512 - USE OF A MOBILE APP SUPPORTING SELF-MANAGEMENT BY PATIENTS WITH FECAL INCONTINENCE

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Hypothesis / aims of study

- Fecal incontinence (FI) (referred to in this study as accidental bowel leakage [ABL]) is a chronic condition for many people requiring ongoing self-management. FI self-management is optimized by support from a plan of care developed with a healthcare provider.
- Mobile health applications (apps) promote self-management support of chronic health conditions [1].
- We developed an initial, first-of-its-kind HIPAA-compliant mobile app prototype named **I'M ABLe** (for **I** can **M**anage **A**ccidental **B**owel **Le**akage) to provide self-management support for individuals with FI.

- **Aim**: Describe general use and ease and confidence of use of the I'M ABLe app by patients with FI.
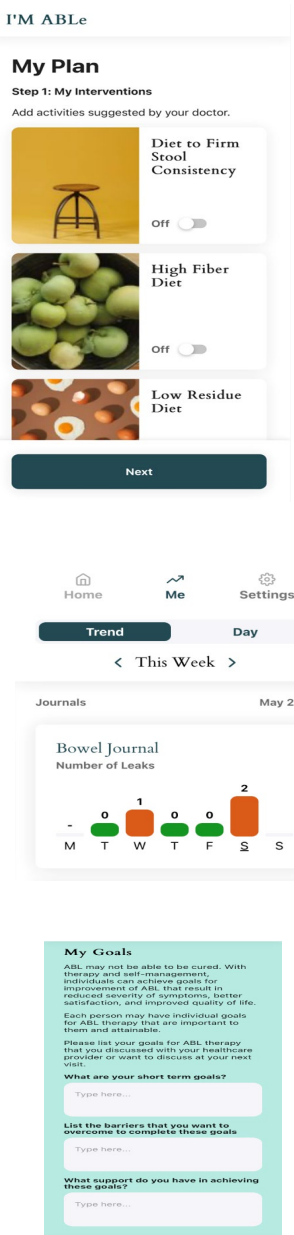
Figure 1. Study Logo

I' 🧠 ABLe

Study design, materials and methods

Study Design
- Descriptive design; data were collected during a randomized controlled pilot study of the app

The I'M ABLe app
- The I'M ABLe app had 3 sections: 1) Home, 2) Me, and 3) Settings

1) Home Contents
- A list and instructions for 13 initial conservative interventions for FI.
- A diary or journal associated with each intervention for recording self-management activities
  - Participants had access only to information appropriate for the FI self-management plan developed with their healthcare provider
- 23 short, educational "articles" about FI and self-management available to all users
- A user guide

2) Me Contents
- Graphs or tables illustrating trends in progress on key outcomes reported on a journal

3) Settings Contents
- List of FI interventions and journals to be completed daily with links.
- A place to record goals, barriers and facilitators for FI self-management. A participant's healthcare provider could review information entered in real time.

Sample
- In parent study, 20 patients with FI were recruited from a university-affiliated urogynecology clinic and randomly assigned in a 1:1 ratio to the app group (AppGroup) or the usual care control group.
  - All were female
- App group (n=10 in this analysis) – received usual care + use of the I'M ABLe app for 5 weeks

Measurements and Data Analysis
- App use was assessed by analyzing the app's logs that recorded and stored data about participants' app access.
- The AppGroup self-reported their characteristics at the start of the study and ratings of ease of and confidence in using the app at the end of the 5-week study using questionnaires.
- Data were summarized using descriptive statistics

Results

Table 1. Characteristic of AppGroup (n=9)

