Qualitative Exploration of Rural Focus Group Members’ Participation in the Chronic Disease Self-Management Program

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ABSTRACT

 Nearly half of all older persons in the United States have at least one chronic condition, and meeting the complex needs of these individuals has become a challenge for our current health care system. A self-management approach enables individuals suffering from chronic conditions gain skills needed to improve the management of their conditions. Rural areas have a higher proportion of individuals who are likely to be affected by chronic conditions. Based on these factors, it is necessary to provide programs to help rural residents self-manage their chronic conditions. This present study is primarily concerned with exploring the perceived benefits that rural residents experience due to their participation in the Stanford University Chronic Disease Self-Management Program (CDSMP). We conducted six focus groups with 34 participants. The majority of the participants were female (91%) and non-Hispanic whites (97%). The mean number of chronic conditions was 2, with a range between 1 and 8 chronic conditions per participant. Two prominent themes emerged from the six focus groups: self-management strategies and self-regulatory activities. Our findings support that chronic disease self-management programs can initiate positive behavioral changes, and those lifestyle changes can influence and improve the health of rural populations.

INTRODUCTION

With nearly half of all persons in the United States suffering from one or more chronic conditions (Anderson, 2010; Schneider, O'Donnell, & Dean, 2009), meeting the needs of these individuals has become a challenge for our current health care system. As the number of chronic conditions that individuals experience increases, so does the complexity of care. In order to address this challenge, health professionals have begun to promote a chronic model of health (Kane & Kane, 2001) in which the active involvement of individuals in making decisions about health care and the need to promote self-care are emphasized. “Chronic disease self-management” refers to the daily activities that individuals undertake to keep their health conditions under control, that is, activities which minimize the impact on their physical health status and which enable them to cope with the psychological effects of their condition (Clark et al., 1991; Clark, 2003). Von Korff, Gruman, Schaefer, Curry, and Wagner (1997) noted that self-management activities include: 1) engaging in activities to promote health and build up physiological reserves; 2) interacting with health care providers; 3) adhering to treatment protocols; 4) monitoring of physical and emotional status and making appropriate management decisions on the basis of self-monitoring; and 5) managing the effects of the illness on the individual’s ability to function in important roles, as well as activities that have an impact on emotions, self-esteem, and relationships with others.
The importance of self-care for chronic conditions is enhanced in rural communities. Access to health care and health-related resources may be less available in rural areas. Preventive services are often not as available or are underutilized in these communities (Andrus, Kelley, & Herndon, 2004). Also, individuals with low incomes and low levels of education in rural areas appear to be the least likely to utilize preventive services (Shenson, Bolen, & Adams, 2007). Rural communities also have less access to physicians and health care facilities. While approximately one-fourth of Americans live in rural areas, only about 10% of physicians practice in these communities (Barley, Reeves, & O’Brien-Gonzales, 2001).

In addition to access issues, the health of individuals in rural communities may be exacerbated by a variety of social, behavioral, and environmental factors. Smith, Humphreys, and Wilson (2008) reported that rural populations generally display a greater incidence of less healthy behaviors that impact chronic illnesses, including sustained unhealthy nutrition, increased prevalence of smoking, lower levels of physical activity, and greater levels of psychosocial distress. Residence in rural areas has also been associated with lower reports of self-health (Bethea, Lopez, Cozier, White, & McClean, 2012), and rural older adults report lower scores on social functioning, indicating that they might be more socially isolated (Baernholdt, Yan, Hinton, Rose, & Mattos, 2012). Studies (Jones, Parker, Mishra, Ahearn, & Varyiam, 2009; Ploncyznski et al., 2012) have also noted that a greater percentage of adults in rural communities report living with chronic pain and depressive symptoms, and that the number of chronic illnesses varies between farm-dwellers and town-dwellers in rural communities. Many rural communities also face environmental factors that can negatively influence their health and well-being. These factors include exposure to agriculture or mining methods and reduced water quality (Hartley, 2004; Probst, Moore, Glover, & Samuels, 2004). All these factors suggest that adults in rural communities might benefit from preventive health programs that help them to manage their chronic conditions. These programs can also provide social support for the issues and challenges that they face as a result of their conditions.

