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Hispanic Male's Perspectives of Health Behaviors Related to Weight Management

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Abstract

Hispanic males have the highest prevalence of overweight and obesity among men in the United States; yet are significantly underrepresented in weight loss research. The purpose of the current study was to examine Hispanic male's perspectives of health behaviors related to weight management to refine the methodologies to deliver a gender-sensitive and culturally sensitive weight loss intervention. From October 2014 to April 2015, semistructured interviews were conducted with 14 overweight Hispanic men of ages 18 to 64 years. The interviews lasted approximately 60 minutes. Participants also completed a brief questionnaire and body weight/height were measured. Grounded in a deductive process, a preliminary codebook was developed based on the topics included in the interview guides. A thematic analysis facilitated the identification of inductive themes and the finalization of the codebook used for transcript analysis. Four overarching themes were identified: (a) general health beliefs of how diet and physical activity behaviors affect health outcomes, (b) barriers to healthy eating and physical activity, (c) motivators for change, and (d) viable recruitment and intervention approaches. Future research should examine feasible and appropriate recruitment and intervention strategies identified by Hispanic males to improve weight management in this vulnerable group.

Keywords

Hispanic, men's health, weight management, physical activity, diet, interviews

Introduction

Within the overall obesity epidemic in the United States, the prevalence of overweight and obesity is highest in Hispanic men. Approximately 79% of Hispanic men are overweight (body mass index [BMI] ≥ 25.0 kg/m^2) compared with 71% of non-Hispanic White men and 69% of non-Hispanic Black men (Ogden, Carroll, Kit, & Flegal, 2014). Nearly 40% of Hispanic men are classified as obese (BMI ≥ 30.0 kg/m^2) in comparison with 32% of non-Hispanic White men and 37% of non-Hispanic Black men (Ogden et al., 2014). Obesity is linked to cardiovascular disease, metabolic syndrome, type 2 diabetes, hypertension, dyslipidemia, osteoarthritis, sleep apnea, gallstones, and certain forms of cancer (Klein et al., 2004; Pi-Sunyer, 2002). Hispanic males have the highest prevalence of obesity-related comorbidities in the United States relative to other racial/ethnic subgroups (Daviglus, Pirzada, & Talavera, 2014; Vega, Rodriguez, & Gruskin, 2009). Furthermore, Hispanic males are more likely to die from diabetes, chronic liver disease, and liver cancer (Siegel, Naishadham, & Jemal, 2012; Vega et al., 2009).

Evidence-based guidelines for the management of overweight and obesity in adults recommend weight loss treatment for individuals with a BMI ≥30 kg/m^2 or with a BMI ≥25 to 29.9 kg/m^2 coupled with weight-related comorbidities (Jensen et al., 2014). While there are many treatments available for overweight and obese individuals including behavior therapy, pharmacotherapy, and weight loss surgery, behavioral treatments are largely considered the first line of intervention (Jensen et al., 2014). Behavior therapy refers to a set of principles and techniques to assist obese individuals in modifying eating, activity, and thinking habits that contribute to their excess weight (Wadden, Butryn, & Wilson, 2007).

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Behavioral weight loss interventions are capable of producing approximately 8% to 10% weight loss over 24 weeks and can reduce weight-related health risks (Jensen et al., 2014; Wadden, Crerand, & Brock, 2005). In general, men are more likely to engage in weight loss programs designed to appeal to specific interests (e.g., sports clubs; Gray et al., 2013), promote camaraderie with other men (Griffith, King, & Allen, 2013), use humor to deliver simple messages, and include technology (e.g., Internet, e-mail) to support minimal in-person contact (Morgan, Warren, Lubans, Collins, & Callister, 2011; Pagoto et al., 2012). Traditional beliefs, gender norms, and masculine identity also greatly influence men's health behaviors (Courtenay, 2011; Griffith, Metzl, & Gunter, 2011; Hooker, Wilcox, Burroughs, Rheaume, & Courtenay, 2012).

Hispanic men are grossly underrepresented in published trials (Donnelly et al., 2009; Franz et al., 2007; Wadden et al., 2006; Wadden et al., 2007). A recent systematic review of male inclusion in behavioral weight loss interventions conducted in the United States identified only 546 (4%) Hispanic males of 15,356 total participants enrolled in 27 trials (Pagoto et al., 2012). Few studies have examined Hispanic male's perspectives of health behaviors related to weight management (Cuy Castellanos, Connell, & Lee, 2011; Greaney, Lees, Lynch, Sebelia, & Greene, 2012; Larsen et al., 2014; Martinez, Powell, Agne, Scarinci, & Cherrington, 2012). The purpose of this study was to examine Hispanic male's perspectives of health behaviors related to weight management to refine the methodologies used to deliver a gender-sensitive and culturally sensitive weight loss intervention.

