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Older Ethnic Minority Women's Perceptions of Stroke Prevention and Walking

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Abstract

Objective—To inform development of a tailored behavioral stroke risk reduction intervention for ethnic minority seniors, we sought to explore gender differences in perceptions of stroke prevention and physical activity (walking).

Methods—In collaboration with community-based organizations, we conducted 12 mixed-gender focus groups of African-American, Latino, Chinese, and Korean seniors aged 60 years and older with a history of hypertension (women=89, men=42). Transcripts were coded and recurring topics compared by gender.

Results—Women expressed beliefs that differed from men in 4 topic areas: 1) stroke-related interest; 2) barriers to walking; 3) facilitators to walking; and 4) health behavior change attitudes. Compared to men, women were more interested in their role in response to a stroke and poststroke care. Women described walking as an acceptable form of exercise, but cited neighborhood safety and pain as walking barriers. Fear of nursing home placement and weight loss were identified as

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walking facilitators. Women were more prone than men to express active/control attitudes towards health behavior change.

Conclusions—Older ethnic minority women, a high risk population for stroke, may be more receptive to behavioral interventions that address the gender-specific themes identified by this study.

Introduction

Stroke is the third leading cause of death among women in the United States and the leading cause of major disability (Centers for Disease Control and Prevention, 2013). Women have higher stroke incidence and mortality than men, and 60% of people who die from stroke each year are women (Bushnell et al., 2014; Go et al., 2014). Older women (defined for the purpose of this paper as those aged 60 years or greater) may have lower functional recovery, greater disability post-stroke, and are more likely to be institutionalized from stroke than older men (Gargano & Reeves, 2007; Persky, Turtzo, & McCullough, 2010; Petrea et al., 2009; Reeves et al., 2008).

Racial and ethnic minority women may be especially vulnerable to stroke. African American and Latino women have greater prevalence of the stroke risk factors hypertension, diabetes and physical inactivity than their white female counterparts (American Heart Association/American Stroke Association, 2012; Schiller, Lucas, Ward, & Peregoy, 2012). Although similar epidemiologic studies of stroke prevalence and risk factors among Asian subgroups are lacking in the U.S., stroke mortality in Korea and China remains considerably higher than that in the U.S., United Kingdom, and other European countries, likely due to high rates of hypertension and other stroke risk factors among Asians (Hata & Kiyohara, 2013; Ueshima et al., 2008). Korean women have a greater prevalence of hypertension and hyperlipidemia than Korean men after middle age, and older Korean women surpass their male counterparts in diabetes and atrial fibrillation prevalence (T. H. Park et al., 2014). Stroke remains the leading cause of death in China (Tsai, Thomas, & Sudlow, 2013).

Knowing the warning signs of stroke is important because early intervention can decrease the odds of long-term physical and cognitive disability. While most women in the U.S. are not well informed about stroke overall, Latino and African American women have been less knowledgeable about stroke warning signs than white women (Ferris, Robertson, Fabunmi, & Mosca, 2005; Mochari-Greenberger, Towfighi, & Mosca, 2014). In a focus group study of stroke knowledge, Korean and Chinese immigrants were able to identify some visible signs of stroke (e.g., paralysis, sudden collapse), but did not discuss other common stroke symptoms, such as trouble speaking, blurred vision, weakness, decreased level of consciousness or sudden confusion (Ton et al., 2011).

