

Southern California CSU DNP Consortium

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WEIGHT LOSS STRATEGIES FOR YOUNG OBESE LATINA WOMEN:
AN EVIDENCE-BASED TOOL KIT

A DOCTORAL PROJECT

Submitted in Partial Fulfillment of the Requirements

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DOCTOR OF NURSING PRACTICE

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ABSTRACT

Latina women are disproportionately affected by obesity. The prevalence rate of obesity in Latina women is 45.1% compared to a prevalence rate of 35.5% for all women (Agne et al., 2012). Given the prevalence of obesity in Latina women, the purpose of this project was to create a toolkit that provided advanced practice registered nurses (APRNs) in primary care with specific resources to assist in counseling these women about weight reduction. This toolkit was designed to include tailored, evidence-based weight loss and management strategies that incorporate easy to access resources to address facilitators and barriers to weight reduction and maintenance in Latina women. An assessment algorithm was developed to aid APRNs in determining which approaches might be effective for a particular patient. Obesity among young Latina women will continue to be a challenge in future of healthcare. APRNs specializing in women's health and primary care have the knowledge and expertise to positively impact long-term change and promote weight loss and maintenance among this population. The findings and recommended resources from this toolkit will assist the APRN in caring for this specific population to promote weight loss and maintenance. It is imperative that the APRN performs a thorough multi-faceted assessment to plan for reasonable weight loss and assist with implementing realistic weight loss strategies that are evidence-based and culturally tailored for the young, obese Latina population. Dissemination of the toolkit is planned at professional meeting or through web publishing. A simple evaluation tool

about the usefulness of the toolkit was developed as part of this project and APRNs receiving the toolkit will be asked to rate its usefulness and applicability to practice.

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I would like to take this opportunity to thank my family for their support and encouragement in helping me achieve my educational and career goals throughout the years. I would not be where I am today if it was not for my parents' support. I would also like to take a moment and thank my chair, committee, and faculty for all their ideas, support, guidance, and patience with me during the development of this project. Their knowledge, mentorship, and experience are invaluable and appreciated. Finally, I would like to thank God, as without Him, I would not be where I am today.

INTRODUCTION

Because obesity is such a common problem seen by health providers in various healthcare settings and is epidemic in the Hispanic population, it is important for health professionals to understand the barriers and facilitators of weight loss among young, obese, Latina women. Given the tendency to obesity and overweight among Latina women and the potential negative health consequences of obesity, healthcare providers must be cognizant of theoretically sound, evidence-based strategies when delivering care to these women related to weight loss and long-term optimal weight maintenance. Such strategies must take into account the cultural influences associated with eating and physical activity, Latina women's personal and familial perceptions of obesity, and the developmental issues of young adulthood.

Background

The prevalence of obesity among ethnic minority populations has reached epidemic proportions in the United States (US) (Agne, Daubert, Munoz, Scarinci, & Cherrington, 2012). Excess body weight is associated with various racial, ethnic, and economic disparities (Austin, Smith, Gianini, & Campos-Melady, 2013). The prevalence rate of obesity in Latina women is 45.1% compared to a prevalence rate of 35.5% for all women (Agne et al., 2012). These higher rates of obesity in women contribute to obesity-related illnesses such as diabetes, hypertension, cancer, and other comorbidities (Agne et al., 2012; Graves, 2010; Kulie, Slattengren, Redmer, Counts, Eglash, & Schragar, 2011; Peterson & Cheng, 2012). Additionally, prenatal complications,

infertility, breast as well as endometrial and ovarian cancer are female-specific complications that are also linked to obesity (Moredich & Kessler, 2013).

Obesity in women contributes not only to the above-mentioned comorbidities and female-specific complications, but also to depression. The link between depression and obesity has been explored in research studies and integrative reviews that focus on obesity in young Latina women and women in general (Agne et al., 2012; Graves, 2010; Kulie et al., 2011). In a qualitative study, Agne et al. (2012) explored the perceptions of obesity and weight loss among 25 Latina immigrant women. Depression, stress, and isolation were perceived contributors to weight gain. Some study participants also reported that they used emotional eating as a coping mechanism and had low levels of physical activity due to loss of motivation to go out of their homes, which then contributed to obesity and weight gain. In an evidence-based review, Kulie et al. (2011) found higher rates of obesity and depression in women than in men. These researchers also noted that many cultural, physiological, and social factors contribute to depression in obese women. They concluded that the stigma of obesity lowers one's self-esteem, which then contributes to depression.