Method

Participants and Setting

Participants were recruited from October 2014 to April 2015 using flier postings in community-based organizations/facilities, local gathering places, and health care clinics serving Hispanic males in Tucson, Arizona, United States. Eligible participants were overweight/obese (BMI $\geq$ 25 kg/m^2), English-/Spanish-speaking Hispanic males, between 18 and 64 years of age. Participant eligibility was determined by an initial telephone screening conducted by trained research staff. The call included a brief questionnaire regarding demographic information (sex, age, and race/ethnicity), estimated BMI (based on self-reported height and weight), history of weight-related medical procedures, and participation in weight management–related research. Men who did not self-identify as Hispanic, were normal weight (BMI $\leq$ 25 kg/m^2), had undergone bariatric surgery, were members of an organized exercise program, or participated in an organized weight reduction program in the past 6 months were excluded. Twenty men completed the initial telephone screening and 15 met the eligibility criteria described above. Men who were excluded did not self-identify as Hispanic (n = 1), were >64 years of age (n = 2), or were normal weight (n = 2). One man declined participation citing lack of time as the reason. The remaining 14 men provided written informed consent prior to participation. All study materials were available in English and Spanish and were approved by the institutional review board at the University of Arizona (UA; institutional review board protocol number: 1408442897). All procedures were conducted within the UA Collaboratory for Metabolic Disease Prevention and Treatment in a private room. The UA Collaboratory is located in a high need, underserved area whose residents suffer a disproportionate burden of chronic disease and is in a close proximity to community-based settings frequented by the Hispanic community in Tucson, Arizona.

Data Collection

A semistructured interview guide (Table 1) was used to elicit perspectives of general health, diet and physical activity behaviors, and intervention strategies (e.g., recruitment and delivery) for weight management. The interview questions mirrored those of moderator guides used to elicit African American male's perspectives on promoting physical activity (Friedman, Hooker, Wilcox, Burroughs, & Rheaume, 2012; Hooker et al., 2012; Hooker, Wilcox, Rheaume, Burroughs, & Friedman, 2011) with minor adaptations to ensure relevance to the demographic of this study. In addition, the research team added questions related to diet/nutrition and health, barriers and motivators for weight management, tailoring programs, and use of mobile health (mHealth) technology to elicit the feasibility of developing appropriate recruitment and intervention strategies. A bilingual Hispanic male member of the research team conducted all interviews in the participant's preferred language. On completion of the interview session, a member of the research team administered a questionnaire to collect demographic information, behaviors related to general health, current use of technology (e.g., cell phone, computer, text messaging, and Internet use), and weight management intervention delivery preferences. Participants also had their height measured to the nearest 0.01 cm using a wall-mounted stadiometer with participants removing their shoes prior to measurement. Body weight was measured to the nearest 0.1 kg on a digital scale. The interview, questionnaire, and height/weight measurement lasted approximately 60 minutes and participants received $25 for their time.

Table 1. Semistructured Interview Guide.

Domain and questions
General health beliefs
• What disease or illness do you think is the leading cause of death for Hispanic males in the United States?
Weight management and health outcomes
• What role do you think weight management plays in the likelihood of getting chronic illness such as type 2 diabetes or heart disease?
• What health actions or steps can men take to reduce their likelihood of getting chronic illness?
• Would you be interested in participating in weight management programs targeting diet and exercise behaviors? *Why or why not?*
Diet/nutrition and health
• What role do you think diet/nutrition plays in weight management and protecting one against developing chronic illnesses such as type 2 diabetes or heart disease?
• What foods might prevent someone or protect someone against developing chronic illness?
• Which traditional foods do you consider to be "healthy"?
• On average, Hispanic men eat less than the recommended amount of fruits and vegetables. The media, doctors, and health professionals have explanations for this but we are interested in your thoughts. Why do you think Hispanic men do not eat more fresh fruits and vegetables?
• In general, what influences your food choices?
Exercise and health
• What role do you think exercise plays in weight management and protecting one against developing chronic illnesses such as type 2 diabetes or heart disease?
• What types of exercise may prevent someone from developing chronic illness?
• On average, Hispanic men engage in less health-promoting physical activity in their leisure or free time compared with non-Hispanic Whites. The media, doctors, and health professionals have explanations for this but we are interested in your thoughts. Why do you think Hispanic men engage in less health-promoting physical activity or exercise than non-Hispanic Whites?
• In general, what influences Hispanic men to engage in regular exercise?
Barriers of weight management
• What gets in the way of making healthy food choices for Hispanic men?
• What gets in the way of exercise for Hispanic men?
Motivators of weight management
• What makes Hispanic men want to exercise?
• What makes Hispanic men want to eat healthy?
• What would help you make healthier food choices?
Tailoring programs
• How do you think Hispanic males should be recruited for weight management programs?
• Should diet/nutrition/physical activity information be related to cultural norms of Hispanic males? *Why of why not?*
• If you were in a weight management program, would you be willing to record the foods you eat every day? *Why or why not?*
• *Use of mobile health technology*
• Would you be willing to consider using wearable technology in order to measure and record your level of daily physical activity/beverage intake? *Why or why not?*
• What are some benefits/barriers to using this device throughout your day at work/home/other? Would it motivate you to be more physically active/to make better food choices?

