INPLASY PROTOCOL

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Corresponding author:
Zhe Zhang

1140822988@qq.com

Author Affiliation:
Sichuan Hospital of Chuanbei Medical College, Nanchong City, Sichuan Province.

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Conflicts of interest:
None declared.

The use of coffee to decrease the Incidence of Postoperative Ileus: a systematic review and meta-analysis

Zhang, Z[1]; Ren, JG[2]; Guo, JL[3]; An, L[4]; Li, S[5]; Zhang, ZC[6]; Chen, Y[7]; Liu, H[8]; Lei, X[9].

Review question / Objective: **Review question:Does coffee consumption after abdominal surgery reduce the incidence of Postoperative ileus and promote recovery of gastrointestinal motility compared to controls? Objective: use the systematic review and Meta-analysis to evaluate the efficacy and safety of drinking coffees in the treatment of Postoperative ileus, providing a reference and basis for clinical application.**
Condition being studied: **Postoperative ileus (POI) is a common postoperative complication that causes considerable burden to individuals, families, and society. Currently, coffees consumption is considered to be beneficial in the treatment of POI, yet controversy still exists. Therefore, the purpose of this study was to evaluate the efficacy and safety of coffees consumption in the treatment of POI through a systematic review and Meta-analysis, and to provide a reference and basis for clinical application.At present, we have conducted a preliminary literature search in various databases and have de-duplicated all literature.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 26 September 2021 and was last updated on 26 September 2021 (registration number INPLASY202190095).

INTRODUCTION

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METHODS

Search strategy: The search was conducted using subject terms plus free words:coffee[Mesh] OR Caffeine OR Chicory OR Coffea AND Ileus[Mesh] OR bowel paralysis OR paralytic ileus OR IntestinalObstruction.

Participant or population: Patients diagnosed with Postoperative ileus.

Intervention: The experimental group used coffee consumption as an intervention.

Comparator: While the control group did not limit the intervention.

Study designs to be included: Only published randomized controlled trials.

Eligibility criteria: Inclusion criteria: ①The study population was patients diagnosed with postoperative ileus; ②The experimental group used coffee consumption as an intervention, while the control group did not limit the intervention; ③At least one statistically available outcome indicator; ④Randized controlled experiment.

Information sources: We will carry out a literature search in Cochrane Library, Web of Science, PubMed, Embase, web of science, China Biomedical Literature Database (CBM), China Knowledge Network (CNKI), Chinese Scientific Journal Database (VIP), Wanfang Database

Main outcome(s): The primary outcome was time to first flatus and time to first defecation.

Additional outcome(s): Secondary outcomes were time to first bowel sounds or sensation of bowel movement (BM), time to tolerance of solid food(the absence of nausea/vomiting and/or lack of nasogastric tube [NGT] placement), length of total and postoperative hospital stay(LOS), type and rate of complications, cost, and adverse effects of coffee consumption.

Data management: Two authors (Z-ZC and L-S) will independently generate a table to complete the data extraction. The data extraction table includes the name of the first author, year of publication, sample size, intervention, outcome, allocation concealment, randomization, selective reporting, blinding, completeness of outcome data, and subject characteristics (age, sex, duration of disease, and literacy). If the results of data extraction differed, they were discussed or submitted to a third person (R-JG) for adjudication. If the required data were lacking, the authors of the article would be contacted to obtain relevant information, and if data were still not available, studies with missing data would be excluded.

Quality assessment / Risk of bias analysis: Two authors (G-JL and A-L) assessed the quality of the included studies using the assessment tools described in the Cochrane Handbook for Systematic Reviews of Interventions; all studies were assessed as low, unclear, or high risk of bias in six areas: ①random sequence generation (selection bias), ② allocation concealment (selection bias), (iii) blinding of participants and personnel (performance bias), (iv) incomplete outcome data (attrition bias), and (v) If there is disagreement, they will discuss it or refer it to a third party (Z-Z).

Strategy of data synthesis: Review Manager (V.5.3,Www.cochrane.org) will be used. The relative risk will be used to analyse dichotomous risk. The fixed-effects

model will be used to combine the data if the statistical heterogeneity is low (P≥0.1 and I2≤25%), or a random-effects model will be used if the statistical heterogeneity is high (P50%). The mean difference (MD) with 95% CI will be used for the continuous variables, and standardised MD and 95% CI will be used for the continuous variables if the units are different.

Subgroup analysis: If the included studies show obvious clinical heterogeneity, subgroup analysis will be conducted according to clinical characteristics. In this study, we will conduct subgroup analysis according to the gender and age of patients, type of surgery, country, type of coffee and so on.

Sensitivity analysis: This study will carry out sensitivity analysis by changing the effect indicators, statistical model, and deleting each included study one by one to verify the stability of the study results. If different conclusions are reached, the results of the meta-analysis are carefully obtained by discussion between the two authors (ZZ and LX) or by evaluation by a third person (R-JG).

Language: No language restrictions.

Country(ies) involved: China.

Keywords: coffee; abdominal surgery; postoperative ileus; postoperative bowel function; meta-analysis.

Contributions of each author:

Author 1 - Zhe Zhang.
Email: 1140822988@qq.com
Author 2 - Jigang Ren.
Email: 1048521058@qq.com
Author 3 - Jinlian Guo.
Email: 1541265479@qq.com
Author 4 - Lin An.
Email: 2270166012@qq.com
Author 5 - Shaung Li.
Email: 1663104255@qq.com
Author 6 - Zichen Zhang.
Email: 1977830752@qq.com
Author 7 - Yan Chen.
Email: 1487914083@qq.com
Author 8 - Hui Liu.
Email: 431383274@qq.com
Author 9 - Xiao Lei.
Email: 2909965160@qq.com