Lewis, Aveyard, and Jebb (2013) reported that patients typically receive brief advice for weight loss at visits with their primary care provider which consists of being informed or raising awareness of the health risks associated with obesity. These authors noted that brief advice is the favored intervention given time constraints faced by healthcare providers as opposed to delivering a lengthy time intensive intervention for weight loss. However, a brief counseling session to raise awareness is limited and may not produce the desired outcome of weight loss.

Developmental Stage of Young Women

Young adulthood spans the years from 18 to 35 and is often referred to as the reproductive years or the optimal timeframe for a woman who so wishes to conceive an infant (Schuiling & Likis, 2013). Establishing relationships and selecting a career are also important components associated with this developmental stage. Health care during this phase of life has an emphasis on health promotion and maintenance with a primary focus being conception. Adequate and nutritious diet and access to healthcare are vital components that contribute to health promotion in this stage. Work, childbearing, childrearing, and balancing finances are some of the demands that can affect whether women are able to maintain a healthful diet and appropriate patterns of physical activity. Smoking, lack of exercise, and poor nutrition are non-healthy behaviors that can come about when other demands take over a woman's lifestyle. This phase of young adulthood is crucial for young women to learn new and healthy ways to maintain health and appropriate body weight.

The midlife or perimenopause phase ranges from 35 to 50 years old (Schuiling & Likis 2013). Women in this phase of their life undergo multiple physiological changes such as hormonal changes. Decreasing estrogen and thyroid hormone imbalance are examples of hormonal influences that can make weight loss and management difficult during this phase of a woman's life. Additionally, women in this age range are still raising young children and adolescents. Many of these women work in addition to balancing a household and maintaining relationships with spouses. The competing social demands combined with the physiological changes make weight loss and management a challenge. Weight gain in young adulthood typically continues during later years. Thus,

the emphasis of this project will focus on younger women ages 18 through 35 to assist Latina women with interventions to promote positive lifestyle changes that include healthy nutrition and exercise that they can utilize throughout their lifespan.

Problem Statement

Because of the need for brief clinic visits, current interventions by health care providers often are limited and may not include evidence-based assessment and recommendations for healthy lifestyle strategies. Furthermore, such interventions with Latina women must take into consideration barriers and facilitators associated with overweight and obesity in this cultural group. Latina women in their early adulthood years are particularly vulnerable to obesity and weight gain. Therefore, anticipatory guidance about weight-loss and long-term weight maintenance strategies must become an integral part of primary care visits for young, adult Latina women. The implementation of the toolkit will be useful to assist these young women in their weight loss journey by providing the necessary resources that address their needs. There are few weight management resources available for Latina women or for the APRNs who provide care to this population. Advanced practice registered nurses also need information about assessing barriers and facilitators to weight loss among Latina women and about community and internet resources that would be of help to the patients in whom weight loss is recommended.

Purpose Statement

The purpose of this project was to create a toolkit that would provide advanced practice nurses (APRNs) in primary care with specific resources that are unique to young adult Latina women. According to the Agency for Healthcare Research and Quality

(AHRQ) (2013), a toolkit can be defined as an action-oriented compilation of related information, resources, or tools that can guide users to develop and conform to evidence-based standards and recommendations. This toolkit was designed to include tailored, evidence-based weight loss and management strategies that incorporate resources to address facilitators and barriers to weight reduction and maintenance in Latina women. The specific aims of this project was to incorporate key components of lifestyle change into the toolkit by including the following resources: (a) materials based on psychosocial and culturally-bound perspectives about appropriate weight and weight-loss and maintenance in young, obese, Latina women; (b) internet resources that address ways to overcome the barriers to weight loss and weight maintenance and to make use of facilitators identified in lifestyle change research; (c) tools for assessment of readiness to change, self-efficacy, and the potential impact of motivating interventions to help women achieve and maintain weight loss; and (d) literature about current evidence-based practices that are shown to be most effective in both short-term and long-term weight-loss interventions.

Conceptual Framework

Three conceptual frameworks have been selected to guide this project. The *Transtheoretical Model of Behavior Change* (TTM) by Prochaska and DiClemente, the *Health Belief Model* (HBM) by Hochbaum and Rosenstock, and the *Shifting Processes Model* by Macchi, White, and Russell. The combination of these three models provided a comprehensive approach to assessing an individual's readiness to change, motivating factors, perceptions of self-efficacy, barriers, benefits, and effects of obesity while taking

into consideration culture, gender, developmental stage, and how one's family plays an significant role in a woman's weight loss journey.

The TTM proposes a theoretical framework to guide the process of designing, implementing, and evaluating population-based interventions for exercise and physical activity (Sarkin, Johnson, Prochaska & Prochaska. 2001). This framework has also been used for interventions focused on other negative health-related behaviors such as smoking.