Research suggests that adults in rural communities are receptive to health prevention and promotion programs that assist with the management of their chronic conditions. Potvin, Gauvin, and Nguyen (1997) found that rural individuals who had a chronic condition were twice as likely as adults residing in inner cities and suburbs to be at a stage closer to “action” in terms of self-care, indicating that they may be more ready to change their behaviors to promote their health. A recent study (Murimi & Harpel, 2010) was conducted of rural adults experiencing chronic illnesses. The study noted that while time is a barrier to involvement, rural adults made the effort to participate in preventive health events, and these adults understood the value of preventive health services in managing their illness (Murimi & Harpel, 2010). Given all the barriers to health promotion faced by these adults, and their potential interest in learning more about preventive health measures and management of chronic conditions, dissemination and evaluation of programs and information in these areas are crucial.

One program that has been developed to help address the health care needs associated with multiple chronic conditions in adults is the Chronic Disease Self-Management Program (CDSMP). This program has been developed and refined by researchers at Stanford University (Lorig, Gonzalez, & Laurent, 1999a), and could have potential benefits for rural residents dealing with chronic health care issues (Jaglal et al., 2013; Stone & Packer, 2010). The CDSMP curriculum consisted of six weekly sessions led by two trained lay leaders. Each session lasted for two and a half hours, and the workshop addressed such topics as exercise, cognitive symptom management techniques, nutrition, fatigue management, use of medication, and emotion management. The workshop also taught the participants how to communicate with their health care providers, how to problem-solve, and how to make decisions about their health and health care (Cudney, Sullivan, Winters, Paul, & Oriet, 2005). The CDSMP has been widely studied with a variety of populations,
and results indicate that this program can be very effective at promoting self-efficacy, increasing the use of self-management behaviors, and improving health status while reducing hospitalizations and emergency room visits (Lorig et al., 1999a; Lorig et al., 2001; Lorig, Ritter, & Gonzalez, 2003). However, research exploring the efficacy and use of this program with rural populations has been more limited.

The studies that have been conducted on the implementation of the CDSMP with adults residing in rural communities are promising. Stone and Packer (2010) studied the implementation of this program in rural areas of Australia, focusing on the leaders’ perceptions of positive and negative aspects of the program, as well as exploring participants’ outcomes before and after the program. The positive aspects of the program noted by the leaders included: 1) the appropriateness of self-management for the participants and the apparent benefits from the program; 2) the scripted program and training of leaders; and 3) the logistics of delivery, such as reusable charts, low cost of administration, and location of the program. However, they also reported some negative aspects of implementing the CDSMP in these rural areas: 1) support from the community appearing to be lacking, particularly from the local general practitioners; 2) the time required to prepare and debrief the program; 3) low attendance of participants in some groups; and 4) difficulty in recruiting participants. The findings indicated that the individuals reported significant improvements in self-monitoring and insight, as well as health service navigation as a result of their participation in the program.

Another CDSMP study was conducted using telehealth, that is, an online format in which all the participants met in a central location. The lay leaders were video-conferenced to lead the program, which increased access to the program in rural and remote communities (Jaglal et al., 2013). A total of 213 participants were enrolled in the tele-CDSMP courses during the study period, and data were collected at baseline with a four-month follow-up. Results from this study indicated that participants experienced significant changes in their self-efficacy, health behaviors (e.g., exercise, cognitive symptom management, and communication with physicians), social role function, psychological well-being, energy and fatigue levels, health distress, and self-reported health after participating in this program.

These two studies support the use of the CDSMP in rural populations. However, much more information needs to be collected about the participants’ perceptions of the program and benefits in other rural communities. Thus, the purpose of this qualitative study is to conduct an in-depth examination of the perceived benefits that rural residents receive from participating in the CDSMP study. From the participants’ perspective, the specific aims of the project were to understand what self-management strategies they learned from the program, and what factors related to the program promoted behavior change.

METHODS

Design

Focus groups were chosen as a model of data collection because they can provide a rich source of information. For this study, focus group data were collected from a homogenous group of individuals (i.e., enrollees of the CDSMP) using a predetermined, structured sequence of questions in a focused discussion (Kohler et al., 1993). Pre-existing groups, such as support groups, formed representational data because respondents have already shared a collective experience and have been shaped by a unique social context (i.e., chronic conditions) (Wilkinson, 1999). This investigation was particularly important for understanding the qualitative articulation and relational expectations for interacting with other CDSMP group members.
Procedure

