

Relationship between Helicobacter Pylori Infection and Risk of Metabolic Dysfunction-Associated Steatotic Liver Disease: An Updated Meta-analysis.

ONLINE-ONLY SUPPLEMENTARY MATERIAL

Supplementary Figure 1. The PRISMA flow diagram for search and selection processes of the meta-analysis.

Supplementary Table 1. Studies excluded at the eligibility step of the PRISMA diagram.

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Supplementary Figure 9. Bubble plot with a fitted meta-regression line (in blue) about the pooled estimates of the effect of H. pylori infection on the risk of prevalent MASLD by age in cross-sectional studies ($p=0.598$).

Supplementary Figure 10. Bubble plot with a fitted meta-regression line (in blue) about the pooled estimates of the effect of H. pylori infection on the risk of prevalent MASLD by percentage of men in cross-sectional studies ($p=0.997$).

Supplementary Figure 11. Bubble plot with a fitted meta-regression line (in blue) about the pooled estimates of the effect of H. pylori infection on the risk of prevalent MASLD by body mass index (BMI) in cross-sectional studies ($p=0.059$).

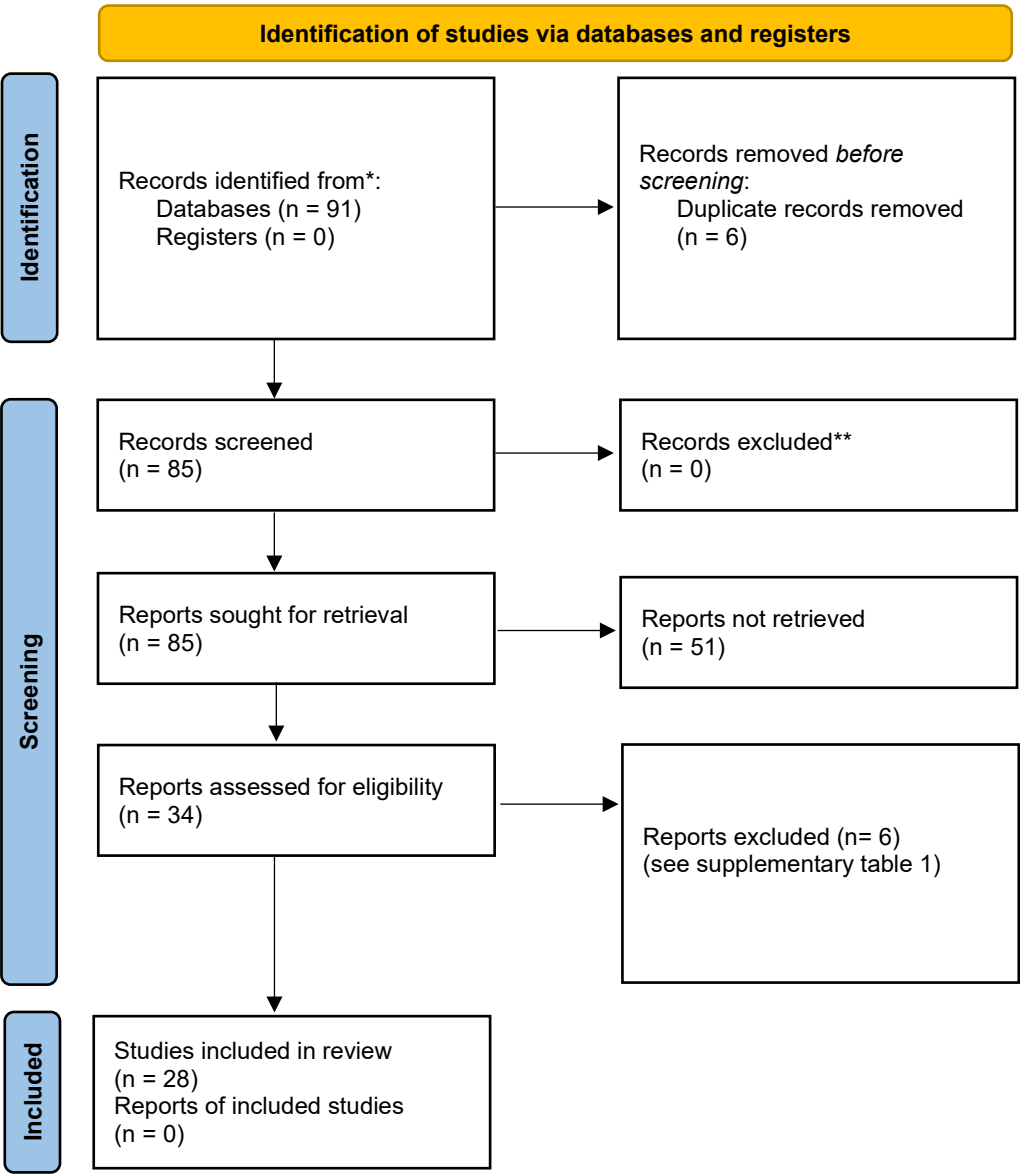
Supplementary Figure 12. Bubble plot with a fitted meta-regression line (in blue) about the pooled estimates of the effect of H. pylori infection on the risk of prevalent MASLD by percentage of pre-existing T2DM in cross-sectional studies ($p=0.182$).

Supplementary Figure 13. Bubble plot with a fitted meta-regression line (in blue) about the pooled estimates of the effect of *H. pylori* infection on the risk of prevalent MASLD by percentage of hypertension in cross-sectional studies ($p=0.674$).

Supplementary Figure 14. One-study remove (leave-one-out) analysis to test each study's influence on the overall effect size on the effect of *H. pylori* infection on the risk of incident MASLD in longitudinal studies.

Supplementary Figure 15. Funnel plot assessing the possibility of publication bias across all eligible studies, stratified by study design ($p=0.063$ by the Begg's rank correlation test) (grey circle = cross-sectional; black circle = longitudinal).

Supplementary Figure 1. The PRISMA flow diagram for search and selection processes of the meta-analysis.



*Consider, if feasible to do so, reporting the number of records identified from each database or register searched (rather than the total number across all databases/registers).