There are five stages in the TTM process when implementing a behavior change. *Precontemplation* is the first stage in which the individual is not planning to take action in the near future. *Contemplation* is the stage in which the individual is intending to make a change in the next few months, but has not made the commitment. In the *Preparation Stage*, the individual is planning on making the change in the next 30 days and has taken small steps toward the next stage, which include beginning actions or activities. *Action* is the stage when the individual has successfully made the behavior change but for less than six months. Lastly, in the *Maintenance Phase*, the individual has sustained the behavior change for more than six months. The TTM is a fitting model for implementation of a behavioral change because it is cyclical as opposed to a linear process. Individuals can enter and revert to a stage in the process as many times as they need to before successfully achieving the behavior change (Sarkin et al., 2001).

Based upon the Transtheoretical Model of Behavior Change, Graves (2010) describes the Five A's for weight loss counseling. Assessing readiness to change is the first step of the process. Advising a woman about obesity-related disease risks and the incorporating the role of weight management is the next step. The provider then

collaborates with the woman on developing strategies and interventions based on her readiness to change. The provider will then assist with a plan utilizing counseling and other medical or surgical techniques. Arranging for follow up is the final step of the process to monitor progress. Dietary changes, increasing physical activity, pharmacologic, and surgical management of weight loss are main strategies discussed by Graves (2010).

Macchi, White, and Russell (2013) built on the Transtheoretical Model of Behavior Change with their model called the “*Shifting Processes Model*.” This model complements the TTM as it not only addresses readiness for weight loss, but also evaluates and takes into consideration the biopsychosocial aspects of each individual pursuing weight loss (WL) and weight maintenance (WM). This model exemplifies the shifting processes between WL and WM and how family dynamics play an important role.

The *Shifting Processes Model* consists of three sequential approaches to the shift of WL to WM that incorporate many cultural and familial aspects important to young Latina women. The first approach is the primary focus on change, which explores individual thoughts and perceptions about reaching goal weight without considering WL maintenance. Reactive focus on maintenance is the second approach, which involves the individual’s attempts to integrate strategies to sustain their weight loss. During this phase, family members may lose interest in their initial feelings of supporting the individual’s weight loss. The individual then takes a break from his or her weight loss efforts because of guilt feelings related to the effect that the individual’s new lifestyle has on family relationships. Ultimately, the individual and family react to these issues and

become united in developing new strategies to work together to help the individual sustain WL. Lastly, the integrative focus on change and maintenance involves attaining strategies and processes that can displace old thoughts, maintain changes in behaviors, and interact with new ideas that focus on long-term WM. Use of this model promotes changes where individuals find ways to remain connected to their family and friends while supporting a new lifestyle.

The original HBM of Rosenstock and Hockbaum was initially developed to examine why people did not partake in health screening programs and later was modified by Becker to address compliance with therapeutic regimens (Bastable, 2014). The HBM addresses the individual's perceptions of their self-efficacy and seriousness of the disease/condition in addition to their demographic variables including age and ethnicity. Becker's modification of this model is relevant for use in this project as it addresses gender, age, ethnicity, socioeconomic status, perceptions on seriousness and susceptibility of the condition, benefits, barriers, self-efficacy, and the likelihood of action for behavior change. The cues to action stage refers to things, events, or people that motivate individuals to change their behavior. These components and constructs are relevant when assisting women with weight loss.

For this project, constructs from three different frameworks were integrated to form one conceptual framework. Figure one on the following page, identifies key aspects used to guide the literature search and review.