Lifestyle – in particular physical activity – has consistently been shown to be strongly associated with stroke risk reduction and lower poststroke mortality in observational studies (Bell et al., 2013; Diep, Kwagyan, Kurantsin-Mills, Weir, & Jayam-Trouth, 2010; Wang et al., 2014). Despite the implications of this association, few older adults engage in sufficient physical activity to promote their health, and women and ethnic minorities are particularly sedentary (Kurian, Lykens, Bae, & Singh, 2012; Prevention; Schoenborn, Adams, &

Peregoy, 2013; Statistics, 2014; Sun, Norman, & While, 2013). Common physical activity facilitators and barriers among older ethnic minorities include social support and physical activity program access as enablers, and poor physical health and fear of falling as barriers (Belza, Chiang, Seman, & Hsin-Chun Tsai, 2008; Mathews et al., 2010; Park, Elavsky, & Koo, 2014). Older ethnic minority women have reported being less likely to exercise due to unsafe physical environments, caregiving duties and lack of time, whereas exercise self-efficacy and internal motivation to maintain health have been identified as important facilitators (Kang, Ferrans, Kim, Kim, & Lee, 2007; Lees et al., 2007; Lin, Huang, Young, & Chen, 2007; Wilcox, Castro, King, Housemann, & Brownson, 2000).

Our team has developed a tailored behavioral stroke risk reduction physical activity (walking) program for urban ethnic minority seniors to be implemented in community organizations serving older adults. While several forms of physical activity may contribute to reducing relative risk for stroke, we chose to focus on walking as one of the most preferred forms of exercise among this population (Belza et al., 2004). Walking level (meaning the amount of walking one does) is appealing as a primary physical activity outcome based on its association with decreased morbidity and mortality among older adults (LaCroix, Leveille, Hecht, Grothaus, & Wagner, 1996), and the practical reality that walking is an accessible form of physical activity for most seniors. We conducted ethnic-specific focus groups with African American, Latino, Chinese, and Korean high risk older women and men to inform intervention development and explore gender beliefs about stroke and walking for exercise. We present our findings on older women's perceptions of stroke prevention and walking, highlighting gender differences in perceptions.

Methods

Study Design

We conducted 12 mixed-gender focus groups (3 for each ethnic group) with a convenience sample of 131 community-dwelling African American, Latino, Chinese and Korean older adults between June 2013 and August 2013. Men were included in the sample for comparative purposes to highlight the uniqueness of women's experiences. Inclusion criteria included: age 60 years or older, self-identifying as one of the 4 ethnic groups specified, has been told by a doctor at least once in his or her life that blood pressure was elevated, able to sit in a 2-hour group setting and participate in a discussion in the appropriate language, and has cognitive ability to provide informed consent to participate. While the ability to walk with or without the use of assistive devices (e.g., canes, walkers) was not an explicit inclusion criterion, all focus group participants were able to walk, and the majority walked unassisted. Participants were recruited from three senior centers and one health and human services organization in Los Angeles County. Research staff conducted brief presentations about the study at these sites during lunch service and other popular activities drawing large groups of seniors. Trusted community leaders who were affiliates of the organizations and also part of the study team also referred potential participants. The University of California Los Angeles Office of the Human Research Protection Program approved this study.

Community-Partnered Approach

[blinded for review] served as the infrastructure for this bidirectional community-academic partnered research project. [blinded for review] is a collaboration between [blinded for review] and [blinded for review]. The [blinded for review] Community Action Board (CAB) reinforced the need for the development of a stroke and physical activity program for older adults that was community-based. The CAB worked closely with the study team to recruit laypersons and community representatives from each of the four targeted ethnic groups to serve on four ethnic-specific “mini-CABs” for the purposes of this project. The mini-CABs helped develop open-ended questions and probes for the semi-structured focus group guide. Example questions included: What do you think is happening when someone is having a stroke? What do you think causes someone to have a stroke? How common is it for you to walk as an exercise? What do you think about walking as a way to help prevent stroke in your community? The focus group guide was translated into each group’s respective language and used to facilitate discussion by a trained focus group facilitator. Translations were reviewed and approved by each mini-CAB to ensure accuracy and comprehensibility.

Data Collection

Participants provided written informed consent to participate. Because the majority of participants had limited English proficiency (excluding the African American older adults), a trained native-language speaker facilitated each focus group in English, Spanish, Mandarin, or Korean. Sessions were digitally audio recorded. Study team members were present to assist participants in filling out consent forms and a short survey on demographics, medical history and exercise behaviors. Each focus group consisted of 8 to 13 participants and lasted an average of 2 hours. Participants were given a twenty dollar gift card to a local retail store.