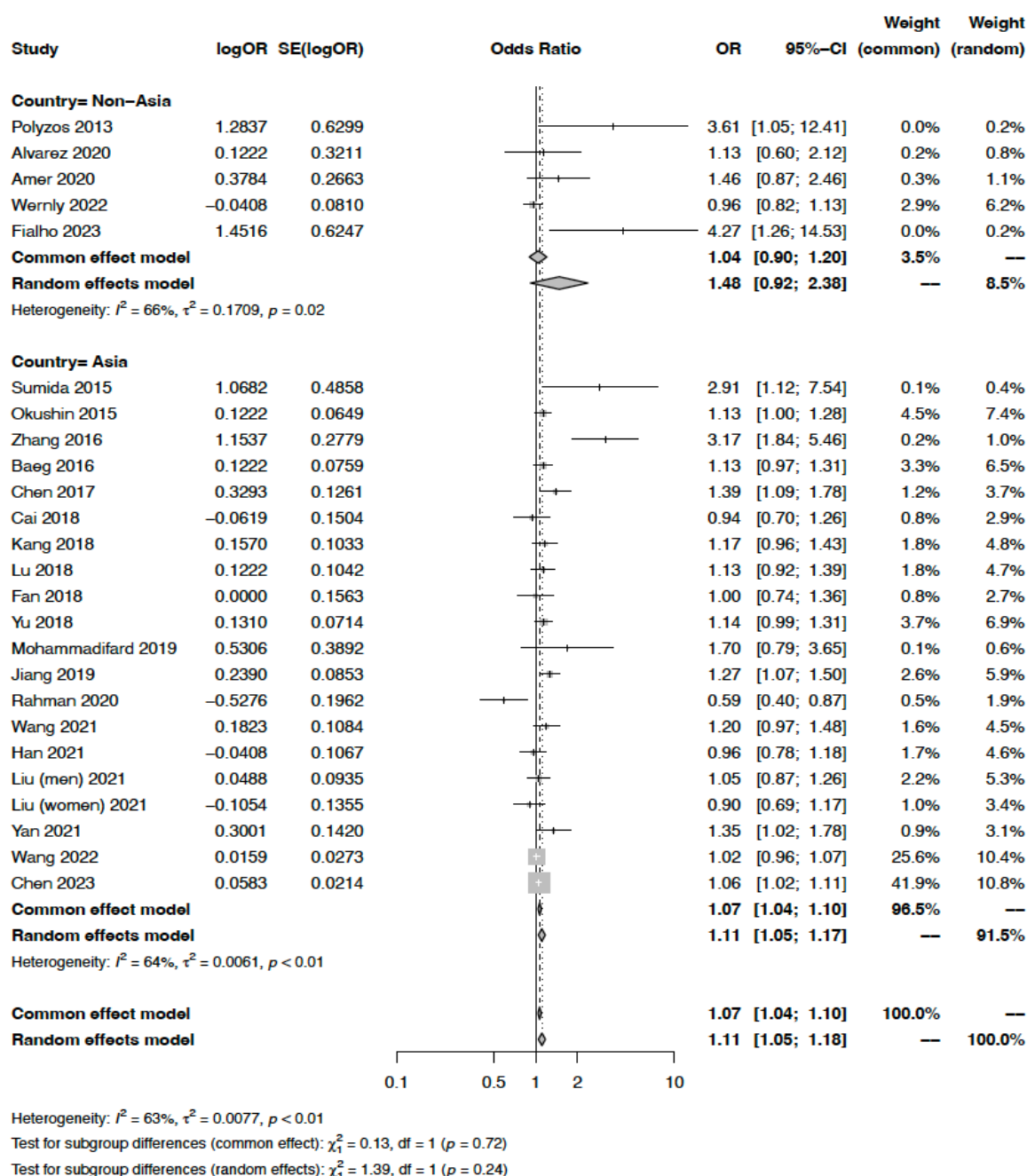
**If automation tools were used, indicate how many records were excluded by a human and how many were excluded by automation tools.

Supplementary Table 1. Studies excluded at the eligibility step of the PRISMA diagram.

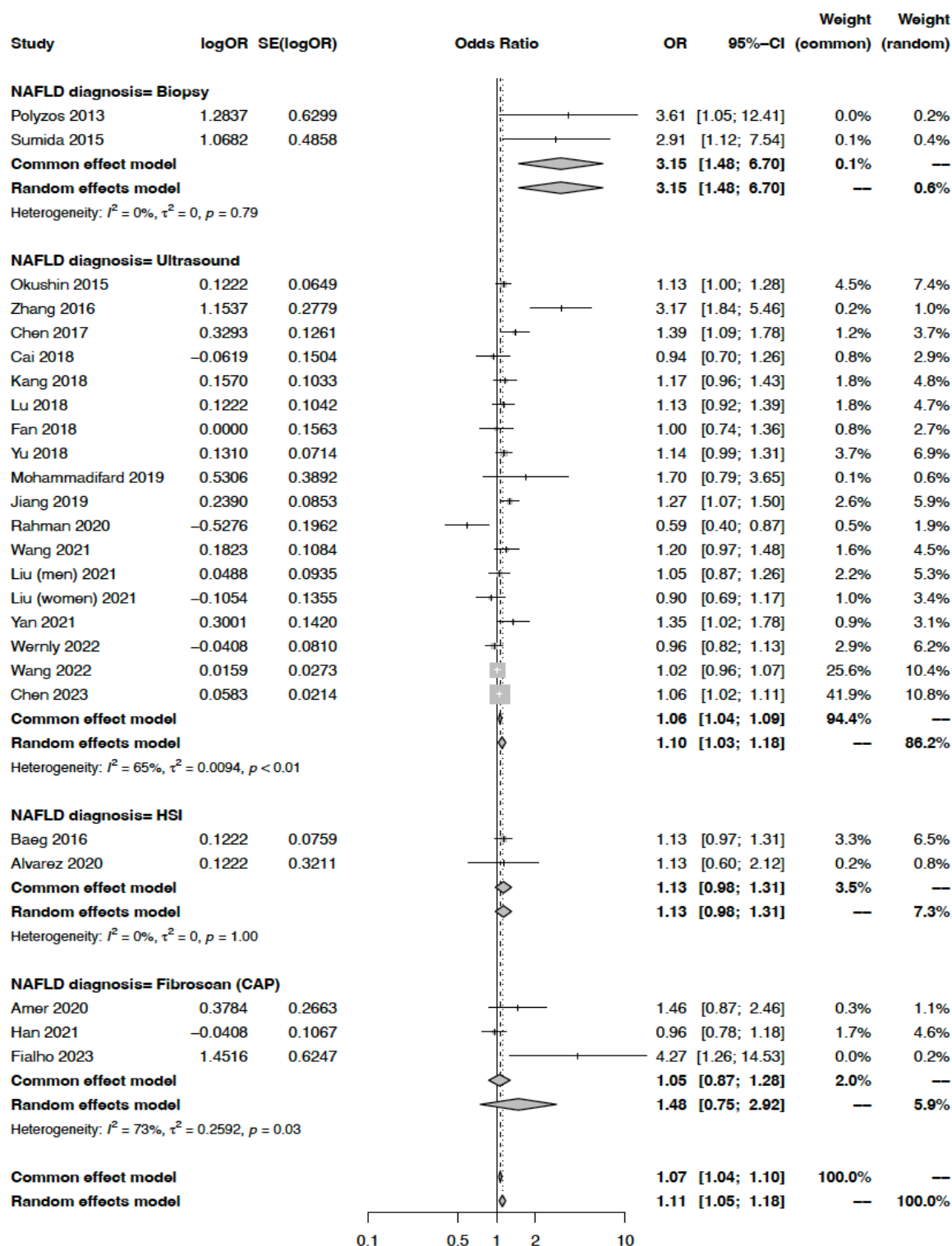
Author, Ref.	Main reasons for the exclusion
Yu et al. (24)	Unsatisfactory study design (i.e., randomized controlled trial)
Valadares et al. (25)	Unsatisfactory inclusion criteria (i.e., patients with micro- and macro-vesicular steatosis)
Liu et al. (26)	Unsatisfactory study design (i.e., bidirectional Mendelian randomization study)
Chen et al. (27)	Unsatisfactory primary outcome (i.e., only MASLD progression)
Doulberis et al. (28)	Unsatisfactory study design (i.e., reduced statistical power)
Siddiqui et al. (29)	Unsatisfactory study design (i.e., only patients positive for H. pylori infection were included in the final analysis)

