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Designing a Bone Health and Soy Focus Group Discussion Guide Based on the Health Belief Model

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Abstract

Focus groups were used to assess the knowledge and skills of women in order to support curricula development. The Health Belief Model was applied to the discussion guide to enhance focus group findings and applications. Constructs related to perceived susceptibility, severity, benefits, and barriers; cues to action; and self-efficacy were probed. Focus group findings revealed that women may have a limited understanding of osteoporosis risk. Perceived barriers such as negative perceptions to soy consumption were also noted. Cues to action were identified and integrated. Basing focus group discussion guides on model constructs may enhance focus group results and their applications.

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Introduction

Osteoporosis, the most common form of bone disease, affects 10 million Americans over the age of 50 (U.S. Department of Health and Human Services, 2004). According to the Surgeon General, without action to address osteoporosis, 50% of Americans will have or be at risk of developing this

disease by the year 2020 (U.S. Department of Health and Human Services, 2004). Therefore, education programs are needed to increase awareness and enhance skills in order to affect behavior changes related to bone health.

Diet quality plays a significant role in bone health (Llich & Karstetter, 2000). Soy foods such as soybeans, or edamame, and calcium-fortified tofu and soymilk provide calcium to the diet when consumed. While some emerging research studies support the association between soy foods and bone health (Zhang et al., 2005), the role of soy isoflavones and bone health remains controversial (Weaver & Cheong, 2005).

The research reported here assessed osteoporosis and soy knowledge and skills of adult women. If people do not perceive themselves to be at risk for osteoporosis, or they have a limited understanding of available actions for behavior change, it is unlikely that positive health-related changes will occur. Qualitative evaluation, including focus groups, can be useful in assessing client knowledge and skills before designing curricula (Krueger, 1994). To better understand the intended audience, the Health Belief Model was applied during the development of the focus group discussion guide.

According to the Health Belief Model change in behavior is dependent upon several factors or constructs (Janz, Champion, & Strecher, 2002), which include perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. According to the Health Belief Model, behavior change is unlikely to occur if women: underestimate their risk for osteoporosis or its severity, have not addressed their barriers to behavior change and options for change, and/or feel they do not have the capacity to make healthful behavior changes related to osteoporosis risk reduction. The Health Belief Model was selected because its constructs could readily be addressed during curriculum development.

Focus group were conducted to:

- Explore topics related to osteoporosis including consumer knowledge of risk factors and perceived susceptibility,
- Explore consumer knowledge of soy foods and their proposed health benefits, and
- Validate osteoporosis curriculum development for women in their fourth and fifth decade of life.

Methods

Discussion probes were developed to facilitate focus group discussion based on Health Belief Model constructs. A focus group discussion guide was developed, reviewed by peer experts, and pilot tested. The discussion guide was used to conduct five focus groups with adult women in Montgomery, Williamson, and Dallas counties in Texas. Participants were recruited by Texas Cooperative Extension Family and Consumer Sciences agents. Focus group procedures, including the discussion guide, were approved by the Institutional Review Board of the Texas A&M University System.

After signing written consent forms, participants were welcomed to the focus group and introduced to the general format and made aware of the expectations of the proceedings. Discussion probes were used to guide conversations. Focus group sessions lasted approximately 60 minutes and were co-facilitated by a nutrition specialist and an evaluation specialist. Selected discussion probes are shown in Table 1.

Table 1.
Health Belief Model Construct and Related Discussion Probes

Health Belief Model Construct	Selected Discussion Probes
Perceived susceptibility of osteoporosis	What do you think are your chances that you will get osteoporosis? What are some factors that increase the likelihood that someone will develop osteoporosis?
Perceived severity of osteoporosis	What concerns you most about osteoporosis?
Perceived benefits of soy	What are the health benefits of soy foods?
Perceived barriers of consuming soy	What is the likelihood that you will buy soy foods in the future? Why not?
Cues to Action for	What do you think are some steps that you can take to help prevent osteoporosis?

<i>osteoporosis prevention</i>	
<i>Self-efficacy for consuming soy</i>	Have you used recipes which call for soy ingredients? If you had recipes, would that increase the likelihood that you would try new soy foods?

Results

Ethnicity of the focus group participants (n=63) was as follows: 84% Caucasian, 6% Hispanic, 6% African American, and 2% Asian. Participant ages were as follows: 11% < 40 years, 32% 40 to 49 years, 19% 50 to 59 years, and 35% over age 59.

Focus groups were conducted as guided discussion. During the focus groups, most participants demonstrated an understanding of increased risk of developing osteoporosis as one ages, especially post-menopausal women. Also, several participants mentioned heredity as a factor in osteoporosis development, as they had family members with the disease. Although they mentioned more common risk factors, the participants were unaware of other osteoporosis risk factors such as certain medications, anorexia, and alcohol abuse (Robinson, Cummings, Bielamowicz, & Rodgers, 2005).

The participants agreed that they should strive to eat right and maintain a healthy lifestyle to provide good examples for their children, but barriers such as conflicting information and lack of knowledge were mentioned as reasons to why that is sometimes difficult. In regards to soy foods, several participants were unaware of the health benefits of soy and unsure of how to prepare it. Most agreed they would try to incorporate soy into their daily meal plans, given information on how to do so. Selected responses to the discussion guide probes are shown in Table 2.

Table 2.
Health Belief Model Construct and Selected Focus Group Responses

Health Belief Model Construct	Selected Participant Statements
Perceived susceptibility of <i>osteoporosis</i>	"The more weight you carry, the stronger your bones." "It [osteoporosis] is in my family."
Perceived severity of <i>osteoporosis</i>	"...breaking a bone, hip or back." "Your bones become so brittle that just moving causes them to break." "Being bent over." "...deterioration of the spine"
Perceived benefits of <i>soy</i>	"Soy has calcium." "I tried it [edamame] the first time because of its connection to menopause. I discovered I liked it."
Perceived barriers of <i>consuming soy</i>	"I don't think I would like it [soy]." "I don't see it [soy] at the grocery store." "I don't know what to do with it [soy]." "I just don't think about it [soy]."
Cues to Action for <i>osteoporosis prevention</i>	"Walking...don't stress the body." "Weight bearing exercises" "Calcium."
Self-efficacy for <i>soy usage</i>	"I would try recipes." "I made chili with ground soy and my grandchildren didn't notice the difference"

Discussion and Conclusion

The research reported here was conducted to better understand consumers' knowledge and perceptions related to bone health and soy foods. Curriculum development on bone health was based, in part, on results of these focus groups. Based on the participants' comments, it was determined that many women may have a limited understanding of their perceived susceptibility for osteoporosis. Therefore, a bone health curricula undergoing development was expanded in the section on osteoporosis risk factors to include medications, amenorrhea, smoking and alcohol consumption, which were lesser known risk factors revealed by the focus group research.

Perceived barriers to soy consumption were also noted during the focus groups. Therefore, curricula included suggestions on how to use soy as an ingredient in recipes. For example, a smoothie recipe using soymilk and soy yogurt was included in the curricula. Cues to action were also included in the curricula that promoted active health engagement.

Education programs are necessary to increase consumer awareness and enhance skills in order to affect change in behaviors. However, the Health Belief Model reveals that the majority of people do

not make health-related changes unless they perceive themselves to be at risk. Basing focus group discussion guides on appropriate model constructs, such as the Health Belief Model, may enhance focus group results and their application to curricula development, thus encouraging consumers to strive toward a more healthy lifestyle.

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