Data Analysis

Interviews were audio-recorded and transcribed verbatim in their respective languages by trained staff. While most interviews were primarily in English, one transcript of an interview that was conducted in Spanish was translated to English to facilitate data analysis. However, Spanish phrases, idioms, and words that were contextually important were left in Spanish to avoid misrepresentation and loss of meaning throughout all transcripts. Grounded in a deductive process (Patton, 1990), the research team constructed a preliminary codebook in which broad categories and their respective codes were developed based on the topics included in the interview guide (Table 1). In addition to the interview guide–related codes, thematic content analysis (Patton, 1990) of the data was used to supplement the codebook with additional themes that surfaced during repeated reading of transcripts. During this process, two members of the research team iteratively read the transcripts to identify recurring regularities

(Patton, 1990) in the data revealing patterns that were sorted into categories and corresponding codes. This supplemental thematic content analysis was completed to ensure that the interview guide–based codes did not completely drive the assessment. The deductive and inductive processes led to the development of the final codebook that was developed through a series of ongoing discussions and a collaborative resolution of any disagreements among the research team. Each transcript was examined on completion and ongoing discussion continued throughout this process to ensure the research team remained in agreement with emerging themes. Recruitment efforts targeted 20 individuals to ensure that saturation would be reached (Patton, 1990). However, data saturation was reached at approximately 14 coded transcripts as derived by the diminishing of variation in the transcribed and subsequently coded data. Coded data were collapsed and categorized into four broad themes: (a) general health beliefs of how diet and physical activity behaviors affect health outcomes, (b) barriers to healthy eating and physical activity, (c) motivators for change, and (d) viable recruitment and intervention approaches. NVivo 9 (QSR International, Cambridge, MA) was used to facilitate data management and analysis.

Results

Participant Characteristics

Fourteen overweight and obese Hispanic men completed the study. Demographic characteristics are reported in Table 2. Mean age of the sample was 37.6 ± 13.1 years ranging from 20 to 61 years and mean BMI was 34.5 ± 7.2 kg/m^2 ranging from 26.7 to 49.0 kg/m^2. Four (28.6%) participants reported being born outside the United States and mean years in the United States for the total sample was 31.3 ± 15.7 years. Approximately 11 (78.6%) of the 14 participants reported their income less than $29,999 and 12 (85.7%) reported engaging in less than 150 minutes of physical activity per week. Two (14%) participants self-reported they were hypertensive and three (21.4%) self-reported they had diabetes. The majority (n = 13; 92.9%) of the interviews were conducted in both English and Spanish with only one interview conducted exclusively in Spanish. There were no apparent differences in the data gathered from this interview compared with data gathered in bilingual interviews.

Table 2. Participant Characteristics.

Characteristics		
Hispanic males (n = 14)		
Age (years), M ± SD (range)	37.6 ± 13.1 (20-61)	
Weight (kg), M ± SD (range)	104.5 ± 22.3 (81.4-156.6)	
Body mass index (kg/m^2), M ± SD (range)	34.5 ± 7.2 (26.7-49.0)	
Years in the United States	31.3 ± 15.7 (2-54)	
	n	%
Foreign born	4	28.6
Racial heritage		
% Mexican	7	50.0
% Mexican American	4	28.6
% Other Spanish, Hispanic, Latino	3	21.4
Primary language spoken at home		
% English	9	64.3
% Spanish	2	14.3
% Bilingual	3	21.4
Education		
% Graduated high school or GED	2	14.3
% Some college	9	64.3
% Bachelor's degree	3	21.4
Currently married or live with a domestic partner	6	42.9
Currently employed	10	71.4
Income		
% <$29,999	11	78.6
% $30,000-$59,999	3	21.4
% Weekly physical activity <150 minutes	12	85.7
Hypertension	2	14.3
Diabetes	3	21.4

Identified Themes

The results are organized into two broad sections; the first covers health beliefs as well as barriers and motivators for weight management (Table 3); the second encompasses viable recruitment and intervention approaches (Table 4). Themes were identified in the data and organized into four overarching categories: (a) general health beliefs of how diet and physical activity behaviors affect health outcomes, (b) barriers to healthy eating and physical activity, (c) motivators for change, and (d) viable recruitment and intervention approaches. The results are further organized into the subthemes that exist within each category. The words of the men are presented in Tables 3 and 4 to provide a contextual illustration.

General Health Beliefs

The discussion of general health beliefs led to a dialogue about body weight and health (Table 3). When discussing the relationship between weight management and health

Table 3. Select Quotes of General Health Beliefs, Barriers to Healthy Eating and Physical Activity, and Motivators for Weight Management From Interviews With Hispanic Men 18 to 64 Years of Age.

