Factors associated with Quality of Life among Women with Fecal Incontinence
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INTRODUCTION

- Fecal incontinence (FI) affects up to 22% of women in the US[1.]

- FI negatively impacts quality of life (QOL)[2].

- Identifying factors that decrease QOL in FI patients is important in addressing patient-centered outcomes.

AIM

- The aim of this study was to identify factors associated with lower health-related QOL among women presenting with FI.

METHODS

Study Population
• Patients presenting to a multi-specialty clinic with FI from 1/2005–7/2009.

Data Collection
• Chart review - demographics and comorbidities
• Patients completed questionnaires - demographic and clinical characteristics, and validated instruments.
• Fecal Incontinence Quality of Life Instrument (FI-QOL), Fecal Incontinence Severity Index (FISI), Patient Health Questionnaire (PHQ) Depression Score, Bristol Stool Scale, and the Fenner Addendum
•Fenner Addendum - additional patient history questions about FI, including questions about symptom duration, prior treatment, straining, emptying, obstruction, splinting, frequency, consistency and pain associated with bowel movements in the at least 12 weeks of the last year.
•FI-QOL score - primary outcome measure.

•**Data Analysis**
• Descriptive statistics - for patient characteristic.
• Bivariate analyses with single linear regression to assess association between patient characteristics, symptoms and QOL scores.
• Multiple linear regression models constructed by including significant factors identified in bivariate analyses to identify independent associations with QOL scores.
• Data analyses were conducted using SAS 9.2 with an alpha of 0.05.

RESULTS

Table 1. Demographics N=248

Variables	Mean SD or %
Age-years (mean SD)	58.9 14.7
BMI-kg/m2 (mean SD)	29.9 8.4
Parity (mean SD)	2.6 1.6
Caucasion	92%
Married	67%
DM (%)	10.9 %
Prior Cholecystectomy (%)	26%
Prior Hysterectomy (%)	42%
Urinary Incontinence (%)	44%
Constipation (%)	23%
Pelvic Organ Prolapse (%)	20%
Pelvic Pain (%)	29%
FI-QOL (mean SD) Range: 0-5, Higher score = better QOL	2.5 ± 0.8
FISI (mean SD) Range= 0-61, Higher score = worse FI severity	31.6 15.7
PHQ (mean SD) Depression > 8 Normal <4, max = 27	8.56 8.1
Bristol Stool (mean SD)	1.98 0.76

Baseline Surveys
•Fenner Addendum questions and responses (Sample)-

•**FQ1-** How long have you had accidental leakage of stool/gas?
  • "Yes"- 8% <6 months, 21% 6-12 mo., 29% 1-3 years, 10% 3-5 years, 15% 5-10 years, 17% >10 years
•**FQ2-** Have you sought care for your leakage stool/gas? "Yes"- 70%
•**FQ3-** Has a doctor asked you about accidental leakage? "Yes"- 57%
•**FQ10-** Have you experienced <2 bowel movements/week for at least 12 weeks in the last year? "Yes"- 20%
•**FQ11-** Have you experienced pain that stops after bowel movements for at least 12 weeks in the last year? "Yes"- 40%
•**FQ12-** Have you experienced pain associated with a change in stool frequency for at least 12 weeks in the last year? "Yes"- 37%
•**FQ13-** Have you experienced pain associated with a change in stool appearance/form for at least 12 weeks in the last year? "Yes"- 33%

RESULTS

Bivariate Analysis
•No statistically significant difference in QOL scores in relation to age, race, number of vaginal deliveries, prior cholecystectomy, prior hysterectomy or Bristol stool consistency (all P > 0.05).

•Urinary incontinence symptoms, BMI >30, diabetes, FISI score and depression severity (PHQ) were negatively correlated with QOL (all P < 0.05).

•Patients with pain associated with bowel movements (FQ 10,11,12,13) and who have been previously seen by a practitioner for FI complaints (FQ 2,3) showed a significant negative impact on QOL (all P < 0.05).

Multiple Linear Regression
•Increasing FI (FISI) and depression (PHQ) symptoms significantly predicted worsening QOL. **(Table 2)**

•Pain associated with change in stool frequency (FQ12) had a significant negative impact on the QOL score (P<0.02).**(Table 2)**

•In subjects who had been previously asked about FI by a practitioner (FQ3), there was a trend toward a worse QOL score (P<0.06). **(Table 2)**

•Fecal urgency (FIQOL Q2k) was present in 58% of our population and predicted worsening PHQ scores (r_p= -0.32, P<0.001).

Table 2. Multiple Linear Regression of Associations between Patient Characteristics and FI-QOL score

Variables	Parameter Estimate	95% Confidence Interval	P-Value
Intercept	3.57	3.35 to 3.79	<0.0001
FISI	-0.01	-0.02 to -0.004	<0.0001
PHQ	-0.05	-0.06 to -0.04	<0.0001
FQ12- Pain with BM	-0.21	-0.53 to -0.001	0.02
FQ3- Asked about FI before	-0.16	-0.33 to 0.005	0.06

DISCUSSION

- Prior study by Markland et al. - bowel urgency, hard stool consistency and prior hysterectomy were independent predictors of lower QOL in FI patients.[3]

- Our study - further characterizes factors associated with QOL in this FI population by using an expanded list of validated and non-validated questionnaires in a large patient cohort.

  • An association between FI and pain associated with bowel movement has also been identified in this study.

  • Limitations - retrospective nature, single site, using some non-validated questionnaires, and a lack of information about urgency symptoms.

CONCLUSIONS

• Women with more severe FI report lower quality of life.

• Depression is common in women with both FI and fecal urgency which also influences quality of life. This should be part of intake screening and may be important for treatment.

• Screening for associated pain and IBS symptoms may also help in FI management.

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