Prior to the study, the focus group questionnaire was reviewed and approved by the Protection of Human Subjects division of the Institutional Review Board at a large public university in the Midwest. Individuals who attended the last CDSMP meeting were recruited to participate in a focus group regarding their experience with the program. When the respondents returned for the scheduled focus groups, they were asked to share their experience with the CDSMP. Each focus group was located at the same site that housed the program. After describing confidentiality measures and obtaining written informed consent, the moderator conducted the focus groups. The sessions were conducted in a relaxed fashion with minimal intervention from the moderator. However, the moderator did follow the interview guide that focused on topics, such as the benefits and barriers in participating in the program and obstacles in managing chronic conditions. The session lasted approximately two hours, and each focus group member was compensated $5. All focus group data were audio-recorded and later transcribed by graduate research assistants who received training in data transcription.

Table 1. Focus Group Interview Questions

<table>
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<th>Question</th>
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<tr>
<td>What chronic health condition(s) have you been diagnosed with?</td>
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<td>What aspects of the Live Well, Be Well Program have you enjoyed the most?</td>
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<tr>
<td>What aspects of the program have you enjoyed the least? PROBE: What did you think was the hardest part of the program?</td>
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<td>How do you feel this program has influenced your ability to manage your condition(s)?</td>
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<td>What resources [tools, strategies] have you found to be most effective in helping you manage your health condition?</td>
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<tr>
<td>In what ways has this program led you to be more involved in your own health care?</td>
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<tr>
<td>How has this program helped you to overcome obstacles to effectively managing your condition(s)? PROBE: What strategies have you learned that you have used, or you think you will use, to overcome these obstacles?</td>
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<td>In what ways have you shared your experiences in this program with family members, friends, or acquaintances? PROBE: From what you have learned from this program, what will you most likely share with others?</td>
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<td>Are some of the program’s activities more important than others in keeping you healthy?</td>
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<td>What components of this program do you think have had the most influence on your ability to manage your condition(s)? PROBE: How so? In what ways?</td>
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<td>Of all the issues we have discussed today, which one is most important to you?</td>
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Data Analysis

Phenomenological and consensual qualitative approaches informed the analysis of the data for the current study (Hill, Thompson, & Williams, 1997; Hill et al., 2005; Patton, 2002). This data analytic approach was deemed suitable because of the research team’s various paradigmatic assumptions. In particular, we were interested in capturing essential elements of the phenomenon (i.e., lived experience of completing the CDSMP), as narrated and given meaning to by the research participants. At the same time, we honored the multiple perspectives of the research team members through a consensus process.
The first author and a graduate research assistant read each transcript independently and identified themes that emerged from their readings. To do the analysis, each reader bracketed the data by focusing on the phenomenon of interest (e.g., experience in a group program, context of disease management). To minimize the possibility of “groupthink,” as a result of personal biases on the research findings, the first author and a graduate research assistant met several times during one semester to talk about the data in a consensual manner similar to that articulated by Hill et al. (1997). The team discussed each identified theme and highlighted exemplars for each theme to ensure that the participants’ experiences were captured and were not being solely guided by personal biases and assumptions. The team then developed a table reflecting each transcript’s themes and exemplars. Next, the team talked about agreed-upon themes and compared transcripts. This portion of the process was similar to cross-analysis, as described by Hill et al. (1997), but differed in that tracking the frequency of themes and sub-themes was not a goal and therefore not documented. Instead, consistency in themes across transcripts reflected emerging meaning units of the phenomenon of interest (Creswell, 2007). We welcomed and acknowledged differing perspectives on themes. Where disagreement existed, the authors engaged in a consensus process similar to that proposed by Hill et al. (1997) to reach conclusions. The final agreed-upon themes and raw data were compiled and given to the auditor for review and feedback. Upon completion of the auditor’s review, the full team met and discussed the results of the study. An additional meeting of the primary team also took place to review and discuss the auditor’s feedback. This feedback included suggestions for additional themes and lack of consensus between some proposed themes and the raw data.

An independent auditor was used to establish inter-rater reliability. The role of an independent auditor was 1) to confirm that multiple perspectives of the data were honored and discussed, and 2) to help ensure that the analysts’ assumptions, expectations, and biases did not unduly influence the findings (Hill et al., 1997; Hill et al., 2005). Additionally, at one of the meetings, the entire research team was present to discuss the various assumptions and expectations that team members held about the findings. One of the expectations that emerged through this process was that the experience of the CDSMP would be pervasive and salient for respondents. The explication of this expectation was seen as a way to be forthcoming and transparent, and, in so doing, minimize its undue influence on findings (Patton, 2002). We reviewed and incorporated the auditor’s feedback and made these changes based on thorough discussion and investigation. The final stage of data analysis included the team discussing the final themes and arriving at conclusions. The extant literature was also reviewed to determine the extent to which our findings were consistent with those in the literature (Patton, 2002).

