INPLASY

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Global Burden and Risk of Upper Gastrointestinal Cancer Associated with Smoking Across Histological Types and Subsites: A Population-Based Study, Systematic Review, and Meta-Analysis

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ADMINISTRATIVE INFORMATION

Support - Not available.

Review Stage at time of this submission - Data extraction.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202480096

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 21 August 2024 and was last updated on 21 August 2024.

INTRODUCTION

𝓡eview question / Objective To elucidate the impact of smoking on diverse subtypes and their respective trends.

Condition being studied Esophageal and gastric cancer, which are refered as upper gastrointestinal cancer.

METHODS

Participant or population Cancer patients and controlled population, with or without smoking exposure(current or former).

Intervention No intervention is involved.

Comparator No comparator is involved. Contolled group is defined as population without smoking history.

Study designs to be included Case control studies and cohort studies.

Eligibility criteria Inclusion criteria: 1) The smoking status was ascertained, and the association between smoking and cancer risk was quantified using odds ratios (ORs), risk ratios (RRs), hazard ratios (HRs), or a format enabling estimation of relative risk.; 2) case-control studies or cohort studies; and 3) If multiple reports on the same study population existed, only the most updated report with the longest follow-up period was included.
Exclusion criteria were set as 1) Studies that included data from specific study populations (e.g., pregnant, hereditary carcinoma, or patients with other specific chronic diseases (like comorbidity with DM) solely; 2) Studies exclusively conducted in cancer patients who had undergone surgery or chemoradiotherapy; 3) Not using non-smoker as the reference; 4) Special study types: reviews or systematic reviews, conference papers, editorials, case reports, and animal experimental studies.

Information sources PubMed, MEDLINE, and EMBASE.

Main outcome(s) We included studies up to August 1st, 2024, extratced risk ratio reported in each included study.

Quality assessment / Risk of bias analysis The Newcastle-Ottawa Scale was employed to assess the risk of bias.

Strategy of data synthesis Random effects (Der-Simonian and Laird's method) or fixed effects model (Inverse variance method) to compute the pooled risk ratios, and their 95% CI based on the heterogeneity. The statistical heterogeneity across studies was evaluated using Cochran's Q test, along with the I2 statistic, which quantifies the proportion of total variation in study estimates attributable to heterogeneity.

Subgroup analysis Smoking status, WHO regions, and study periods.

Sensitivity analysis High between-study heterogeneity was investigated using a "leave one out" method for sensitivity analysis.

Language restriction No restriction.

Country(ies) involved Hong Kong/The University of Hong Kong.

Keywords Upper gastrointestinal cancer; smoking; disease burden.

Contributions of each author
Author 1 - Yunhao Li - Data extraction, draft the manuscript.
Author 2 - Wai Keung Leung - Provided statistical expertise and scrutinize the manuscript.