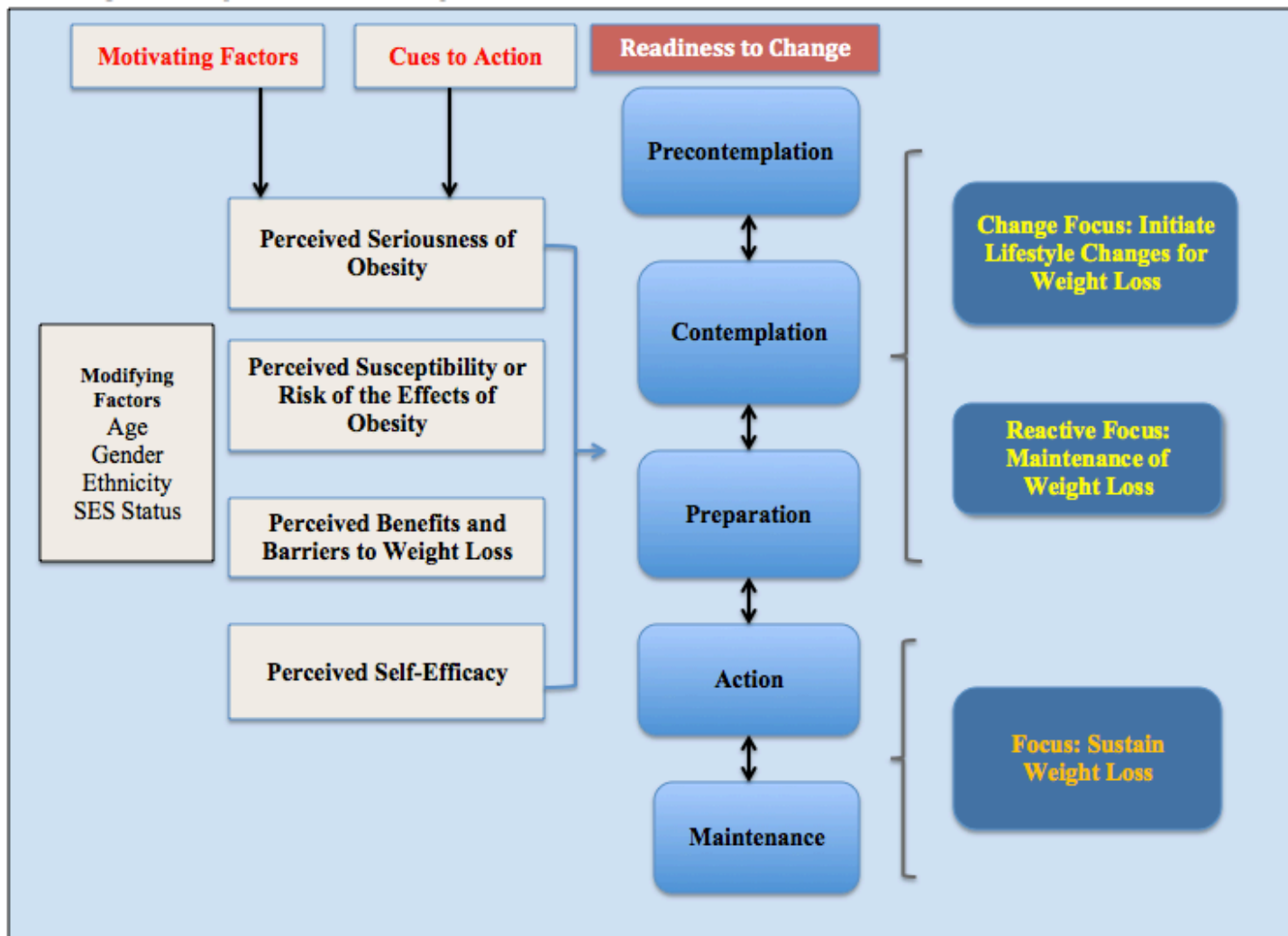


Figure 1. Conceptual Framework for Weight Loss and Maintenance.

REVIEW OF LITERATURE

Articles relevant to the topic of this proposal were retrieved from PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), PsycINFO (EBSCO), and Google Scholar. Key search terms included; “Obesity,” “Hispanic,” “Women,” “Barriers to weight loss,” “Weight loss strategies,” “Hispanic culture,” and “short and long-term weight loss,” “management strategies,” “health promotion,” and “interventions.” The literature search was limited to articles written in the English language and in peer-reviewed journals and published between the years of 2001 and 2014. Nineteen articles met all the inclusion criteria and are discussed in this literature review. Obesity and chronic disease, cultural adaptations and perspectives of obese Latina women, motivators and barriers to weight loss, and management strategies and interventions are the common themes identified in this review of literature. Appendix A contains detailed tables of evidence with additional details about studies included in the review of literature.

Perceived Seriousness of Obesity

Latina women are particularly susceptible to weight gain and obesity and have a propensity to experience multiple chronic comorbidities as a result of obesity (Lopez, Agullo, & Lakshmanaswamy, 2013). In fact, obesity is the most under-diagnosed and undertreated condition among reproductive-aged women (Nordik, Adams, & Plunkett, 2014). The longer the duration of being overweight or obese occurs, the greater the risk of diabetes mellitus and cardiovascular disease (Graves, 2010; Kulie et al., 2011). In obese individuals, increased visceral fat increases insulin resistance, leading to a higher likelihood of developing metabolic syndrome. These risk factors lead to the development

of cardiovascular disease and diabetes mellitus (Kulie et al., 2011). Abdominal obesity can be more harmful than weight and body mass index as increased waist circumference is an independent risk factor in the development of coronary artery disease in women (Graves, 2010). Besides being susceptible to obesity, Latina women tend to have the highest rates of central obesity and metabolic syndrome of any other ethnicity (Lopez et al., 2013), increasing their risk for serious comorbid conditions if obesity is not curtailed.

