

Association of Irritable Bowel Syndrome with Dementia: A GRADE-Assessed Systematic Review and Meta-Analysis

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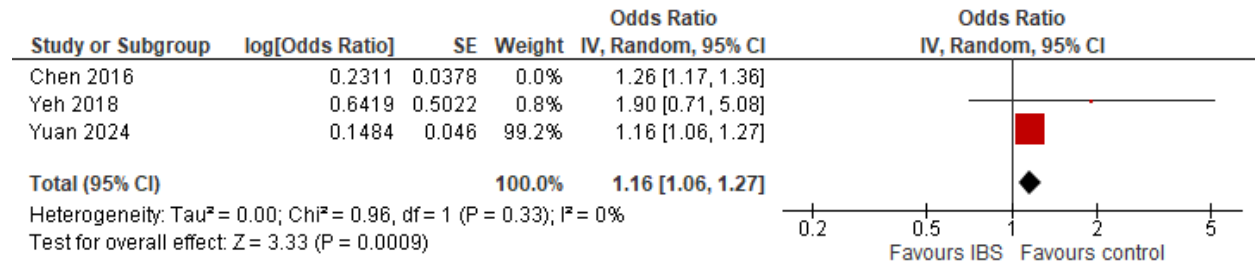
Supplementary Table 1. Database search strategies and results

Database	Search string	Search fields	Notes	Results
PubMed	("Irritable Bowel Syndrome"[All Fields] OR "IBS"[All Fields] OR "Irritable Bowel Syndrome"[MeSH Terms]) AND ("dementia"[MeSH Terms] OR "dementia"[All Fields] OR "dementias"[All Fields] OR "dementia s"[All Fields] OR "Alzheimer Disease"[All Fields] OR "alzheimer*"[All Fields] OR "Vascular Dementia"[All Fields] OR ("all-cause"[All Fields] AND ("dementia"[MeSH Terms] OR "dementia"[All Fields] OR "dementias"[All Fields] OR "dementia s"[All Fields])) OR "cognitive decline"[All Fields] OR "cognitive impairment"[All Fields]) AND ("risk"[MeSH Terms] OR "risk"[All Fields])	All fields.	-	70
Scopus	ALL("Irritable Bowel Syndrome") OR ALL(IBS) AND ALL(dementia) OR ALL(Alzheimer*) AND TITLE-ABS-KEY(risk) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (SUBJAREA, "MEDI")) AND (EXCLUDE (EXACTKEYWORD, "Nonhuman") OR EXCLUDE (EXACTKEYWORD, "Animals") OR EXCLUDE (EXACTKEYWORD, "Animal") OR EXCLUDE (EXACTKEYWORD, "Genetics") OR EXCLUDE (EXACTKEYWORD, "Single Nucleotide Polymorphism") OR EXCLUDE (EXACTKEYWORD, "Mendelian Randomization Analysis") OR EXCLUDE (EXACTKEYWORD, "Alcohol Consumption") OR EXCLUDE (EXACTKEYWORD, "Physical Activity") OR EXCLUDE (EXACTKEYWORD, "Mendelian Randomization") OR EXCLUDE (EXACTKEYWORD, "Ulcerative Colitis") OR EXCLUDE (EXACTKEYWORD, "Gene Frequency"))	- All fields. - Title, abstract, and keywords.	Animal and genetic studies were excluded using keyword filters.	297
Web of Science	("irritable bowel syndrome") AND (Dementia OR Alzheimer*) NOT Document Type: Review Article	All fields	Review articles were excluded using keyword filters.	100
Total				467

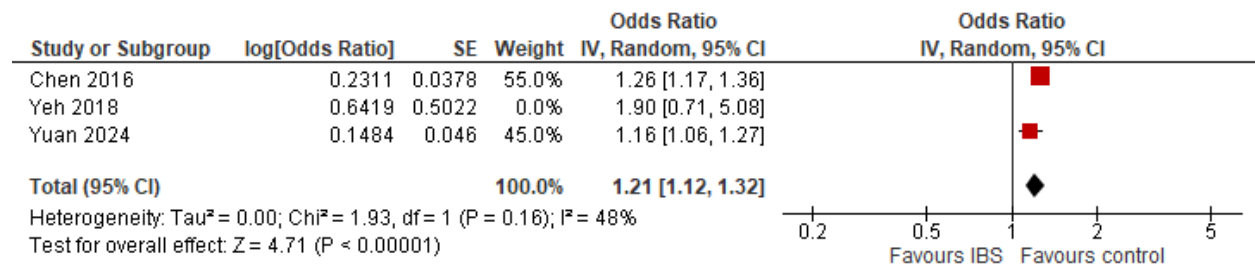
Search date: August 5, 2025.

