



The impact of new Inflammatory Bowel Disease (IBD)-specific materials on patients' preparedness and image quality of MR Enterography (MRE).

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Introduction and Objectives

- Patients find the most unpleasant part of MRE is oral preparation (e.g. mannitol) and repeated breath holds.
- Patients' levels of physical and psychological discomfort can impact compliance
- IBD patients are likely to need multiple MREs so ensuring good compliance is essential
- We compared new patient-focused materials covering these aspects of MRE via an online platform- IBD mate to generic MR information and assessed the impact on patients' preparedness and image quality

IBD Mate

Lesson 10: Having the MRI scan - Patient experience



SUMMARY

Hear from patients about what having an MRI scan on your small bowel is like.

- IBD-Mate is a website and app
- Provides videos regarding MRI scans answering common questions with information from patients and healthcare provider

Methods

- IBD patients with upcoming MRE scans assigned to control (Con) or intervention (Int) cohorts
- Pre and post-scan questionnaire was administered to both groups (included questions surrounding patient feelings and understanding of the scan)
 - Proportion of unanswered questions were compared between the two groups using chi squared test
- MRE images were reviewed by a blinded radiologist for image quality
 - Small bowel distention scored between 0 (very poor distention) and 4 (excellent)
 - Respiratory motion was graded between 0 (significant artefact) and 2 (no artefact)

14. I feel anxious about taking mannitol

Yes, very anxious No, not anxious at all

<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
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15. I expect the MRI to be uncomfortable

Uncomfortable Comfortable

<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
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16. I feel anxious about the scan

Yes, very anxious No, not anxious at all

<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
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17. I understand what the injected contrast agent is

No, do not understand at all Yes, fully understand

<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
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18. I understand why I need to have injected contrast agent

No, do not understand at all Yes, fully understand

<input type="radio"/> 1	<input type="radio"/> 2	<input checked="" type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
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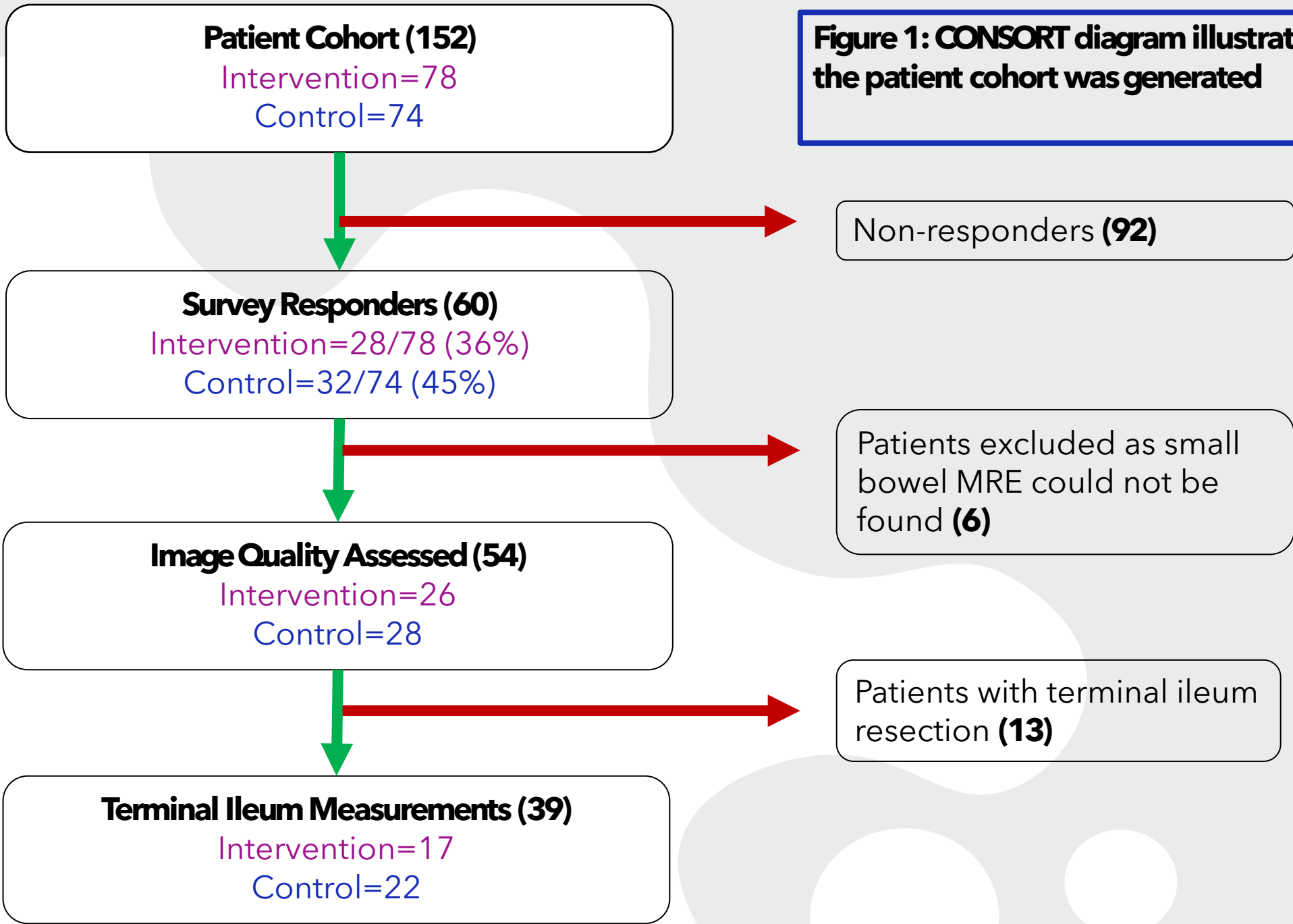
33. I have unanswered questions about the scan