General health beliefs

- I was diagnosed with diabetes and I see a lot of older gentlemen like myself and older than me that for years they just don't take care of themselves and you know [I have been] reading up on it and learning that it's just a silent killer.
- Just from my own family . . . there have been a lot of cancers. . . . I know people with diabetes and it's hard. It's a little harder to control because their lifestyle gets hindered and they just have to follow this diabetic schedule forever. Some people don't adhere to it and they end up dying because of it. So that's kind of the way I feel about diabetes plus, it's in my family so it's everywhere.

Barriers to healthy eating

Access to affordable foods

- I can't always afford to have the healthiest things in my fridge. I can't always afford to have the healthiest dry snacks available to me. If you want to eat healthy you can buy groceries that are going to last you all month but they're not going to be healthy. So like if sometimes money is tight I'm like okay whatever is cheapest that's what I'm going to eat today.
- Dietary norms and familial influence
- Traditional food is full of fat and lots of calories and they also tend to have big portions too. . . . My grandmother cooks with that blue lard . . . you know beans, rice, bacon, and lard, it all adds up. . . . That prevents me to eat the way that I want . . . I'm hungry and there's good food and you don't want to separate yourself from your family by telling them you don't want to eat what they're eating and eat your own thing. You distance yourself from that kind of bond when you don't eat with your family.

Convenience

- To cook a healthier meal you got to like, if you got frozen chicken you got to thaw it out you gotta like season it and cook it so that's like 20 minutes, 30 minutes right there. Where if you just get a hot dog you just throw it in the microwave for a minute put it in a bun with ketchup and it's done. So guys don't want to spend a lot of time cooking so they just make what's easy and cheap. Me personally, it's just I don't like wasting time cooking I think of other things to do that are more important to me.

Barriers to physical activity

Access to safe spaces

- It seems like there's a lot of gangs and stuff around here. So, usually I'm not out walking around in public especially late at night if I was to get off work and have to exercise, I wouldn't walk around down here. . . . People don't feel safe cause they got bars all over their windows and doors.

Strenuous labor, long hours, and fatigue

- Typical Mexican males are the workers. They are the blue collar type workers doing the manual labor and the tough jobs. . . . At the end of the day your typical Mexican male is tired from a full day's work.
- I just think that Hispanics are more tired, they do more throughout the day . . . I just think that they work more and they don't make it as important to work out as other males do.

Motivators for weight management

Knowledge of the risks and the hard truth

- She just scared me straight and told me the truth. She wasn't sugar coating or anything. She just telling me the truth that my cholesterol was so high that if I didn't take care of it, I'd probably die soon. So, I don't want that. . . . Till I got my advice and information from the doctor [I would] eat what I want to eat when I'm hungry. But now I'm think more like . . . I haven't eaten any vegetables maybe I should eat an apple or a banana.
- Just knowing the health risks, since I'm not exercising what's going to happen to me. . . . If it affects me more I feel like it would scare me into doing it. Cause I know like if was scared into exercising I'd be more like well okay you know if you don't exercise now, X, Y, and Z can happen to you so do it or else you know, potentially you could die.

The role of a Hispanic man and his family

- It's our job to take care of people we have to provide we have to be there for them and for me to know that my life might be cut short because I don't want to do the necessary things to change then I'm kind of letting people down.

Reaching a turning point

- I think it is a personal thing you know? Everyone has to reach that point at their own time when they finally realize it you know? Like when I went to the doctor and I was having problems with my knees hurting, my back hurting and then they checked my cholesterol and I was really high and I was like prediabetic like I was almost right there having diabetes. And then she started telling me all this stuff that would happen if I just let it go. And it scared [me] so I started to change.

outcomes, a small margin of participants credited their knowledge of the topic to media and public health campaigns. However, dialogue about obesity-related disease was largely focused on experiences with disease such as diabetes, hypertension, and several types of cancers. Participants attributed their perspectives and knowledge

Table 4. Select Quotes of Viable Recruitment and Intervention Approaches From Interviews With Hispanic Men 18 to 64 Years of Age.

Viable recruitment and intervention approaches

Recruitment: A familial experience

- So to recruit them, I think going through the spouse like through the women 'cause they tend to pay attention more to like flyers or any way that they're trying to be contacted. The women will be more perceptive the guys are kind of like just on their own just doing their things so if the spouse shows them like hey this is something you could do to manage their weight I think they're a good entry point.
- You could do TV commercials; they listen to the radio like on their way to work and stuff if you play commercial then too. Like they'll watch the "novelas" (soap operas) like at night and they'll listen to the radio whenever they go places.
- I think somebody would get more information from actually seeing you talking to you, you handing him something rather than someone just sitting there watching TV while they just can, you know, they're just going to change the channel.

Tailoring the information "make it for us"

- Maybe more accessible, easy to understand information; put it into a context that we would understand. Like I've seen that show, Dr. Oz, and he talks about eating vegetables and stuff but he's talking about throwing it into blenders and juicers and stuff like that and no one I know owns a juicer so like what's the point?
- If you're trying to introduce something new to someone I think that it would be helpful if you could find a way to incorporate their culture into what you're trying to tell them because they can easily deny what you're saying if they're not familiar with it but if you can find parallels in what you want to teach you can tailor the information if you want the people to be more receptive.