Analysis

Audio recordings of the sessions were transcribed, translated and reviewed by facilitators for accuracy. A code list was developed by the research team a priori based on the following key topics of interest informing the design of the intervention: a) stroke knowledge, b) walking acceptability, and c) program format and content preferences. Codes were then refined (i.e. added, deleted and/or collapsed) after an initial read of the transcripts. Two trained reviewers independently coded each transcript. Inter-coder agreement of 80% or greater was achieved on 20% of total transcript text. We used ATLAS.ti software version 7.1.7 (ATLAS.ti Inc 7.1.1, Berlin, Germany) for data management and coding.

Women were overrepresented in our sample and comments were made in proportion to their representation (68% of comments were made by women). To account for this discrepancy, we organized codes by the proportion of discussion among women and then separately as proportion of discussion among men. While percent discussion is a crude measure to assess the importance of the themes identified, this method allowed us to observe which concepts were most often discussed by each gender before we conducted more in-depth interpretation of quotes. Saturation of gender difference themes was reached among the ethnic-specific focus groups.

Results

Focus group participants were African American (26%), Latino (27%), Chinese (25%), and Korean (22%). The majority were female and 70 years or older (Table 1). Participants varied in educational attainment and few self-reported a history of stroke. Most had hypertension (86%) and/or high cholesterol (72%). Many participants (72%) reported being physically active for at least 60 minutes per week.

Gender differences in beliefs about stroke prevention and walking were identified for the following topics: 1) stroke-related interest; 2) barriers to walking; 3) facilitators to walking; and 4) health behavior change attitudes. We discuss themes identified within each gender difference topic, noting shared beliefs among men and women relevant to the development of our intervention when applicable.

Stroke-Related Interest

The most frequently identified areas of interest related to stroke that both men and women wanted to learn about included: (a) causes of stroke, (b) how to prevent stroke, and (c) stroke symptoms. Women also wanted to understand their role as caretaker during an acute stroke or in post-stroke care. In contrast, men did not discuss caregiving behaviors, and were more curious about the heritability of stroke.

Role in acute stroke

Women wanted to know what action to take in the event that they are present when someone experiences an acute stroke. One participant shared her experience in this role:

Once I got my friend's call, I went in right away. Within five minutes, I called 911. We live in senior housing, so the chance for this kind of emergency is pretty big for us. She was lying on the floor, but I was not sure if I could touch her or move her, so I just put her head on my lap. I want to know more about what we can do for this case, like emergency measure. (73 year old [yo] Korean woman)

Women were also interested in how much time they have to intervene in an acute stroke in order to reduce suffering and/or save a person's life. One 74yo Chinese woman said "I'd like to know what we could do to help someone who is having a stroke. I believe the earlier we can help the victim, the less he or she will suffer."

Post-stroke care

In contrast to men, women inquired about the type of care and treatment provided after a stroke. They wanted to learn about how they could manage side effects and prevent reoccurrence in themselves or a loved one. For example, a 62yo Chinese woman stated, "I'd like to know how to maintain your health after you have stroke and how to prevent stroke from happening again." Women also wanted information about post-stroke treatment options, such as rehabilitation or home care. One 67yo Latina said "What should one do if something like this has happened? After going to certain doctors, to what other places can we go for help...therapy...doctors?"

Barriers to Walking

While both women and men perceived walking positively as a form of exercise overall, they did discuss barriers to walking that included environmental/external barriers (e.g., weather), perceived/internal barriers (e.g., boredom), and medical issues. The percent of discussion spent on certain topics among men and women respectively helped us identify barriers that were especially important among women (Figure 1). Salient barriers to walking among women were neighborhood safety concerns, chronic medical conditions, and pain. Compared to men, women were less likely to discuss laziness or low self-efficacy as barriers to walking.

