

A systematic review comparing the role of chewing gum in preventing postoperative ileus in patients undergoing caesarean section

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Background

- Postoperative ileus (POI) refers to severe constipation and intolerance of oral intake resulting from a non-mechanical insult that disrupts the normal coordinated propulsive motor activity of the gastrointestinal tract.
- Because of the discomfort, prolonged length of hospital stay, and increased cost of treatment, each occurrence of POI is estimated to cost \$5000–\$10,000 or a total of \$1 billion per year in the United States of America.
- The incidence of POI after gynaecological surgery ranges from 5 to 25%, with the mean incidence being 10–15%.
- Chewing gum (CG) has recently been used as a form of sham feeding to stimulate the acceleration of gut function after abdominal surgery, leading to both humoral and nervous stimulation of bowel motility. This response occurs after chewing to prepare the gut for food.
- Studies have reported conflicting results regarding the effectiveness of CG for the prevention of POI. In addition, insufficient data are available on reduced rate of clinical complications or reduced cost.

Objective

- The objective of this study was to systematically analyse the published randomised controlled trials examining the effectiveness of CG in preventing POI in women undergoing caesarean sections (C-sections).

Methods

- Relevant, prospective, randomised controlled trials (irrespective of type, language, blinding, sample size, or publication status) on the use of postoperative gum chewing following C-sections, indexed prior to March 2013, were included in this meta-analysis.
- The Cochrane Pregnancy and Childbirth Group Controlled Trial Register, the Cochrane Central Register of Controlled Trials (CENTRAL) in The Cochrane Library, Medline, EMBASE, and Science Citation Index Expanded were searched through March 2013 using the medical subject headings (MeSH) terms “chewing gum”, “caesarean section”, and “postoperative ileus”. The “related article” function was used to widen the search criteria.
- Two of the present authors independently identified the relevant studies for inclusion, extracted data related to the outcomes, and secured data on a Microsoft Excel spreadsheet. There were no conflicts regarding the relevant studies and data extracted by authors.
- The software package RevMan 5.2, provided by the Cochrane Collaboration, was used for analysis. The odds ratio (OR) with a 95% confidence interval (CI) was calculated for binary data variables. The summated outcome of the continuous variables was expressed as a standardised mean difference (SMD).

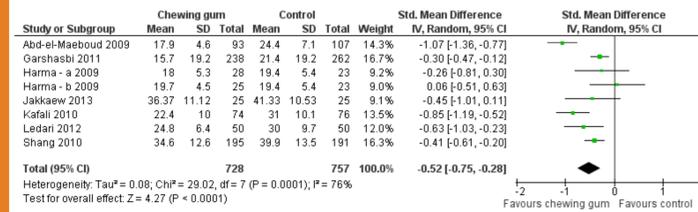
Results

- Seven randomised controlled trials evaluating 1462 women allocated to a CG group or a control (C) group for reporting the role of CG in the prevention of POI following C-sections were retrieved from electronic databases. There were 728 women in the CG group and 734 women in the C group.

Results

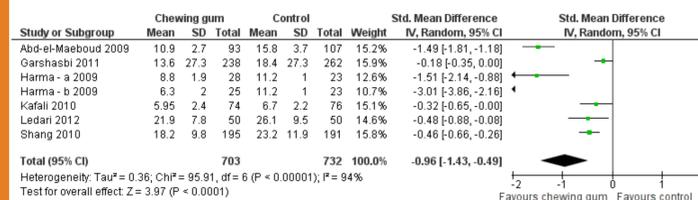
Time to first flatus

CG reduces the time to first flatus.



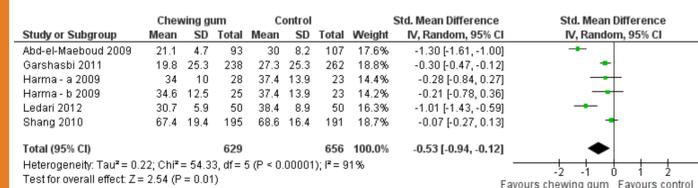
Time to first bowel sounds

CG reduces the time to first bowel sounds.



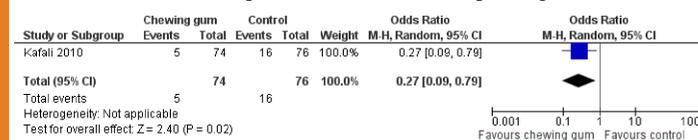
Time to first defecation

CG reduces the time to first defecation.



Requirement of enemas for flatus

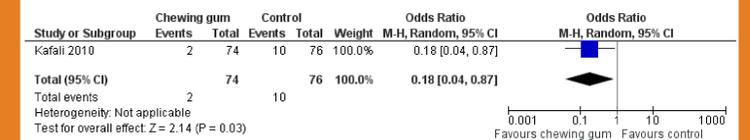
CG reduces the requirement of enema for passing flatus.



Results

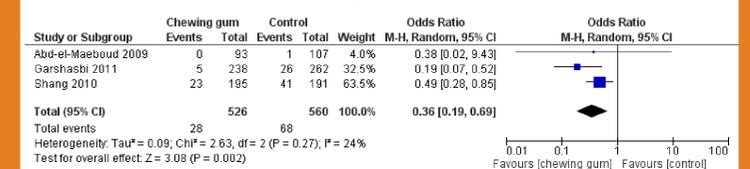
Requirement of antiemetics

CG reduces the requirement for antiemetics.



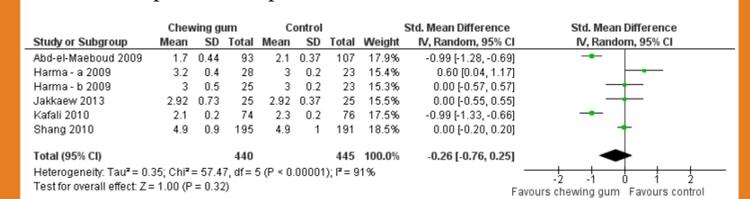
Postoperative ileus

CG reduces the risk of postoperative ileus.



Length of hospital stay

The hospitalisation period for CG is similar to C.



Conclusion

- The findings of this review suggest that CG is effective for shortening the time to first flatus, time to first bowel sounds, and time to first defecation following C-sections. In addition, it reduces the requirement for enemas and antiemetics. The use of CG in women undergoing C-sections also reduces the risk of POI, but does not affect the length of hospitalisation.