	n (%)		n (%)
Age		**Number of health related apps used**	
36-39 years	1 (11.1)	None	1 (11.1)
40-45 years	--	1-2	4 (44.4)
46-49 years	--	3-5	4 (44.4)
50-59 years	1 (11.1)	6-10+	--
60 years or more	7 (77.8)	**Ease of learning new technology**	
Gender identity		I do not learn them easily and don't have interest in doing better	--
Female	9 (100.0)	Don't learn easily but would like to become better	3 (33.3)
Racial Background		Learn easily	3 (33.3)
Black, African American, or African	3 (33.3)	Learn very easily	3 (33.3)
White	6 (66.7)	**In adopting a new technology, are you**	
Highest education completed		An early adopter	1 (11.1)
High School diploma/GED	1 (11.1)	A late adopter	1 (11.1)
Some college but no degree	1 (11.1)	Between an early and a late adopter	7 (77.8)
Associate Degree	2 (22.2)	**Interest in using a mobile app to help with ABL management plan from provider**	
Baccalaureate Degree	4 (44.4)		
Master's or Doctoral Degree	1 (11.1)		
How long have you had ABL		No interest	--
Less than one year	--	A little interest	2 (22.2)
1-3 years	4 (44.4)	Some interest	2 (22.2)
4-6 years	2 (22.2)	A lot of interest	5 (55.6)
7-10 years	1 (11.1)		
More than 10 years	2 (22.2)		

Results

Table 2. Description of App Use by AppGroup (n=10*)

	n (%) of participants
Accessed the app	10 (100)
Accessed the app user guide	7 (70)
Accessed 1 or more intervention instructions	8 (80)
Accessed 1 or more educational articles	7 (70)
	Count
Total number of times app was accessed (median (range))	447 (133-1217) times
Total number of days app was accessed (median (range))	27 (5-45) days
Number of educational articles accessed (range)	0-15 articles

*Includes available data from two participants who withdrew during the study
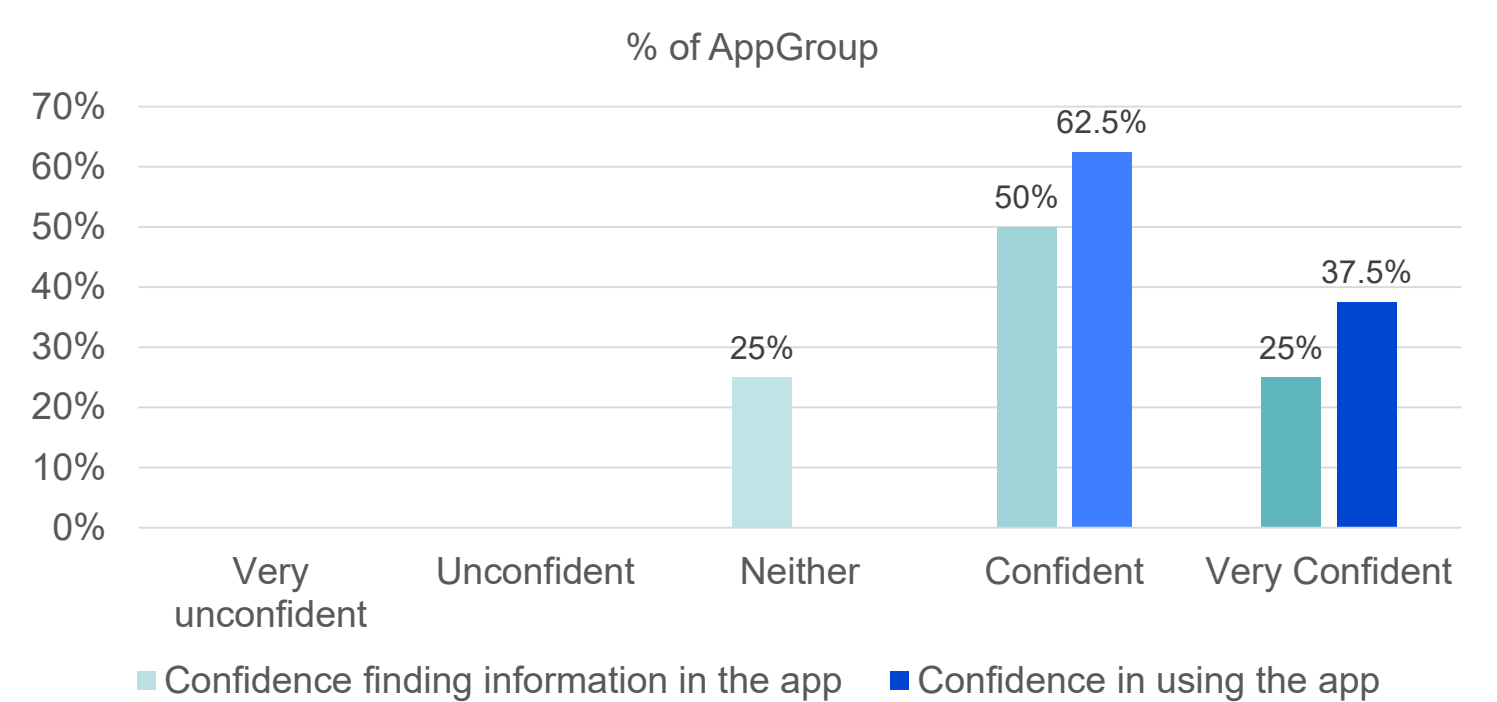
Figure 2. Confidence in Using I'M ABLe App