RESULTS

Profile of the Participants

Data were collected from 34 middle-aged and older adults through six focus group sessions in the Midwest. The focus groups ranged in size from 4 to 8 respondents, meeting the recommended size requirements suggested by Kitzinger (1995). The adults ranged in age from 31 to 81 years, with an average age of 64.29 years ($SD = 10.24$ years). The majority of the sample was non-Hispanic white (97%) and female (91%). Less than half of the adults were widows (42%), 39% were married, and 19% reported being either divorced or never married. As expected, 68% of the respondents reported two or more chronic conditions. Most of the respondents had osteoarthritis (35%), followed by cardiovascular disease (32%), type-2 diabetes (26%), and chronic obstructive pulmonary disease/emphysema (7%).
Table 2. Sociodemographic Characteristics of Focus Group Participants (N = 34)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>N</th>
<th>%</th>
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<tbody>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>33</td>
<td>97%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>African American</td>
<td>1</td>
<td>3%</td>
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<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>31</td>
<td>91%</td>
</tr>
<tr>
<td>Male</td>
<td>3</td>
<td>9%</td>
</tr>
<tr>
<td>Chronic Conditions, number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>11</td>
<td>32%</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
<td>35%</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>18%</td>
</tr>
<tr>
<td>≥4</td>
<td>5</td>
<td>15%</td>
</tr>
</tbody>
</table>

Chronic Conditions*
| Type 2 Diabetes            | 9  | 26% |
| Ischemic Heart Disease/CVD | 11 | 32% |
| Arthritis                  | 12 | 35% |
| Pain                       | 21 | 62% |
| Asthma/Emphysema/COPD      | 9  | 26% |
| Other chronic conditions   | 26 | 76% |

* Column total exceeds 100% because many subjects had more than one chronic condition.

Themes

Findings from the focus groups were presented using verbatim comments (i.e., the themes are presented without grammatical correction); however, names were changed to maintain focus group confidentiality. Themes relevant to the articulation of behavior change were the focus of the current study: self-management strategies and self-regulatory activities.

Self-Management Strategies

Peer relationships with persons who also have chronic conditions can provide an opportunity to identify with similar individuals who are currently making positive health changes. The focus group members discussed how the interactions in this program created a community of learners who were empowered to improve their health behaviors. The two major behavior changes were increased physical activity and improved eating habits. Within three of the four focus groups, respondents discussed how the weekly meetings supported and encouraged them to increase their levels of exercise. The most mentioned form of physical activity was walking:

*Daisy:* [The support group members] got me out to walk. I can’t be too physical because of my arthritis, but I go out and walk. *(FG 1, diagnosed with COPD and osteoarthritis)*

Within another focus group, the respondents discussed how they encouraged one member to walk for weight reduction.

*Natalie:* Walking... I have had type-1 diabetes since I was 15 so I have had that for 25 years. And then in the last 3 or 4 years, they said that I have type-2, also because of your weight gain, maybe like 100 pounds over the course of the years, the last 4 years. *(FG 6, diagnosed with juvenile type-1 diabetes and adult onset type-2 diabetes)*
Wynn: We cheered you on [speaking to Natalie] because we thought you were doing wonderful, you are up to 5, right? Five days. *(FG 6, diagnosed with Reflex Sympathetic Dystrophy Syndrome)*

Natalie: I started out with 10 minutes, then 20, then 30.
Jasmine: Your very first action plan was how many days? Three? *(FG 6, diagnosed with type-2 diabetes)*

Natalie: Three, 10 minutes. Keep on exercising. . . . The doctor got on me and said if I lose 100 pounds and didn’t have the weight, I would be able to not take some of these medications. I think maybe it is still in the back of my head and I just need to be proactive. I always say this. But I guess it was a start. [I started] walking like that was after we started the class.

Another focus group member described how small changes improved her physical activity levels.

Nina: Well, for me, it was the exercise. I’ve never been a person to do any exercise, which is probably where my biggest problems are. But with my diabetes, they [doctors] told me that I needed to lose weight. . . . I just needed to walk. And I have done that because of this class. *(FG 2, diagnosed with type-2 diabetes)*

In particular, reporting back to the group—regarding action plans each week—encouraged the respondents to adhere to their lifestyle changes.

