

# Bowel Prep: Nurses Do It Better

João Pereira da Silva

Gastroenterology Department, Instituto Português de Oncologia de Francisco Gentil de Lisboa, Lisbon, Portugal

## Keywords

Bowel preparation · Patient education · Nurse

## Preparação na Colonoscopia: As Enfermeiras São Melhores

## Palavras Chave

Preparação intestinal · Educação do doente · Entrevista

Optimal colon preparation is one of the most important factors in quality colonoscopy, as it has been shown to influence cecal intubation rates, procedure duration, and adenoma detection rates.

Most of the research in this area has focused on what preparation to give patients or how to administer them; current evidence overwhelmingly points to a superiority of split-dosing bowel prep over day-before regimens [1], and a short interval between the last dose and exam time has been shown to be the most important variable in adequate preparation. However, a growing amount of evidence shows that the way we tell patients to do their preparation is also an important factor.

As the authors point out, several interventions have been tested in an attempt to improve bowel preparation, including physician-delivered 10-min education sessions, visual aids, educational videos, and phone apps.

The results of these trials have been summarized in 2 recent meta-analyses [2, 3]; these show a statistically significant benefit in bowel preparation in all patient groups receiving an enhanced instruction, independently of the

type of preparation or dosing schedule. Significantly, this has not translated in an improved adenoma detection rate (ADR) or reduced need of colonoscopy [3].

Elvas et al. [4] have conducted a single-center, prospective randomized trial with a simple intervention: a 20-min interview with a nurse, where issues regarding diet and the right way to take bowel preparation were discussed; the control group was handled by the standard procedure in most endoscopy units: a brief discussion with the assisting physician and written instructions. Patients were consecutively recruited between 2008 and 2011 in a single center; colonoscopies were performed by 2 experienced endoscopists, and an effort was made to standardize classification before the start of the study. The authors were also careful in blinding endoscopists to group allocation. The authors report a positive trial, as the intervention group was shown an “adequate” preparation in 62% of patients, whereas in the control group just 35% had an “adequate” preparation, using the Aronchick scale; these results translate in an absolute risk reduction of 27% and a number needed to treat (NNT) of 4, an impressive result that has to be taken with a grain of salt.

As the authors acknowledge in the Discussion, the rate of “inadequate” preparations both in the control group and in the precedent survey of the unit is extraordinarily high and deserves closer scrutiny: the bowel preparation is, by today’s standards, a suboptimal one (PEG 4 L the day before), and, importantly, the authors decided to rank “fair” preparation as an “inadequate” one. A recent meta-analysis by Clark et al. [5] has shown no difference in ADR between high- and intermediate-quality preparation, and most other studies have considered “fair” preparations an adequate preparation. In this study, 34% of

the control population and 33% of the intervention had a “fair” preparation; these 2 methodological biases led to an exceptionally high level of “inadequate” bowel preparation. By increasing the number of inadequate preparation, the effect size of the intervention was increased: a split-dose regimen and including “fair” preparations in the “adequate” group would have led to a lower level of “inadequate” preparation in both groups, leading to a lower absolute risk reduction and an increased NNT. Last, but not least, the authors chose the Aronchick preparation scale; this is a less well-validated scale [6], with a lower interobserver agreement than the Boston, Ottawa, or Chicago preparation scales and, by design, does not permit liquid aspiration before scoring.

One way to circumvent one of these flaws is to look to the “poor” results: this takes the second bias out of the equation, leaving just the suboptimal preparation as a confounder; a clear benefit is seen here, as 20% of the control population had a poor preparation, whereas in the intervention group it was just 3.4%. This translates in an absolute risk reduction of 16.6%, which would result in a still remarkable NNT of 6.

Considering the suboptimal bowel preparation used, one would hypothesize that the actual benefit could have been smaller, but probably not by a large margin. A net benefit of the intervention is clear, and several other prospective studies have replicated these results in the last few years [2, 3, 7, 8].

Also interesting, and food for thought, is the subgroup analysis identifying populations showing the greatest benefit from the intervention.

Risk factors for inadequate bowel preparation were not surprising: diabetes and chronic constipation are common known factors for inadequate bowel preparation [9].

The results for intervention benefit are more interesting, as they show greater benefit in the urban living, higher education, male, and young patients. The authors tried to explain these findings suggesting less concern regarding health issues in the young male population and an unduly confidence in the urban, higher-educated population regarding their ability to undergo colon preparation. This might not be the right way to look at the results, as control groups in both high- and low-educated patients had similarly low bowel preparations, and the intervention resulted in better preps in the higher-educated, urban-living population. These results mean an increased susceptibility to the intervention, leading to better results.

In hindsight, this study’s flaws derive from the years that elapsed between study completion and today; patient recruitment started in 2008, and data on split-dosing or bowel preparation scoring were not as clear then as they are today. On the other hand, a solid prospective randomized design with univariate and multivariate regression analyses as a backbone allowed for both a valid conclusion and interesting subgroup conclusions over which population to target with this educational intervention.

Importantly, the authors raise the issue of cost-effectiveness of the intervention, conceding that they have not performed a formal analysis. This is a valid question, and one that will remain unanswered for now; as budget constraints, increasing patient age, and growing referral due to screening programs strain existing resources, the issue of cost-effectiveness and maximization of potential benefit of an invasive procedure will inevitably come into prime time. The authors are to be congratulated both on their well-designed study and for their contribution in an ever more pressing matter.

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