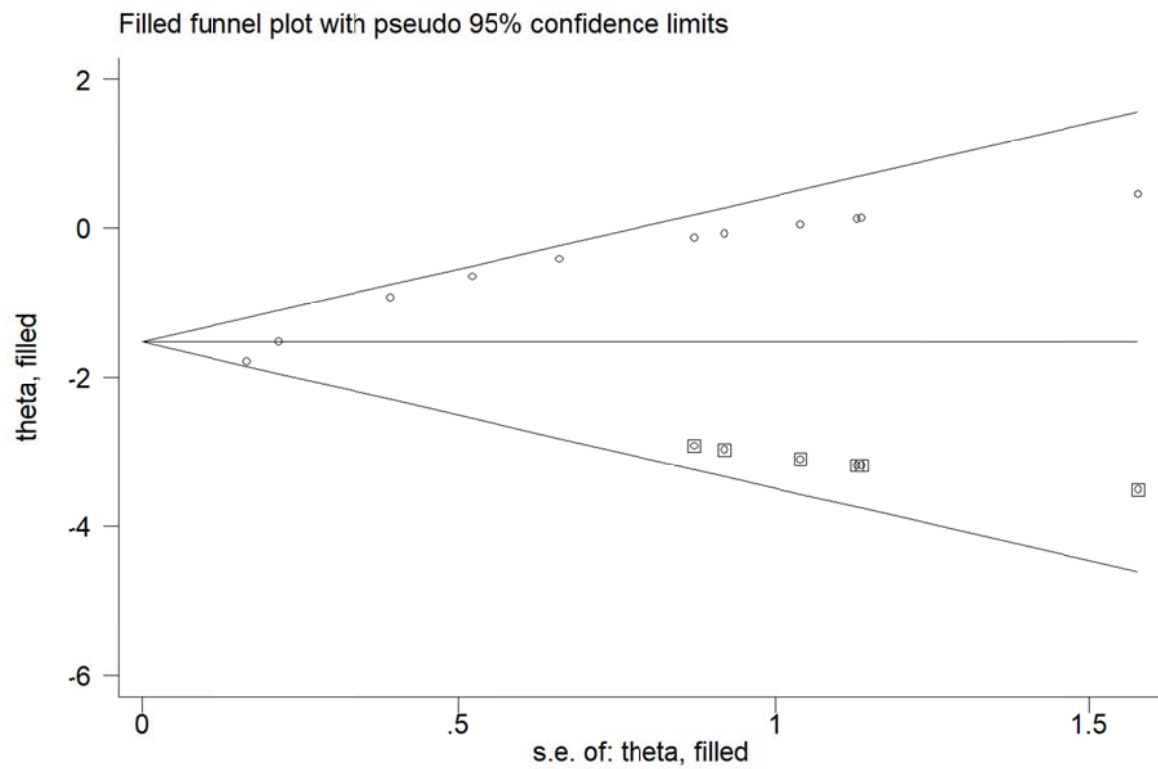
Supporting Figure 4 Funnel plot of severe AP in the BMI<25 and BMI>25 subgroups. Circles represent studies, and circles in squares represent filled studies.



