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Race and Ethnic Differences in Health Beliefs about Lower Urinary Tract Symptoms

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Abstract

Background—Health beliefs are an important mediator between the experience of symptoms and health behaviors, and these beliefs can vary by race or ethnicity.

Objectives—To better understand the gap between experiencing symptoms and not seeking medical care by studying health beliefs about lower urinary tract symptoms (LUTS) across race and ethnic groups.

Method—Qualitative, semistructured interviews were conducted with 35 Black, Hispanic, and White people who reported at least one urinary symptom but had not spoken with a health care provider about the symptoms. Drawing on Shaw's framework of health behavior and outcomes, a range of beliefs was examined: cause, consequence, continuation, and treatability. Interviews were transcribed, coded, and analyzed for themes according to race or ethnic background.

Results—The belief that LUTS are a typical part of aging and not amenable to medical treatment was most common among White respondents. Black respondents more commonly attributed their symptoms to personal behaviors over which they had control and therefore did not require medical care. Hispanic respondents appeared more often to live with uncertainty about the cause of their symptoms and an accompanying concern about a future health consequence.

Discussion—The combination of a range of health beliefs to form a cognitive representation made sense of the behavior of not seeking medical care. The finding that sociocultural differences shaped these cognitive representations underscores the need for cultural competency in patient assessment and education. Results have implications for theories of health behavior and indicate further research with larger samples, additional psychosocial influences, and other symptoms.

Keywords

cognitive aspects; cultural competency; health behavior; urinary tract

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Help-seeking theories identify a person's health beliefs as an important mediator between the experience of symptoms and health behaviors. More recent theoretical models also suggest that health beliefs can be influenced by race or ethnic background. The goal of this study was to understand more fully the gap between experiencing symptoms and not seeking medical care by examining a range of health beliefs among a racially diverse group of people who have not consulted a health care provider about their symptoms. Lower urinary tract symptoms (LUTS) provide a useful case study because these symptoms are common, can impact quality of life negatively, and are often treatable, yet remain a set of symptoms for which a number of people do not seek medical care. Understanding group differences in how people make sense of symptoms is important for effective assessment of patient needs and health education.

Health Beliefs and Race or Ethnic Differences

Health beliefs are a necessary (although not sufficient) factor for explaining—and changing—health behaviors. Several theoretical models, such as the Behavioral Model of Health Services Use (Andersen, 1968, 1995); the Health Belief Model (Becker, 1974; Rosentock, Strecher, & Becker, 1988); and Shaw's Framework of Coping, Health and Illness Behavior, and Outcomes (Shaw, 1999), highlight the importance of knowledge and health beliefs for understanding and predicting health-related behaviors. These behaviors include *not* seeking medical help for common symptoms, such as LUTS.

Shaw's (1999) framework incorporates concepts from several prior models to provide a comprehensive theory of how a person moves from experiencing symptoms to an appraisal of those symptoms. This appraisal is crucial for developing a perception of a health threat, assessing the severity of that threat, forming intentions for health behavior, engaging in health behavior, and finally experiencing health outcomes. A variety of psychosocial factors are theorized to influence this process, ranging from external influences (e.g., media) and social norms to a person's coping resources and self-efficacy. This study was focused on the appraisal of the situation and the in-depth examination of two of the psychosocial factors theorized to influence that appraisal: cognitive representations of symptoms (i.e., health-related knowledge and perceptions) and group differences (e.g., age, gender, and race or ethnicity; Figure 1).

More specifically, Shaw's framework was used to investigate whether and how cognitive representations of symptoms intersect with group differences—particularly, race or ethnic background. Compared to other models, Shaw's framework provides more guidance regarding the components of cognitive representations. Rather than a general category referring to a person's knowledge and understanding of his or her condition, four illness-related beliefs are identified in Shaw's framework that combine to inform a person's *cognitive representation* of his or her illness or symptoms: an identification of signs and symptoms, perceived consequences, perceived causes, and perceived time frame of the illness (Shaw, 1999).

In addition, building on prior research indicating that social group differences are important sources of variation in information about health (Leventhal, Nerenz, & Steele, 1984), Shaw (1999) included group differences as an important psychosocial factor influencing one's appraisal of the situation. Although Shaw suggests that group differences operate alongside a person's cognitive representation in forming an appraisal of the situation, more recent research regarding the role of race or ethnic group differences in shaping health behaviors suggests that it is more likely that race and ethnicity affect health beliefs, which in turn affect health behaviors (Kressin, Orner, Manze, Glickman, & Berlowitz, 2010; Nelson, Geiger, & Mangione, 2002). As a result, this study was focused on race and ethnic

differences in the cognitive representations of common symptoms in order to more fully understand the gap between experiencing those symptoms and not seeking medical care.

