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Health behavior change benefits: Perspectives of Latinos with serious mental illness

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Abstract

The objective of this study was to explore the perceived benefits of engaging in health behavior change from the viewpoint of overweight and obese Latinos with severe mental illness (SMI) enrolled in the U.S. Qualitative, semistructured interviews were conducted with 20 obese Latinos with SMI who were enrolled in a randomized trial evaluating the effectiveness of a motivational health promotion intervention adapted for persons with SMI. Overweight and obese Latino participants believed that engaging in health behavior change would have both physical and mental health benefits, including chronic disease management, changes in weight and body composition, and increased self-esteem. Interventions that explicitly link physical activity and healthy eating to improvements in mental health and well-being may motivate Latinos with SMI to adopt health behavior change.

Keywords

health behavior change; Latino; serious mental illness

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Introduction

In the U.S., Latinos who suffer from serious mental illnesses (SMI), such as schizophrenia and major mood disorders, experience a compounded health disparity (Carliner et al., 2013). First, adults with SMI, regardless of race or ethnicity, have a 25–30 year shorter average life span and disproportionately greater rates of medical comorbidity compared to the general population (Druss, Zhao, von Esenwein, Morrato, & Marcus, 2011). Premature mortality in adults with SMI is most often linked to cardiovascular disease (CVD) caused by preventable health behaviors such as sedentary lifestyles, obesity, and poor dietary habits (Colton & Manderscheid, 2006). Second, Latino adults with SMI have a significantly greater prevalence of CVD risk factors, such as obesity and metabolic syndrome, compared to non-Latino Whites with SMI (Hellerstein et al., 2007; Kato, Currier, Gomez, Hall, & Gonzalez-Blanco, 2004; Mensah, Mokdad, Ford, Greenlund, & Croft, 2005). In addition, CVD-related outcomes are worse for Latinos with SMI than Latinos in the general population, or than non-Latino Whites with these psychiatric disorders (Carliner et al., 2013). This compounded health disparity places Latinos with SMI at particularly high risk for excess morbidity and premature mortality.

In addition to physical and mental health disparities, evidence indicates that Latinos with SMI experience disparities in mental health service utilization (Agency for Healthcare Research and Quality [AHRQ], 2011; Barrio et al., 2003; U.S. Department of Health and Human Services, 2001). Latinos with SMI utilize fewer nonacute psychiatric services than non-Latino Whites with SMI (Barrio et al., 2003). Although structural inequalities such as income, level of education, language, and insurance status contribute to differential access to and utilization of mental healthcare services among Latinos with SMI, disparities are unlikely to be ameliorated without equal attention to how this group engages with and responds to mental problems and treatment (Carpenter-Song et al., 2010).

Mental health service use may be affected by cultural stigma about having a mental health problem. Carpenter-Song et al. (2010) found that Latinos with SMI resented diagnostic labels (e.g., schizophrenia, bipolar disorder, etc.) that carry the risk of social rejection. In contrast, Latinos who conceptualized mental illness as a problem with nerves or as a sickness that one has, much like a physical ailment, experienced less stigma (Carpenter-Song et al., 2010). Moreover, Latinos were skeptical of the utility of traditional forms of mental health treatment (i.e., psychotherapy and medications; Carpenter-Song et al., 2010). In order to address the multiple disparities that Latinos with SMI experience and their skepticism of traditional mental health treatment, it is necessary to develop alternative treatments that employ a culturally sensitive, nonstigmatizing approach to improve the physical and mental health of this population.

