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Reasons Behind Preferences for Community-Based Continence Promotion

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Abstract

Objectives—This study aimed to understand the potential reach of continence promotion intervention formats among incontinent women.

Methods—The Survey of the Health of Wisconsin conducts household interviews on a population-based sample. In 2016, 399 adult women were asked about incontinence and likelihood of participation in continence promotion via 3 formats: single lecture, interactive 3-session workshop, or online. Descriptive analyses compared women likely versus unlikely to participate in continence promotion. To understand format preferences, modified grounded theory was used to conduct and analyze telephone interviews.

Results—One hundred eighty-seven (76%) of 246 incontinent women reported being likely to attend continence promotion: 111 (45%) for a single lecture, 43 (17%) for an interactive 3-session workshop, and 156 (64%) for an online program. Obesity, older age, nonwhite race, prior health program participation, and Internet use for health information were associated with reported continence promotion participation. Cited advantages of a single lecture included convenience and ability to ask questions. A workshop offered accountability, hands-on learning, and opportunity to learn from others; online format offered privacy, convenience, and self-directed learning.

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Conclusions—Most incontinent women are willing to participate in continence promotion, especially online.

Keywords

incontinence; epidemiology; dissemination and implementation; public health; health promotion

More than 60% of women older than 65 years in the United States have urinary or bowel incontinence.¹ In addition to its significant negative impact on quality of life, incontinence is associated with social isolation, low self-esteem, depression, and increased risk for falls and nursing home placement.^{2,3} Despite the existence of effective, minimally invasive therapies,^{4,5} more than half of women with urinary incontinence and two-thirds of women with bowel incontinence do not seek medical care.⁶

Self-care behaviors, such as practicing pelvic floor muscle exercises (Kegels) and adjusting fluid and fiber intake, can reduce or even eliminate symptoms without medical intervention.^{4,5,7} In-person educational interventions have effectively reduced urinary incontinence among community-dwelling women^{8–11} but suffer limited reach. Although digital formats provide a promising alternative,^{9,12} especially in light of a 2017 Pew study reporting that more than 80% of US older adults use the Internet,¹³ the reach of such digital formats remains largely unknown.

We sought to understand the potential reach of 3 continence promotion formats: a single lecture, an interactive 3-session workshop, and an online program. Our objectives were to (1) understand how and why women 50 years and older with incontinence would rank these 3 formats for continence promotion, (2) identify factors associated with likelihood of continence promotion participation overall and with each format, and (3) understand factors motivating preferences and perceived advantages and disadvantages of each continence promotion format.

MATERIALS AND METHODS

Study Design

We partnered with the Survey of the Health of Wisconsin (SHOW) for this convergent, mixed-methods study. The Survey of the Health of Wisconsin conducts population-based surveys on representative samples of noninstitutionalized Wisconsin residents recruited from a random sample of households using a stratified cluster sampling approach.¹⁴ In 2016, SHOW collected information on incontinence and interest in continence promotion from all adult female participants. We selected a representative subsample of incontinent women 50 years or older for qualitative telephone interviews to understand reasons behind their preferences, using modified grounded theory, explained in more detail in the section on qualitative data collection and analysis below.^{15,16} Participants provided written informed consent, and our institutional review board approved this study. Because this was a descriptive, exploratory study, no power calculation was performed.

Quantitative Data Collection and Analysis

The Survey of the Health of Wisconsin invites all persons living in selected households to participate. Adults are asked to complete multiple questionnaires, including an audio computer-assisted self-interview using a laptop, plus physical, laboratory, and environmental assessments. Data are collected regarding demographics, health and health history, the physical and built environment, and social and socioeconomic determinants of health (questionnaires available at www.show.wisc.edu).

All adult (≥ 18 years old) female SHOW participants in 2016 were queried about incontinence via the audio computer-assisted self-interview. A validated, 2-item instrument (the Sandvik severity index)¹⁷ was used to assess urinary incontinence, and 2 similar questions were asked about bowel incontinence. Interest in continence promotion was asked as follows: “Changing how you eat and drink, and doing exercises with the muscles that control the bladder and bowels, can prevent or even cure bladder and bowel leakage. Imagine that there was a workshop where you could learn more about how to improve your bladder and bowel health, and the workshop was offered at a location in your community, like a library, recreation center, church or senior center. How likely would you be to attend this bladder and bowel workshop if it were ‘three sessions, each lasting 90 minutes, over a one-month period’? Extremely unlikely, unlikely, likely or extremely likely?” Identical language was used to ask about “a single session lasting 1 hour” and “something you could complete on a computer instead of going to the workshop in person.” Women who responded “likely” or “extremely likely” were categorized as likely to participate in a given format of continence promotion.

