The treatment of chronic constipation in adults: a systematic review

Tramonte S M, Brand M B, Mulrow C D, Amato M G, O'Keefe M E, Ramirez G

Authors' objectives
To evaluate whether laxatives and fibre therapy improve symptoms and bowel movement frequency in adults with chronic constipation.

Searching
The following sources were searched: MEDLINE from 1966 to 1995 (the search terms are given), Biological Abstracts, a drug information service, and bibliographies from articles and textbooks. Laxative manufacturers in North America and experts were also contacted. Only English language studies were included.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs) were included.

Specific interventions included in the review
Bulk, stimulant, osmotic and softening (surfactant) laxatives. Specific treatments included in the review were psyllium, ispaghula, bran, prucara, lactulose, lactitol, propylethylene glycol, docusate sodium, docusate calcium, cisapride, senna, agiolax, lunelax, calcium polycarbophil, methylcellulose, magnesium hydroxide, laxamucil, sorbitol, dorbanex and sodium picosulphate.

Participants included in the review
Patients with a constipation for a minimum of two weeks, whose constipation was treated for a minimum of one week. Patients from special populations, such as peripartum and tube-fed patients, were excluded.

Outcomes assessed in the review
Mean bowel movement frequency per week; symptom improvement, and reduction in abdominal pain; need for breakthrough laxatives; and stool consistency. Not all trials included assessment of all of these outcomes.

How were decisions on the relevance of primary studies made?
Two independent reviewers selected the papers for the review.

Assessment of study quality
Validity was assessed using a 6-point scale assessing inclusion and exclusion criteria, randomisation method, whether adverse effects were assessed in a standardised fashion, double-blinding, description of withdrawals, and statistical analysis. These criteria were used in the overall narrative summary of the studies. Two independent reviewers performed the validity assessment.

Data extraction
Two independent reviewers extracted the data for the review.

Methods of synthesis
How were the studies combined?
The studies were combined by a narrative review, and also statistically by calculating an overall weighted average for the bowel movement frequency data.

How were differences between studies investigated?
Differences between the studies were investigated by a narrative review.

**Results of the review**

Thirty-six trials were identified which met the inclusion criteria. These included a total of 1,815 participants.

Twenty trials compared treatment to a placebo, usual care, or discontinuation of laxative control group. Sixteen trials directly compared different treatments.

**Bowel movement frequency results:** laxatives and fibre increased bowel movement frequency by an overall weighted average of 1.4 (95% confidence interval, CI: 0.6, 2.2) bowel movements per week. The trials evaluating agents other than bulk laxatives showed a mean increase with treatment of 1.5 bowel movements per week (95% CI: 1.1, 1.8).

**Need for additional laxatives:** the trials reporting on breakthrough laxative use showed that patients assigned to treatment had less need for such laxatives than control patients.

**Symptoms:** fibre and bulk laxatives decreased abdominal pain and improved stool consistency compared with placebo. Most nonbulk laxative data concerning abdominal pain and stool consistency were inconclusive, though cisapride, lactulose, and lactitol improved consistency. The data concerning superiority of various treatments were inconclusive.

Two trials assessing general well-being showed no significant group differences between treatments.

**Side-effects:** no severe side-effects were reported for any of the therapies.

**Authors’ conclusions**

Fibre and laxatives modestly increase bowel movement frequency, while fibre and bulk laxatives improve symptoms such as stool consistency and pain. There is too little evidence to determine whether one laxative treatment is better than another.

**CRD commentary**

This is a good quality review that highlights the lack of research into the treatment of this common problem.

**Implications of the review for practice and research**

**Practice:** Laxatives and fibre appear to work better than placebo, but since there is so little research in this area, it is impossible to determine what the most appropriate treatment is for different types of patient (e.g. mobile versus immobile patients), or what type of laxative is most effective. There appears to be little indication that pharmacological laxatives are much more effective than simple treatments such as fibre and dietary interventions. This would suggest that a first-line of approach to treatment would involve dietary interventions, followed by treatment with pharmacological laxatives if this proved ineffective.

**Research:** There is a real lack of research into treatment of constipation. In particular, trials are required comparing different types of laxative therapy. In the UK at least, expensive stimulant laxatives are widely used, though there appears to be little evidence that these are more effective than cheaper alternatives. Trials comparing the more expensive treatments to cheaper laxatives are therefore indicated. This would allow the effectiveness and cost-effectiveness of different treatments to be established. Finally, many of the published trials have been statistically underpowered, and therefore, lack the power to detect differences between treatments if they existed. Future trials should be of adequate size and methodologically sound (e.g. double-blinded, with standardised assessment of adverse effects, and properly randomised).

**Bibliographic details**

PubMedID
9034942

Other publications of related interest
This additional published commentary may also be of interest. A stranger to the lavatory. Bandolier 1998;48:8.

Indexing Status
Subject indexing assigned by NLM

MeSH
Adult; Aged; Cathartics /therapeutic use; Chronic Disease; Constipation /therapy; Dietary Fiber /therapeutic use; Female; Humans; Male; Middle Aged; Randomized Controlled Trials as Topic

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.