Neighborhood safety concerns

Many women discussed concerns about walking outdoors and the fear of being attacked, especially when alone. One 70yo Latina discussed the need to be mindful “that there aren’t rapists” when walking in the neighborhood. Another participant talked about how she stopped walking five years ago after a murder took place in her neighborhood. The following sentiment by a 72yo African American woman was prominent among women in all groups: “It would be good if we could all get out there to walk but some places aren’t really that safe.” Women not only expressed the need for more safe places to walk outdoors, but also to have a walking companion in order to feel more safe. A 68yo African American woman stated “I would love to walk in my neighborhood but I don’t have anybody to walk with me.” The same participant later mentioned a walking club in the mall as an alternative to walking outdoors: “They have a walking club in the mall. They get together in the mall, and the seniors, they walk around inside the mall.”

Chronic medical conditions and pain

The majority of women from all groups discussed knee and back pain from arthritis as a limitation to walking. One 74yo Chinese woman stated “It all depends on your health status, if you have arthritis, back or knee problem, you are in pain, then you can’t walk.” Another participant also discussed joint pain:

I have friends who have joint problems, especially knees. They do not want to walk because it hurts. However, I’ve also heard from doctors that we still need to walk for knees even if walking hurts. I want to hear about this too whether walking is good or not in this case? (74yo Korean woman)

Women shared strategies to overcome these medical issues, such as walking despite initial pain, walking slowly, taking seated breaks as needed, having a goal or destination in mind, and keeping a positive mind/faith in God. One 87yo Latina said “When I start walking my whole body hurts, and as I continue to walk half a block it goes away...and so it makes me walk every day.” Another woman discussed belief in God as a means to overcoming the challenge of avoiding falling while walking:

My opinion is also that if one believes in God, you have a positive mind and a way of coming out ahead. There are times that I feel that I am going to fall walking, and I say “My God, you are the one that holds me up...because of you I live, because of you I walk...I am not going to fall”...and I keep walking. (71yo Latina)

Facilitators to Walking

Women and men discussed several motivations for walking that may resonate with sedentary older adults who participate in our behavioral intervention, such as health benefits and social support. Walking facilitators that were more prominently discussed by women included fear of nursing home placement and weight loss.

Health benefits

Overall health benefit was seen as the most important reason to walk by all participants. Regardless of their own physical activity habits, both women and men recognized that walking can help prevent chronic diseases, lower blood pressure and cholesterol, promote blood circulation, prevent hospitalization, and relax the mind and body. “I felt good every day. I slept well and I know walking is very important, it’s good for the body, it’s good for your soul, it’s good for your heart, just good for you,” said a 74yo African American woman.

A subset of women felt that their level of walking was either not significant or intentional enough to reduce stroke or other chronic disease risk, and therefore, should not be labeled as exercise. For some women, occupational or housework activities (e.g., walking to bus stop or market, grocery shopping, shopping in the mall) did not “count” as physical activity. As one 65yo African American woman described, “I do walk, but not as an exercise. I will walk if I go to the casino and I will walk all over the casino.”

Group walking for social support

Both women and men shared that walking with others would make one accountable and the experience of exercising more enjoyable. One 62yo Chinese woman said “We need someone to push us. We have to do it as a group. If you are healthy, I want to be healthy too.” Another participant discussed that walking for social interaction has physical and mental benefits:

If you are frail and you are not walking fast, you still can go to park for some fresh air. Have a chat with friends at the park. It’s still better than staying at home. Many older adults feel lonely and they have no one to talk to. It is easy for older adults to get depressed. (66yo Chinese woman)

Participants frequently mentioned that having a formal walking group would not only motivate older adults to walk, but also serve to help seniors learn about their neighborhood, provide public service, and help address neighborhood safety concerns. They requested that a walking club be organized by “the community” or “a community leader,” perhaps under the purview of a local senior center.