Using SAS (SAS Institute, Cary, North Carolina), descriptive analyses characterized the sample overall and those with urinary and/or bowel incontinence. Multivariate logistic regression was used to identify factors associated with odds of reported likelihood of participation compared with the odds of reported unlikelihood, in (a) each proposed format and in (b) any format of continence promotion. We selected variables for inclusion in multivariate models based on their theoretical relevance to participation in continence promotion. Variables for initial consideration included age, body mass index (BMI), race/ethnicity, education, income, stress meeting basic needs, parity, prior participation in other health promotion programs, Internet use for health information, incontinence symptom severity, and history of incontinence care seeking. We selected the most relevant variable for those with high correlation between considered variables, excluding “stress meeting basic needs (housing, buying food, paying bills)” in favor of income and “history of incontinence care seeking” in favor of incontinence severity.

Qualitative Data Collection and Analysis

Invitees for qualitative interviews represented female SHOW participants 50 years or older with incontinence. To achieve a maximal variation sample, the first wave of invitees for qualitative interviews represented the full range of female SHOW participants 50 years or older with urinary or bowel incontinence. The second wave oversampled participants reporting more bothersome incontinence symptoms to offset the common remark, “If this were a bigger issue, I would choose...” Interviews were conducted until data saturation was

reached, meaning that no new themes emerged in subsequent interviews, and thus, sampling more data would not change study findings; 5 additional interviews were conducted to confirm saturation. An invitation letter and preinterview packet including a description of each educational intervention format and the interview questions were sent by mail; interviews were scheduled by telephone. Participants were compensated \$20.

Semistructured, audio-recorded telephone interviews lasted 30 minutes and were transcribed verbatim. Questions focused on how and why participants ranked each continence promotion format. Interviews were analyzed using modified grounded theory, a systematic method to develop a conceptual model that explains little-understood social phenomena.^{15,16} In phase 1, one author conducted line-by-line analysis of the interview transcripts, developed a codebook with a priori and emergent codes, and tagged exemplar quotes. Four additional researchers independently coded interviews, and the team discussed and identified implications for each format. In phase 2, a conceptual model was developed by comparing thematic relationships across coded interviews and salient survey data. In phase 3, the team compared cross-cutting themes to identify contextual and personal components that drove preferences for each educational format.

RESULTS

Quantitative Results

Audio computer-assisted self-interview data were available for 99% (399/400) adult female 2016 SHOW respondents, of whom 246 (62%) had incontinence (168 [42%] urinary incontinence alone, 11 [3%] bowel incontinence alone, 67 [17%] both urinary and bowel incontinence). Table 1 describes the sample of adult women overall and those with incontinence. Overall, 187 (76%) reported being likely to attend at least one of the proposed formats for a continence promotion intervention: 111 (45%) were likely to attend a single in-person lecture; 43 (17%), an interactive 3-session workshop; and 156 (64%), an online program. Among the 187 women who were likely to participate in some form of continence promotion, 67 (36%) were likely to participate in the online program only; 58 (31%), in the single lecture or online program; 25 (13%), in all 3 programs; 19 (10%), in the single lecture only; 9 (5%), in the single lecture or workshop; 6 (3%), in the workshop or online program; and 3 (2%), in the workshop only. When asked which format she would be most likely to attend, assuming equal effectiveness, 56% preferred an online program, 26% preferred a single lecture, 4% preferred a small-group 3-session workshop, and 14% would not attend any program.

Table 2 characterizes women who reported being likely to attend each proposed format of continence promotion; *P* values reflect the comparison of women who reported being likely versus unlikely to attend each format. Women who were likely to participate in any continence promotion format had a higher BMI, and this association maintained significance in multivariate logistic regression (adjusted odds ratio [AOR], 1.04 for a 1-unit increase in BMI; 95% confidence interval [CI], 1.00–1.09; *P* < 0.05). Women who were likely to participate in a single lecture tended to be older and less likely to have given birth on univariate analysis; age remained significant in the multivariate model (AOR, 1.17 per 5-year increment; 95% CI, 1.05–1.30; *P* < 0.01). Women who reported being likely versus

unlikely to participate in an interactive workshop had a higher BMI and were more likely to report nonwhite race and prior health program participation; nonwhite race (AOR, 3.76; 95% CI, 1.39–10.19; $P < 0.01$) and prior health program participation (AOR, 3.64; 95% CI, 1.55–8.55; $P < 0.01$) remained significant on multivariate analysis. Women who reported being likely to participate in an online continence promotion program had a higher BMI and were more likely to use the Internet for health information; Internet use for health information remained significant in multivariate analysis (AOR, 1.99; 95% CI, 1.06–3.75; $P < 0.05$). Multivariate analyses are shown in Supplementary Table 1, <http://links.lww.com/FPMRS/A97>.