Studies show self-perception of being overweight or obese is associated with attempts for weight control. However, altered perceptions of not seeing oneself as being overweight or obese among Latinas who reside in the United States or in Mexico may be a contributing factor to the higher prevalence of obesity (Guendelman, Ritterman-Weintraub, Fernald, Kaufer-Horwitz, 2011). Guendelman and colleagues found that obese or overweight Mexican-American women were more likely than such women in Mexico to label themselves as "overweight" (86% vs. 64%, $p < .001$). However, among women in both groups, those who had been told by a health care provider that they were overweight or obese were five times more likely to consider themselves overweight. The differences in health care provider perceptions and social acceptance of weight in populations of Latinas living in the United States and Mexico may present issues regarding women's perceptions and treatment of their weight status, especially for newly emigrated women.

It is important to acknowledge that ethnic minorities and health care providers may have divergent views about weight and weight loss strategies. In fact, people in some Latina cultures view thinness as a sign of frailty, illness and believe it to be associated with low sexual attractiveness (Lindberg & Stevens, 2011). An obese woman

in the Hispanic culture may be viewed as being well taken care of and in turn it is assumed she takes good care of her children (Lindberg & Stevens, 2011). Therefore, with these perceptions, Latina women are less likely to identify or understand the seriousness of obesity.

Giardina, Sciacca, Flink, Bier, Paul, and Moise (2013) found that Latina women, when compared to non-Hispanic white women, were less likely to identify heart disease as a leading cause of death. These authors recommend targeting educational efforts to increase cardiovascular disease awareness among overweight and obese Latina women. This could serve as a “cue to action” for some women to promote behavior change.

Perceived Susceptibility or Risks of the Effects of Obesity

Perceptions about risk factors related to obesity have been studied as to their impact on changing lifestyle behavior. Duncan, Wolin, Scharoun-Lee, Ding, Warner and Bennett (2011) examined weight perception in relation to weight-related behaviors and attitudes among overweight and obese adults. Weight misperception among overweight or obese individuals was associated with less physical activity and less desire to want to lose weight. Weight misperception among Latina women was associated with lower total energy intake and less physical activity. Women are less likely to perceive their own susceptibility and risk for associated co-morbidities of obesity when they have misperceptions of their own weight (Duncan et al., 2011). Chang et al. (2008) found obese Latina women were afraid of developing diabetes as a result of their obesity. Weight misperceptions and concomitant risk factors should be addressed when assessing and counseling individuals on weight loss (Duncan et al., 2011). Again, enhancing

awareness of the links between overweight status and feared conditions such as diabetes and heart disease could serve as a “cue to action” as posited by the *Health Belief Model*.

Perceived Barriers to Weight Loss

Addressing individual factors that can act as barriers or facilitators for weight loss is a concept addressed by Sharma (2008). This concept is in agreement with Hovell et al. (2008) as these authors emphasized the importance of addressing barriers to facilitate participation in a weight loss program. Lindberg et al. (2012) found that Latina women do express a desire to lose weight. However, there are multiple barriers faced by Latina women when trying to pursue weight loss. Lack of availability of weight loss resources, the need for frequent attendance as part of participation in weight loss programs or numerous clinic visits, cost, family responsibilities, and lack of childcare are some challenges faced by obese Latina women, thus making weight loss difficult to achieve.

As mentioned previously, Duncan et al. (2011) found weight misperceptions among various populations including overweight or obese Latina women. Weight misperception can be a barrier to weight loss as individuals do not perceive they have a problem, thus they are less likely to be motivated to change their health behaviors. Other factors, such as depression, stress, and isolation may also serve as barriers to weight loss. In Agne et al.’s (2011) qualitative study investigating the cultural context and perceptions of obesity in Latinas, all of the aforementioned barriers were perceived contributors to weight gain. Some study participants also reported that they used emotional eating as a coping mechanism and had low levels of physical activity due to loss of motivation to leave their homes, which then contributed to obesity and weight gain (Agne et al., 2011). Attitudinal familism, when the woman places family first prior to caring for herself, has

been described as a barrier to weight loss for Latina women; this factor was supported by findings from two studies. Chang et al. (2008) and Gerchow et al. (2014) identified attitudinal familism as a barrier among non-Latina young adult women. Similarly, the Mexican American women in Austin et al.'s study (2012) described eating foods their children would not finish. Additionally, they identified other barriers to weight loss such as prior failed attempts at weight loss, stress eating, access to fast foods, lack of time, lack of money, and skipping meals.