Intervention approaches

Use of technology

- Probably text messages. Just like, "How are things going?" You know? "Are you improving? Are you not improving?" . . . I think text messaging would be good to serve as reminders like whatever the plan is just to remind them 'cause it would be like that voice in the back of their heads.
- Some people appreciate that you know the phone calls where you eventually start to walk through a rapport with . . . for some people a phone call is helpful but there's people who respond better to e-mails you know just a reminder.
- I think it would be good to learn how to stay hydrated I don't think a lot of us pay attention to our hydration and we confuse our dehydration with our hunger. It takes time to accept that I don't know how to eat or that I don't know what's healthy for me . . . So you don't really think about how much you're drinking in a day unless you stop and think and count how many glasses you had. So for people who aren't paying attention to what they are drinking, it might help them.
- Cost! [An] expensive price tag and knowledge of how to use technology, computer access and cell phone access . . . Not sure how much it would cost. You know people, some people, may not want to spend more than 20 bucks . . . I still know some guys that don't even had smartphones, they still have flip phones from a [low cost wireless provider] so. If they are unable to use it, what's the point of having it?

Social support, competition, and familial involvement

- If I was sitting in this room with 5 other Hispanic males you know I'm going to understand him better because I know where he's coming from and vice versa. Rather than hearing advice from someone who is thin and in shape so this can happen it will be more like this has happened and this is how we fix it. Cause let's say I was sitting here with someone who is 10 years older than me and says well 15 years ago I was diagnosed, here are some pictures of me, this is what I've done.
- Most males are competitive. If they see one guy doing it they want to be better the second part is the support group is always good to have a buddy that is going to help you.
- I think that if the other half is participating or encouraging for that person to be healthy and do stuff, that persons going to do it. Rather than if you're with somebody who really doesn't care what you do, then you're not going to do it. So I think the significant other has a lot to do with whether or not you go the right way.

of obesity-related disease to their own or a loved one's lived experiences with illness, medical complications, and disease-related deaths. Participants shared their experience of being diagnosed as well as witnessing the health of friends and family members deteriorate from disease. It was mentioned that diagnoses drive people to want to learn about the disease, prognoses, and complications. The men expressed that often it is not until disease has been diagnosed that knowledge and information is sought.

Barriers to Healthy Eating

According to participants their most influential barriers to healthy eating were rooted in issues of access, perceived dietary norms, familial influence, and choosing convenient foods over healthy alternatives (Table 3).

Access to Affordable Foods. Participants identified issues with food accessibility and affordability as a barrier to healthy eating. The men mentioned that the distance to

grocers who have healthier options was detrimental to their food choices. Participants stated that economic parameters often lead to the choice of inexpensive, calorie-dense foods over foods they perceived to be healthier options.

Dietary Norms and Familial Influence. The men added that familial cohesion coupled with culturally bound dietary norms also influenced food choices. Meal times were identified as a time for interaction and familial bonding, and participants mentioned that intersection of food and family makes it difficult to follow a healthy diet regimen unless the family in its entirety is doing the same. Participants also mentioned that foods common in the household have a lot of *manteca* (added lard) and the unavoidability of unhealthy food staples makes it difficult to follow a healthy diet regimen. Furthermore, the men cited a lack of control over their food choices because they often do not prepare their own meals.

Convenience. As noted above, food choice and meal preparation are commonly in the hands of a spouse or another family member. However, when in control of their own food choices, participants reported lack of time and the preference for convenient and unhealthy options that they perceived to be more time consuming.

Barriers to Physical Activity

Participants reported that they do not have adequate *access to safe spaces* for physical activity in their communities (Table 3). While some participants mentioned their ability to travel to spaces where they feel safe to be physically active, most mentioned that transportation to and from these places could be an issue for men in the Hispanic community. *Long work hours*, *strenuous labor*, fear of losing job opportunities, and fatigue contributed to participants' decreased leisure time physical activity.

Motivators for Weight Management

According to the men, the most influential triggers to making lifestyle changes were their knowledge of the risks, their role in the family, and reaching a turning point (Table 3).

Knowledge of the Risks and the Hard Truth. When discussing the factors that could potentially motivate diet and/or physical activity–related behavior change, the men mentioned that getting the "hard truth" could be influential. Participants mentioned that knowing the nutritional content of their food and how it affects their bodies, knowing their personal risks of disease, and becoming aware of the implications of inaction could influence their weight management behaviors.

The Role of a Hispanic Man and His Family. Another influential factor was the participants' perceived responsibility to the future of their families. Men noted that awareness of the increased vulnerability that comes with disease and its potential complications could motivate a person to change their behaviors. Staying healthy to continue having the physical ability to provide for their families as well as to be present for families is an influential factor in the participants' weight management–related behaviors. The men expressed a fear of "being cut short" and being unable to fulfill their traditional responsibilities as the male in the household.