Qualitative Results

Invitation letters were mailed to 41 SHOW participants; 31 were reached by telephone and 23 (56%) completed an interview. The qualitative sample had a median age of 67 years (range, 51–93 years), and was primarily non-Hispanic white, overweight or obese, and college educated. The majority had work and/or family caregiving responsibilities; approximately half had both urinary and bowel incontinence. Compared with refusers, interviewees were slightly older, more educated, and less obese; had higher income and education levels; and had more job or caregiving responsibilities and combined urinary incontinence/bowel incontinence (data shown in Supplementary Table 2, <http://links.lww.com/FPMRS/A98>). The Internet was their most common source of health information. Most had participated in community-based health education or support groups.

With regard to format preferences, the online program ($n = 12$; 52%) was the most commonly cited first choice, followed by the interactive workshop ($n = 6$; 26%) and the lecture ($n = 4$; 17%). One participant (4%) refused to choose any of these, saying that she would accept only printed materials. Perceived advantages and disadvantages of each format are summarized with exemplar quotes in Table 3.

Participants recommended ways to address the downsides of each format. For the online format, women recommended bolstering accountability with text or e-mail reminders and interactive assessments and tools. To address the lack of social connection, women suggested a facilitated blog, online access to an expert, and optional small group sessions for the single lecture. To address lack of privacy, women suggested opening the sessions to women without symptoms, removing the word “incontinence” from the program’s title and signage, and allowing for anonymous submission of questions. To address inconvenience of in-person programs, suggestions were made about scheduling in the evening or on weekends.

Figure 1 shows a conceptual model of how contextual conditions influenced and interacted with women’s values to inform their format preferences and, in turn, their recommendations for offsetting the downsides of various formats. Our cross-cutting thematic analysis identified 3 types of values that influenced women’s continence promotion format preferences and recommendations for improvement: (1) symptom distress motivating change, (2) expectations for education, and (3) relative prioritization of desired features.

Although women were not asked to disclose their incontinence symptoms, more than half (12/23) noted symptom distress (either high or low), as they explained why they preferred

one format over another. Greater symptom distress motivated women to expend more effort to change. By contrast, women disclosing low symptom distress preferred a less intensive option: “I guess if this were a burning issue for me, I might be more willing to attend 3 workshops, but I do not see that addressing something I need in my life.”

Participants’ expectations for education varied and influenced their format preferences. Proponents of the online format prioritized information delivery and self-directed learning, whereas lecture proponents prioritized guided learning. Ten participants (43%) suggested that information delivery alone was sufficient, and 8 of these preferred the online option: “I’m constantly an information seeker. I’m not looking to develop new habits..., so for me it’s just information.” Proponents of both the lecture and workshop formats noted the benefits of having a skilled lecturer or workshop facilitator to answer questions immediately. Nine women valued experiential, or hands-on, learning, including all 6 workshop proponents and several online proponents. Ten women valued skill building, including all 6 workshop proponents. One woman changed her first choice from lecture to workshop because she wanted to “know I am doing Kegels the right way.”

DISCUSSION

This study fills a gap in our existing knowledge about uptake of continence promotion programs by quantifying, characterizing, and investigating the reasons behind women’s format preferences for incontinence self-management programs. Overall, most women with incontinence in our sample reported being likely to attend some format of continence promotion, with the online format being preferred to a face-to-face interactive workshop or single lecture.

Although it would be naive to assume that actual continence promotion program participation would be as high as the reported likelihood of participation, it is still striking that more than 60% of women with incontinence report willingness to participate in an online program. This suggestion of broad potential reach, especially among women who already use the Internet for health information and among women with a higher BMI, is especially important because obesity is a barrier to care seeking for incontinence.¹⁸ Given that stigma is a known barrier to seeking medical health care for bowel^{19,20} and bladder incontinence,^{21,22} it is not surprising that the desire for privacy drove women’s preference for the online format. Respondents offered suggestions to improve accountability and skill building and to incorporate an interactive forum option to overcome some of the disadvantages of an online program.