In a meta-analysis of studies describing food patterns among Latinas in the U.S., Gerchow et al. (2014) identified common factors that might serve as barriers to changes in weight loss. Healthy traditional food patterns such as fruits and vegetables are not continued due to time constraints, faster pace of life in the U.S., food label confusion, large food portions, limited budget, cost of healthier foods, and social isolation after emigration.

Perceived Benefits to Weight Loss

Factors considered as perceived benefits of weight loss have also been identified in many studies. In a qualitative study of low-income overweight and obese non-Hispanic black and non-Hispanic white women between the ages of 18-35, Chang, Nitzke, Guilford, Adair, and Hazard (2008) found several motivators to healthful eating and physical activity. Most women expressed a desire to maintain or improve their appearance and lose weight to be able to fit into their favorite clothes. They also wanted to participate in their children's activities, but felt limited in being able to do so because of their body size. Multiple physical discomforts such as knee and back pain, inability to climb stairs, and fear of potentially developing diabetes were identified by women as

motivating factors for weight loss (Chang et al., 2008). In their qualitative study of immigrant Latinas ages 22 through 65, Agne et al. (2012) also evaluated motivating factors for weight loss. These women reported that they wanted to set a good example and be healthier for their children. They also noted that weight loss programs that incorporate traditional foods and involved their family would decrease barriers to behavior change (e.g., dietary change and increasing physical activity).

Use of Culturally Sensitive Interventions

One factor that may be important in WL interventions for Latinas is the incorporation of interventionists to which Latinas can relate. Promotoras are female community healthcare workers who work in Hispanic and Latino communities. Programs that incorporate promotoras may better address barrier to reduction in weight loss interventions targeted at Latina women than those who do not have such cultural providers. Latina women who participate in weight loss interventions tend to relate well to promotoras, as they are similar to them in ethnicity, language, experiences, and socioeconomic status (Johnson, Sharkley, Dean, St. John, & Castillo, 2013). Promotoras are also known to have basic and specialized health training to provide culturally specific information to participants participating in a weight loss intervention. In fact, culturally tailored intervention studies that include promotoras have shown positive effects in weight loss among participants (Faucher & Mobley, 2010; Johnson et al., 2013; Lindberg, 2013; Sharma, 2008).

Participants in a weight loss intervention program conducted by Lindberg et al. (2012) preferred female interventionists such as promotoras who not only spoke their

language, but also understood what it was like to emigrate. Participants in this study had a mean weight loss of 5.3 kilograms at six months and 7.2 kilograms at 12 months.

Olney, Warner, Reyna, Wood & Siegel (2007) utilized promotoras in a study aimed to increase health literacy among Hispanic communities along the Texas-Mexico border by helping residents use Medline Plus en Español to understand their illnesses, medications, and when to seek treatment. With the proper training, promotoras were found to assist their population in increasing the use and understanding on how to navigate Medline Plus to gain more health information. The investigators of this study did not use a specific tool to measure increased health literacy following the use of Medline Plus. The population trained by the promotoras self-reported an increased use of this internet based repository and greater understanding and knowledge of the diseases they researched after utilizing Medline Plus.

Sharma (2008) conducted a review of interventions that focused on increasing physical activity among Hispanic-American women. Sharma (2008) found higher success rates when lay health workers provided instruction on the intervention. Ebbeling, Pearson, Sorenson, Levine, Hebert, and Salkfeld (2007) evaluated an intervention combining physical activity and nutrition changes in low-income postpartum women and found that incorporating supportive relationships to assist with barriers was useful in promoting weight loss in their study population. The majority (74%) of their female participants were Latina (Ebbeling et al., 2007).

The use of pedometers is another method for weight loss that is becoming widely used to encourage physical activity and weight loss. A systematic review by Bravata et

al., (2007), found that the use of a pedometer is associated with an increase in physical activity, decreases in BMI, and blood pressure.

Precontemplation, Contemplation, and Initiating Lifestyle Changes for Weight Loss

As mentioned previously, the TTM has been used to develop and evaluate interventions aimed at several lifestyle health behavior interventions. Johnson et al. (2007) conducted a randomized effectiveness trial with a one-year follow up to examine TTM-based healthy weight loss interventions in a population of obese and overweight adults. They recruited 1,277 subjects nationwide between the ages of 18-75 with a BMI of 25 to 39. The treatment group received computer-generated reports for three behaviors including healthy eating, moderate exercise, and managing stress and interventional mailings based on their TLM stage. The treatment participants lost significantly more weight and were more likely to demonstrate positive behavior changes than the control group at the final follow-up visit at 24 months (Johnson et al., 2007). Johnson et al. (2007) concluded their study demonstrated the ability of a theoretically driven and TTM-based expert system feedback for multiple health behaviors to improve exercise, diet, and the management of stress.