Supplementary Figure 1. Forest plots for the leave-one-out sensitivity analysis of the primary meta-analysis.

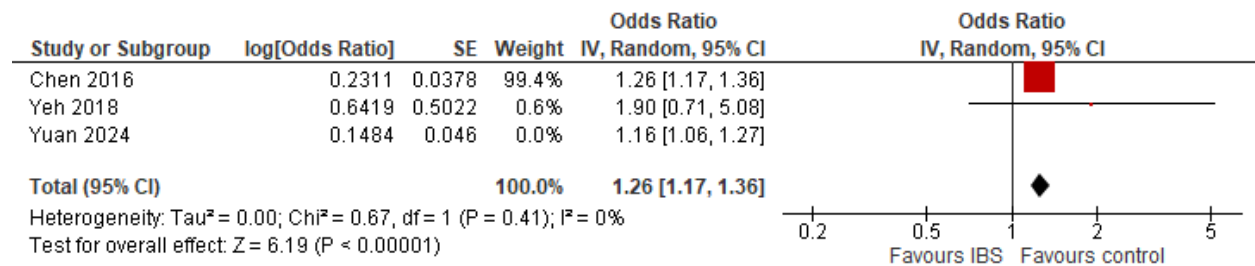
Supplementary Figure 1.1. Sensitivity analysis excluding Chen et al. (2016)



Supplementary Figure 1.2. Sensitivity analysis excluding Yeh et al. (2018)

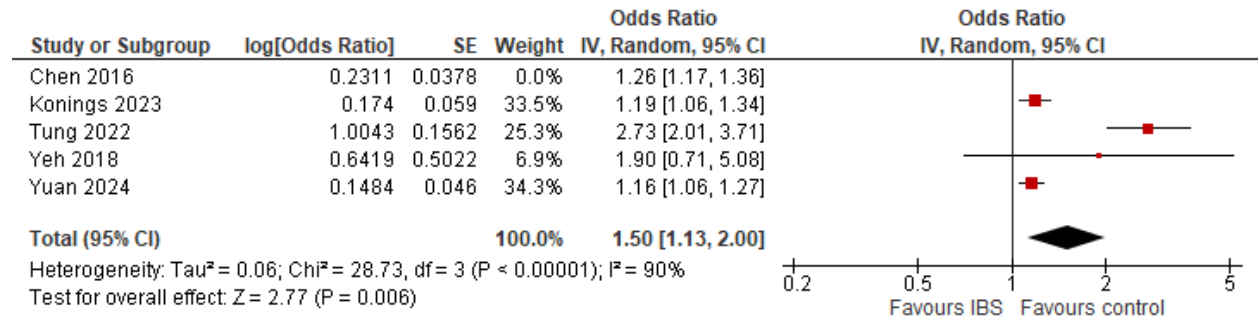


Supplementary Figure 1.3. Sensitivity analysis excluding Yuan et al. (2024)

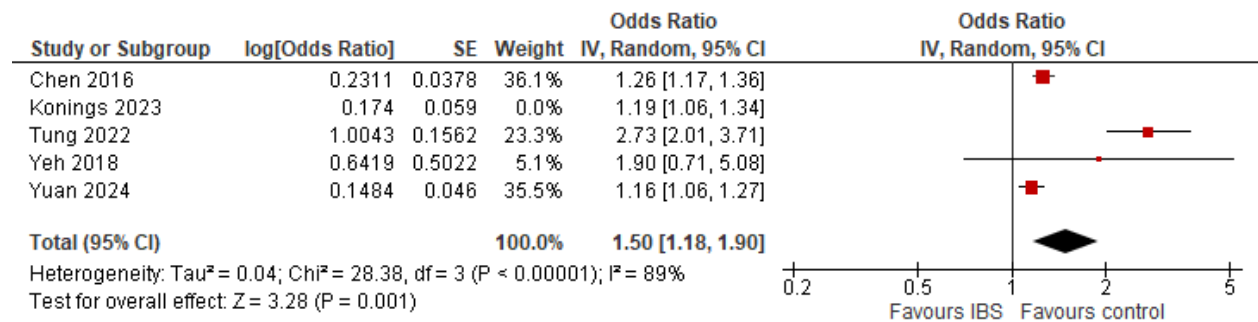


Supplementary Figure 2. Forest plots for the leave-one-out sensitivity analysis of the secondary meta-analysis.