Reaching a Turning Point. Participants recognized that weight-related behavior change is difficult and noted that change could be triggered by turning points. The men related the turning points to personally experiencing or witnessing deteriorating health or drastic life changes.

Viable Recruitment and Intervention Approaches

When exploring the topic of building a gender-sensitive and culturally sensitive intervention approaches, the participants shared their ideas for viable recruitment and intervention strategies, information tailoring, and the role of social support (Table 4).

Recruitment: A Familial Experience. The participants mentioned that family involvement is a crucial recruitment strategy. Participants emphasized that their spouses are perhaps one of the largest influences of diet and physical activity–related behaviors. However, other participants discussed alternative outreach approaches and added that having a multimedia presence in outlets specifically tailored to the Hispanic population could aid recruitment of Hispanic males. Participants also suggested that a personalized approach may be more successful than multimedia presence.

Tailoring the Information: "Make it for Us." In discussing tailoring information to ensure cultural, regional, socioeconomic, and linguistic responsiveness, the men added that all recruitment, intervention, and educational information must be tailored to Hispanic males in order to adequately reach the target population. The men added that the information that is available to them is not commonly culturally or socioeconomically appropriate. Participants revealed how taking socioeconomic and cultural parameters into consideration when preparing information will make it more accessible to Hispanic males.

Table 5. Access to Technology and Intervention Delivery Preference.

Hispanic males (n = 14)	n (%)
% Own cell phone for personal use	14 (100)
% Can access the Internet using mobile phone	11 (78.6)
How often do you send text messages?	
% Rare to never	2 (14.3)
% A few times a month	1 (7.1)
% Several times a week	2 (14.3)
% At least once a day	3 (21.4)
% Many times a day	6 (42.9)
How often do you use the Internet	
% Rare to never	0
% A few times a month	0
% Several times a week	1 (7.1)
% At least once a day	5 (35.7)
% Many times a day	8 (57.1)
What delivery method would you prefer to receive a weight management intervention given the following (select all that apply)?	
% Face-to-face (individual)	11 (78.6)
% Face-to-face (group)	6 (42.9)
% Internet-based (study website)	6 (42.9)
% Internet-based (e-mail)	6 (42.9)
% Telephone-based	9 (64.3)
% Text messaging	9 (64.3)
% Smartphone app with wearable/ portable technology	9 (64.3)

Access to Technology and Intervention Delivery Preference. The entire sample reported they owned a cell phone for personal use and 11 (78.6%) participants could access the Internet using their cell phone (Table 5). Nearly two thirds reported sending text messages at least once per day/many times per day and 13 (92.9%) men used the Internet at least once per day/many times per day. Overall, 11 (78.6%) participants reported they would prefer to receive a weight management intervention given via face-to-face individual counseling sessions with 9 (64.3%) men expressing interest in telephone-based intervention, text messaging, or using a smartphone app with wearable technology.

Use of Technology

When presented with the possible integration of mHealth technology to support intervention components, the men discussed both the perceived benefits and barriers of integrating technology into their lives (Table 4). The men added that having the real-time data provided by technology might facilitate communication with their physicians/interventionists and allow them to track their process toward a healthier lifestyle. It was mentioned that having the ability to track data, see progress in real time, and compare day-to-day data with themselves and others could be useful to their behavior change. It also could facilitate the ability to track and visualize their daily intake and output would create a system of self-accountability that would help them retain positive behavior changes over time. Participants added that communications using mobile technology, the Internet, and personalized phone calls would be helpful to facilitate social support for weight management–related behavior changes. While the participants largely discussed the benefits of the use of technology, there also were some mentions of potential barriers to their use, which were most commonly related to their cost.

Social Support, Competition, and Familial Involvement

Participants discussed the need for social support in a viable intervention approach. The men commented that hearing from people in parallel situations would allow them to relate to and understand the information that is being delivered. Others agreed and added that social support also could add a positive competitive edge to a program. While the men shared a wide variety of viable intervention approaches, the need to integrate spousal involvement was overwhelmingly discussed due to the perceived influence that their spouse has on their behaviors.

Discussion

The analysis of interviews revealed that Hispanic men had a rich understanding of how obesity-related diseases, poor dietary choices, and lack of physical activity affects their health. Yet they struggled with the constraints of access to affordable foods, safe spaces for physical activity, strenuous work schedules, and familial/cultural influences that hindered weight management efforts. The men identified motivators for behavior change including learning the impact of their lifestyle choices on health outcomes, having the ability to provide and be present for their families, and life-changing events (e.g., diagnosis of diabetes), which warrant taking action to improve health outcomes. Furthermore, the men identified feasible and appropriate recruitment intervention strategies to promote weight management and improve obesity-related health risks.