Health behavior change interventions represent a potential solution to the multiple disparities experienced by Latinos with SMI. The emphasis on treating mental health problems through health and wellness techniques could appeal to Latinos with SMI as a nonstigmatizing and culturally acceptable alternative to traditional mental health services. Results of a recent study showed that older Latinos in primary care clinics across the US were more likely to believe that mental illness was caused by a medical illness compared to

their non-Latino White counterparts (Jimenez, Bartels, Cardenas, Dhaliwal, & Alegría, 2012). In addition, many Latinos tend to express psychological distress as somatic complaints such as heaviness in the chest, dizziness, and so forth (Carpenter-Song et al., 2010; Lewis-Fernandez, Das, Alfonso, Weissman, & Olfson, 2005). Therefore, health behavior change interventions may seem less stigmatizing and more culturally relevant because they match Latinos' beliefs about mental illness (Carpenter-Song et al., 2010; Jimenez et al., 2012). Because comorbid physical illness is a salient issue for many Latinos with SMI (Hellerstein et al., 2007; Kato et al., 2004; Mensah et al., 2005), health behavior change interventions that link physical activity and proper nutrition to improvement of mental health may motivate Latinos with SMI to adopt healthy lifestyle behaviors. There is also growing evidence to suggest that increased physical activity and nutrition can lead to improved mental and physical health outcomes as well as increased quality of life (Calvert, Isaac, & Johnson, 2012; Jennings-Sanders, 2003).

Latino adults are more likely to be sedentary and they are not as actively engaged in pursuing changes in their health behaviors compared to non-Latino White adults (Cromwell & Berg, 2006), suggesting that culture-specific beliefs and attitudes may influence Latinos' participation in health behavior change (D'Alonzo & Fischetti, 2008; Juarbe, Turok, & Pérez-Stable, 2002). Research suggests that Latinos may not engage in health behavior change because of the belief that they are "naturally healthy" and therefore do not need to add intentional exercise to their daily physical activity (Berg, Cromwell, & Arnett, 2002; Im et al., 2010; Juarbe, Lipson, & Turok, 2003; Melillo et al., 2001). In addition, Im et al. (2010) found that the majority of Latinas in their sample had a negative view of physical activity and believed that increasing physical activity would be a waste of time in their busy daily schedules.

However, much of the prior research investigating beliefs about health behaviors has focused on Latinos without mental illness and has not included participants who were at risk of cardiovascular disease from their health conditions (e.g., obesity), which limits the generalizability of these studies. Despite the significant health risks faced by Latinos with SMI, to date, few studies have assessed their perceptions of the potential benefits of regular exercise and improved nutrition. Understanding the perspectives of Latinos with SMI regarding health behavior change will help to inform targets for motivating engagement and participation in health promotion interventions tailored to this population. The aim of this study was to explore the perceived benefits of health behavior change from the viewpoint and experiences of overweight and obese Latinos with SMI participating in a health promotion intervention.

It is important that the term Latino be defined for the purpose of this study as its use varies according to the context in which it is used. The United States (U.S.) Census Bureau defines Latino as an ethnicity comprised of individuals of Cuban, Dominican, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race (U.S. Census Bureau, 2011). This umbrella term is particularly problematic in that it attempts to encompass individuals from non-Spanish speaking countries of Central and South America (Belize, Brazil, Suriname, Guyana, and French Guiana). Latinos, therefore, are not a homogeneous, monolithic group, even though the U.S. Census definition classifies them into

one uniform ethnicity. For the purposes of this study, the term Latino is used to refer to individuals from the Spanish speaking countries of Central and South America as well as the Caribbean. This is done for two reasons. First, most individuals from non-Spanish speaking countries in Central and South America do not self-identify as Latino (Zubaran, 2008). Second, although each Latino subgroup faces unique difficulties—Cubans, full economic assimilation; Puerto Ricans, dual identity; Mexicans, pressures of legalities and legalism—there are many shared cultural characteristics such as language, familism, and religiosity (Alarcón, 2001). Latinos constitute 16% of the U.S. population and are the second largest ethnic group, after non-Latino Whites (U.S. Census Bureau, 2011).