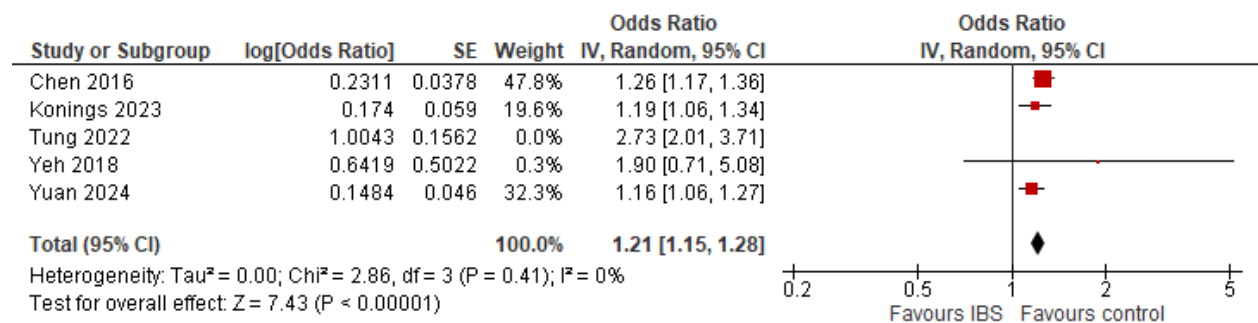
Supplementary Figure 2.1. Sensitivity analysis excluding Chen et al. (2016)



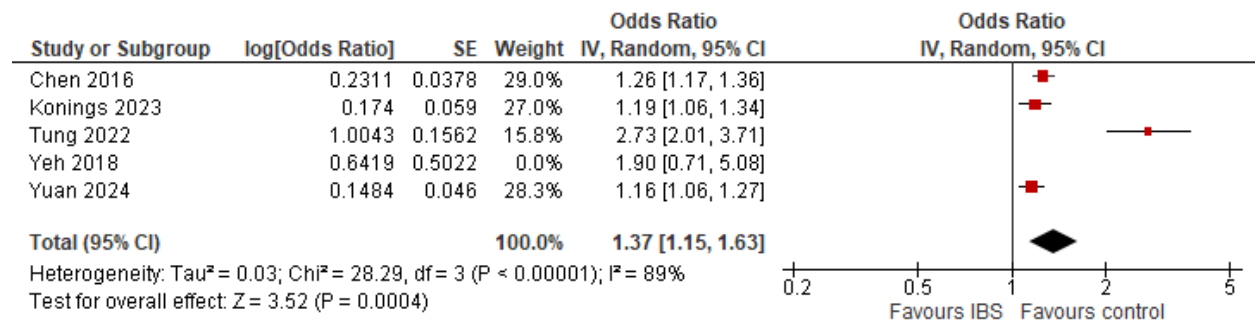
Supplementary Figure 2.2. Sensitivity analysis excluding Konings et al. (2023)



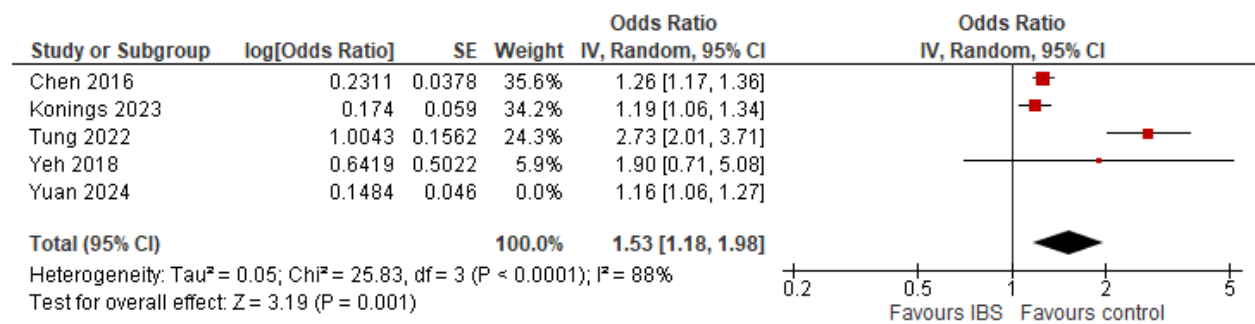
Supplementary Figure 2.3. Sensitivity analysis excluding Tung et al. (2022)