Similarly, although only 17% of participants overall reported willingness to participate in an interactive workshop with multiple sessions, this format appealed to 35% of women of nonwhite race and 35% of those with a history of prior health program participation. Compared with white women, black/African American and other women of color are less likely to know about risk factors, preventative strategies, and treatment options for pelvic floor disorders.²³ Our findings suggest that the interactive workshop format may reach more women of color, thus potentially reducing this disparity. The interactive workshop, although least popular overall, was perceived as the most effective option because of its increased

accountability and support, and was preferred by women with high symptom bother, despite its lack of convenience and privacy. Time and transportation are known barriers to participation in other community-based programs.²⁴ That women with prior health program participation were more likely to report the likelihood of participating in a continence promotion program suggests that dissemination efforts through similar channels to those used by other health programs may be successful.

Our study has several limitations. Reported likelihood of participation in continence promotion is not the same as actual participation in such interventions. Our qualitative sample of 23 participants is small, but we did conduct 5 interviews to confirm data saturation. Although the SHOW sample is framed to be representative of the state population with respect to age, race, sex, and poverty level, it is slightly better educated than the state overall. Compared with the United States, both SHOW and Wisconsin have a greater proportion of non-Hispanic white and rural-living persons. However, a major strength of this study is its nesting within a population-based health survey, minimizing the possibility that selection bias resulted in a higher reported likelihood of participation because participants were interested in incontinence.

In conclusion, incontinence affects more than 60% of older women in the United States, most of whom do not receive treatment. Multisession, small-group, problem-based workshops have effectively helped older adults adopt behaviors to manage other health conditions.^{25–27} However, consistent with our findings, they reach only a fraction of those who could benefit.²⁸ In-person programs also pose challenges to widespread implementation. Agencies, often with limited resources and competing missions, reach at most 15 participants for a workshop and 50 for a lecture.²⁹ To combat issues with reach, several in-person self-management programs have been adapted for online implementation, including programs for urinary incontinence.^{9,12} Theory-based digital programs with interactive tools and communication platforms have been shown to be both effective and acceptable for other conditions.^{30–32}

A digital program for both urinary and bowel incontinence with these features thus holds promise to reach and impact a broad population of women. Given that future older adult cohorts will be even more likely to use the Internet, programs that leverage interactive online applications will enable increasingly broad dissemination of effective behavior self-management programs for incontinence and other health conditions.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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FIGURE 1.

Factors influencing continence promotion format preferences and recommendations. This conceptual model summarizes findings of qualitative analysis.

TABLE 1.
Adult Female Respondents in 2016 SHOW Overall and With Urinary or Bowel Incontinence

Characteristic	Adult Female SHOW Respondents (n = 399)	Show Female Respondents With Incontinence (n = 246)
Continuous variables, mean (SD)		
Age, y	50.4 (17.9)	55.3 (17.1)
BMI, kg/m ²	30.7 (8.5)	31.5 (8.7)
Categorical variables, n (%)		
Race		
Black	55 (13.8)	23 (9.3)
White	319 (80.0)	207 (84.2)
Other	25 (6.3)	16 (6.5)
Hispanic/Latin/Spanish origin	16 (4.0)	8 (3.3)
Education level		
High school degree or less	106 (26.6)	70 (28.5)
Some college	151 (37.8)	94 (38.2)
Bachelor's degree or more	142 (36.6)	82 (33.3)
Below 200% federal poverty level	145 (37.8)	87 (37.3)
Stress meeting basic needs over the past year		
Not stressful	148 (47.4)	95 (46.3)
Mildly stressful	85 (27.2)	57 (27.8)
Moderately stressful	38 (12.2)	27 (13.2)
Very stressful	41 (13.1)	26 (12.7)
Ever given birth (vaginal or cesarean delivery)	309 (79.6)	200 (81.6)
Prior participation in health promotion program	61 (15.4)	49 (20.1)
Uses Internet for medical information	255 (63.9)	150 (61.0)
Incontinence status		
Continent	153 (38.4)	—
Urinary incontinence only	168 (42.1)	168 (68.3)
Bowel incontinence only	11 (2.8)	11 (4.5)
Both urinary and bowel incontinence	67 (16.8)	67 (27.2)
Severe urinary incontinence		95 (41.1)

Characteristic	Adult Female SHOW Respondents (n = 399)	Show Female Respondents With Incontinence (n = 246)
Severe bowel incontinence		21 (26.9)
History of care seeking for incontinence		
None		134 (54.5)
Sought care for urinary incontinence only		84 (34.1)
Sought care for bowel incontinence only		11 (4.5)
Sought care for both		17 (6.9)

TABLE 2.