If we have this kind of (walking) program offered...we will have something we can participate in and have some conversations with each other. Maybe we can clean up the street as we walk. It will give older adults motivation. It would be even better if more people can join us. I feel so good today because I get to interact with people and make a conversation. (82yo Korean woman)

Fear of nursing home

Women voiced fear over nursing home placement and desire to maintain independence. As one 69yo Chinese woman said, “No one wants to go to a nursing home. If you are there, you are just waiting to die.” Compared to men, more women felt that reduced risk of institutionalization would be a good motivator to walk. “If it would lessen the chances of me going to a nursing home, yes I’m going to start walking,” stated a 76yo African American woman.

Weight loss

Weight loss was a motivator for women to walk. In some instances, weight loss was important to women for cosmetic reasons, such as having a “flat belly.” In other instances, walking to lose weight was important for health reasons. One woman discussed her struggle with obesity as a reason to walk:

I have been walking for 25 years, daily one hour. For me it is indispensable to walk...and I definitely started walking because I was obese. And so the doctor said that I had too much fat in my body and that I had to walk. And that is how I took on the habit of walking on the side. (73yo Latina)

Health Behavior Change Attitudes

Focus group participants’ attitudes toward changing personal health behaviors differed by gender. As illustrated in Figure 2, women expressed more active/control attitudes, such as an active pursuit of or determination to achieve health behavior change. Women described how they took control of their health through regular checkups and/or medication adherence. One woman discussed how she adjusted to the physical changes that come with age in order to remain physically active:

I live in [city located in the northern region of the county], so I went to the senior center in [city located 23 miles away in the western region of the county] for an hour exercise, and then I went to the beach to walk. However, as I age more, it gets harder to go all the way to [city located in the western region of the county]. Instead, now I come here [local senior center]. I still try to walk. I walk to my bus stop for 5–10 minutes, sometimes rather than taking bus at the nearest bus stop, I walk to the next bus stop to do some more exercise. (82yo Korean woman)

Many women talked about having the “will” to persist despite debilitating medical conditions. One 61yo Latina talked about how she overcomes pain: “I also have that deforming arthritis and it hurts me to the soul...but I tell my brain, ‘no pain...I will overcome you and I will exercise.’” Another participant discussed the need to walk to maintain a sense of self:

I accumulated COPD with asthma and I love to walk but I get so short of breath, but I force myself because I don’t want to accept that I just can’t do it anymore. But I do my very best. (79yo African American woman)

In contrast to women, men were more likely to express attitudes or approaches to behavior change that were passive, such as the belief that a natural part of aging includes illness beyond one's control.

Discussion

This is one of the first studies to identify gender differences in perceptions about important stroke topics and the acceptability of walking as a potential stroke risk reduction strategy among minority seniors at risk for stroke. Targeted efforts to increase stroke symptom and risk factor awareness are needed for at-risk minority populations in order to reduce stroke disparities (Trimble & Morgenstern, 2008), and our findings suggest that in order to maximize impact, interventions might also be tailored to address differences in stroke beliefs by gender.

Women in our study expressed more positive attitudes towards health behavior change and a stronger will to walk than men in spite of various barriers. While previous studies have identified lack of motivation as a primary barrier to physical activity among older minority women (Eyler et al., 1998; Juarbe, Turok, & Pérez-Stable, 2002; Wilcox, 2002), this was not a major perceived barrier among our female participants. Other reported barriers and facilitators to walking are consistent with previous research, such as chronic conditions and pain as walking barriers and health benefit, safe neighborhoods and social context (e.g. having others to exercise with) as walking facilitators (Belza et al., 2004; Duru, Sarkisian, Leng, & Mangione, 2010; Kowal & Fortier, 2007; Mathews et al., 2010; O'Brien Cousins, 2000). Our findings support the following conclusion from Pudrovsk's study on gender differences in internal health locus of control: women, especially older women, have higher internal health locus of control beliefs than men (Pudrovsk, 2014).