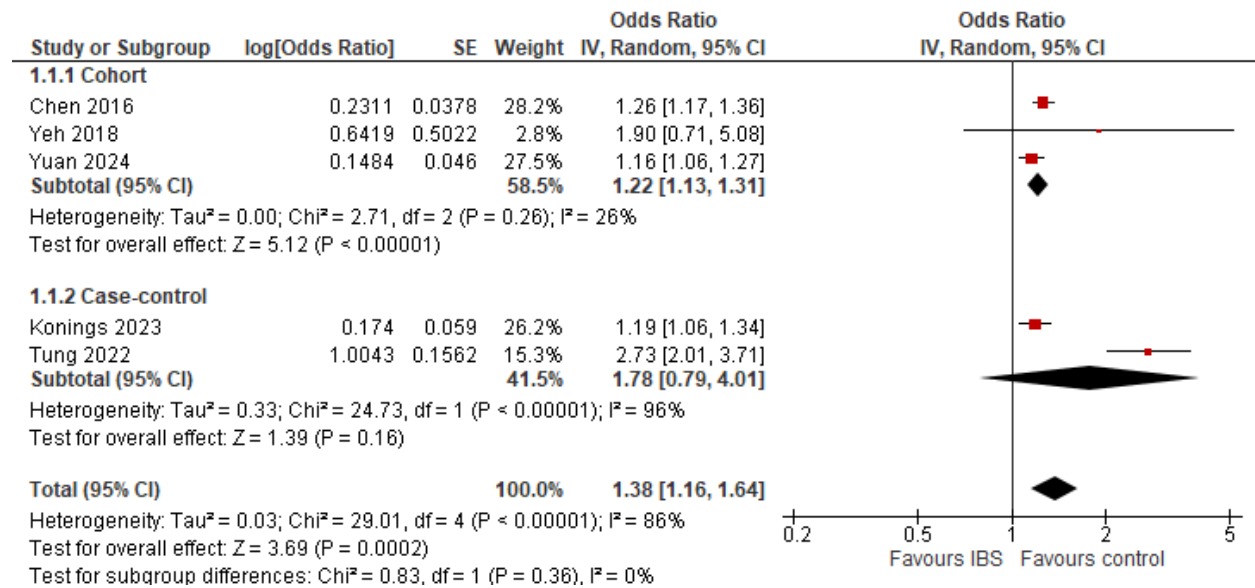
Supplementary Figure 2.4. Sensitivity analysis excluding Yeh et al. (2018)