Characteristics Associated With Likelihood of Participation in Continence Promotion

Characteristics	Sample With Incontinence	Likely to Participate in Any Format	Likely to Participate in Single Lecture	Likely to Participate in Workshop	Likely to Participate in Online Program
Age [*] , y	55.0 (17)	55.5 (16.7)	58.5 (15.6) [‡]	57.0 (19)	54.0 (16.6)
BMI, kg/m ² [*]	31.5 (8.7)	32.2 (8.8) [‡]	32.2 (8.5)	33.1 (7.4) [‡]	32.3 (8.7) [‡]
Race, nonwhite	39 (16)	32 (82)	n (%) 21 (54)	15 (38) [‡]	25 (64)
Race, white	207 (84)	155 (75)	90 (44)	28 (14) [‡]	131 (64)
Some college	176 (72)	134 (76)	71 (40)	27 (15)	112 (64)
High school or less	70 (29)	53 (76)	40 (57)	16 (23)	44 (64)
<200% FPL	87 (37)	65 (75)	42 (49)	20 (23)	55 (66)
200% FPL	146 (63)	112 (77)	63 (44)	19 (13)	92 (64)
Ever given birth	200 (81.6)	153 (77)	99 (50) [‡]	39 (20)	126 (65)
Severe incontinence	104 (42)	83 (44)	48 (43)	19 (44)	70 (45)
Prior health program	49 (20.1)	40 (82)	24 (49)	15 (32) [‡]	32 (67)
Uses Internet	150 (61.0)	118 (79)	64 (43)	23 (16)	104 (70) [‡]

^{*} Mean (SD).[‡] $P < 0.05$.[‡] $P < 0.01$ (P -values reflect comparison of women who reported being likely versus not likely to participate in a given format).

FPL, federal poverty level.

TABLE 3.
Perceived Advantages and Disadvantages of Continence Promotion Formats Among Women With Incontinence

	Advantages	Disadvantages
Online	<p><i>Convenience:</i> "If I want to do it at midnight, I can do it at midnight without worrying about missing something."</p> <p>"I like that it's available at a convenient time, like a YouTube thing or something you could do it at your convenience. There would be no travel."</p> <p><i>Privacy:</i> "Nobody sees you."</p> <p>"I'm an extremely private person and keen to do that in the privacy of my own home."</p> <p>"It feels more secure, easier to ask a question that was maybe a little sensitive on the computer."</p> <p><i>Self-directed learning:</i> "If I do not understand something I can go back through it again."</p>	<p><i>Need to interact with technology:</i> "I do not have computer access...I am not computer savvy."</p> <p><i>Lack of accountability:</i> "It might be too easy not to do [or] complete because you get distracted."</p> <p>"The only drawback would be the motivation to sit down and do it."</p> <p><i>Limited opportunity for skill building:</i> "You can read all you want. You still do not know if you are doing it right."</p> <p><i>Lack of social connection:</i> "You aren't going to have human contact."</p>
Workshop	<p><i>Accountability:</i> "Like weight watchers and going to the gym with your buddy. We would keep each other accountable."</p> <p>"It would not be as easy to be like, 'Oh I'm not going to go.'"</p> <p>"Having to report progress back to the group would help me get the most out of it."</p> <p><i>Experiential learning and reinforcement:</i> "I get more out of the hands-on approach."</p> <p>"I'm a fan of the storytelling method, and getting immediate answers to questions."</p> <p><i>Social connection:</i> "Bumping ideas off others is helpful in situations like this."</p> <p>"I like to be in a room with people, laughing and talking and sharing ideas"</p> <p>"There's groups for women who have breast cancer. It would be nice if there was a venue [to] get together to talk about these things."</p>	<p><i>Inconvenient:</i> "By having 3 different workshops it means 3 different times."</p> <p><i>Lack of privacy:</i> "Sitting around a table eye to eye with people (would be uncomfortable)."</p> <p>"I would not talk to strangers about that; I do not talk to people I do not know."</p> <p><i>Discomfort:</i> "I'm not comfortable speaking in front of people. I did not take my Dale Carnegie course."</p> <p>"I just do not like getting too vulnerable"</p> <p><i>Large time commitment:</i> "Six hours would be overkill."</p>
Lecture	<p><i>Convenience:</i> "Not as much of a commitment as the several days or several sessions, so it's just a small commitment, more doable, and I like that it's face-to-face."</p> <p><i>Relative anonymity:</i> "The anonymity—sitting in a big auditorium."</p> <p><i>Learning style:</i> "I'm an auditory learner so I like listening."</p> <p>"I could sit there and take notes, and still have my notes to take home with me."</p> <p>"I could have my questions answered right then and there."</p>	<p><i>Discomfort:</i> "In big groups I get intimidated. I will listen but not tell my opinions. I feel very isolated in large groups."</p> <p><i>Lack of privacy:</i> "You could still be seen by someone you know."</p> <p><i>Accessibility concerns:</i> "The sound system might not be working."</p>