Methods

Participants

Latino participants who were enrolled in a randomized trial evaluating the effectiveness of a motivational health promotion intervention (In SHAPE) were asked to participate in this qualitative study. In SHAPE is an integrated health promotion program specifically designed to improve physical fitness through dietary change and increasing exercise in adults with SMI (van Citters et al., 2010). The program provides each participant with a 1-year membership to a local fitness facility and access to a health mentor. The health mentor develops personalized fitness plans for each participant and meets with them weekly for 45–60 minutes at a local fitness club (YMCA). All health mentors received training in mental health, including how mental health can interfere with and affect participation in healthy lifestyle activities (exercise and healthy eating). Health mentors were also supervised weekly on how to overcome behavioral challenges that stemmed from mental health symptoms in order to maximize outcomes of the program. All participants were enrolled in mental health treatment and receiving services for their SMI, but the In SHAPE participants also received sessions from fitness trainers who were specifically trained on the consequences of SMI, how to help people access fitness activities in spite of mental health symptoms, and how to deal with symptoms and manage them in order to work on fitness-related goals. The nutrition component consisted of individualized instruction during each meeting with the health mentor emphasizing healthy eating.

Participants were randomized to either: (a) In SHAPE, or (b) a comparison condition consisting of a 12-month YMCA Health Club membership and educational materials on the mental and physical health benefits of exercise and healthy diet. To be eligible for the randomized trial, participants had to meet the following criteria: age 21 or older; diagnosis of major depression, bipolar disorder, schizoaffective disorder, or schizophrenia (based on the Structured Clinical Interview for DSM–IV); overweight as indicated by a body mass index (BMI) greater than 25 and failure to adhere to the U.S. Department of Health and Human Services Physical Activity Guidelines (2008) for adults, that is, at least 2.5 hours/week of moderate or 75 minutes/week of vigorous activity in more than one session.

This qualitative study included a purposive sample of 20 Latinos: 11 men and nine women. The sample included nine Puerto Ricans, six Dominicans, one Colombian, and one participant who reported being “half Puerto Rican and half Dominican.” Three participants did not report their country of origin. All of the participants were bilingual (English and

Spanish) speaking. Seventeen preferred to conduct the interview in English. Two preferred to conduct the interview in Spanish. One preferred the interview to be half in Spanish and half in English. All of the participants lived in the Boston metropolitan area. Thirteen participants were randomized to the In SHAPE intervention while seven were randomized to the comparison condition. Age of the participants ranged from 22 to 54 with a mean (*SD*) of 40.25 (10.4) years. Five participants reported less than 12 years of education, six had completed high school, seven had received some college or technical school training, and two had received college degrees. Sixteen participants reported being unemployed, two were employed part-time, and two had volunteer positions. Seventeen participants were enrolled in Medicaid, a social health care program in the US for families and individuals with low income and resources. Eight participants reported having diabetes, seven had asthma, and one had congestive heart failure. Half of the sample (10) had a diagnosis of schizoaffective disorder, five had schizophrenia, three had severe major depressive disorder, and two had a bipolar diagnosis. Seventeen participants were single, one was divorced, one was separated, and one was married. Ten participants were living independently, seven were living in assisted/supported housing, and three were living with a family member or a significant other at the time of the interview. Six participants had just begun their enrollment in the study and were waiting for their 12-month gym membership to begin. Twelve were in the middle stages of the study and had gym memberships for 3 or more months. Two had completed the study. Four Institutional Review Boards (IRBs) approved the research across three sites. All participants provided either written or verbal consent depending on the requirements of the IRB affiliated with the organization from which they were recruited.

Procedures

Twenty individual, semistructured interviews were conducted. An interview topic guide (Appendix A) was used that followed the “funnel structure” described by Krueger (1994). Broad questions were asked at the beginning, with the facilitator gradually proceeding to more specific questions within each domain. Sessions lasted 60 to 90 minutes and participants were given $25.00 in cash as compensation for completing the interviews. All interviews were audiotaped and transcribed. The transcriptions of the Spanish interviews were translated into English by a professional translator. Only the translated transcripts of the interviews were used for the data analysis described in what follows.