The Case of Lower Urinary Tract Symptoms

Lower urinary tract symptoms encompass a range of symptoms related to urinary storage, voiding, and postvoiding sensations that may or may not be accompanied by pain (Abrams et al., 2003), such as urinary frequency, nocturia, urgency, and incontinence. This set of symptoms provides a useful case for several reasons. First, LUTS are common symptoms that can impact quality of life negatively (Coyne, Sexton, et al., 2009; Nicolson, Kopp, Chapple, & Kelleher, 2008; Vandoninck et al., 2004; Welch, Weinger, & Barry, 2002). They carry a social stigma (Elstad, Taubenberger, Botelho, & Tennstedt, 2010; Paterson, 2000) that can lead to isolation (Brittain & Shaw, 2007), and they are associated with depression and anxiety (Coyne, Wein, et al., 2009; Litman et al., 2007).

Second, despite the availability of relatively simple and effective treatments (Dougherty et al., 2002; Harrison & Memel, 1994), a significant portion of people with LUTS do not consult a health care provider about their symptoms. Documented barriers to seeking help for LUTS include feeling too embarrassed, ashamed, or uncomfortable to talk with a doctor about urinary symptoms (Doshani, Pitchforth, Mayne, & Tincello, 2007; Nicolson et al., 2008), lack of awareness that symptoms are treatable (Diokno, Sand, Macdiarmid, Shah, & Armstrong, 2006; Horrocks, Somerset, Stoddart, & Peters, 2004; Shaw, Tansey, Jackson, Hyde, & Allan, 2001), and uncertainty about the cause of the symptoms (Gannon, Glover, O'Neill, & Emberton, 2004). As expected, higher levels of perceived symptom severity and bother increase the likelihood of help-seeking (Kaplan et al., 2009; Sandvik, Kveine, & Hunskaar, 1993; Sarma, Wallner, Jacobsen, Dunn, & Wei, 2008; Shaw et al., 2001). However, among those people who reported experiencing multiple LUTS, less than one-third sought medical care (Sexton et al., 2009). Even for incontinence, reported rates of help-seeking range 15–52% (Huang et al., 2006; Kinchen et al., 2003; Novielli et al., 2003; Peters, Horrocks, Stoddart, & Somerset, 2004).

Third, people's interpretations of symptoms appear to differ across racial and ethnic groups. For example, symptom bother is associated not only with objective measures such as number, type, and severity of LUTS (Irwin et al., 2009; Sexton et al., 2009) but also with race or ethnic group (Kupelian et al., 2006). Compared to White men, Black men reported higher LUTS severity but lower symptom bother (Sarma et al., 2003). These findings suggest that people assess symptoms differently regardless of objective criteria and that interpretations are related to sociocultural differences.

Finally, there are gaps in the knowledge about people's cognitive representations of LUTS. For example, a well-documented causal belief is that symptoms are an inevitable part of aging; however, younger people experience LUTS as well. Furthermore, it is unknown if causal beliefs differ across social groups, and beliefs other than symptom cause are not well-documented. As a result, LUTS provides a good case for applying Shaw's framework to examine how cognitive representations of symptoms among those who have not spoken with a provider may differ across race or ethnic group.

Method

A qualitative research design was used to allow participants to explain their symptom-related beliefs and experiences in an open-ended and detailed manner.

Sample

Respondents were a subsample of participants in the Boston Area Community Health (BACH) Survey. The BACH survey is a community-based, random sample epidemiologic survey ($n = 5,506$) of a broad range of urologic symptoms. This parent study utilized a multistage stratified cluster design to recruit a diverse sample of men and women aged 30–79 years from three major United States racial or ethnic groups (Black, Hispanic, and White). The BACH study design and implementation have been reported previously (McKinlay & Link, 2007).

Based on the BACH sample, stratified random sampling was used to recruit a subsample of 151 respondents who reported at least one urinary symptom on the BACH survey. The subsample consisted of roughly equal numbers of men and women from a broad age range (34–85 years) across the three BACH race and ethnic groups. Respondents for the current study consist of a further subsample of the 35 participants who reported during the qualitative interview that they had not “ever talked with a doctor, nurse, or some other kind of health care professional” about their urinary symptoms. Similar to the larger qualitative sample of 151 respondents, the sample for this study consisted of roughly equal numbers of men and women (18 and 17, respectively) as well as race and ethnic backgrounds (10 Black, 12 Hispanic, and 13 White respondents). The sample represented a range of ages and urologic symptoms (Table 1).

Data Collection

Respondents participated in an in-depth interview about their characterization of and experience with urinary symptoms, their beliefs and attitudes about those symptoms; their coping and management strategies; and help seeking from family, friends, and health care providers. A semistructured interview guide was developed from a literature review and refined based on eight focus groups stratified by gender and race or ethnicity. Interviews were conducted by trained qualitative data collectors in either English or Spanish, according to respondent preference. Interviews were conducted in 2007–2008, lasted approximately 60 minutes each, and took place in respondents’ homes.

