

PREVALENCE OF DEFECATORY DYSFUNCTION IN WOMEN WITH AND WITHOUT PELVIC FLOOR DISORDERS

Hypothesis / aims of study

The aim of this study was to determine the prevalence and correlates of defecatory dysfunction in a large, multiethnic, managed care population of community-dwelling women. We hypothesized that the prevalence of defecatory dysfunction would be high, and significantly associated with the presence of pelvic floor disorders (PFD).

Study design, materials and methods

Our questionnaire [1] identified women with pelvic organ prolapse (POP), stress urinary incontinence (SUI), overactive bladder (OAB), and anal incontinence (AI) among 4,458 respondents in a large epidemiologic study [2]. In addition, demographic, socioeconomic, and medical history was obtained along with detailed information related to defecatory function using responses to the following questions:

"Do you ever have difficulty having a bowel movement?"

"Do you ever have to push on your vagina or around your rectum to have or complete a bowel movement?"

Frequencies for each of these symptoms were characterized as less than once per year, more than once per year but less than once per month, more than once per month but less than once per week, at least once per week but not every day, and every day. The degree of bother related to each symptom was assessed using a 100 mm visual analog scale (VAS). Women were also asked to report the frequency of laxative or stool softener use. For the purpose of this study, constipation was defined as difficulty having a bowel movement more than once a week, splinting was defined as any pushing on the vagina or rectum to complete a bowel movement more than once per year, and defecatory dysfunction was defined as having either constipation, splinting or both. Conditions potentially associated with defecatory dysfunction including age, race, body mass index (BMI), parity, mode of delivery, hormone and menopausal status, smoking, depression, diabetes, neurologic disease, pulmonary disease, and pelvic surgery were explored using Mann-Whitney U tests. In addition, prevalence of defecatory dysfunction was compared based on the presence or absence of each of the PFD using chi-square tests. Mean VAS bother scores for defecatory dysfunction were compared in women with and without PFD using Student's t-tests. Logistic regression was used to assess the relative impact of each PFD on defecatory dysfunction while controlling for confounding variables. These are reported in adjusted odds ratios (OR) with 95% confidence intervals (CI). Associations at a two-sided p-value of less than 0.05 were considered significant.

Results

Of the 4,458 respondents, 4393 (99%) had adequate responses to assess the prevalence and correlates of defecatory dysfunction. The overall prevalence of *any* difficulty with bowel movements and *any* pushing on the vagina or rectum to complete a bowel movement was 44% (1899) and 31% (1315), respectively. The median frequency of both symptoms was more than once per month, but less than once per week. In women who reported difficulty with bowel movements, 4% (66) reported symptoms less than once per year, 29% (550) reported symptoms more than once per year but less than monthly, 27% (504) reported symptoms more than once per month but less than weekly, 30% (569) reported symptoms at least weekly but not daily, and 10% (198) reported daily symptoms. In women who reported pushing on the vagina or rectum to complete a bowel movement, 11% (147) reported symptoms less than once per year, 35% (457) reported symptoms more than once per year but less than monthly, 23% (297) reported symptoms more than once per month but less than weekly, 24% (318) reported symptoms at least weekly but not daily, and 7% (90) reported daily symptoms. The mean degree of bother for any difficulty with bowel movements was 48.3 + 30.6 mm, and 47.8 + 33.1 mm for any pushing on the vagina or rectum as measured on the VAS. The prevalence of any laxative or stool softener use in those with either symptom was 62% (921), compared to 30% (852) of women without either symptom. The prevalence of defecatory dysfunction, strictly defined above, was 34% (1480). Of those with defecatory dysfunction, 21% (318) had constipation only, 48% (713) had splinting only, and 31% (449) had both. The prevalence of defecatory dysfunction in women with any one or more PFD was 50% (771/1535), compared to 26% (656/2560) in women without any PFD. Of women with POP, 59% (165/278) reported defecatory dysfunction compared to 33% (1302/3987) of unaffected women. Of women with SUI, 50% (327/648) reported defecatory dysfunction compared to 31% (1128/3590) of unaffected women. Of women with OAB, 46% (257/556) reported defecatory dysfunction compared to 33% (1187/3644) of unaffected women. Of women with AI, 53% (552/1044) reported defecatory dysfunction compared to 28% (879/3105) of unaffected women, (all p<.001). In univariate analysis, defecatory dysfunction was significantly associated with increasing age, parity, mode of delivery, race, hormone and menopausal status, smoking, depression, neurologic disease, recurrent urinary tract infections, pulmonary disease, pelvic surgery, and any one or more PFD (all p<.05). Multivariate analysis controlling for these confounders revealed that defecatory dysfunction was significantly associated with parity (OR 1.06, 1.01-1.12), depression (OR 1.45, 1.19-1.77), neurologic disease (OR 2.86, 1.62-5.07), pelvic surgery (OR 1.35, 1.13-1.62) and any one or more PFD (OR 2.37, 2.02-2.79), p<.05. In models that evaluated the individual PFD, all were significantly associated with defecatory dysfunction (POP: OR 1.24, 1.08-1.43, SUI: OR 1.79, 1.44-2.21, OAB: OR 1.40, 1.11-1.76, and AI: OR 1.09, 1.02-1.16).

Interpretation of results

In this cohort of community-dwelling women enrolled in a managed health care plan, the prevalence of defecatory dysfunction and laxative use is high, and women were significantly bothered by this condition. Neurologic disease and

PFD were the major determinants of defecatory dysfunction in this population, while parity, depression, and pelvic surgery were also contributory. Each individual PFD was independently associated with defecatory dysfunction.

Concluding message

Defecatory dysfunction is a common problem among community-dwelling women, and is associated with pelvic floor disorders. Therefore, providers caring for women with either defecatory dysfunction or PFD should recognize their co-existence, and appropriately manage both conditions.

References

[1] Int Urogynecol J Pelvic Floor Dysfunction (2005) 16(4):272-84.

[2] Obstet Gynecol (2006) 107(6):1253-60.

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HUMAN SUBJECTS: This study was approved by the Kaiser Permanente Southern California and followed the Declaration of Helsinki Informed consent was obtained from the patients.