Data analysis

Participants consented to have their interviews audio recorded, and those interviews were then transcribed, entered into NVivo®, a qualitative software program (QSR International, 2009), and analyzed thematically (Whitley & Crawford, 2005). A theme captures something important about the data in relation to the research question, and represents some level of patterned responses within the data set (Miles & Huberman, 1994). The “keyness” of a theme is not necessarily dependent on quantifiable measures, but rather can be conceived in terms of whether it captures something important in relation to the overall research question. Themes were identified independently first, and then consolidated into a coding scheme. A descriptive coding approach was used to summarize in a word or short phrase the basic topic of each theme (Miles & Huberman, 1994). Based on the interview topic guide (Appendix A), an a priori list of codes was developed by the primary author (DJ) and used to analyze

the data. Transcripts were coded by the primary author (DJ) and a bachelor's level research assistant (KB). Both coders independently examined the data before inspecting each other's coding scheme. Impressions and observations were discussed between the two coders until consensus was reached on the prominence of the themes within each domain listed in the results. This method of multiple coding is an important step in reducing investigator bias (Whitley & Crawford, 2005). NVivo® (QSR International, 2009) was used to systematically search for and retrieve all coded material for each theme.

Results

Latino participants in In SHAPE believed that engaging in health behavior change would benefit "the mind and body, not just health and fitness." They reported that exercise and maintaining a healthy diet were essential components to their "well-being." A summary of each theme, the domain to which it is related, and an operational definition of each theme are presented in Table 1 and described in the following lines.

Physical health benefits

Chronic disease management—In addition to being obese, many participants reported suffering from high cholesterol, hypertension, and/or diabetes. Participants stated that increasing their physical activity and exercise would help them manage these chronic diseases. One participant explained how engaging in increased physical activity had helped lower her cholesterol: "I think the physical activity is helping. Like I have cholesterol, and I think it's lowered now with the exercise." Another participant observed that engaging in exercise had been effective in lowering his blood pressure: "It helps. The blood pressure stabilizes when I walk." One participant with diabetes said, "I have been exercising quite a bit, and that's to control my diabetes."

Some participants believed that engaging in health behavior change would cure them of the chronic diseases that ailed them. One participant stated that her uncle began exercising regularly after he was diagnosed with diabetes. She believed that, as a result, he had been cured of his diabetes:

> He [her uncle] was prediabetic. He got his sugar levels down, so that he doesn't have a problem now. The exercise pretty much cured him I guess you could say because there's no problem with his sugar levels now, and he doesn't have to take medicine.

Much like the uncle she described, this participant also had "high fasting sugar levels." She believed that if she followed her uncle's example, then she would also avoid developing diabetes. Another participant explained how changing his health behaviors would impact his diabetes: "I have diabetes, Type 2. I think if I lose weight or exercise more, I might not suffer from diabetes."

Changes in weight and body composition—In addition to treating chronic diseases, participants believed that engaging in health behavior change would help them lose weight and increase their muscle tone. One participant believed that if she altered her diet and exercised regularly, then she would lose her desired amount of weight: "It may help me

a bit to lose weight if I control my eating habits. If you're doing exercises regularly, you lose weight either way." Another participant stated that she believed exercise would help her in building muscle mass as well as losing weight: "It's actually a very effective way to put on muscle and lose weight." One participant explained that, prior to developing mental illness, he was thin and was engaged in regular exercise, which helped increase his muscle tone. He believed that a regular exercise routine now would help him achieve similar results:

> At one point when I was skinny I was doing elliptical and I saw an amazing difference and I saw that everything was toning up. It was like proportioning. I was doing like an hour a day and I'm gonna follow that same routine cause it worked for me.

Mental health benefits

Increased self-esteem—Participants that made health behavior changes during the study reported increased self-esteem. One participant stated, "I feel that this program has been helping me to build my self-esteem, and it's building a positive self-image of myself again, something I haven't had in a long time." Another participant commented how her self-esteem had improved from being enrolled in In SHAPE: "I am one of the people that suffer from a very, very, very low self-esteem. It's not good at all, but this exercise program has been helping me deal with those issues." One participant believed that changing his health behaviors would help him overcome the insecurities he had about his body: "For the last couple of summers, I was insecure about myself, and I want to change that." Participants also believed that the increased muscle tone, which would come as a result of regular exercise and diet, would make them more self-confident and attractive to members of the opposite sex. One participant said, "I want to get married one day or have a girl and girls don't like fat guys. I want to be able to have a girl and be confident." Another participant explained, "I just want a girlfriend that will stick with me, you know what I mean? So I want to start looking good." One participant stated that exercising regularly had two benefits—increased self-esteem and stress reduction: "Exercise is relieving stress and feeling good about yourself."

