Bowel preparation at home: prospective study of adverse effects in elderly people
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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

Health technology
Bowel preparation at home for colonoscopy.

Type of intervention
Diagnosis.

Economic study type
Cost-effectiveness analysis.

Study population
Patients undergoing elective colonoscopy (age range: 22 - 86 years).

Setting
The study was carried out at 2 hospitals in London, UK.

Dates to which data relate
Dates of the effectiveness data were not presented. The date of the cost and price data was 1995.

Source of effectiveness data
Effectiveness data were derived from a single study.

Link between effectiveness and cost data
Costing appeared to have been undertaken retrospectively.

Study sample
A total of 165 patients was included in the study. Of these, 83 had bowel preparation with sodium picosulphate, whilst the remaining 82 patients had bowel preparation using polyethylene glycol. No power calculations were reported.

Study design
This was a prospective cohort study carried out at two hospitals. The duration of follow-up was three months. No loss to follow-up was reported.

Analysis of effectiveness
Analysis was based on intention to treat. The primary health outcomes were the severity of (nine) side-effects, and
colonoscopist’s satisfaction. The former data were collected by means of a questionnaire, whereas the latter were
derived from a retrospective audit of colonoscopy reports. The groups were shown to be comparable in terms of age
(mean age 60 years), and sex.

**Effectiveness results**
The mean side effect score was 2.9 (out of 18 (maximum severity) for each of the nine categories included) in the
sodium picosulphate group, and 3.8 in the polyethylene glycol group (p<0.001). The linear analogue scores favoured the
sodium picosulphate group with 7.8 against 6.3 for polyethylene glycol (p<0.001). Three patients in the sodium
picosulphate and 2 in the polyethylene glycol group were rated by the colonoscopist as having an inadequate preparation
(p>0.05).

**Clinical conclusions**
Patients using the sodium picosulphate regimen rated their treatment more favourably, and were more likely to
complete their course. Clinically there was no difference with regard to adequacy of bowel preparation.

**Measure of benefits used in the economic analysis**
Two measures of benefit were used:

1. the adequacy of bowel preparation as rated by a colonoscopist, in a retrospective audit of colonoscopy reports, and
2. tolerability as reported by patients.

The tolerability estimates were obtained by means of a questionnaire asking patients to rate nine side effects from a
scale of zero to 2 each (maximum achievable severity, 18), and by an overall favourability rating on a visual analogue
scale.

**Direct costs**
Quantities of resource use were not reported separately from the costs which included only the medication acquisition
costs incurred by the bowel preparation. These figures were obtained from the 1995 British National Formulary, and no
discounting was reported. No additional costs or details were provided.

**Currency**
UK pounds Sterling (¥).

**Sensitivity analysis**
No sensitivity analysis was performed.

**Estimated benefits used in the economic analysis**
The sodium picosulphate group was associated with a lower mean side-effect score (2.9 versus 3.8; p<0.001). The linear
analogue score difference was 1.5 units in favour of the sodium picosulphate strategy (p<0.001).

**Cost results**
The acquisition costs of sodium picosulphate were reported as 0.59, whereas those for polyethylene glycol were 8.60.

**Synthesis of costs and benefits**
Since the sodium picosulphate option was the dominant strategy, costs and benefits were not combined.
Authors' conclusions
Patients preferred sodium picosulphate, and failure to complete therapy was higher with polyethylene glycol. As both preparations were satisfactory for colonoscopy the authors stated that they would recommend sodium picosulphate. Significant cost savings could result.

CRD COMMENTARY - Selection of comparators
The authors did not state a specific reason for the choice of comparators. Bowel preparation at home using sodium picosulphate was compared with the same procedure using polyethylene glycol, for patients undergoing elective colonoscopy.

Validity of estimate of measure of benefit
The validity of the study results may be questionable given the potential selection biases arising from the non-randomised design used. No power calculations were reported to determine the group sizes and the study did not control for possible confounding factors.

Validity of estimate of costs
The cost analysis was very limited in scope, given that only acquisition costs associated with the drugs employed in the bowel preparation process were included in the costing. Furthermore, the authors did not clearly report quantities of resource use.

Other issues
As the authors pointed out, there are other studies that indicate that polyethylene glycol treatment may give better results. This study must be put in the context of that evidence. The conclusions reached by the authors may not be fully justified given the uncertainties in the data. The issue of the generalisability of the results was not addressed and adequate comparisons with other research were not made. The results relating to the cost analysis were not adequately presented.

Implications of the study
Further studies are necessary in order to state validly the cost-effectiveness of bowel preparation at home using either of the two medications investigated by the present study. A randomized study design might be desirable for that purpose.

Source of funding
None stated.

Bibliographic details

PubMedID
8819444

Original Paper URL
http://www.bmj.com/content/313/7059/727

Other publications of related interest