

Relationship between Irritable Bowel Syndrome and cancers risk: Systematic review and meta-analysis of Observational studies

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ADMINISTRATIVE INFORMATION**Support** - National Natural Science Foundation of China (82174231, 82474344).**Review Stage at time of this submission** - Completed but not published.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202560048**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 11 June 2025 and was last updated on 11 June 2025.**INTRODUCTION**

Review question / Objective To investigate whether IBS is associated with the risk of cancers and cancer in specific sites among existing observational studies.

Rationale IBS is a prevalent gastrointestinal condition with a significant burden on public health. The potential risk of cancer in IBS patients remains unclear, with previous studies yielding inconsistent results. This systematic review and meta - analysis aims to fill the evidence gap regarding long-term oncologic outcomes in IBS patients.

Condition being studied Irritable Bowel Syndrome (IBS): Functional gastrointestinal disorder with chronic abdominal pain and altered bowel habits (Rome III/IV criteria). Focus on its potential association with long-term cancer risk.

METHODS

Search strategy Databases: PubMed, Embase, Web of Science (inception to May 2024).

Terms:

("irritable bowel syndrome" OR "IBS") AND ("tumor" OR "neoplasm" OR "cancer")

Filters: No language restrictions; manual reference screening.

Participant or population Adults ≥ 18 years with clinically diagnosed IBS.

Intervention N/A (observational exposure: IBS diagnosis).

Comparator General population without IBS.

Study designs to be included Cohort and case-control studies.

Eligibility criteria Observational studies reporting adjusted HR/OR with 95% CI for IBS-cancer association.

Exclusion:

Reviews, animal studies, conference abstracts, duplicates.

Information sources Electronic databases (PubMed/Embase/Web of Science), manual reference checks, supplementary data requests to authors.

Main outcome(s) Primary: Pooled hazard ratio (HR) for cancer risk.

Secondary: Site-specific cancer risks (colorectal, liver/biliary, pancreatic, kidney).

Data management Data extracted independently by two reviewers using Excel; disagreements resolved via consensus or third reviewer.

Quality assessment / Risk of bias analysis Newcastle-Ottawa Scale (NOS) for cohort studies; scores ≥ 7 deemed high quality.

Strategy of data synthesis Fixed - effects or random - effects models based on heterogeneity assessment.

Subgroup analysis By age (≥ 45 years), gender (male and female), and cancer type.

Sensitivity analysis Excluding individual studies to assess the stability of results.

Language restriction No language restrictions.

Country(ies) involved China.

Other relevant information Not applicable.

Keywords Irritable bowel syndrome; Cancers; Meta-analysis; Colorectal cancer; Risk factor.

Dissemination plans Publish in a peer-reviewed journal.

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