Fecal Incontinence and Pelvic Floor Dysfunction in Women: A Review

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KEYWORDS

• Pelvic floor dysfunction • Fecal incontinence • Accidental bowel leakage
• Anal sphincter • Women's health • Sphincter injury

KEY POINTS

- Pelvic floor dysfunction, which includes pelvic organ prolapse, urinary incontinence, and fecal incontinence (FI), is very common among parous women.
- FI is also common, particularly among older women, can be socially isolating, and often goes under-reported to their health care providers. Physicians should actively ask their patients about these symptoms.
- FI is commonly associated with older age, change in bowel habits (typically loose and/or frequent stools, fecal urgency), and debility. FI is common in institutionalized patients.
- Treatment of FI initially involves a combination of dietary and lifestyle modifications, medications, and biofeedback training. If conservative methods fail to improve FI symptoms, then other interventions can be considered, including nerve stimulation, anal sphincter augmentation, and surgical options.

INTRODUCTION/EPIDEMIOLOGY

Pelvic floor dysfunction, which includes urinary incontinence, fecal incontinence (FI), and pelvic organ prolapse (POP),[1] affects 25% or more of women.[2,3] These disorders will become more prevalent with an aging population. In 2008, there were 38.6 million and 5.4 million Americans aged 65 years and 85 years and older, respectively. In 2050, the 65-year-old and 85-year-old and older segments of the population will more than double to 88.5 million and 19 million, respectively. With increasing age, women comprise a higher percentage of the population among all older age groups: 54% in those aged 65 to 69 years, 69% of those aged 85 to 89 years, and 80% of those

Disclosures: The authors have no conflicts of interest and nothing to disclose.
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Gastroenterol Clin N Am 45 (2016) 217–237
http://dx.doi.org/10.1016/j.gtc.2016.02.002 **gastro.theclinics.com**
0889-8553/16/$ – see front matter

aged 95 to 99 years.[4] Wu and colleagues[5] estimated the future prevalence of pelvic floor disorders in women using the US Census Bureau population projections from 2010 to 2050. FI is expected to have the largest increase at 59% (10.6 million to 16.8 million affected women). They estimated that the number of women with urinary incontinence will increase 55% from 18.3 million in 2010 to 28.4 million in 2050, whereas POP will increase 46% from 3.3 million to 4.9 million from 2010 to 2050.[5] This article focuses largely on fecal incontinence, but discusses these other pelvic floor disorders because they are pertinent in the evaluation and work-up of FI.

FI, sometimes referred to as accidental bowel leakage,[6] is defined as the involuntary loss or passage of solid or liquid stool in patients with a developmental age greater than 4 years.[7] However, the definition can vary based on consistency of stools and frequency or duration of symptoms. FI does not include flatal incontinence or fecal soilage. Anal incontinence comprises both liquid and stool incontinence along with gas incontinence. Fecal soilage is the staining or streaking of underwear with fecal material or mucus.

The prevalence of FI in women ranges from 2% to 25%,[6,8–11] but this varies based on definition used, age, and living situation (independently living vs nursing home). The prevalence of FI increases from 2.6% in young women (aged 20–29 years) to 15.3% by age 70 years or older.[10,12] In addition, 88% of women with FI develop their symptoms after age 40 years.[13] Women living in nursing homes or other institutionalized settings are at high risk for FI, with a prevalence among this population between 14% and 47%.[14,15]

The reported prevalence of FI likely underestimates the true prevalence because FI is significantly under-reported to physicians.[16,17] Patients are often reluctant to discuss their symptoms because it is embarrassing.[18,19] In the recent Mature Women's Health Study, Brown and colleagues[16] found that two-thirds of women with FI do not seek care for their symptoms even though 40% of them had symptoms severe enough to affect their quality of life.[20] However, physicians also bear the burden for the underdiagnosis of FI. Dunivan and colleagues[21] showed that practitioners routinely fail to inquire about FI during patient visits.

Quality of life can be significantly affected in patients with FI, resulting in patient embarrassment, psychological stress, social isolation, and job loss,[20,22] and it is the second leading cause of placement in a skilled nursing facility[23] (**Box 1**).

Box 1
Reflections on the anal sphincter as presented at the International Academy of Proctology, April 1959

They say man has succeeded where the animals fail because of the clever use of his hands, yet when compared to the hands, the sphincter ani is far superior. If you place into your cupped hands a mixture of fluid, solid, and gas and then through an opening at the bottom, try to let only the gas escape, you will fail. Yet the sphincter can do it. The sphincter apparently can differentiate between solid, fluid, and gas. It apparently can tell whether its owner is alone or with someone, whether standing up or sitting down, whether its owner has his pants on or off. No other muscle of the body is such a protector of the dignity of man, yet so ready to come to his relief.[24]

—Walter C. Borneimeier, General Surgeon and former president of the American Medical Association, Chicago, IL.