Both the parent study (BACH) and the qualitative interviews were approved by the Institutional Review Board of New England Research Institutes. All respondents provided written informed consent prior to participating. Each participant was assigned a study number in order to protect confidentiality.

The current analysis was focused on respondents’ knowledge, beliefs, and attitudes about their symptoms. Applying Shaw’s framework, all respondents had reported previously at least one urinary symptom (i.e., identification) and were asked to address what they thought caused their symptoms, whether they thought their symptoms would continue indefinitely or go away (i.e., time), and whether they thought urinary symptoms were signs of other health problems (i.e., consequence). In addition, respondents were asked what they thought a health care provider might do for their symptoms (i.e., treatability).

Analytic Strategy

Interviews were recorded digitally and transcribed verbatim. Interviews conducted in Spanish were transcribed and then translated into English. Transcripts were imported into Atlas.ti qualitative analysis software (www.atlasti.com) to facilitate data organization and coding.

Analysis began by developing an initial code list, a process known as *open coding* (Corbin & Strauss, 2008). The analysts met to compare and discuss their lists of codes and

corresponding text. Throughout data collection, analysts read transcripts as they became available and met regularly to review coding and the code list, adding and defining new codes as needed. A codebook with code definitions was stored in Atlas.ti. Following open coding, the lead author developed detailed subcodes, entered them into the codebook, and applied them to all transcripts using Atlas.ti.

Thematic analysis proceeded in two ways. The most commonly occurring categories were identified and compared across race or ethnic groups. To fully develop themes, corresponding quotations were examined thoroughly to elicit the meaning of each category.

Rigor

Several steps were taken to enhance methodological rigor. To guard against response bias, interviewers were trained to build rapport with respondents. As part of the interview protocol, interviewers emphasized that they were not connected to a medical organization or doctor but rather were interested in learning from the respondent about her or his experiences and viewpoints. In addition, to maximize respondents' comfort levels, interviews were conducted in respondents' homes and in their chosen language (English or Spanish). During analysis, auditability was enhanced by using a consensus process with multiple analysts (described above). To assess credibility, a draft of this paper was circulated to project staff members, including an interviewer who had listened to respondents' stories firsthand.

Results

Respondents in the full sample held varied beliefs about the causes, consequences, continuation, and treatability of their urinary symptoms (Table 2). The most common causes identified were personal behaviors and aging, but about one-fifth of the sample was uncertain of the cause. The two main causal attributions—personal behaviors and aging—were at opposite ends of the spectrum of whether their symptoms were under their personal control. The sample was split on whether their symptoms would continue, but the majority believed their symptoms were treatable and could have a health consequence--yet they had not sought medical care. For the full sample, these findings appeared inconsistent and even contradictory. However, examining results by race and ethnic group helped to make sense of the various beliefs.

White Respondents Believed Symptoms Were Normal Aging

The familiar view that urinary symptoms are a part of aging was most common among White respondents. Consistent with previous research (Shaw et al., 2001), respondents who attributed LUTS to aging typically normalized their symptoms. A 74-year-old White man provided a typical explanation when he said that his symptoms were “just part of the normal aging process..., just muscles relaxed over time.” As expected, normalizing symptoms meant that they were interpreted to be of relatively low importance or concern.

Attributing the cause of urinary symptoms to aging raised the issue of bodily control, particularly for incontinence. As a 73-year-old White man who experienced occasional leakage explained, “There have been times when, and this I definitely attribute to age, where I actually lose control. Now that really bothers me. ... You start to say, ‘Oh my God...Am I losing control of my functions?’ And, it’s not a nice feeling.” In his view, a person with urinary incontinence “is a person who’s ready for a nursing home.” For him and others in this group, viewing symptoms as related to aging created distress because their symptoms were at odds with their perception of themselves as “not old enough” to lose urinary control.

In line with the view that aging causes LUTS, White respondents more often than Black or Hispanic respondents believed that their urinary symptoms would continue (69% vs. 11% and 30%, respectively). As a 57-year-old White woman explained, “Well, we’re getting older. So, we’re not going to get better, we’re just going to get worse. Isn’t that the process? Your body breaks down.” Similarly, White respondents also more often than Black or Hispanic respondents characterized symptoms as common among people their age (50% vs. 20% and 8%, respectively), and it was less common for White respondents than for Black or Hispanic respondents to believe that their urinary symptoms were treatable (40% vs. 78% and 80%, respectively). Taken together, these beliefs about the cause, continuation, and treatability of symptoms intersected to create a familiar storyline for explaining why this group did not seek medical help. That is, symptoms are believed to be a common part of aging and therefore not amenable to medical treatment.