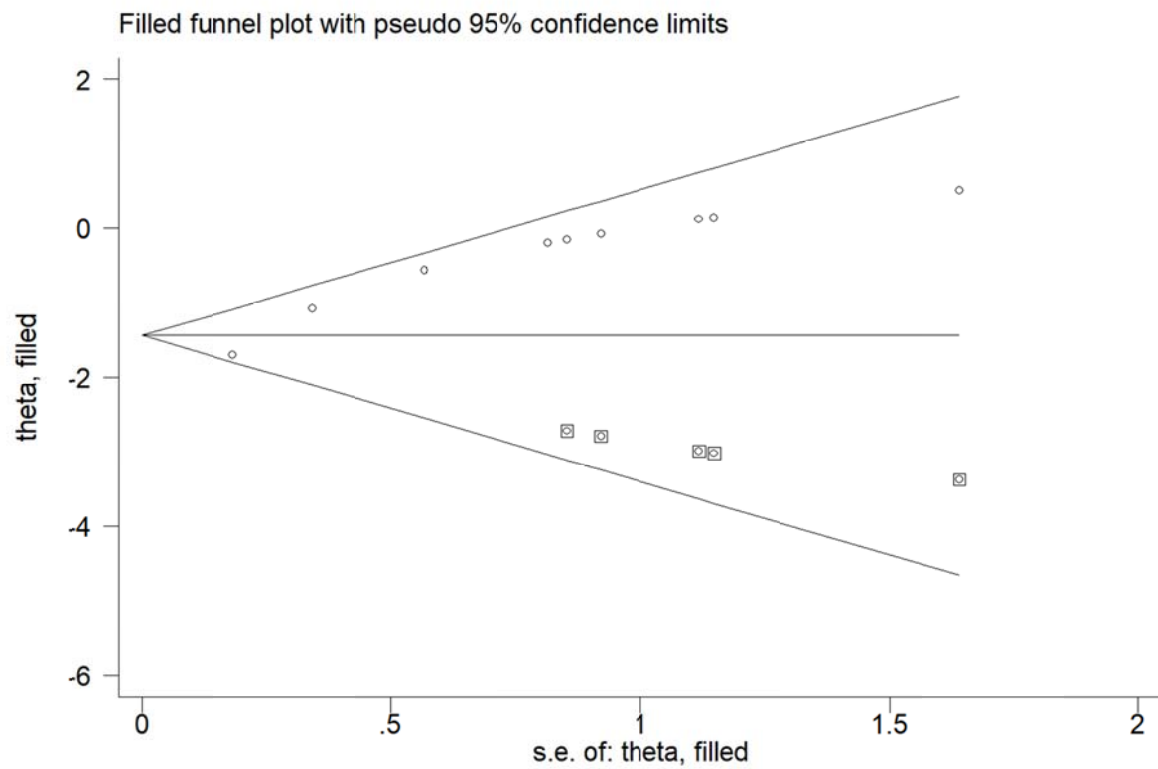
Supporting Figure 5 Funnel plot of severe AP in the BMI<30 and BMI>30 subgroups. Circles represent studies, and circles in squares represent filled studies.



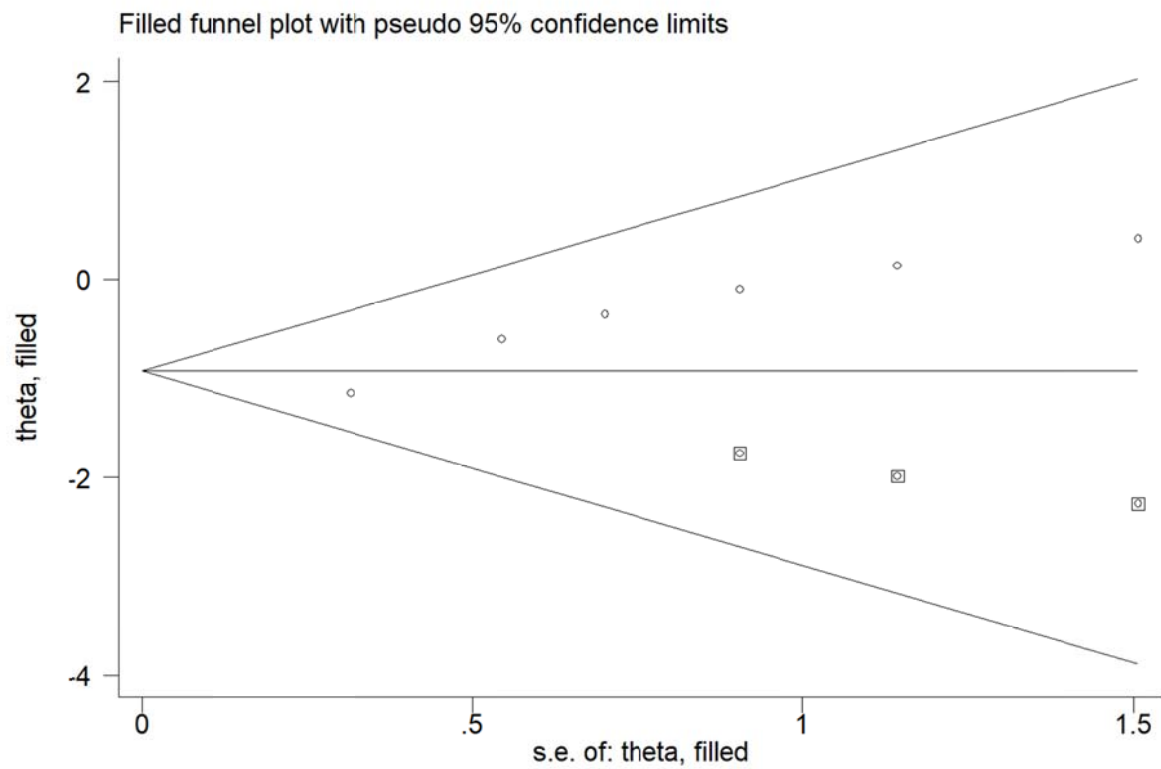
Supporting Figure 6 Funnel plot of subgroup analysis on BMI and AP severity displayed on forest plot.