Stress reduction—Engaging in exercise was believed to be an effective method to reduce stress. One participant stated, "Exercise relieves stress, sweat relieves stress; those two things, I really use them. There's all kinds of ways you can relieve stress. I think exercise helps me to relieve stress." Another participant reported that the gym provides her with a forum to reduce stress: "It gives me somewhere to go to vent out stress." When asked why she goes to the gym, one participant simply responded, "Because it relaxes me."

Mental illness management—Similar to the theme of chronic disease management was the theme of mental illness management. Participants believed that a healthy lifestyle was an effective way to manage and treat their mental illness. One participant described her experiences with mental illness and how leading an active, healthy lifestyle helped her:

> I did not have control over myself nor did I have the reins of my life. The illness disconnects you absolutely from everything, even from yourself, from your own emotions, from what makes you who you are. So, by maintaining an active, healthy

lifestyle, helps me take the reins of my life and have a connection with the outside and inside world.

Participants reported a decrease in the severity of their SMI symptoms as a result of exercising routinely. One participant explained how exercising regularly had improved her mood, anhedonia, and amotivation: “I’m more outgoing, more happy. I feel like getting up early in the morning with motivation, more motivation to do something.” One participant explained how exercise was responsible for managing the side effects of his medication: “When I exercise, it clears the cobwebs in my head because I’m on a lot of medication for schizophrenia and bipolar disorder.”

Discussion

To our knowledge, no recent published study has examined the perceived benefits of engaging in health behavior change among Latinos living with SMI. This is an important population to examine because it is disproportionately affected by physical and mental health disparities (AHRQ, 2011; Barrio et al., 2003; Hellerstein et al., 2007; Kato et al., 2004; Mensah et al., 2005). We found that Latinos with SMI had a very positive view of health behavior change. They believed that increasing physical activity, exercise, and improving their nutrition were essential components of mind and body wellness. The participants in our study did not see themselves as “naturally healthy” as reported in prior studies involving Latinos without mental illness or known health risks, such as obesity (Berg et al., 2002; Im et al., 2010; Juarbe et al., 2003; Melillo et al., 2001). Rather they were aware of their physical and mental health conditions and believed that changing their health behaviors would improve these conditions.

These positive perceptions may have been influenced by the participants’ conceptions of mental illness. Previous studies have consistently found that among different Latino groups (e.g., Puerto Ricans, Dominicans, Mexicans, Cubans) mental illness was perceived to have a reciprocal relationship with chronic physical illnesses (Cabassa, Hansen, Palinkas, & Ell, 2008; Cherrington, Ayala, Sleath, & Corbie-Smith, 2006; Heilemann, Coffey-Love, & Frutos, 2004; Pincay & Guarnaccia, 2007). In these studies, Latinos believed that the onset of a chronic physical illness, such as diabetes, was precipitated by an extreme emotional or stressful event. The inability to cope with these emotions presented a barrier to self-management and limited their ability to engage in self-management behaviors. Conversely, the diagnosis and management of a chronic physical illness, such as diabetes, had a significant impact on their emotional health. A similar bidirectional relationship may be occurring in this predominately Puerto Rican sample with SMI and a comorbid chronic physical illness. The participants’ SMI may be interfering with self-care behaviors and their ability to manage their chronic physical illnesses. Their chronic physical illness may be simultaneously impacting their SMI by reducing their physical functioning and increasing the burden of living and coping with a chronic medical illness. The saliency of the chronic physical illness in participants’ conceptualizations of mental illness suggests that a health behavior change intervention, such as In SHAPE, is well aligned with their perceived needs and may provide a tangible treatment to address them.

