Efficacy of a shorter bowel prep regime trialled during constraints from COVID19

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Background

Bowel preparation remains a significant barrier for patients who need to undergo colonoscopy and is recognised by children as the most difficult aspect of the colonoscopy process. It involves taking medications usually stimulant and osmotic laxatives to empty and clean the colon. Inadequate bowel preparation can lead to increased procedural times, lower caecal intubation rates, and the need for repeat colonoscopy (1). Therefore, effective bowel preparation is essential for both diagnostic and therapeutic measures.

Practice across paediatric units providing colonoscopy is not uniform regarding the total number of days of prep prior to a colonoscopy and the agent(s) used. Data comparing a 2-day regime vs a shorter 1-day regime in children is limited. Restrictions during COVID19 including shielding, need for PCR testing, reduction in theatre capacity led to a re-appraisal of the need for a 2- day bowel prep, which was standard practice until 2020.

Aim

To evaluate the efficacy and safety profile of a shorter 1-day bowel prep regime in children undergoing colonoscopy and compare this to a standard 2-day regime.

Methods

Prospective data was collected on the efficacy of the 2-day regime from Apr to Aug 2019. The two-day regime involved a smaller dose of Senna followed by three doses of Picolax*.

During the COVID 19 pandemic, prospective data was collected (May 2020- Mar 2021) on patients who were prescribed a one-day regime prior to elective colonoscopy. The one-day regime involved taking a high dose of Senna followed by two doses of Picolax* (dose dependent on age).

Table-1 Shows the prescription and timing of bowel prep before performing colonoscopy in the 2-day versus 1-day regime. Colonoscopies occur on morning lists in both cohorts.

Table (1): Prescription and timing of bowel prep in both regime

Regime	2-day Prep	1-day Prep
Prescription	Picolax = 3 doses Senna = 1 dose	Picolax = 2 doses Senna = 1 dose
Timing	2 days pre-colonoscopy: 4 pm : 1x Senna 6 pm: 1x Picolax 1 day pre-colonoscopy: 9 am: 1x Picolax 5 pm: 1x Picolax	1 day pre-colonoscopy: 10 am: 1x Senna 12 pm: 1x Picolax 6 pm: 1x Picolax

Picolax: Magnesium Citrate with sodium Picosulfate, Not applicable for children less than 1 year old*

Assessment of the efficacy of the bowel prep was evaluated by using the Boston Bowel Preparation Scale evaluation (BBPS). The maximum score possible is 9 and a score of ≥2 in all 3 segments is considered optimal for colonoscopy (Fig 1). Evaluation of the bowel prep was carried out by the endoscopist immediately after the procedure (Fig 2).

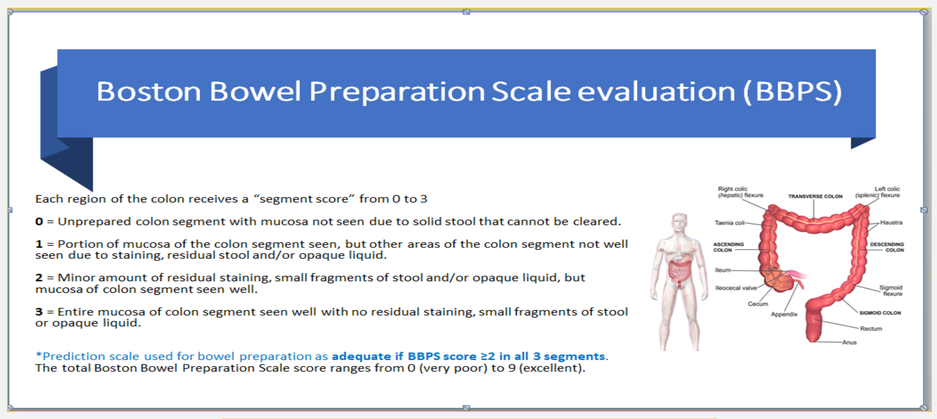


Figure-1

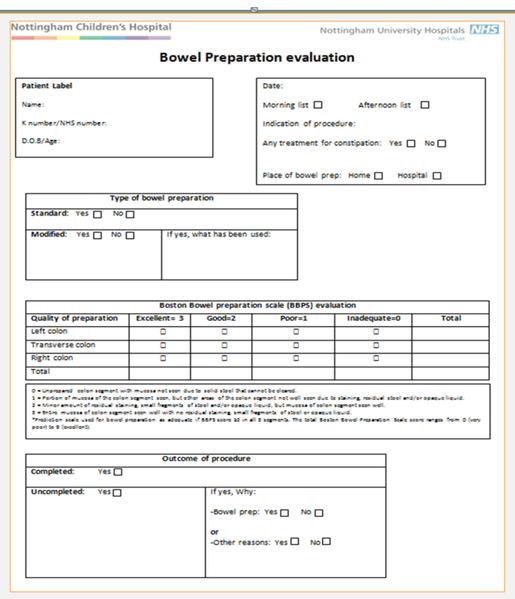


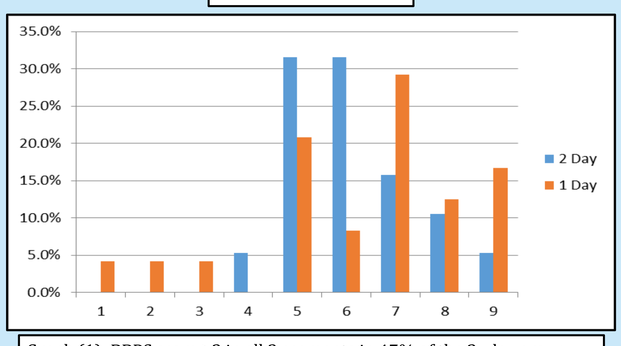
Figure-2

Results

	1- day Bowel Prep	2- day Bowel prep
Total Number	24	19
Date Range	May 2020- Mar 2021	Apr- Aug 2019
Age Range (Years)	4-17	4-16
Mean age (Years)	11.4	11.4
Male : Female	19:5	9:10
Bowel prep at home	21	17
Bowel prep as per protocol	21	17
Treatment for constipation	0	0

Table (2): Baseline characteristics of patients

BBPS score



Graph (1): BBPS score ≥2 in all 3 segments in 47% of the 2 -day group and 67% of the 1-day group

- The median BBPS score in the 2-day regime was 6 and was 7 in the 1-day regime.
- 16/24 patients (67%) in the one-day group had a BBPS score ≥2 in all 3 segments compared with only 12/19 patients (47%) in the two-day group.
- A cumulative score of 7 or above was achieved in 14/24 (58%) in the 1-day regime compared with only 6/19 (31%) in the 2-day regime
- In each group one procedure could not be completed due to inadequate bowel preparation.
- No adverse effects from the higher dose of senna were seen with the 1-day regime

Conclusion

- The one-day bowel preparation was not inferior to the two-day regime and is probably superior in preparing the large bowel prior to colonoscopy.
- The one-day regime affords better acceptability and reduced disruption to school and work and may be more advantageous for children requiring supervised bowel prep in a hospital setting.
- Further evaluation of the variation in bowel prep regimes and standardisation of paediatric practice is recommended.

References

[1] Lai, E.J., Calderwood, A.H., Doros, G., Fix, O.K. and Jacobson, B.C., 2009. The Boston bowel preparation scale: a valid and reliable instrument for colonoscopy-oriented research. Gastrointestinal endoscopy, 69(3), pp.620-625.

(2) Gordon, M., Harper, V., Thomas, A.G. and Akobeng, A.K., 2012. Bowel preparation for paediatric colonoscopy. Cochrane Database of Systematic Reviews, (7).