Motivational interviewing (MI) has been used to augment behavior changes described in the Johnson et al. TTM study and is a client-centered counseling style that is useful in determining where the individual is at on the continuum of pursuing weight loss. MI should take place prior to implementing interventions for weight loss as it increases motivation and aids in resolving uncertainty in individuals contemplating making a lifestyle change such as weight loss (Goldsmith, 2014). MI supports self-efficacy and increases motivation in the individual to pursue a healthier lifestyle. MI has

been used in various RCT that implement interventions for weight loss and to increase physical activity and a healthy diet with positive results. Van Dorsten (2007) conducted a review of studies that incorporated MI and assessed readiness for change among overweight and obese populations. Overall, the evidence for the use of MI based on the studies reviewed by Van Dorsten demonstrated that the use of this technique had a positive effect on enhancing motivation to attempt lifestyle change such as weight loss through increasing physical activity and dietary changes.

Action, Maintenance, and Sustaining Weight Loss

There are a numerous intervention studies that examine the effects of increasing physical activity and dietary changes for weight loss among obese Latina women. The healthcare provider must have a good understanding of culture in order to develop and implement effective weight loss interventions for the Hispanic population. This section of the review of literature provides a synthesis and appraisal of intervention studies that address the barriers, facilitators, physical activity, and dietary interventions that promote weight loss and physical activity among young obese Latina women.

Theoretically based and culturally appropriate interventions are supposed to increase physical activity among participants. Salsa dancing, culturally linguistic literature, and information on diet specific to a culture are examples of culturally tailored interventions. Poston et al. (2001) evaluated a culturally appropriate intervention to increase physical activity among Mexican-American women who were recruited from several communities along the Texas and Mexican border. This population of women was targeted given their high rates of obesity and physical inactivity. The Poston et al study was a randomized controlled trial (RCT) that included an intervention group that

received culturally tailored interventions including information on increasing physical activity and dietary changes in English or Spanish in a 12-month program. The control group was assessed at baseline, six months, and twelve months, but did not receive the intervention until after twelve months. The authors concluded their intervention did not increase physical activity among their participants, as barriers to physical activity were not addressed adequately in their study. Again, it is vital to assess individual barriers to provide appropriate assistance to increase adherence to a weight loss intervention.

Conversely, Hovell et al. (2008) evaluated the effects of a culturally tailored aerobic exercise intervention for low-income Latinas to assess whether this activity would facilitate weight loss. They assigned participants to buddies who provided follow up and assistance to address barriers that would hinder their attendance and progress throughout the study. The authors concluded their culturally tailored intervention was successful in increasing physical activity; Poston et al. (2001) did not have favorable results in their intervention study as they did not address the barriers to physical activity and weight loss that Hovell et al. (2008) addressed.

Rocha-Goldberg et al. (2010) had a different approach in a study examining the effects of exercise and dietary changes on blood pressure and weight among Latino adults. They incorporated culturally tailored interventions that included culturally appropriate food choices, Spanish speaking interventionists, and physical activity. They also included men and used blood pressure as the dependent variable. More than half of participants were overweight Latina women 18 years or older, which makes the findings of this study useful and relevant to include in this literature review. Blood pressure and BMI decreased and the average increase for physical activity was 45 minutes per week

for women as a result of the culturally tailored interventions. The key message of this study focuses on the need to have culturally tailored interventions to promote physical activity and dietary change among the Hispanic population if there is to be a positive outcome in encouraging physical activity and dietary changes to promote weight loss and in turn a decrease in blood pressure. Cultural adaptations included using Spanish-speaking interventionist, culturally appropriate food choices, and physical activity. Lack of emphasis on addressing barriers and facilitators was a disadvantage in this study.

The Hispanic population is heterogeneous. When designing and implementing weight loss interventions, the characteristics of the participants must consequently be taken into account. Lindberg, Stevens, & Halperin (2013) developed evidence-based guidelines to assist researchers in developing culture-specific weight loss interventions for obese Latina women. They reported that because diet and culture are intimately intertwined, understanding the attitudes toward food among the Hispanic population is critical. Lindberg, Stevens, & Halperin (2013) suggested avoiding the use of the term Hispanic/Latino as a grouping variable. Instead, researchers should identify the individual's specific origin and common cultural characteristics. Strategies should also include interventionists who are familiar with the language and culture. It was also suggested dietary recall should be conducted by culturally competent interviewers.

Findings from a meta-analysis of successful weight loss strategies among obese U.S. adults pointed to eating less, exercising more, eating less fat, and taking prescription medications for weight loss as the most common methods employed (Nicklas, Huskey, Davis, and Wee (2012). Although prescription weight loss medications and exercise

programs were the most effective weight loss intervention, few participants utilized these methods.