For example, a 54-year-old White woman who experienced daily urinary hesitancy, incomplete bladder emptying, and frequent urination for over 10 years explained several times during the interview that she knew other middle-aged women who also had urinary problems, including incontinence. In her words, “Everybody’s kind of dealing with it. You know, it’s like the joke.” She continued to explain that her urinary problems were “lowest on the list” of items to address with her doctor because “it’s just part of getting older. There’s nothing to be done.” However, the same woman also told a story of a middle-aged friend with incontinence who had undergone corrective surgery. She concluded, “It also made me think, ‘Well, gee, if I had problems and they got worse, you know maybe there is something to be done for them.’ I sort of go along figuring, ‘Well, you’re just getting older. There’s not a lot to do.’” Even knowing someone who had received treatment did not fully undermine the belief that symptoms were age-related and not appropriate for medical treatment.

Black Respondents Believed Symptoms Were Controllable

Among Black respondents, the predominant beliefs were that LUTS were caused by personal behaviors, would or could go away, and were treatable. Many respondents in this group identified the amount, timing, and type of drinks they consumed (particularly beer, tea, or coffee) as the cause of their symptoms. As a 61-year-old Black woman explained, she attributed her symptoms to “the time factor in which I’m taking the fluids. I think that’s why I have to get up during the night and go to the bathroom.” Other personal behaviors believed to cause urinary symptoms included lack of exercise, rushing, and waiting too long to use the bathroom. For example, a 46-year-old Black woman explained that she was told as a young person “to do these exercises with your vagina to keep it strong,” and continued, “I didn’t do the exercises, so now I’m suffering.”

Although they had not sought medical care, most Black respondents believed that a doctor could treat their urinary symptoms. Respondents who believed their symptoms were treatable mentioned a range of ways in which they thought a doctor could help, including medication, surgery, diagnostic tests, exercise and lifestyle advice, and diet modifications. A 43-year-old Black woman expressed typical sentiments when she explained that a doctor “might do a test, like [a] urine test to see if I have an infection” and “they might change my diet or whatever, or [have me] exercise.”

This belief that symptoms are treatable helped to make sense of why Black respondents commonly believed that their symptoms would or could go away. As a 42-year-old Black woman said, “I think they will continue indefinitely if I don’t inform anyone about it,” implying that the doctor could help if she sought care.

Believing that one’s own behaviors caused urinary symptoms implied that they were controllable. For example, a 40-year-old Black woman explained: “I know people have to

control your bladder. Because if you have a schedule, you have to go to the bathroom, or you wait until you feel like to go to the bathroom and you go right way. So, I don't think it's going to be a problem." Similarly, a 62-year-old Black man said, "And I think you have to make sure you manage your bladder. Go to the bathroom when you feel it coming on. ... And, if you hold back, I mean..." Since symptoms were controllable, they would or could go away if they "have a schedule to go to the bathroom" (40-year-old Black woman) or "try to not drink too much tonight" (43-year-old Black woman).

In short, it was common for Black respondents to believe that their symptoms were within their control, making the available medical treatments unnecessary. For example, a 61-year-old Black woman who experienced nocturia explained that her symptom was caused by the type and timing of fluids she drank. In her words, "And I know when I drink the ginger ale that it makes me go to the bathroom like two or three times, especially if I drink more than just a little bit. ... And then when I do that, I pay for it by having to wake up and go to the bathroom during the night." As a result, she believed that changing her habits would relieve her symptoms. She continued, "If I could eliminate the vitamin water and the ginger ale completely and change the time factors as to when I take in these fluids, and I believe if I exercise consistently, I do believe they'll go away." When asked if she had ever spoken with a medical provider about her symptoms, she said "No, because I didn't think there was any need to. ... I didn't see it as a problem. I just felt like because of the fluids I take in...and the time factor in which I take them in, that that's what was going on in my body." It did not seem necessary to raise the issue with her physician since she attributed her symptoms to her own behaviors.

Among Hispanic Respondents, Uncertainty Fueled Worry

Hispanic respondents shared the main causal beliefs reported by other groups, but they also appeared to have more uncertainty regarding what caused their symptoms. Compared to one-fifth of the overall sample, a third of Hispanics in the sample expressed uncertainty as the sole or underlying view about what caused their symptoms. As a 57-year-old Hispanic man said when he was asked why he thought he had urinary symptoms, "That's what I would like to know, too! Because I urinate so much at night."

In addition, believing that symptoms would have a consequence was particularly prominent for Hispanics. Hispanics tended to view the body as an interconnected system in which "one thing leads to another" (44-year-old Hispanic man) and symptoms would have a "chain reaction" (41-year-old Hispanic woman). Furthermore, believing that symptoms would have a health consequence tended to accompany uncertainty about the cause, as six of seven respondents who were uncertain of the cause also expected a future health consequence. This combination was more common among Hispanics.