Note: The number of the references (reported in parenthesis in the 1st column of the table) refers to the list of references in the manuscript.

Supplementary Figure 2. Forest plot and pooled estimates of the effect of *H. pylori* infection on the risk of prevalent MASLD in the eligible cross-sectional studies, stratified by study country.



Supplementary Figure 3. Forest plot and pooled estimates of the effect of *H. pylori* infection on the risk of prevalent MASLD in the eligible cross-sectional studies, stratified by methods used for MASLD diagnosis.

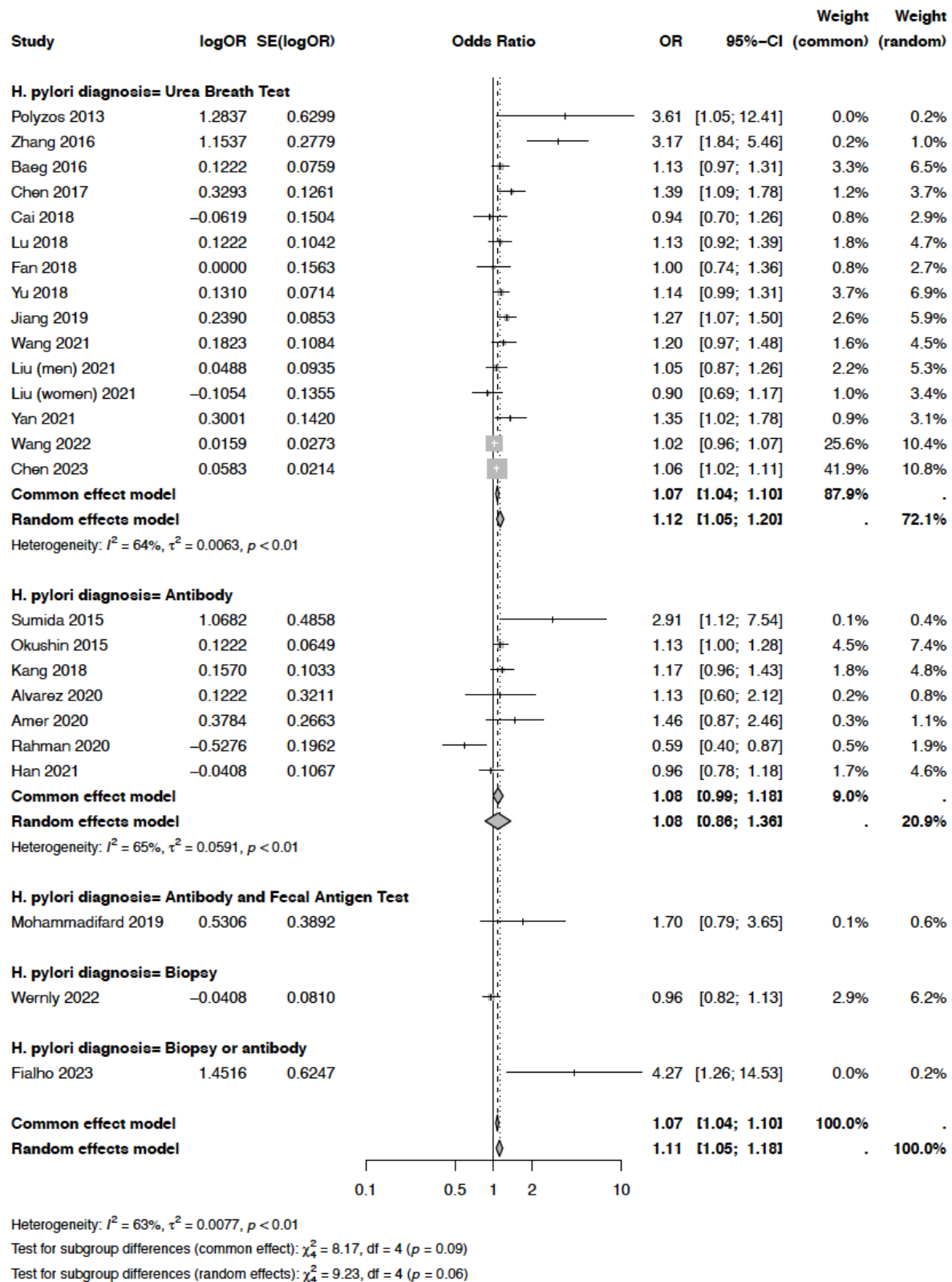


Heterogeneity: $I^2 = 63\%$, $\tau^2 = 0.0077$, $p < 0.01$

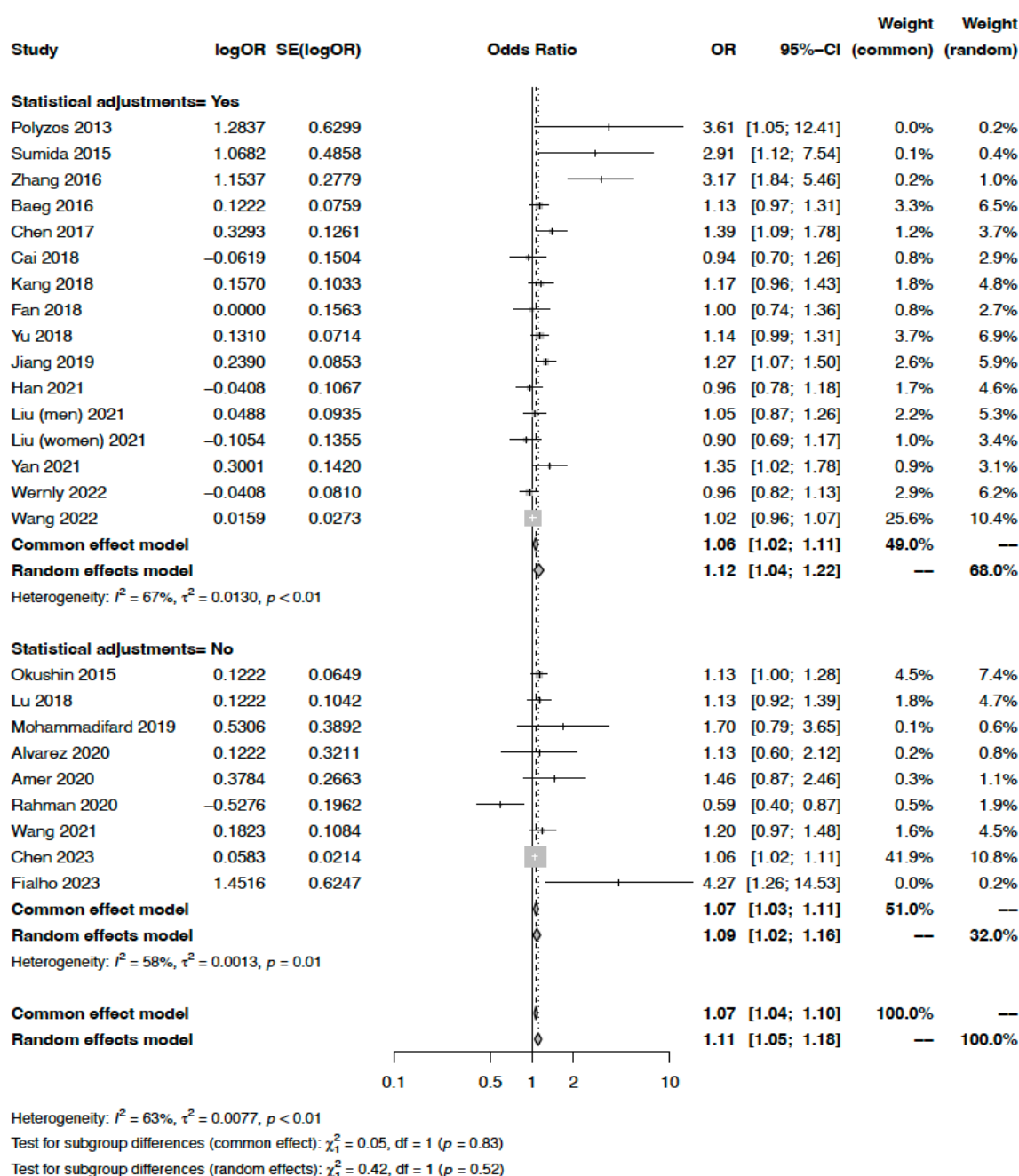
Test for subgroup differences (common effect): $\chi^2_3 = 8.57$, $df = 3$ ($p = 0.04$)

Test for subgroup differences (random effects): $\chi^2_3 = 8.10$, $df = 3$ ($p = 0.04$)