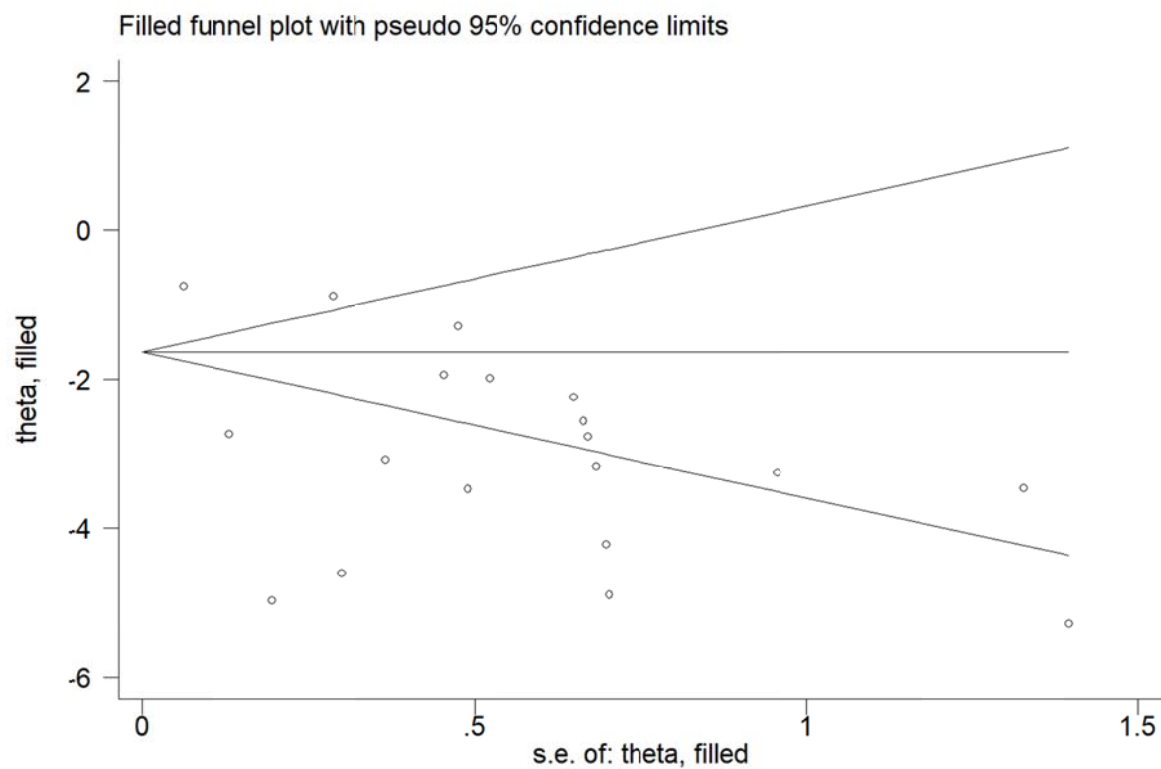
Supporting Figure 7 Funnel plot of mortality comparing the normal BMI group (BMI 18.5–25) to other BMI categories. Circles represent studies, and circles in squares represent filled studies.



Supporting Figure 8 Funnel plot of mortality comparing the BMI<25 and BMI>25 subgroups. Circles represent studies, and circles in squares represent filled studies.



Supporting Figure 9 Funnel plot of mortality comparing the BMI<30 and BMI>30 subgroups. Circles represent studies, and circles in squares represent filled studies.



Supporting Figure 10 Funnel plot of subgroup analysis on BMI and AP mortality displayed on forest plot.