One finding that we have been able to directly incorporate into our intervention is that women in our focus groups wanted to understand their role as caretaker for a person who experiences stroke and expressed enthusiasm for interventions that address this. A number of women had personal experiences with stroke of a family member or friend, and may have naturally seen themselves in the caregiving role. With our intervention we will be able to test whether addressing this female-specific concern leads to greater improvements in physical activity.

There are several limitations to our study. The majority of focus group participants self-reported physical activity for at least 60 minutes per week, which is not typical of all ethnic minority older adults and limits generalizability. Because people who attend senior centers tend to be more "engaged" than average, scientists and others who use this data should not extrapolate findings to other settings. Hypertension and physical activity were self-reported, which can be inaccurate. Furthermore, the standard we used to assess physical activity on the survey distributed to participants was lower than the CDC recommendation of 150 minutes of weekly moderate-intensity aerobic activity (i.e. brisk walking) in conjunction with muscle-strengthening activities (Centers for Disease Control and Prevention, 2008); we used a modified metric given that the CDC recommendation is for generally fit older adults with no limiting health conditions, and our sample had a high prevalence of chronic illness

overall. Our findings were based on predetermined categories of interest for the development of a particular intervention and we have not reported all aspects of the data/focus group discussions for this reason. Though the facilitators followed a scripted protocol and elicited input from every single focus group participant, it is possible that participants might have said different things in single-sex groups. In addition, though we employed standard qualitative methods for our focus groups, this study may have been susceptible to respondent bias as well as subjective interpretation by those who coded the transcripts. Members of the study team independently reviewed the transcripts and adjudicated discrepancies by a third investigator in an attempt to reduce bias in this regard. Living situation (i.e. alone or married, caregiver or not, etc.) and pre-existing disability can influence beliefs about physical activity and stroke risk, but we did not measure these constructs; these would be interesting areas to explore in future research.