However, the belief that urinary symptoms could or would lead to a health problem did not translate into seeking medical care. The lack of help seeking was not because Hispanics tended to believe urinary symptoms were untreatable; 80% believed a doctor could help. As a 75-year-old Hispanic woman said, she would rather consult her doctor than family and friends about her symptoms because the doctor could provide "the right medicine for my disease." Instead, as with most respondents who believed their symptoms would have a consequence (14/18), Hispanics reported that they did not seek help because their symptoms were not serious *in the present*; the consequence would occur at some point in the future.

For example, a 39-year-old Hispanic man who described having symptoms of increased frequency and urgency for two years wondered about what may have caused his symptoms but ultimately remained uncertain, and this led to worry. He explained, "So, sometimes I worry because I don't know if it has something to do with any disease I might be getting but

still haven't gotten. I haven't had a check up so that I can be sure about what is happening.” He continued to explain that he viewed his urinary symptoms “as a disease that has to be treated or that sometimes makes me worry about the future in the sense that in the future this might cause something that is too late or too serious to treat.” He acknowledged that not seeking help may be exacerbating the problem, but he continued to live with the worry. In his words, “And, so far I haven't done anything to take control of this. But, yes, it worries me.” As this respondent illustrated, not seeking medical care did not preclude symptom-related concern about the future.

Discussion

A range of health beliefs was explored in this study to understand more fully how the cognitive representations among those who have not sought medical care for common urinary symptoms differ by race or ethnic group. The well-documented belief that aging causes LUTS occurred in combination with beliefs that symptoms were not treatable and would continue, and this explanation for not seeking help was most common among White respondents. In contrast, Black respondents more often attributed their symptoms to personal behaviors over which they had control and, therefore, did not require the available medical treatments. Hispanic respondents appeared to live more commonly with uncertainty and the accompanying worry.

Although not every respondent within a race or ethnic group reported the same beliefs, the trends for cognitive representations associated with not seeking medical care for LUTS differed by race or ethnic background. A full discussion of reasons for these differences is beyond the scope of this article, but Shaw's framework provides some guidance. Building on Leventhal et al. (1984), Shaw (1999) argues that health-related information is acquired in part from social and cultural sources. These sources include not only generalized societal knowledge but also informal communication within the context of different social groups. This suggests that people from varying race or ethnic groups may bring different information about health to the process of forming a cognitive representations of their symptoms.

Demonstrating that sociocultural differences shaped cognitive representations of symptoms contributes to prior knowledge in several ways. Gannon et al. (2004) have shown that uncertainty about LUTS and its causes contributes to a delay in help-seeking. The current study added that a particular sociocultural group (Hispanic people) appeared more often to be living with uncertainty about the cause of their symptoms, with the associated lack of help-seeking and worry.

In addition, although prior studies have concluded that people with LUTS often view their symptoms as not serious, this analysis of a diverse sample revealed that this attitude was not as widespread as the literature would suggest. Although some respondents viewed their urinary symptoms as a low health priority relative to other concerns, this did not preclude concern that the symptoms may have a future health consequence. As a result, reports of people considering urinary symptoms to be not serious do not necessarily mean that there is no symptom burden associated with LUTS.

Finally, prior studies have concluded a lack of awareness that symptoms are treatable (Diokno et al., 2006; Horrocks et al., 2004; Shaw et al., 2001). In contrast, the current analysis demonstrates that Black and Hispanic people with LUTS tend to believe that symptoms are treatable, even though they have not sought medical care. Although some of these respondents said that they may not choose to take a medication for urinary symptoms or wondered if the doctor would find their symptoms to be “serious,” “abnormal,” or an

“emergency,” they were aware that urinary symptoms are treatable. Rather than a lack of awareness of medical treatments, it was the combination of health beliefs to form a cognitive representation of symptoms that made sense of the behavior of not seeking care for these groups.

Limitations

The limitations of this research indicate areas for future research. First, more research is needed to evaluate whether the apparent association between the cognitive representations identified by this study and the behavior of not seeking medical care is a causal relationship. The current sample was drawn from a cross-section of people with LUTS, some of whom had sought medical care at the time of the interview while others had not. For those who had sought medical care, the data do not include retrospective information about their health beliefs prior to speaking with a health care provider about their symptoms. Future retrospective or longitudinal research of the full range of health beliefs before and after seeking medical care is required in order to examine causality directly.

Second, future research is needed to examine in-depth the other psychosocial factors theorized to influence one’s appraisal of the situation (Shaw, 1999), which was not possible in this study due to limitations of the dataset. Third, since the sample size for each race or ethnic group was relatively small, further research with a larger sample of people from racially diverse backgrounds is needed to confirm the differences in cognitive representations found in this study. Still, the findings from this study remain valid and informative as qualitative methods neither claim nor require population representativeness. The strength of this sample is in its diversity as results provided new insight into how patterns of cognitive representations of the same symptoms differ across racial and ethnic groups. The results also support the use of a diverse sample for future studies regarding health-related beliefs for other types of symptoms.

