How useful is docusate in patients at risk for constipation: a systematic review of the evidence in the chronically ill

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Authors' objectives
To evaluate the effectiveness of docusate for constipation in chronic illness.

Searching
Searches were conducted of the following sources for articles published after 1940: Cochrane Database of Systematic Reviews, DARE (Issue 3) and Cochrane Controlled Trials Register using the terms 'constipation', 'dioctyl', and 'docusate'; MEDLINE (1966 to April 1997) and CINAHL (1982 to April 1997) using the terms 'constipation' and 'docusate' and 'dioctyl', both as subject headings and textwords, 'doxidan' as a textword, and 'docusate' via its MEDLINE drug registry number. Floating sub-headings for 'drug therapy' and 'prevention and control' were used. Current Contents (August 1996 to April 1997) was searched using the textwords 'docusate', 'constipation', 'chronic' and 'elderly' and the combined term 'dioctyle and constipation'. A handsearch was performed of the following: Index Medicus (1940 to 1965) using the terms 'cathartics', 'constipation', 'docusate' and 'dioctyl', with the substitution of an index comparable in scope to Index Medicus (Current List of Medical Literature) for the years 1957 to 1959 using the same search terms. Only articles containing the name of a drug or titled 'a new treatment/drug' were retrieved. A handsearch was also performed of the following: Palliative Care (Vol 1 to 10); European Journal of Palliative Care (Vol 1 to 3); and Progress in Palliative Care (Vol 1 to 4). Reference lists of all retrieved papers and lists in selected current editions of textbooks in palliative care, gastroenterology, and geriatrics were scanned. Clinical content experts were contacted for help in identifying any unpublished literature. Only studies published in English or French were eligible.

Study selection
Study designs of evaluations included in the review
Prospective controlled trials were eligible. Prospective randomised controlled trials (RCTs) of the following designs were included: crossover; parallel group; and time series with multiple treatment arms. Retrospective study designs, case series and case reports were excluded.

Specific interventions included in the review
Comparisons of oral docusate sodium or docusate calcium with a control treatment were eligible. Duration of docusate treatment ranged from 20 to 26 days and dose for docusate sodium ranged from 60 mg OD to 100 mg BID, and for docusate calcium from 240 mg OD to 240 mg BID. Control therapy consisted of placebo or no treatment. Dose escalation was not practised. Co-interventions included other laxatives (including enemas and suppositories) prescribed for both treatment groups or for the docusate group only. Compound medications containing docusate were excluded.

Participants included in the review
Adults described as chronically ill or in-patients in a chronic care facility and who had pre-existing constipation or risk factors for constipation were eligible. In the included studies, where the prevalence of constipation was reported, patients were either classified as constipated using self-reports or chart stool records. Definitions of constipation included: chronic functional constipation (not defined); patients on some form of bowel medication; and chronic functional constipation and dependent on laxatives. Settings included a free-standing retirement center, a chronic disease hospital, the nursing home unit of a veterans' medical center, and a chronic medical service in a hospital.

Outcomes assessed in the review
Efficacy of treatment was assessed by stool consistency (classified as 1 = watery to 5 = extremely hard; soft, normal or hard; or graded A = watery to E = enema) stool frequency, (mean stools/patient/week), or the use of other laxatives. Patient satisfaction measures were excluded.
How were decisions on the relevance of primary studies made?
The search strategy was devised and executed by a single reviewer. Two unblinded reviewers inclusion independently assessed all potentially eligible studies for inclusion with disagreements resolved by consensus.

Assessment of study quality
Validity was assessed using an instrument developed specifically for drug studies of various designs (see Other Publications of Related Interest no.1). The instrument contains 24 items and scores fall between 0.0 (worst) and 1.0 (best possible score). Two independent unblinded reviewers assessed the validity of eligible and marginally eligible studies with disagreements on scoring individual items resolved by consensus.

Data extraction
Two independent unblinded reviewers extracted the following data using a form designed for the purpose: study identification; demographic data; quality score; methodology; results; conclusions; and comments. Disagreements were resolved by consensus.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative review.

How were differences between studies investigated?
Differences between the studies were discussed.

Results of the review
Four RCTs were included (203 patients were recruited), comprising two placebo controlled randomised cross-over studies, one RCT with untreated control group, and one time series with multiple treatment arms. One marginally eligible trial was also described.

Clinical heterogeneity was present between studies in the chemical forms and dose of docusate used, the risk of constipation, and the outcomes measured. Methodological flaws in the primary studies included: lack of definition of constipation; lack of description of randomisation method; use of other laxative in the docusate group but not in the control group; uneven identification of covariates; variable exclusion criteria; inadequate description of blinding; and lack of wash-out period prior to therapy on one cross-over trial. Validity scores ranged from 0.46 to 0.52. Frequency of bowel movements (4 RCTs): each of the individual studies showed a small trend towards increased frequency of bowel movements with docusate. Stool consistency (two RCTs, 134 patients): small trend towards improved stool consistency noted in both trials. Use of other laxatives (one RCT, 22 patients): laxative use did not differ between treatment groups.

Authors' conclusions
At present, the use of docusate for constipation in palliative care is based on inadequate experimental evidence. Randomised controlled trials with chronically ill patients and patients with advanced disease are needed to determine its role in prevention and treatment of constipation.

CRD commentary
The aims were stated and inclusion criteria defined in terms of participants, intervention, and outcomes. The comprehensive literature search included attempts to locate unpublished studies, though unpublished studies were sought from only one source and the extent of publication bias was not assessed, thus the possibility of publication bias cannot be ruled out. Methods used to select primary studies were described. Validity was assessed using defined methods and scored using a specified instrument though no mention was made in the text of criteria used. Methodological flaws were also discussed in the text. Relevant details of the primary studies were presented in tabular...
format. Given the heterogeneity between studies a narrative review was appropriate. It was not clear whether the terms 'chronically ill' and 'patients receiving palliative care' referred to different patient groups since neither term was specifically defined. Evidence supports the authors' conclusions provided 'palliative care' can be taken to refer to the care given to the 'chronically ill' patients that were the focus of the review.

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

**Practice:** The authors report that, at present, the use of docusate for constipation in palliative care is based on inadequate experimental evidence.

**Research:** The authors report that there is need for a rigorously designed randomised double-blind trial in a well-defined population measuring standardised and clinically relevant outcomes to clarify the role of docusate in the chronically ill.

**Bibliographic details**


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**Other publications of related interest**


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Subject indexing assigned by NLM

**MeSH**

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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.