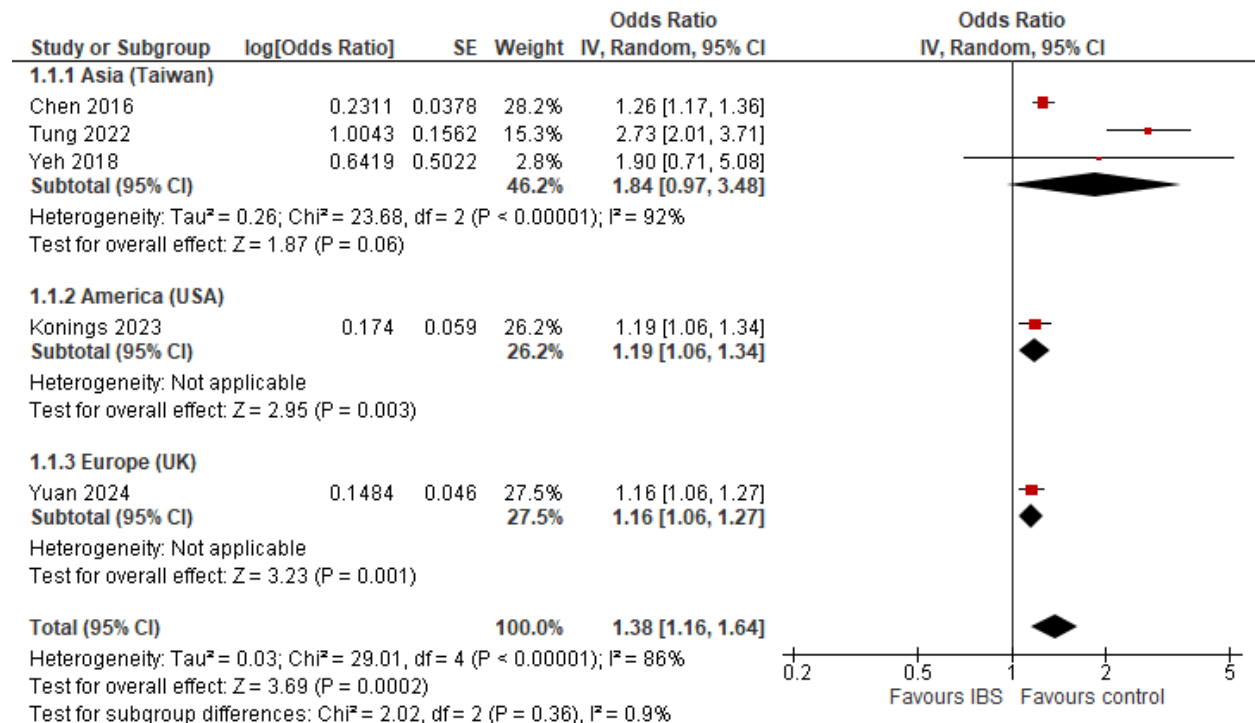
Supplementary Figure 2.5. Sensitivity analysis excluding Yuan et al. (2024)



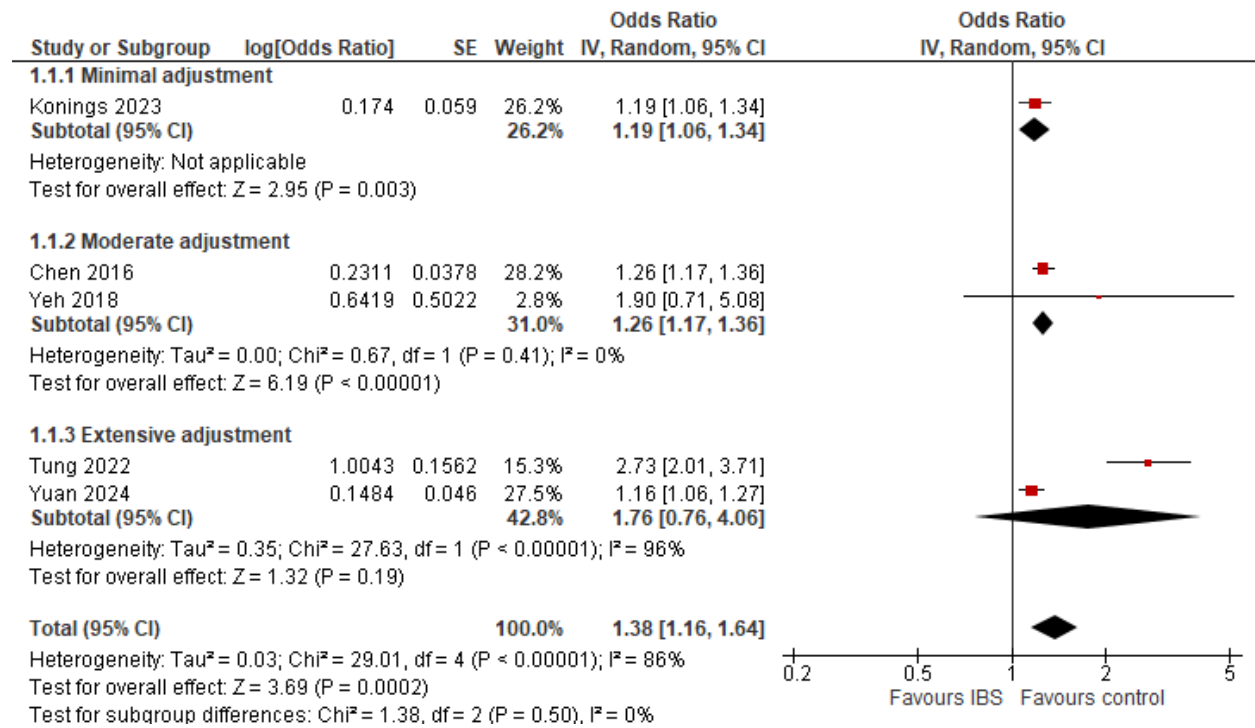
Supplementary Figure 3. Subgroup analysis by study design