% of AppGroup

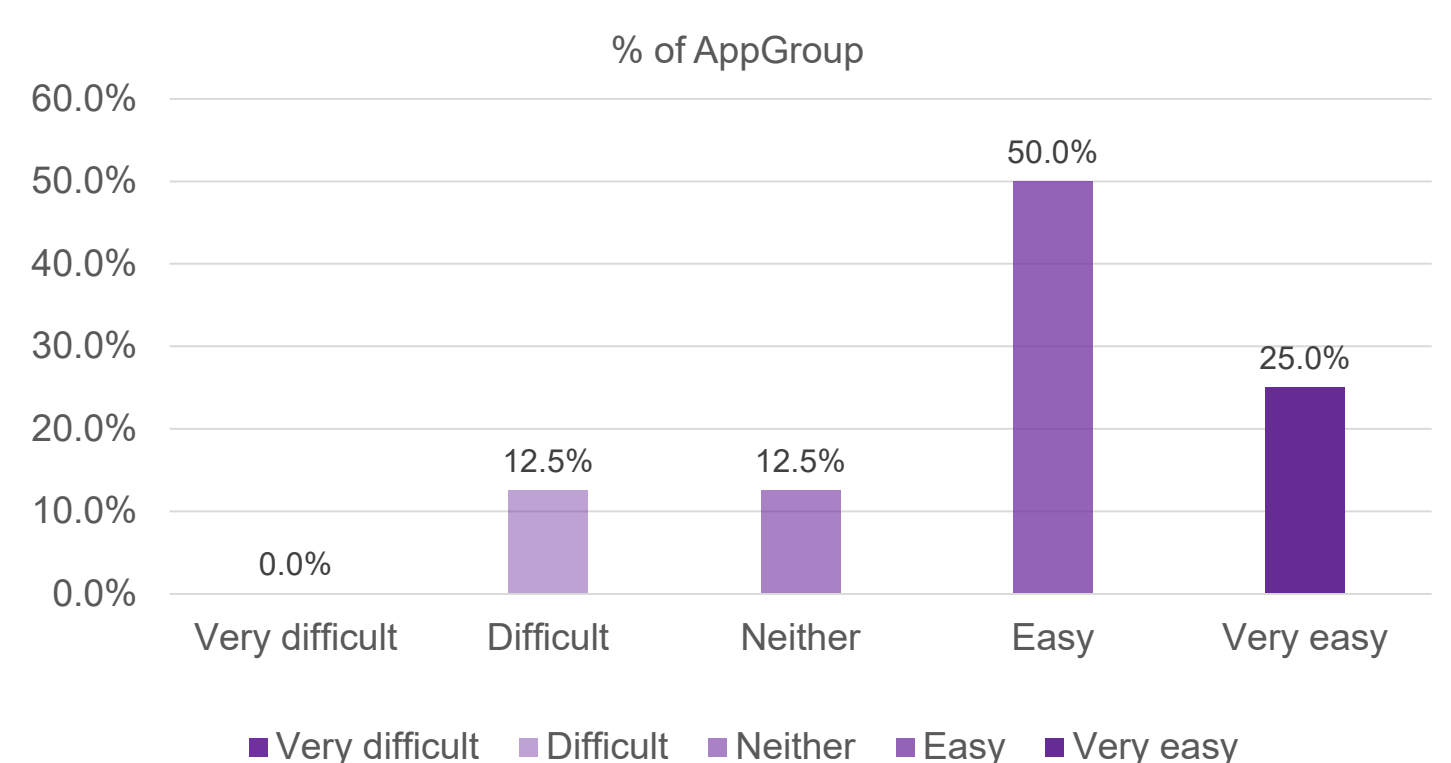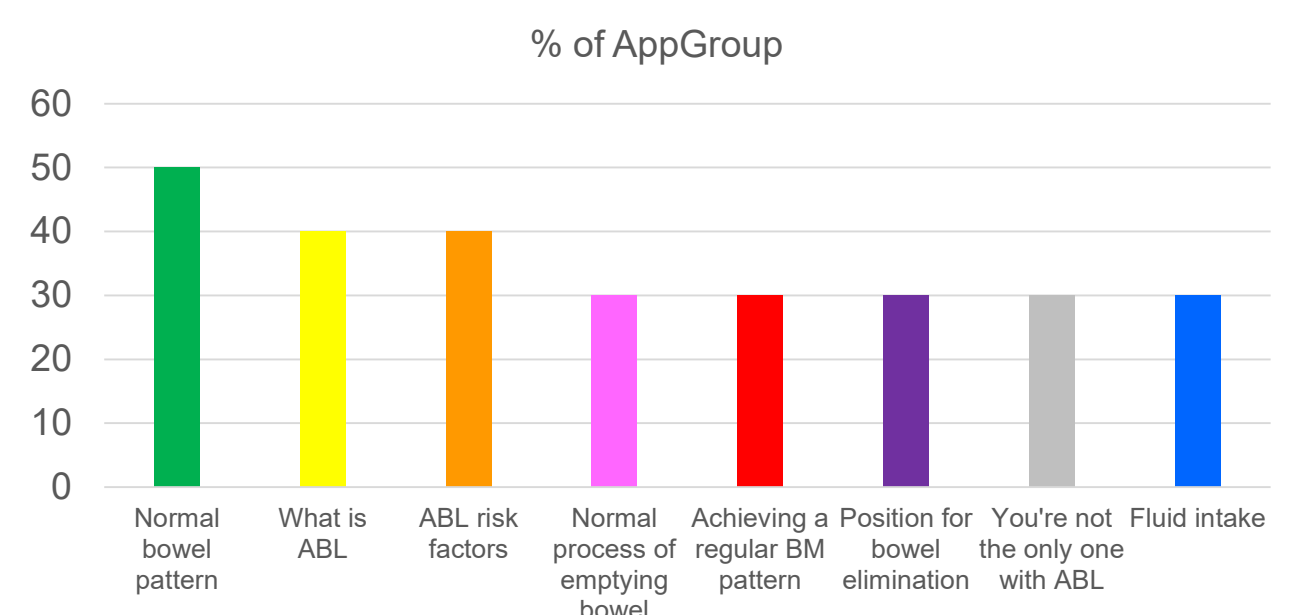Confidence finding information in the app: Very unconfident 0%, Unconfident 0%, Neither 25%, Confident 50%, Very Confident 25%
Confidence in using the app: Neither 0%, Confident 62.5%, Very Confident 37.5%

Figure 3. Ease of Finding Information in the I'M ABLe App

% of AppGroup

Very difficult 0.0%, Difficult 12.5%, Neither 12.5%, Easy 50.0%, Very easy 25.0%

Figure 4. Top Educational Articles in I'M ABLe App Accessed

% of AppGroup

Normal bowel pattern 50, What is ABL 40, ABL risk factors 40, Normal process of emptying bowel 30, Achieving a regular BM pattern 30, Position for bowel elimination 30, You're not the only one with ABL 30, Fluid intake 30

Interpretation

- Participants were female, mostly middle-aged, with varied education levels, and had FI for between 1 and 10 years
- Experience using apps varied; most indicated they were between early and later adopters of new technology.
- The high number of participants accessing the app showed engagement with the app.
- Most participants accessed the app user guide and intervention instructions. Access of optional educational articles varied by topic.
- The majority of app users found the app easy to use and were confident in using it.

Conclusions

- Women with FI of varying ages, levels of experience, and perceived ability to learn new technology were interested in and able to use the I'M ABLe app with good confidence and ease.
- Results identify topics of interest for patient education.
- Patients are interested in using an app to support self-management of FI.

References and Acknowledgement