Implications for Practice and/or Policy

Our study found differences in perceptions about stroke and walking as a potential risk reduction strategy among older minority women and men. Behavioral interventions tailored to address gender-specific beliefs may have greater acceptability and impact among older ethnic minority women, a population at high risk for stroke. Findings from this study have already directly influenced the development of our risk reduction walking intervention. The intervention consists of a group-based facilitated curriculum including stroke topics of interest to women (i.e., call 911 in acute stroke situation or role as caretaker post-stroke), information on the benefits of walking for arthritis pain and stiffness, and safety tips for walking. While addressing neighborhood safety will require considerable infrastructure development, addressing other issues identified as most relevant to women is very feasible. Developing “walking partners” could be a way to enhance activity and also improve safety. Gender-specific motivators for walking, such as reduced risk of nursing home placement and improved physical health and appearance, are emphasized. We plan to assess changes in mean steps per day as measured by a pedometer as the primary outcome measure in a randomized controlled trial among at-risk older minority adults. We will conduct a sub-analysis of the primary outcome by gender in order to measure the impact of gender-specific tailoring.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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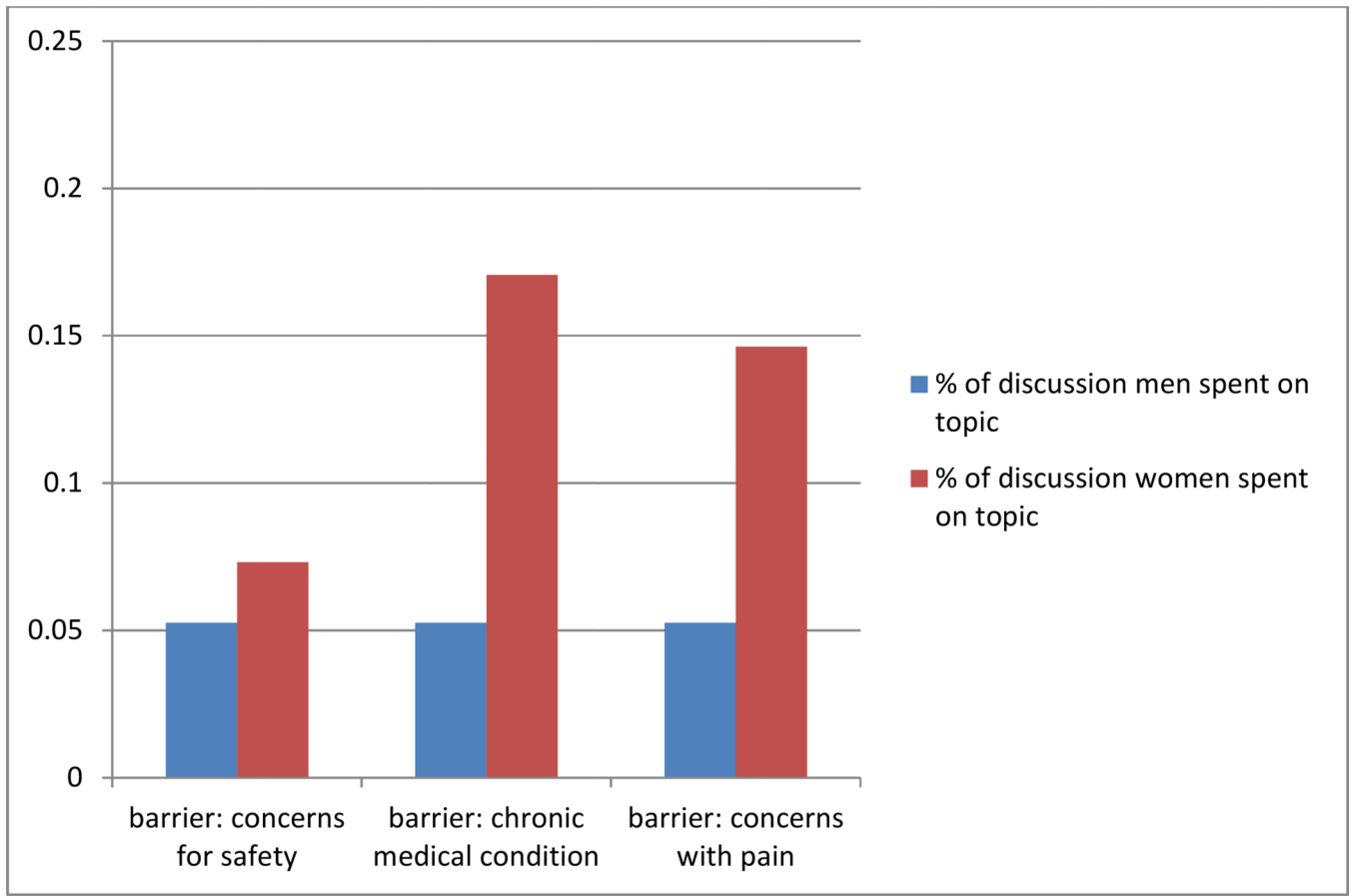