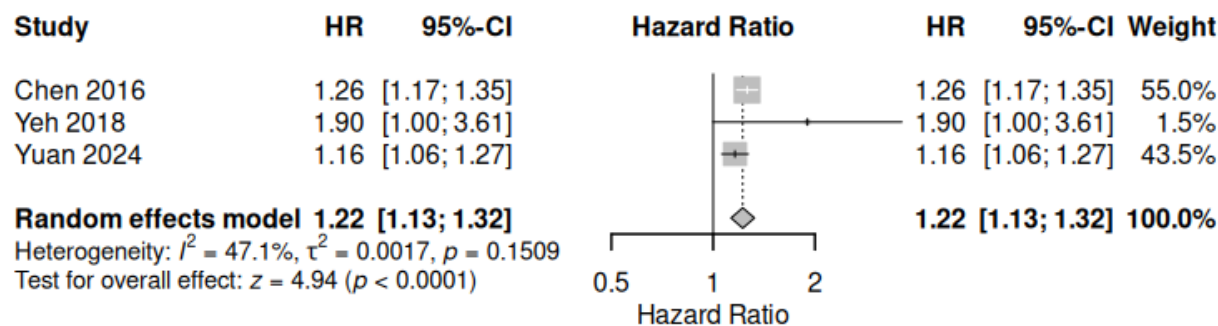
Supplementary Figure 4. Subgroup analysis by geographical region



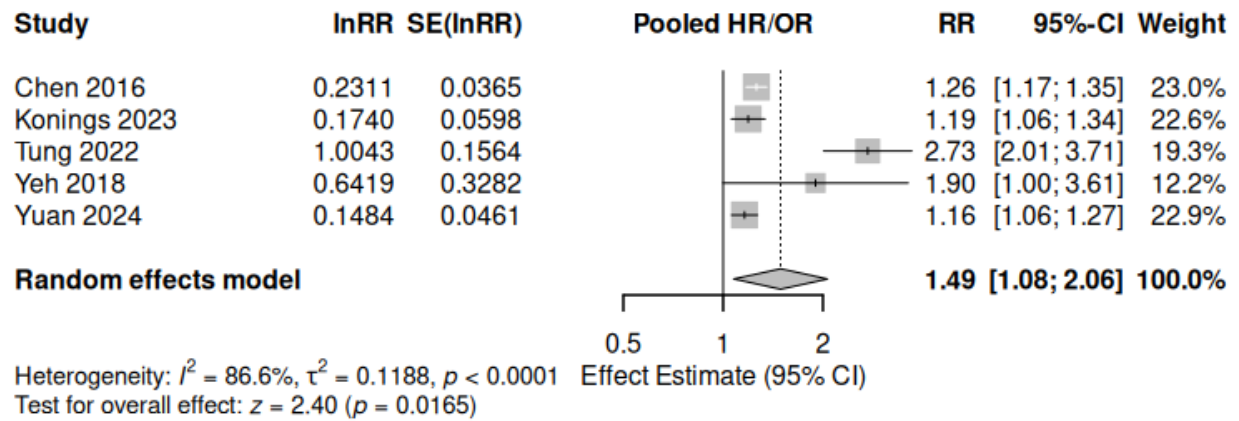
Supplementary Figure 5. Subgroup analysis by depth of adjustment for confounders



Supplementary Figure 6. Forest plot of the association between exclusive IBS and all-cause dementia using the restricted maximum-likelihood (REML) estimator



Supplementary Figure 7. Forest plot of the association between IBS/FGID and dementia outcomes using the restricted maximum-likelihood (REML) estimator



Supplementary Figure 8. Forest plot of the association between IBS and Alzheimer's disease using the restricted maximum-likelihood (REML) estimator