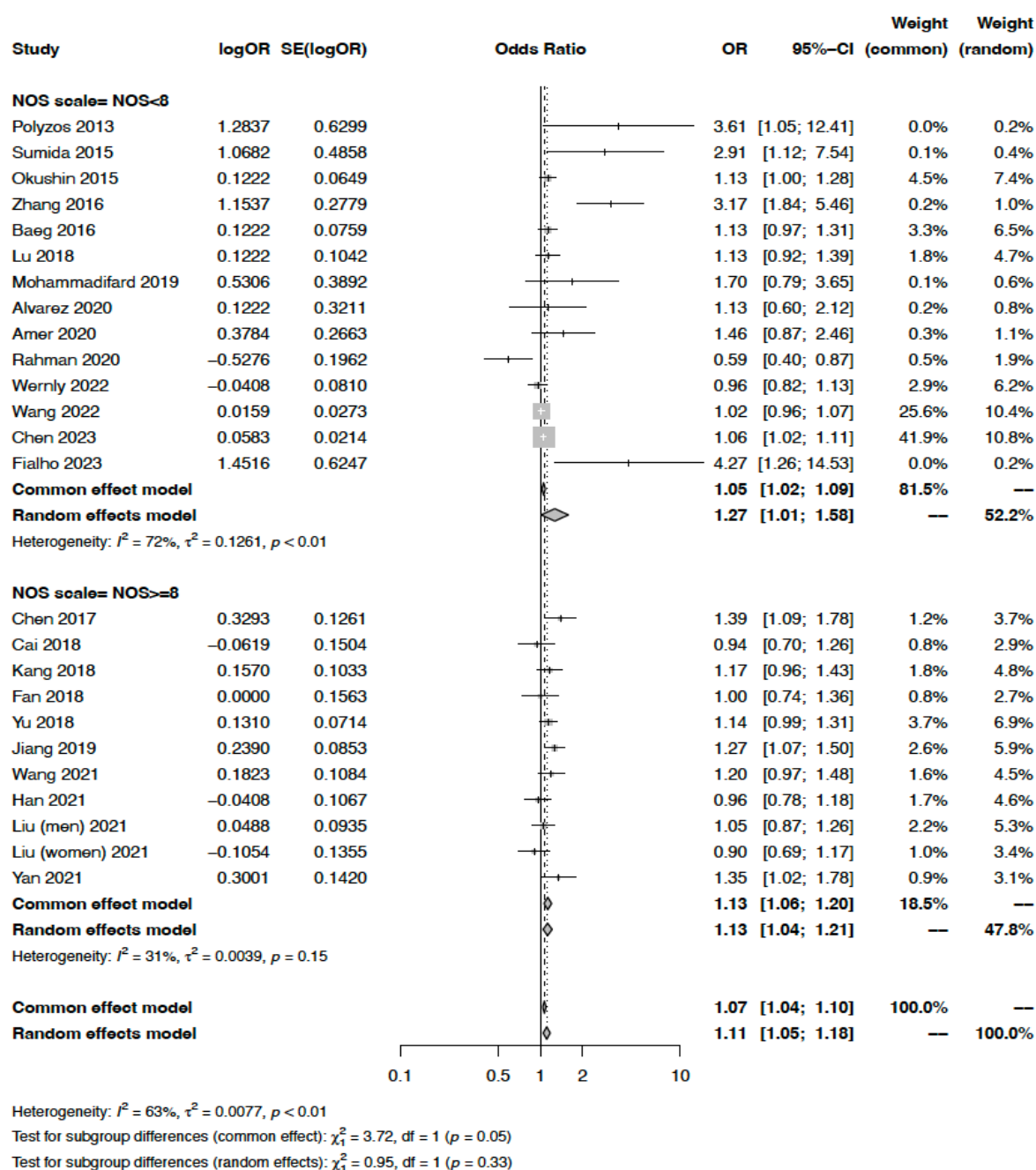
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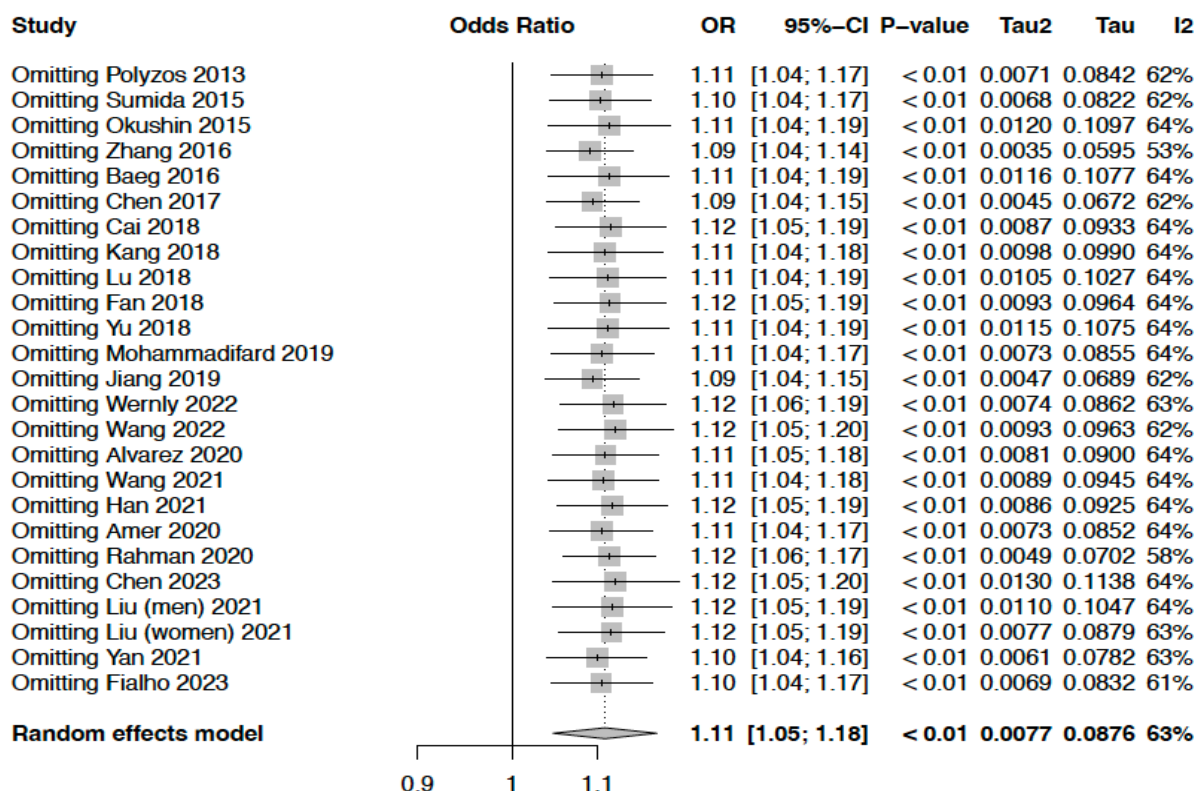
Supplementary Figure 5. Forest plot and pooled estimates of the effect of *H. pylori* infection on the risk of prevalent MASLD in the eligible cross-sectional studies, stratified by degree of covariate adjustments.