Participants believed that participating in health behavior change activities would lead to improved physical and mental health, decreased risk of disease, changes in weight and body composition, increased self-esteem, increased attractiveness, and stress reduction. These perceived benefits were similar to those identified in a previous study of adults who had a mental illness (Sinnott, Quigley, & Morris, 2014) and in studies with adults who had multiple chronic medical conditions but did not have a mental illness (Dergance et al., 2003; Kirchoff, Elliott, Schlichting, & Chin, 2008). Our study is a unique contribution to the literature because all of the participants were Latino and had SMI, as well as chronic medical conditions. In addition, the qualitative design of the study allowed the participants to respond freely in their own words and about their unique circumstances. This study provides preliminary findings that may help to inform our understanding of how individuals from highly disadvantaged backgrounds view health behavior change.

These results could have clinical implications for mental health and general medical providers who treat Latinos with SMI. By understanding patients' perceptions, clinicians may be in a better position to address the needs of their patients in a culturally sensitive manner. Some promising clinical strategies include maintaining clinical vigilance for somatic expressions of psychological distress, assessing for culturally specific ways of expressing and understanding mental illness, and respecting culturally mediated treatment preferences. It is helpful for clinicians and researchers to understand how Latinos with SMI perceive the benefits of health behavior change.

In our study, Latinos with SMI mentioned the physical and mental health benefits of increased physical activity and improved nutrition. Because many public health messages about exercise tout weight loss as motivation over other health benefits, more appropriate communication may be necessary to improve and sustain engagement in health behavior change (Dergance et al., 2003). Clinicians and researchers can also encourage their patients to increase participation in health behavior change, using these perceptions as support. This can be especially helpful in engaging racial/ethnic minority individuals that have historically underutilized mental health services.

In addition to understanding cultural perspectives about health behavior change, clinicians and researchers must be aware of the multiple socioeconomic and language barriers that adversely affect Latinos with and without SMI (Cabassa, Siantz, Nicasio, Guarnaccia, & Lewis-Fernández, 2014; Stanhope & Henwood, 2014). Family obligations and resulting fatigue and lack of time often interfere with physical activity participation (D'Alonzo & Fischetti, 2008; Im et al., 2010). For many Latinos, a connection exists between physical activity and their jobs. Latinos have reported that they did more than enough physical activity at work. Thus, they usually kept a very sedentary life pattern after their work (Im et al., 2010). Also, most physical activity programs and resources in the US are provided in English and thus may be difficult to navigate for individuals who only speak Spanish (Pekmezi et al., 2012). These barriers limit access to health promotion programs and need to be addressed in order for these interventions to be successful.

The results of our study need to be interpreted carefully in light of certain limitations. First, participants were a convenience sample of Latinos with SMI who were already enrolled in a

health promotion/health behavior change intervention study. As such, this group of individuals represents a select subgroup and conclusions drawn may not be generalizable to the Latino SMI population at large. A second limitation is the relatively small sample size. However, a sample size of $N = 20$ is consistent with exploratory qualitative methods (Miles & Huberman, 1994) aimed at identifying descriptive findings (Leon, Davis, & Kraemer, 2011). Third, all of the participants spoke English, indicating a high level of acculturation (Grimm & Blanck, 2011). Acculturation can impact the extent to which beliefs and attitudes from one's culture of origin impact current health-related decisions (Andrulis & Brach, 2007); therefore, our results may not be generalizable to low acculturated Latinos with SMI. Fourth, the point in the study in which participants were interviewed was not uniform. Participants may have been at the beginning, middle, or nearing the end of their time in the intervention study. This could influence their perceptions of the benefits of health behavior change. For example, participants who had already made changes may have reported more potential benefits. Fifth, because of sample size considerations, the Latinos in this study were treated as a homogeneous group, when they actually comprise different subgroups of varying nationalities. Combining these individuals into a broad category (i.e., Latino) makes these qualitative inquiries possible, but it might mask meaningful variations.