Implications

The finding that cognitive representations of symptoms tend to differ across race and ethnic groups underscores the need for cultural competency in patient assessment and health education, including but not limited to LUTS. Health care providers and educators cannot assume that patients across different sociocultural backgrounds hold the same or even the most commonly recognized beliefs about the causes, consequences, continuation, or treatability of their symptoms. The behavior of not disclosing symptoms to a provider was shared by all respondents, but the cognitive representations associated with that behavior differed across groups.

For example, in the case of LUTS, if providers and educators anticipate only the widely acknowledged belief that people normalize their symptoms as part of the aging process, then efforts to assess patient needs or educate about symptoms will fall short of connecting with the sizeable number of people who attribute symptoms to their own behaviors or are uncertain about the cause. In order to facilitate help-seeking for LUTS among patients from varied race and ethnic backgrounds, providers and educators could phrase questions in ways that reflect varying beliefs about symptoms, e.g., whether patients can identify a change in personal behavior that could improve their well-being or are uncertain about an issue related to their health. For LUTS and other symptom clusters, asking questions in ways that reflect varying beliefs about symptoms may increase the likelihood that a patient will disclose those symptoms during a clinical encounter.

The findings also have implications for theoretical models explaining health-related behaviors. In particular, as suggested by Shaw’s (1999) framework of health behavior and

outcomes, cognitive representations were made on the basis of several types of beliefs about symptoms. Causal attributions are an important but incomplete indicator of the role of health beliefs in explaining behaviors. In addition, the diversity of cognitive representations indicates that race and ethnic background operates by way of impacting health beliefs (rather than a factor parallel to health beliefs). Future research is needed to investigate whether race and ethnic background influences other factors that contribute to an illness appraisal (e.g., coping resources, values, previous experiences) as well as whether other social group differences (e.g., gender, age) intersect with these factors. Finally, that some respondents connected causal attributions to personal control suggests the need for future research to more fully examine the ways by which health beliefs intersect with health locus of control.

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References

- Abrams P, Cardozo L, Fall M, Griffiths D, Rosier P, Ulmsten U, et al. The standardisation of terminology in lower urinary tract function: Report from the standardisation sub-committee of the International Continence Society. *Urology*. 2003; 61(1):37–49. [PubMed: 12559262]
- Andersen, RM. Behavioral model of families' use of health services. Chicago, IL: Center for Health Administration Studies, University of Chicago; 1968.
- Andersen RM. Revisiting the behavioral model and access to medical care: Does it matter? *Journal of Health and Social Behavior*. 1995; 36(1):1–10. [PubMed: 7738325]
- Becker MH. The health belief model and personal health behavior. *Health Education Monographs*. 1974; 2:324–473.
- Brittain KR, Shaw C. The social consequences of living with and dealing with incontinence--A carers perspective. *Social Science & Medicine*. 2007; 65(6):1274–1283. [PubMed: 17509743]
- Corbin, J.; Strauss, AC. Basics of qualitative research: Techniques and procedures for developing grounded theory. 3rd ed.. Thousand Oaks, CA: Sage; 2008.
- Coyne KS, Sexton CC, Thompson CL, Milsom I, Irwin D, Kopp ZS, et al. The prevalence of lower urinary tract symptoms (LUTS) in the USA, the UK and Sweden: Results from the Epidemiology of LUTS (EpiLUTS) study. *BJU International*. 2009; 104(3):352–360. [PubMed: 19281467]
- Coyne KS, Wein AJ, Tubaro A, Sexton CC, Thompson CL, Kopp ZS, et al. The burden of lower urinary tract symptoms: evaluating the effect of LUTS on health-related quality of life, anxiety and depression: EpiLUTS. *BJU International*. 2009; 103 Suppl. 3:4–11. [PubMed: 19302497]
- Diokno AC, Sand PK, Macdiarmid S, Shah R, Armstrong RB. Perceptions and behaviours of women with bladder control problems. *Family Practice*. 2006; 23(5):568–577. [PubMed: 16731545]
- Doshani A, Pitchforth E, Mayne CJ, Tincello DG. Culturally sensitive continence care: A qualitative study among South Asian Indian women in Leicester. *Family Practice*. 2007; 24(6):585–593. [PubMed: 17962234]
- Dougherty MC, Dwyer JW, Pendergast JF, Boyington AR, Tomlinson BU, Coward RT, et al. A randomized trial of behavioral management for continence with older rural women. *Research in Nursing & Health*. 2002; 25(1):3–13. [PubMed: 11807915]
- Elstad EA, Taubenberger SP, Botelho EM, Tennstedt SL. Beyond incontinence: The stigma of other urinary symptoms. *Journal of Advanced Nursing*. 2010; 66(11):2460–2470. [PubMed: 20735505]
- Gannon K, Glover L, O'Neill M, Emberton M. Men and chronic illness: A qualitative study of LUTS. *Journal of Health Psychology*. 2004; 9(3):411–420. [PubMed: 15117540]