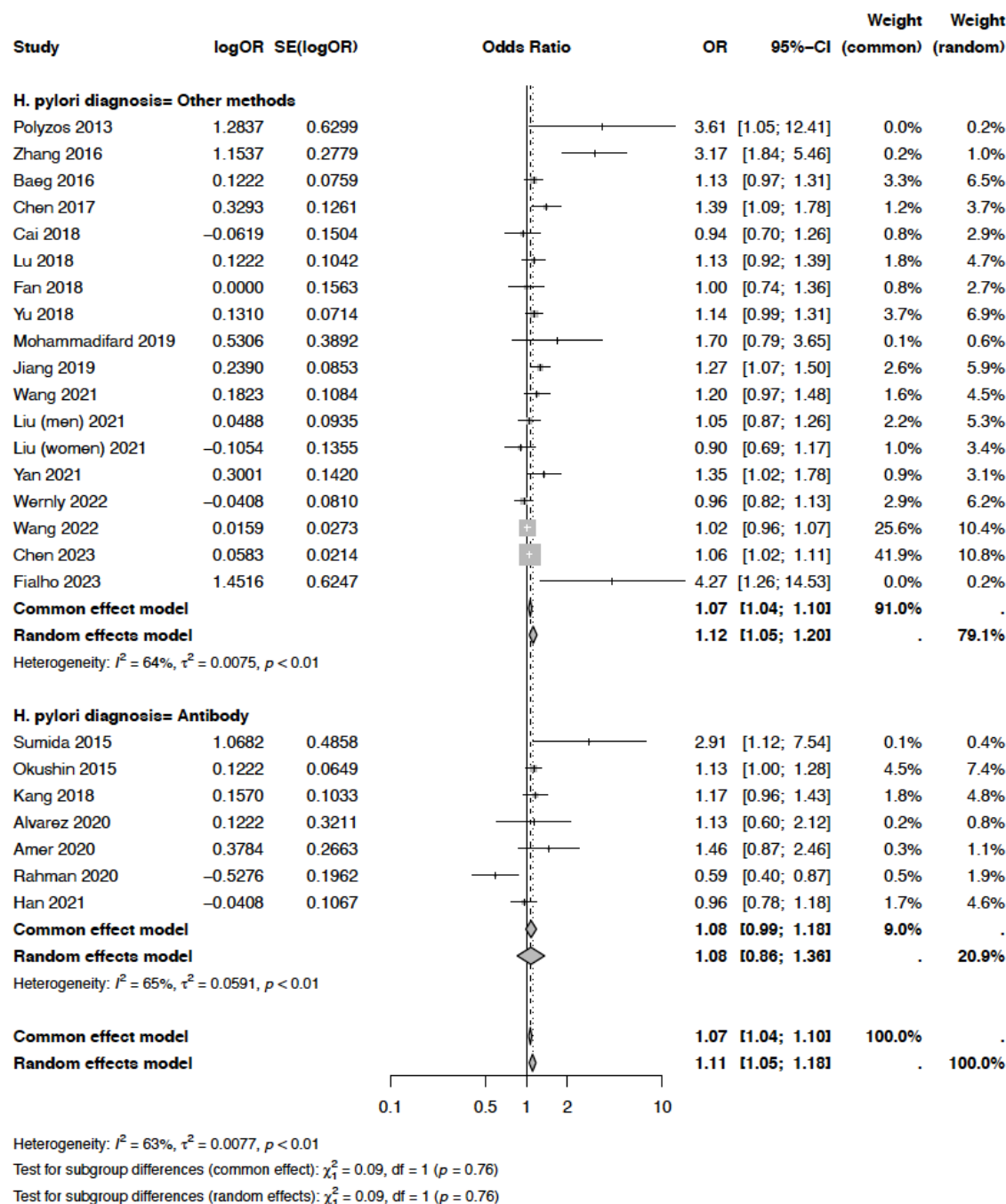
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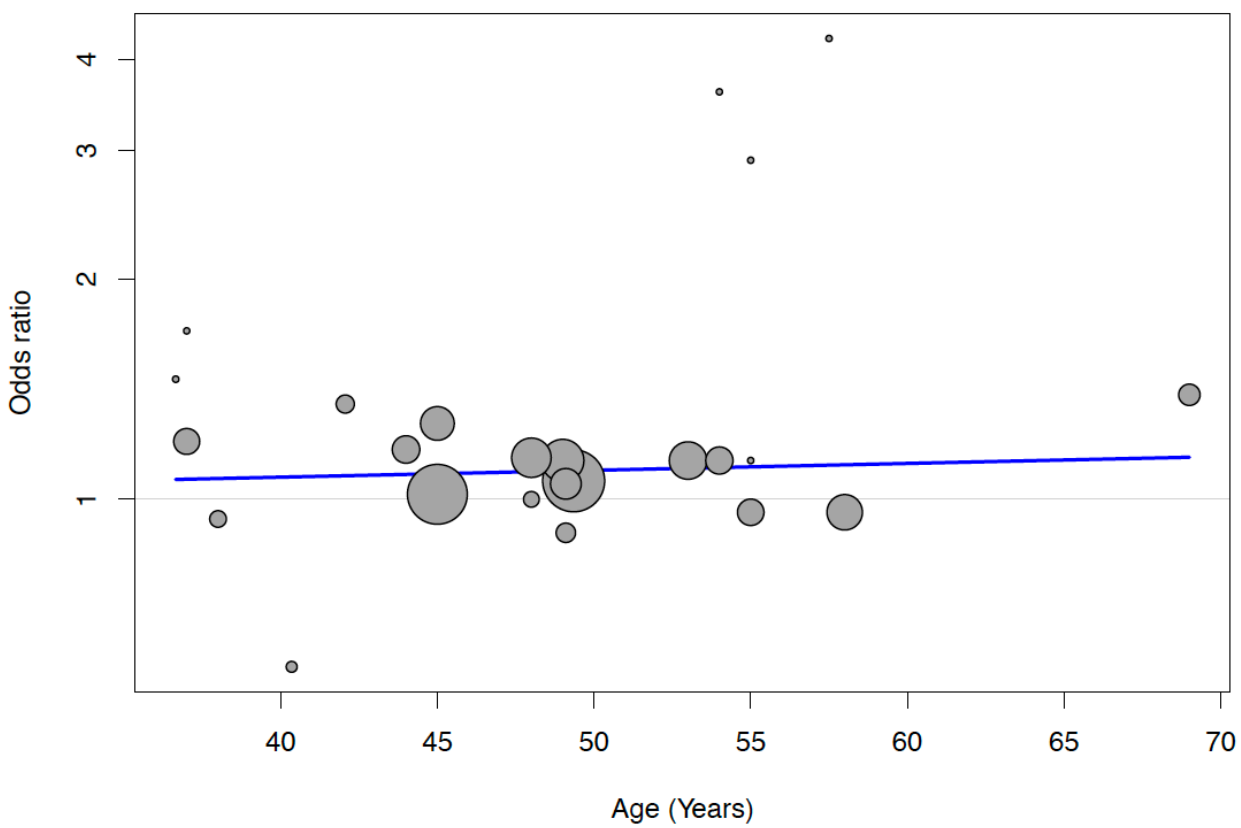
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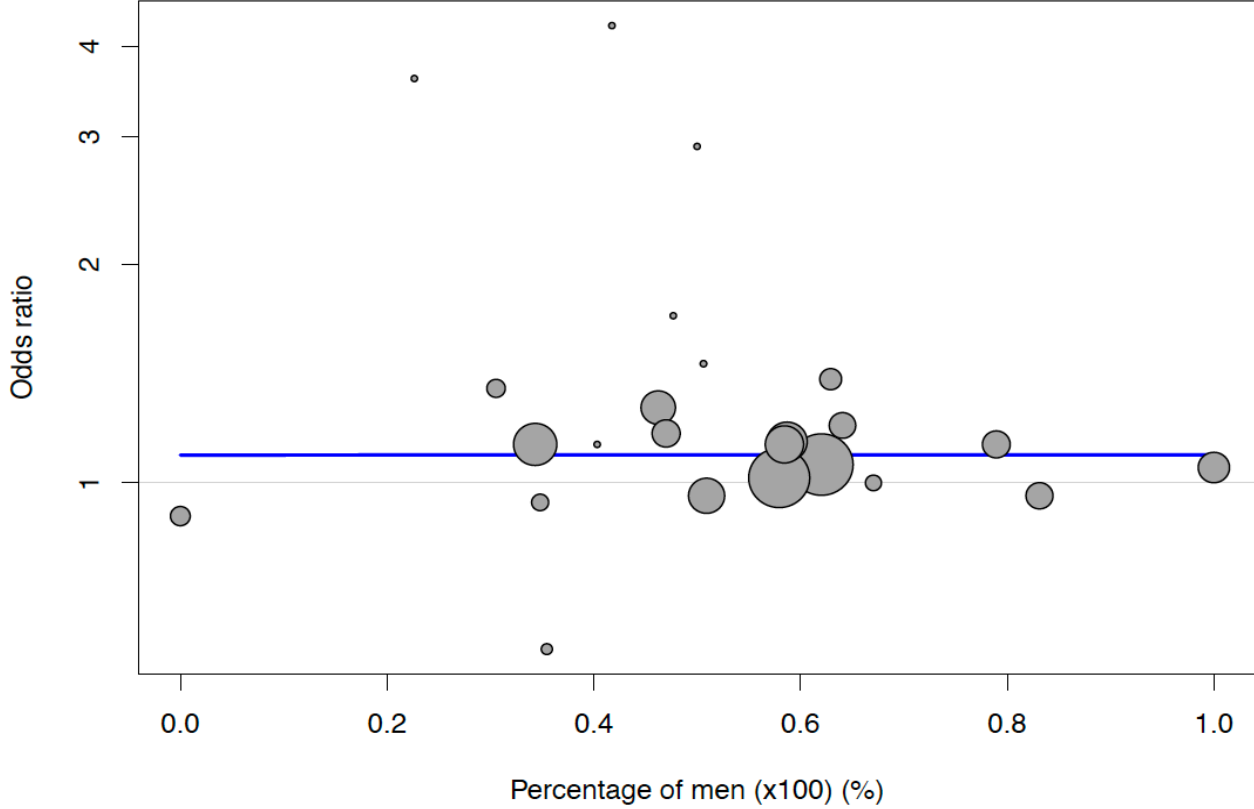
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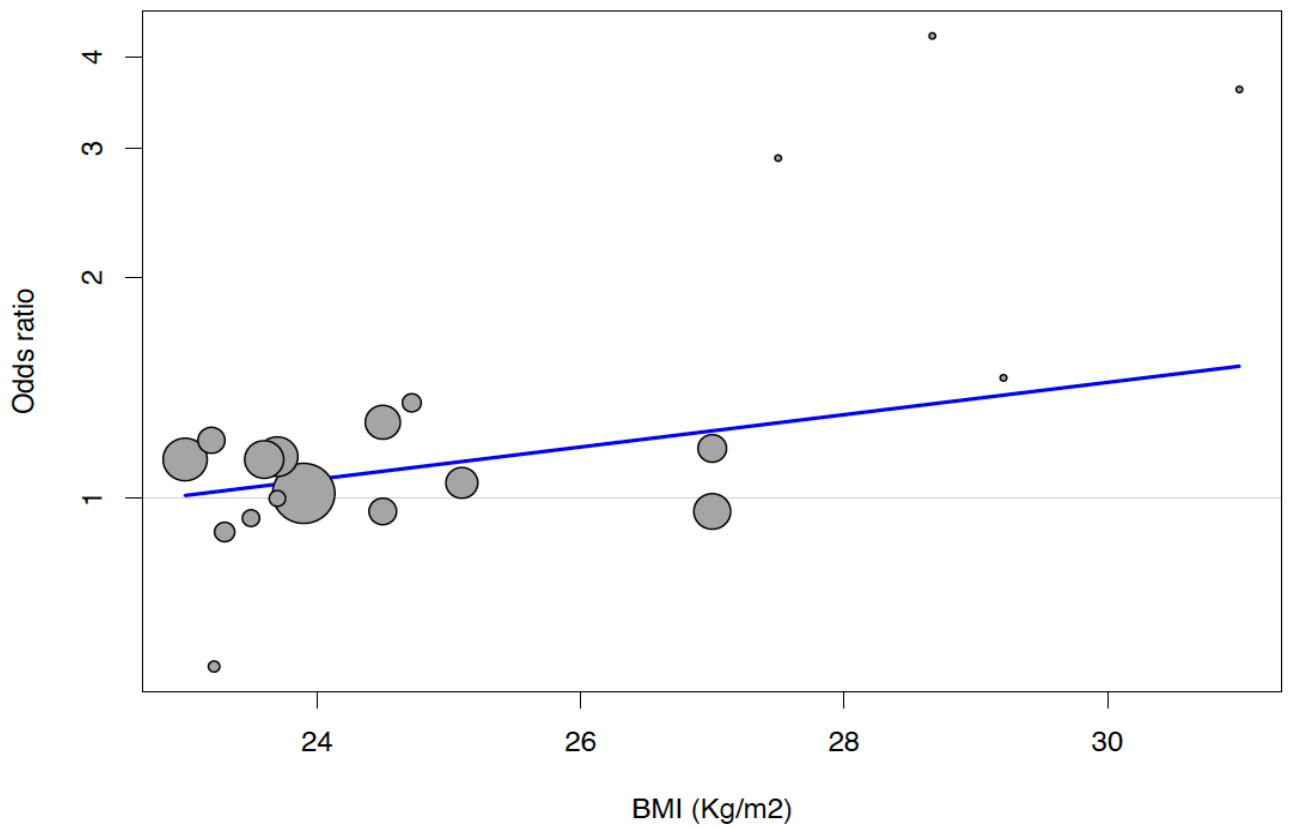
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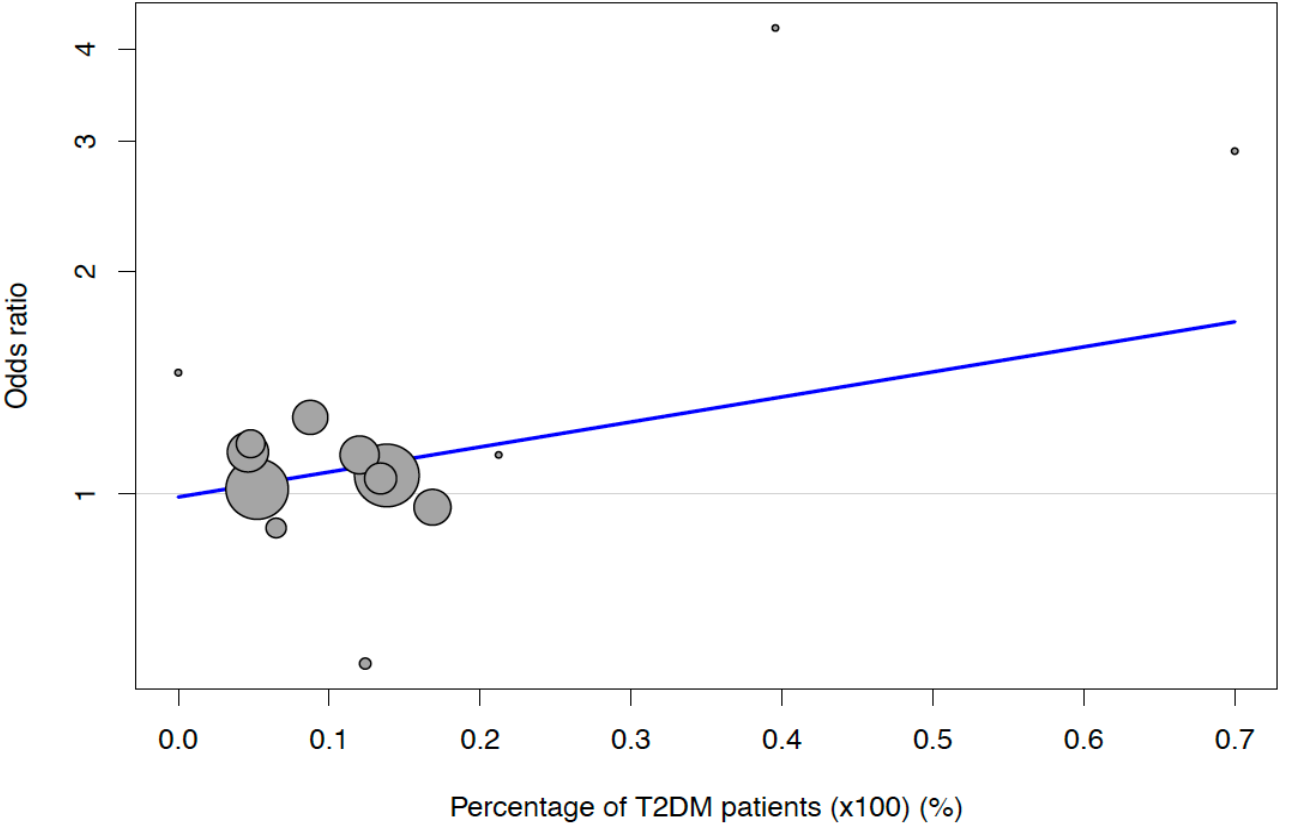