Latino subgroups differ on several health-related indicators such as mental healthcare utilization (Ai, Appel, Huang, & Lee, 2012), smoking (Kaplan et al., 2014), alcohol use (Vaeth, Caetano, Ramisetty-Mikler, & Rodriguez, 2009), and risk for a variety of physiological (Daviglus et al., 2012) and mental illnesses (Alegría et al., 2008). Specifically, Puerto Ricans, who comprise 45% of the study sample, have the highest rates of mental illness, substance abuse, and seeking mental health services of any Latino subgroup (Ai et al., 2012; Alegría et al., 2008). Therefore, our results may not be generalizable to other Latino groups that have lower health risk factors and may not access the mental health system as often as Puerto Ricans.

In summary, Latinos with SMI participating in a health behavior change intervention identified potential benefits of program participation that are similar to those identified by other racial/ethnic minorities with chronic medical conditions (e.g., weight loss and chronic disease self-management) as well as benefits that may be uniquely appreciated by this population (e.g., sense of overall well-being, increased self-esteem, and better mental health). Thus, this exploratory study points to several factors that may be important in engaging and motivating overweight and obese Latinos with SMI in health behavior change interventions.

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Kimberly Burrows, BA, BSN, RN, is a psychiatric nurse in the Inpatient Stabilization Unit at New Hampshire Hospital in Concord, NH. She has a Bachelor of Arts in Psychology from Saint Anselm College and a Bachelor of Science in Nursing from MCPHS University. Her research with the Geisel School of Medicine at Dartmouth focused on adults with serious mental illness and comorbid medical conditions.

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Laura K. Barre, MD, RD, is a research scientist and lecturer in the Division of Nutritional Sciences within the College of Human Ecology at Cornell University. Her current research centers on nutrition and obesity in two vulnerable populations, older adults and those with serious mental illness. In older adults, she is focusing on the identification of obesity and sarcopenia in the clinic setting and the design of community-based interventions to improve functional outcomes. In individuals with serious mental illness, she is conducting descriptive research to understand the altered eating behaviors observed in this population to inform the design of novel nutritional interventions specifically for those with serious mental illness.

Sarah I. Pratt, PhD, is an Assistant Professor of Psychiatry in the Department of Psychiatry at the Geisel School of Medicine at Dartmouth. Her research involves developing and evaluating health promotion and psychosocial interventions to enhance psychosocial functioning, fitness, health, and quality of life in adults with serious mental illness. She is currently the Coprincipal Investigator on a 5-year study evaluating the long-term outcomes of a statewide randomized study of weight loss and tobacco cessation interventions and the use of financial incentives in New Hampshire’s Medicaid population.

Margarita Alegría, PhD, is the Director of the Center for Multicultural Mental Health Research and a professor of psychology in the Department of Psychiatry at Harvard Medical School. Dr. Alegría researches mental health services for Latinos and other ethnic populations. She is currently the Principal Investigator of the Advanced Center for Mental Health Disparities, and the Latino arm of the National Latino and Asian American Study, as well as the Coprincipal Investigator of the CHA-UPR Excellence in Partnerships for Community Outreach, Research on Health Disparities and Training (EXPORT) Center. Her published works focus on mental health services research, conceptual and methodological issues with minority populations, risk behaviors, and disparities in service delivery.

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Appendix A. Interview topic guide

- What motivates you to do exercise routinely?
- What are your goals for participating in this program?
- Describe any changes, if any, that you have experienced since you began the program.
- What is your opinion of the program?

Table 1

Perceived benefits to engaging in health behavior change: Qualitative domains, related themes, and operational definitions of each theme.

Domain	Themes	Operational definition
Physical health benefits	Chronic disease management	Helps in the treatment of diabetes, hypertension, and high cholesterol.
	Changes in weight and body composition	Losing weight and increased muscle tone.
Mental health benefits	Increased self-esteem	Loss of weight and increased muscle tone will make participant more self-confident, appealing, and attractive to the opposite sex.
	Stress reduction	Exercising regularly reduces stress and makes participants feel calm.
	Mental illness management	Helps treat symptoms of mental illness and manage medication side effects.