- Harrison GL, Memel DS. Urinary incontinence in women: Its prevalence and its management in a health promotion clinic. *The British Journal of General Practice*. 1994; 44(381):149–152. [PubMed: 8185987]
- Horrocks S, Somerset M, Stoddart H, Peters TJ. What prevents older people from seeking treatment for urinary incontinence? A qualitative exploration of barriers to the use of community continence services. *Family Practice*. 2004; 21(6):689–696. [PubMed: 15528285]
- Huang AJ, Thom DH, Kanaya AM, Wassel-Fyr CL, Van den Eeden SK, Ragins AI, et al. Urinary incontinence and pelvic floor dysfunction in Asian-American women. *American Journal of Obstetrics and Gynecology*. 2006; 195(5):1331–1337. [PubMed: 16643821]
- Irwin DE, Milsom I, Kopp Z, Abrams P, Artibani W, Herschorn S. Prevalence, severity, and symptom bother of lower urinary tract symptoms among men in the EPIC study: Impact of overactive bladder. *European Urology*. 2009; 56(1):14–20. [PubMed: 19278775]
- Kaplan SA, Roehrborn CG, Chapple CR, Rosen RC, Irwin DE, Kopp Z, et al. Implications of recent epidemiology studies for the clinical management of lower urinary tract symptoms. *BJU International*. 2009; 103 Suppl. 3:48–57. [PubMed: 19302502]
- Kinchen KS, Burgio K, Diokno AC, Fultz NH, Bump R, Obenchain R. Factors associated with women's decisions to seek treatment for urinary incontinence. *Journal of Women's Health*. 2003; 12(7):687–698.
- Kressin NR, Orner MB, Manze M, Glickman ME, Berlowitz D. Understanding contributors to racial disparities in blood pressure control. *Circulation. Cardiovascular Quality and Outcomes*. 2010; 3(2):173–180. [PubMed: 20233981]
- Kupelian V, Wei JT, O'Leary MP, Kusek JW, Litman HJ, Link CL, et al. Prevalence of lower urinary tract symptoms and effect on quality of life in a racially and ethnically diverse random sample: The Boston Area Community Health (BACH) Survey. *Archives of Internal Medicine*. 2006; 166(21):2381–2387. [PubMed: 17130393]
- Leventhal, H.; Nerenz, DR.; Steele, DJ. Illness representations and coping with health threats. In: Baum, A.; Taylor, SE.; Singer, JE., editors. *A handbook of psychology and health, volume IV: Social psychological aspects of health*. Mahwah, NJ: Erlbaum; 1984. p. 219-252.
- Litman HJ, Steers WD, Wei JT, Kupelian V, Link CL, McKinlay JB. Relationship of lifestyle and clinical factors to lower urinary tract symptoms: Results from Boston Area Community Health survey. *Urology*. 2007; 70(5):916–921. [PubMed: 17919693]
- McKinlay JB, Link CL. Measuring the urologic iceberg: Design and implementation of the Boston Area Community Health (BACH) Survey. *European Urology*. 2007; 52(2):389–396. [PubMed: 17383808]
- Nelson K, Geiger AM, Mangione CM. Effect of health beliefs on delays in care for abnormal cervical cytology in a multi-ethnic population. *Journal of General Internal Medicine*. 2002; 17(9):709–716. [PubMed: 12220368]
- Nicolson P, Kopp Z, Chapple CR, Kelleher C. It's just the worry about not being able to control it! A qualitative study of living with overactive bladder. *British Journal of Health Psychology*. 2008; 13(Pt 2):343–359. [PubMed: 17535499]
- Novielli KD, Simpson Z, Hua G, Diamond JJ, Sultana C, Paynter N. Urinary incontinence in primary care: A comparison of older African-American and Caucasian women. *International Urology and Nephrology*. 2003; 35(3):423–428. [PubMed: 15160551]
- Paterson J. Stigma associated with postprostatectomy urinary incontinence. *Journal of Wound, Ostomy, and Continence Nursing*. 2000; 27(3):168–173.
- Peters TJ, Horrocks S, Stoddart H, Somerset M. Factors associated with variations in older people's use of community-based continence services. *Health & Social Care in the Community*. 2004; 12(1):53–62. [PubMed: 14675365]
- Rosentock IM, Strecher VJ, Becker MH. Social learning theory and the Health Belief Model. *Health Education Quarterly*. 1988; 15(2):175–183. [PubMed: 3378902]
- Sandvik H, Kveine E, Hunskaar S. Female urinary incontinence--Psychosocial impact, self care, and consultations. *Scandinavian Journal of Caring Sciences*. 1993; 7(1):53–56. [PubMed: 8502856]
- Sarma AV, Wallner L, Jacobsen SJ, Dunn RL, Wei JT. Health seeking behavior for lower urinary tract symptoms in black men. *The Journal of Urology*. 2008; 180(1):227–232. [PubMed: 18499182]