The current study is one of the few studies that have used qualitative methods to examine Hispanic male's perspectives of weight management behaviors (Cuy Castellanos et al., 2011; Greaney et al., 2012; Larsen et al., 2014; Martinez et al., 2012). Findings are similar to

Martinez et al. (2012) who explored Mexican immigrant men's perspectives regarding weight, diet, and physical activity. In focus groups with 16 Mexican immigrant adult men aged 19 years or more, men expressed interest in participating in obesity prevention programs, but identified barriers to physical activity such as strenuous manual labor occupations, busy work schedules, fatigue, lack of motivation, and environments not favorable to activity. More recently, Larsen et al. (2014) conducted semistructured interviews with Hispanic men (18-65 years of age) and reported the most commonly cited barriers to physical activity were financial constraints and conflicts with time due to work, school, or family obligations. These findings are consistent in other subgroups of men in which key barriers to physical activity are rooted in prioritizing work and family over being physically active (Caperchione et al., 2012; Griffith, Gunter, & Allen, 2011; Wandel & Roos, 2006).

Despite the barriers to physical activity that were expressed, the men also identified motivators for behavior change. Several men mentioned a preference for team sports as a strategy to engage in physical activity. Similarly, in studies with African American men, participants identified the incorporation of a "buddy system" for peer support as a potential strategy to motivate each other to engage in physical activity and other health behaviors (Friedman et al., 2009; Griffith et al., 2013). Men also cited team sports to foster social support and competition with other males. These findings are similar with previous studies, which demonstrated friendly competitions can be used as a motivational strategy to increase physical activity among middle-aged men (George, Kolt, Rosenkranz, & Guagliano, 2014). Focusing on strategies to overcome physical activity barriers, such as facilitating social support or providing a list of neighborhood resources to engage in team sports, may be necessary to promote physical activity for this population.

The men described how culturally bound dietary norms and family structure promoted poor dietary behaviors. Culturally bound foods that were shared daily with family and in social situations were considered to be detrimental to their health. The men stated that overeating and drinking alcoholic beverages in these situations was commonplace. However, the men recognized the importance of conserving familial cohesion, particularly regarding shared meals and the avoidance of social isolation to be more important than avoiding foods and alcohol consumption that were deemed unhealthy. This corresponds with findings by Griffith, Wooley, and Allen (2013) demonstrating African American males need to preserve family harmony by sharing meals with spouses and family members. It also is consistent with the literature demonstrating people who eat with family members eat larger portions at meals than those who eat alone (Herman, 2015). Notably, the men in the current study expressed willingness to change their eating behaviors including eating smaller meal portions and modifying their traditional meals. Future programs should provide resources, such as culturally tailored meal plans and grocery lists, to allow men to make these small, practical dietary changes. Specific focus areas may include reducing the amount of foods consumed when eating out, reducing liquid calories (e.g., alcohol and sugar-sweetened beverages), and modifying the types and amount of food they eat at work and family/social events.

Current efforts to recruit Hispanic males in weight loss interventions are insufficient (Ceballos, 2014; Pagoto et al., 2012). The need to care for family members, fear of having to pay for research treatments, cultural beliefs, and lack of time, trust, and degree of hassle can serve as barriers to Hispanics participating in research studies (Ulrich et al., 2013). Previous methods to recruit males have included targeted mailings, flyers, word of mouth in local communities and through social networks, community-based settings (e.g., churches, recreation centers, clinics), listserv postings, the Internet, and television and radio advertisements (Friedman et al., 2009; Friedman et al., 2012; Larsen et al., 2014; Martinez et al., 2012). However, there is little evidence detailing targeted recruitment efforts for men or success of these recruitment strategies (Pagoto et al., 2012). Men in the present study identified local community-based settings such as health fairs, churches, sporting venues, public parks, and outdoor marketplaces (flea markets) frequented by Hispanics as potential recruitment sites. The men emphasized the importance of active recruitment strategies through face-to-face contact to establish personal connections with potential participants. Television/radio advertisements on local Hispanic media and health provider–initiated approaches also were identified as recruitment approaches. Future efforts should standardize recruitment efforts including recording the time spent developing and implementing strategies to evaluate recruitment cost and success.

Specific messaging content areas for recruitment were identified including advertising that targets women to recruit their male spouses/partners and messaging centered on the role of a Hispanic man and his family. Involving significant others is important to understand their influence on diet and physical activity behaviors of men and their potential role in the intervention, especially because in Hispanic culture, women are responsible for planning, grocery shopping, cooking, and serving meals, which has been observed in studies with similar populations (Cortes, Millan-Ferro, Schneider, Vega, & Caballero, 2013; Evans, Frank, Oliffe, & Gregory, 2011; Lam, McHale, & Updegraff, 2012; Long-Solis & Vargas, 2005). While this would imply