Figure 1.
Percent Discussion on Barriers to Walking for Men and Women

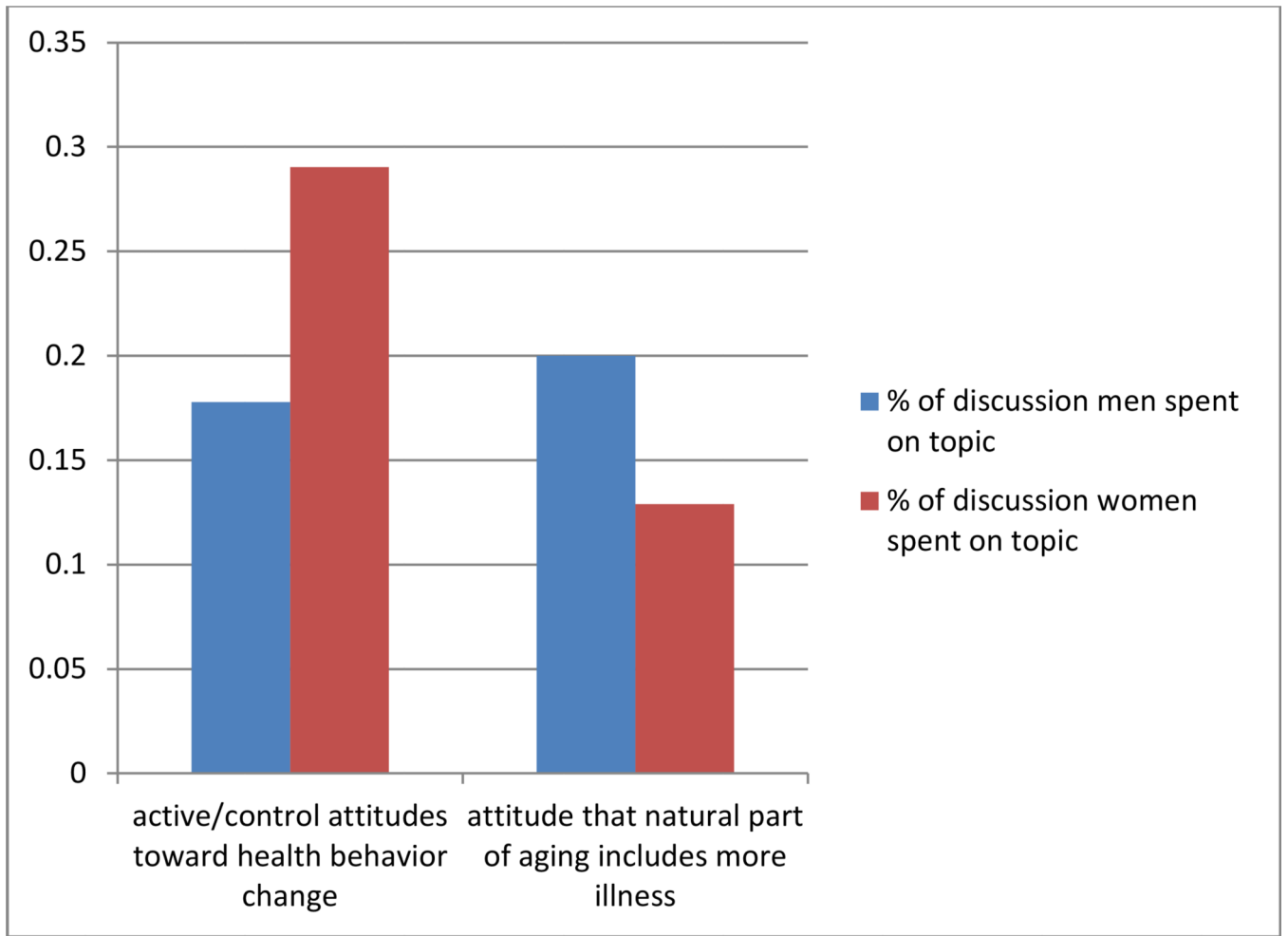


Figure 2.
Percent Discussion on Attitudes toward Health Behavior Change for Men and Women

Table 1

Focus Group Participant Characteristics, n=131

	n (%)
Age ^a	
60–69	48 (37)
70–79	61 (47)
80–89	19 (15)
90 years old	1 (1)
Female	89 (68)
Ethnicity	
African-American	34 (26)
Latino	35 (27)
Chinese	33 (25)
Korean	29 (22)
Education	
8 th grade or less	34 (26)
Some high school	17 (13)
High school diploma	35 (27)
GED	2 (2)
Vocational school or some college	24 (18)
4 year college degree	13 (10)
More than 4 year college degree	6 (5)
History of stroke	10 (8)
Have high blood pressure	113 (86)
Have high cholesterol	94 (72)
Exercise for 20+ minutes 3 times per week	94 (72)

^aValues may not add to total n due to missing data (i.e., age)