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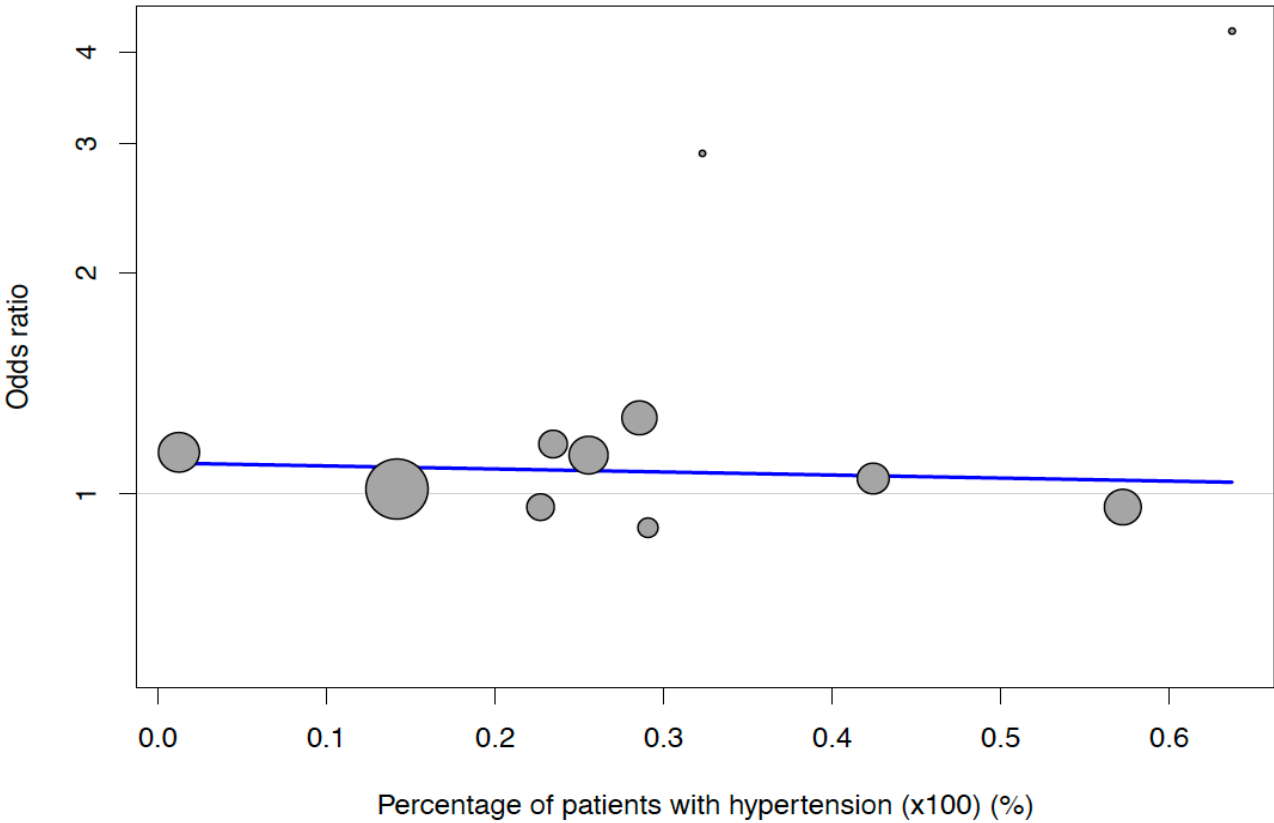
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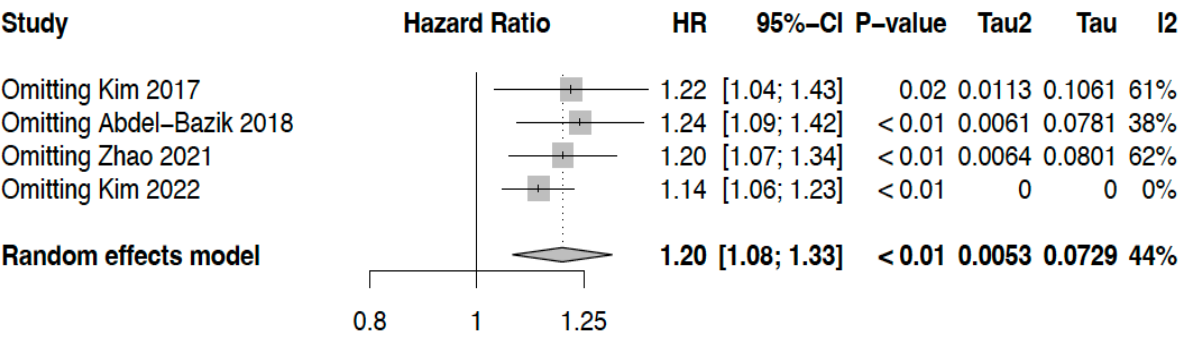
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Supplementary Figure 13. Bubble plot with a fitted meta-regression line (in blue) about the pooled estimates of the effect of *H. pylori* infection on the risk of prevalent MASLD by percentage of hypertension in cross-sectional studies ($p=0.674$).



Supplementary Figure 14. Funnel plot assessing the possibility of publication bias across all eligible studies, stratified by study design (p=0.063 by the Begg’s rank correlation test) (grey circle= cross-sectional; black circle= longitudinal).



A funnel plot for the 1997 study. The y-axis is labeled 'Standard Error' and ranges from 0.0 to 0.6. The x-axis is labeled 'Study Effect' and ranges from 0.5 to 2.0. A dashed line forms a funnel shape, centered at a study effect of approximately 1.1. A vertical dotted line is drawn at the same x-value. Data points are represented by open circles, with a cluster of solid black circles near the center of the funnel.