- Sarma AV, Wei JT, Jacobson DJ, Dunn RL, Roberts RO, Girman CJ, et al. Comparison of lower urinary tract symptom severity and associated bother between community-dwelling black and white men: The Olmsted County Study of Urinary Symptoms and Health Status and the Flint Men's Health Study. *Urology*. 2003; 61(6):1086–1091. [PubMed: 12809866]
- Sexton CC, Coyne KS, Kopp ZS, Irwin DE, Milsom I, Aiyer LP, et al. The overlap of storage, voiding and postmicturition symptoms and implications for treatment seeking in the USA, UK and Sweden: EpiLUTS. *BJU International*. 2009; 103 Suppl. 3:12–23. [PubMed: 19302498]
- Shaw C. A framework for the study of coping, illness behaviour and outcomes. *Journal of Advanced Nursing*. 1999; 29(5):1246–1255. [PubMed: 10320510]
- Shaw C, Tansey R, Jackson C, Hyde C, Allan R. Barriers to help seeking in people with urinary symptoms. *Family Practice*. 2001; 18(1):48–52. [PubMed: 11145628]
- Vandoninck V, Bemelmans BL, Mazzetta C, Robertson C, Keech M, Boyle P, et al. The prevalence of urinary incontinence in community-dwelling married women: A matter of definition. *BJU International*. 2004; 94(9):1291–1295. [PubMed: 15610108]
- Welch G, Weinger K, Barry MJ. Quality-of-life impact of lower urinary tract symptom severity: Results from the Health Professionals Follow-up Study. *Urology*. 2002; 59(2):245–250. [PubMed: 11834396]

Figure 1.

Focus of the current study (shaded area) as part of Shaw's Framework for Research on Coping, Health and Illness Behaviour, and Outcome. Adapted from "A framework for the study of coping, illness behaviour and outcomes," by C. Shaw, 1999, *Journal of Advanced Nursing*, 29(5), p. 1247. Copyright 1999 by John Wiley and Sons. Permission granted to reproduce.

Table 1

Age and Self-Reported Symptoms within Race or Ethnic Group

	All <i>n</i> = 35	Black <i>n</i> = 10	Hispanic <i>n</i> = 12	White <i>n</i> = 13
Age (years)				
Mean	55.5	56.8	51.2	58.4
Range	34–84	40–84	39–75	34–74
Urinary symptoms				
Incontinence	6	1	3	2
Frequency	20	6	6	8
Nocturia	14	6	7	1
Urgency	13	1	6	6
Postvoid dribble	5	1	2	2
Incomplete emptying	5	1	2	2

Table 2Code Frequencies within Race or Ethnic Group^a

	All	Black	Hispanic	White
Cause(s) ^b	<i>n</i> = 35	<i>n</i> = 10	<i>n</i> = 12	<i>n</i> = 13
Personal behavior	19 (54%)	7 (70%)	5 (42%)	7 (54%)
Aging	14 (40%)	3 (30%)	3 (25%)	8 (62%)
Uncertainty (as the sole causal belief)	7 (20%)	0	4 (33%)	2 (15%)
Consequence	<i>n</i> = 30	<i>n</i> = 9	<i>n</i> = 10	<i>n</i> = 11
Yes	18 (60%)	3 (33%)	9 (90%)	6 (55%)
No	7 (23%)	3 (33%)	0	4 (36%)
Don't Know	5 (17%)	3 (33%)	1 (10%)	1 (9%)
Will symptoms continue?	<i>n</i> = 32	<i>n</i> = 9	<i>n</i> = 10	<i>n</i> = 13
Yes, will continue	13 (41%)	1 (11%)	3 (30%)	9 (69%)
No, will or could go away	12 (38%)	7 (78%)	4 (40%)	1 (8%)
Don't know	7 (22%)	1 (11%)	3 (30%)	3 (23%)
Treatable	<i>n</i> = 29	<i>n</i> = 9	<i>n</i> = 10	<i>n</i> = 10
Yes	19 (66%)	7 (78%)	8 (80%)	4 (40%)
Uncertain	6 (21%)	1 (11%)	2 (20%)	3 (30%)
No	4 (14%)	1 (11%)	0	3 (30%)
Attitudes	<i>n</i> = 32	<i>n</i> = 10	<i>n</i> = 12	<i>n</i> = 10
Symptoms are not serious	12 (38%)	4 (40%)	5 (42%)	4 (40%)
Symptoms are common	8 (25%)	2 (20%)	1 (8%)	5 (50%)

Notes.

^aSubsample sizes smaller reflect the number of respondents within each group who addressed the particular belief or attitude.^bSome respondents reported more than one causal belief.