following a deficit model that places the burden of care on a female counterpart, there is a growing body of literature delineating the benefits of a more positive, strength-based approach (Burke & Segrin, 2014; Craddock, vanDellen, Novak, & Ranby, 2015; Englar-Carlson & Kiselica, 2013). For example, an emphasis centered on positive masculinity focuses on recognizing the existing strengths, capacities, and skills present in men (Englar-Carlson & Kiselica, 2013). Participants agreed that their role as men was to care for others and that positive behavior change could be triggered by recognition of the vulnerability of their ability to do so. This is consistent with the Hispanic concept of *caballerismo* (Arciniega, Anderson, Tovar-Blank, & Tracey, 2008), which is the redefinition of the positives aspects of *machismo*. Caballerismo is the prosocial view of masculinity and is centered on the idea that manhood can be rooted in family centeredness, social responsibility, and emotional connectedness. This conflicts with traditional or hegemonic forms of masculine identity in which males are self-reliant, strong, robust, and should never reveal vulnerability (Courtenay, 2011; Estrada & Arciniega, 2015; Griffith, Metzl, et al., 2011). Considering how social and culture factors influence positive masculinity and its impact on health behaviors, it is critically important to develop appropriate culturally sensitive and gender-sensitive recruitment and intervention strategies.

Participants cited transmitting information based on the "hard truth" including addressing the risks of unhealthy lifestyle behaviors or a decline in health that would hinder their ability to provide for their family would motivate behavior change. Fear arousal messaging, vividly showing people the negative health consequences of life-endangering behaviors, has been identified as a method to increase awareness of risk behaviors and to change them into health-promoting behaviors (Kok, Bartholomew, Parcel, Gottlieb, & Fernandez, 2014). For instance, the city of New York used a fear appeal public health media campaign that emphasized the lifelong suffering of those affected by effects of smoking-related illness by widely distributing imagery of the men with permanent tracheotomies (Fairchild, Bayer, & Colgrove, 2015). Similar fear-based approaches have been conducted to diminish obesity rates and HIV/AIDS incidence in the city of New York (Fairchild et al., 2015). However, while an individuals' subjective appraisal of personal susceptibility and severity may motivate them to take action, it has been suggested that self-efficacy and outcome expectations moderate this action (Champion & Skinner, 2008). For example, Hispanic males may become scared when they assess their own susceptibility to obesity-related diseases and the severity of those diseases. This may motivate them to lose weight, but only when they are convinced that losing weight is effective to prevent these diseases (outcome expectation) and when they are confident in their ability to lose weight (self-efficacy). Therefore, recruitment efforts utilizing fear-based messaging may also be coupled with strength-based approaches that foster self-efficacy to increase the likelihood of involvement and success.

Men identified individual counseling sessions (face-to-face and telephone) as a preferred intervention delivery mode. The data analysis also revealed that the participants were interested in the integration of mHealth technologies such as text messaging, e-mail, and additional innovative approaches to assist with behavior change (e.g., beverage-tracking cup and wearable PA monitors). However, specific preferences for these technologies varied between participants. Male representation is highest in behavioral weight loss interventions involving minimal face-to-face contact such as mail, phone, tailored text message, e-mail, and the Internet; yet only 4% of interventions are delivered in this format (Kolodziejczyk et al., 2013; Morgan et al., 2011; Pagoto et al., 2012; Sabinsky, Toft, Raben, & Holm, 2007). While there is a concern that participation in mHealth programs may be limited due to financial constraints, 100% of the study sample owned cell phones and over three quarters used it to access the Internet and send text messages. This is similar to recent reports indicating 76% of Hispanic males use their cell phones to access the Internet, e-mail, text, or instant message compared with 74% of White males (Lopez, Gonzalez-Barrera, & Patten, 2013). This percentage is greater for younger Hispanic adults (ages 18-29 years) compared with Whites (94% vs. 96%, respectively; Lopez et al., 2013). Given the reported findings, it appears an intervention, which combines face-to-face counseling sessions and mHealth technology support may be a potential strategy to improve participation in behavioral weight loss interventions for Hispanic males. However, the optimal dose and timing of delivery mechanisms requires additional study.

This study had various limitations that should be acknowledged. The study sample was composed of Hispanic males, primarily of Mexican descent, living in the Southwest, which may limit the generalizability of the findings to Hispanics in other regions of the United States. Furthermore, the study sample was predominantly U.S.-born, English-speaking, and well-acculturated. Strengths include a study population that suffers disproportionally from obesity and is understudied in current weight loss literature (Ceballos, 2014; Pagoto et al., 2012). In addition, insightful information on recruitment and intervention delivery strategies for a gender-sensitive and culturally sensitive weight management program was obtained. This contribution to the knowledge base is critical to inform other research and intervention efforts with this population.

Conclusion

Hispanic males are interested in engaging in diet and physical activity behaviors to improve weight management efforts. Yet individual, interpersonal, and environmental barriers related to culture and familial influences require programs to be tailored to meet their unique needs. Future research should further examine feasible and appropriate recruitment and intervention strategies to improve weight management in this vulnerable ethnic group, particularly Hispanic men who may not be as acculturated to the way of life in the United States as was the current sample. This will help assure that gender-driven and culturally driven weight management strategies are developed and tested prior to designing a more definitive intervention trial.

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