Yes

No

34. If you answered yes above, what unanswered questions do you have?
(please do not include any personal information)

Figure 1: CONSORT diagram illustrating how the patient cohort was generated



Results

**IBD patients with
upcoming MREs (152)**

Intervention (78)

Controls (74)

Responses (28) (36%)

- 21 participants watched all videos before completing the survey
- 10 patients were attending first MRE (36%)

Responses (32) (45%)

- 13 were attending their first MRE (39%)

Results- Unanswered Questions

- In both groups, $\geq 85\%$ of questionnaire respondents read the information provided

Intervention (26)

Controls (29)

1/28 (4%)

10/33 (30%)

p=0.02

**Number of
unanswered
questions**

"I am not sure about how long the scan will take and if I will be able to go back to work"

"What is Mannitol?"

"I don't know what is going to happen after"

"Do I take my daily medications while I am fasting? Is it safe to take my daily medications on an empty stomach?"

"I had requested a Large Bowl MRI so am a bit confused."

Results- Image Quality

- 54 patients included in image quality analysis

	Intervention (26)		Controls (28)	
Respiratory Motion	2 'No artefact' (2;2)	Median (Q1;Q3)	2 'No artefact' (1;2)	p=0.49
Median distention	3 'Good' (2;4)		3 'Good' (3;4)	p=0.16

- 13 patients with prior small bowel resection excluded from TI diameter measurements

	16 ± 4 mm	Mean ± SD	16 ± 4 mm	p=0.85
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Discussion and Future Directions

- Similar response rates across our groups
- New patient focused materials **reduced the numbers of unanswered questions** patients had prior to scans
 - Patients without enhanced information had questions around oral contrast and the purpose of the test e.g. large bowel MR
- No **statistically significant difference in this gross assessment of scan quality** on this study which may be due to **methodological limitations**
 - Subjective assessment of distention
 - Professional patient cohort (IBD patients for years)
 - Pathology on scans affecting TI measurements
- **Early and good education may ensure better patient compliance with follow-up imaging, a potential area of longitudinal study**
- **Developing a validated and objective method to assess small bowel distention in an MR naïve cohort in a longitudinal study**
 - Bowel preparation scoring methods exist for capsule endoscopy but not for MRE.