Mary: Reminding me and making sure I do the exercises I signed up to do. I don’t have an answer for it [group laughs]. *(FG 5, diagnosed with fibromyalgia)*

Naomi: Someone’s checking on us [laughing]. *(FG 5, melanoma cancer survivor)*

Mary: Yes, when you know you’re being checked on, you’re more active.

The focus group members briefly discussed self-monitoring their dietary habits by improving their selection in food choices. The reinforcement of healthy eating, both through discussions and by example from the lay leaders, appeared to have a positive influence on some of the participants.

Tim: Well, it is basically portion control and carbohydrates and the exercise. And I thought I was doing all that right before I read my blood sugar so I lost 5 pounds. I figured if I lost another 5 to 10 pounds, I’ll get even more control *(FG 6, diagnosed with type-2 diabetes)*

Moderator: So do you see more instant response then, or are you better able to understand for you what keeps that down?

Tim: Yes, even when I went uptown this last weekend, I went to two buffets and I made a point to keep my carbohydrates down. I may have eaten a little too much protein, but I made a point to keep the carbs down. . . . Before, I think we discussed it in class, I had a great fear of taking insulin shots so I didn’t check it. Well, if you don’t check it, you don’t know what it is, but I took self-management and said I’m going to start doing it and I did it. [Applause from group] and I said to the group, if I didn’t have this course, I didn’t know if I would still have done it. But finally it was an acceptance that I had to do it.
To reinforce nutritious food selections, the peer leaders brought healthy food to the weekly meetings.

Penny: The healthy foods that they brought in... I have been looking for some of the stuff like some of the nuts, vegetables, fruit... the good stuff for you (FG 3, diagnosed with chronic pain, fibromyalgia and chronic fatigue syndrome)

Gilda: [Group leader] brought some of the food in and we’re all appreciative of it. And I was determined to stop at the health food store and get some raw nuts... [Group leader] brought in stuff every week... soy dip, tofu (FG 3, diagnosed with chronic pain)

The respondents supported each other through a variety of cooperative learning strategies. These strategies empowered the group to make health behavior changes (i.e., exercise and diet) using healthy practices. The focus group members understood the need to change their eating habits and physical activity levels. But they often felt they were not able to make the changes until they had a supportive network of peers who were struggling with the same issues.

Self-Regulatory Activities

Self-regulation is an integrated learning process that is guided by an individual’s belief systems, action planning, and motivation to learn. For the focus group members, action planning was the most discussed self-regulation strategy used to monitor chronic conditions and change health behaviors. Making plans for the week was encouraged, even required, in the CDSMP with participants helping each other brainstorm ways that they could achieve their goals.

Lawrence: The sessions helped me to refocus. I can only have self-discipline for short periods of time and then I kind of fall off and don’t do it, and then I need to get refocused and start in again and do it again and become self-disciplined again for however long that lasts. So this helped me to refocus and start doing the things I know I should be doing. (FG 5, diagnosed with type-2 diabetes)

Janice: I think it helped us focus or helped me focus on things that I could do to help myself. (FG 5, diagnosed with hypertension)

Lawrence: Well, as a diabetic, the exercise and the eating properly, I mean, is directly related to the lower blood sugar readings and lack of complications from the disease. So, yes, it’s very important to keep that up. (FG 6, diagnosed with type-2 diabetes)

In addition, the CDSMP emphasized autonomy that allowed the focus group members to monitor and regulate actions toward their goals through information acquisition, expanding expertise, and self-improvement. In particular, the focus group members were cognizant of their strengths and weaknesses, as well as their ability to build a repertoire of strategies to use to tackle their day-to-day self-management behaviors.

Tim: The program has helped me considerably in one [respect], [and that] I now break things down to things I can handle instead of being overwhelmed. Because when we first talked, they said, and the book also said that if you can’t walk about 10 steps what [about] 5 until you feel good about it, then you try 6 steps, 7 steps. And that is now my approach to almost everything now. If I can’t walk the two miles like I had promised, then I walk one mile and feel good about it rather than feel depressed and have an anxiety attack because I didn’t do the two miles... So I feel good about myself when I’m able to do things... It
has been a lot of help to me. Just little steps, little goals that eventually you hope to work up to big goals. (FG 6, diagnosed with type-2 diabetes)

Pamela: You have to take one day at a time. I’m learning that even though I have the chronic pain, I have so much guilt and frustration and I have to take the meds, and I get tired of going around in circles and circles. I’m learning that the pain is going to be there no matter what. I’m learning to work with things day-by-day, step-by-step, around the pain instead of the pain working into my lifestyle. . . . I want to be able to do things, yes it does, and it is not going to happen overnight. It didn’t get here overnight and it is not going to go away overnight. By using these planning steps in this toolbox that we have, it has helped me a lot to stick with the plans I say I’m going to do. It has really opened my eyes to say wow! It’s just a fantastic feeling (FG 6, diagnosed with chronic pain)

One of the main goals of enhancing self-regulatory activities among individuals with chronic health issues is to improve their health outcomes. Participants in this study articulated a variety of outcome measures that they considered relevant to their health and well-being that resulted from their participation in the CDSMP. They made concrete references to outcomes, such as losing weight, monitoring glucose levels, and pain management. Of course, specific self-regulatory activities varied among the participants. However, each activity seemed to have produced a personalized achievement in the health outcomes. One man’s vivid description of his major achievement illustrates his self-regulatory activity.

Tim: [My glucose level] is down to 141; it started at 300 [and] I dropped it within less than a week. Well, it is basically portion control and carbohydrates and the exercise. And I thought I was doing all that right before I read my blood sugar so I lost 5 pounds. I figured if I lost another 5 to 10 pounds, I’ll get even more control (FG 6, diagnosed with COPD)

Based on the previous focus group discussions, the respondents talked about how they used problem-solving and action plans to deal with and cope with their various conditions. The respondents found these skills to be beneficial, and noted that they would continue to use them after the program had ended.

DISCUSSION

Similar to other CDSMP qualitative studies (Fu, Ding, McGowan, & Fu, 2006; Rose et al., 2008), our findings showed that respondents benefited from participating in the program. The benefits of the CDSMP included improvement of self-management practices and increased self-regulatory activities. Although opportunities for health promotion in rural communities are limited (Williams, Lehbridge, & Chambers, 1997), the importance of health promotion was clearly seen with the focus group participants as a significant source of facilitating behavioral change.

Considerable evidence suggests that the adoption of healthy behaviors by individuals is a necessary component in the management of chronic conditions, and personal beliefs have been linked to the adoption of healthy behaviors (McAuley, 1993; Sallis, Pinski, Grossman, Patterson, & Nader, 1988).

In terms of behavioral changes, our qualitative study found that self-management practices included two behaviors: physical activity and healthy eating habits. The improvement in some areas of health behavior demonstrated potential benefits of the program for rural adults. Our study showed that the program influenced the respondents’ physical activity and dietary habits. Exercise (i.e., walking) was one of the areas that many of the rural respondents focused on changing, as well as using these strategies with action plans. Similar to other studies, the rural participants reported
trends of improvement in self-management behaviors of walking and nutrition (Barlow et al., 2002; Chen et al., 2008). Many participants verbalized how they enjoyed using these newly developed skills and stated that they felt better as a result of using these strategies. But it is important to note that this study did not collect follow-up data; thus, it is not known if the behaviors were sustained after the completion of the program.

The principal limitation of this study was the use of qualitative methodology. Focus groups, which are recognized as valuable in soliciting individuals’ viewpoints in a non-judgmental, unbiased environment, tend to generate responses through deductive reasoning. However, because the focus groups were conducted using a small, non-randomly selected convenience sample, the ability to generalize the findings of the focus groups to a larger population is limited. Additional studies are needed in a variety of settings to determine whether people with chronic conditions experience the benefits as noted by our respondents. Another limitation was the lack of ethnic/racial diversity within the sample. With 97% of the focus groups being non-Hispanic whites, it is impossible to generalize these findings among a diverse population of rural adults.

With 16% of the national population residing in rural communities (U.S. Department of Agriculture, 2013), one of the strengths of this study is the focus on a rural, underserved population. The researchers purposely studied this population because it has not been adequately represented in past CDSMP studies (Barlow et al., 2002; Chen et al., 2008). While the study is considered exploratory, our effort to work with the underserved population with chronic conditions offers promise for a community-wide, self-management program. This program will yield beneficial results on important behavior change for the diverse groups of individuals who have chronic conditions.

REFERENCES


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