Lindberg, Stevens, Elder, Funk, and DeBar (2013) examined the use of complimentary alternative medicine (CAM) for weight loss among Mexican-American women. The majority of the 31 respondents in the Lindberg et al study used some form of CAM for weight loss. Herbs, teas, home remedies, and massage were the most commonly used forms of CAM for weight loss among Mexican-American women who responded to the survey. When asked about other methods utilized for attempting weight loss, 71% of the participants reported using Herbalife nutritional products, 48% used diet pills, and 29% reported fasting to try to lose weight.

Arem and Irwin (2011) evaluated nine randomized controlled trials (RCT) for the effectiveness of WL or WM studies that employed web-based programs. The participants in each study were primarily female with BMIs of 29. Some studies included combined in-person and web-based interventions. Arem and Irwin concluded web-based interventions alone were ineffective, but were more effective when combined with an intensive in-person intervention. The attrition rates were greater among the web-based intervention group; thus, it is important for investigators to develop methods to address attrition when implementing future studies about this type of intervention (Arem & Irwin, 2011). The participants in each RCT represented various ethnicities, but the authors' findings of higher attrition rates among the web-based groups may be useful in considering interventions with Latinas as these women may drop out of a web-based intervention if they do not have adequate computer literacy or access to a computer.

In a six-month RCT called *Seamos Saludables* that included 268 sedentary Latinas, Pekmezi et al. (2012) found that most Latinas in their study preferred a web-based weight loss intervention. There were two study arms: a computer-based print intervention and a wellness contact control. The authors linguistically and culturally adapted their study processes through six focus groups, 25 cognitive interviews, and an iterative translation process (Pekmezi et al., 2012). The intervention group received regular mailings that included motivation-matched physical activity manuals, tip sheets, and individually tailored feedback reports that were generated by a computer program (Pekmezi et al., 2012). Increase in physical activity at six months and one year were evaluated through the use of a 7-day physical activity recall tool and accelerometer readings. There was an increase in physical activity at six months and one year. This study was the only RCT found by this project author that addressed the barriers of transportation, childcare, and cost; addressing these barriers was thought to increase adherence to the intervention. In addition, these researchers found the subjects were willing to continue in their weight loss efforts through use of e-mail communication with the program staff after the study ended.

In a systematic review, Wieland, Falzon, Sciamanna, Trudeau, Folse, Schwartz, & Davidson (2012) reviewed the literature for interactive computer-based interventions for weight loss and maintenance in overweight and obese people. The findings of this Cochrane review are consistent with the findings of the RCT conducted by Pekmezi et al. (2012). Both studies demonstrated that computer-based interventions combined with participant interaction with the interventionists were effective for weight loss and maintenance in obese individuals. Compared to no or minimal intervention such as

pamphlets and usual care, web-based interactive interventions were found effective for weight loss and weight maintenance. However, when compared to in-person interventions, web-based interventions resulted in smaller weight losses and less weight maintenance after weight loss (Wieland et al., 2012).

Pharmacotherapy has also been used to complement diet and exercise for weight loss. Appetite suppressants and lipase inhibitors are the two categories of pharmacological agents used for weight loss. Sibutramine, Sertraline, and Fluoxetine are examples of appetite suppressants. Lipase inhibitors such as Orlistat assist in weight loss by reversibly binding to the active center of lipase, thus preventing digestion and absorption of certain dietary fats (Clancy, Slutsky, & Wood, 2004). In a systematic review, Padwal, Rucker, Li, Curioni, and Lau (2006) evaluated the effectiveness of anti-obesity medications in obese and overweight individuals. Patients on drug therapy for weight loss were more likely to attain between 5-10% weight loss thresholds. In addition to weight loss, Orlistat was found to control blood pressure, improve glycemic control and improve total cholesterol and lipodensity lipoprotein (LDL). Sibutramine was found to improve high-density lipoprotein (HDL), but also increased blood pressure and pulse rate. Therefore, sibutramine may not be ideal for weight loss given the side effects.

Nicklas, Huskey, Davis, & Wee (2012) reviewed the data from National Health Nutrition Examination Survey (NHANES) between the years of 2001 and 2006 to gain a better understanding of what constitutes successful weight loss among obese adults in the U.S. The sample included 4,021 obese adults and most of them reported achieving weight loss through increasing physical activity, eating less fat, using prescription weight loss medications, and participating in weight loss programs (Nicklas et al. 2012). In

contrast, liquid diets, popular diets, and non-prescription diet medication were ineffective and in-person interventions promoting healthier diet and exercise for weight-loss were more effective.

Portion control weight loss interventions are an effective intervention for weight loss. Foster et al. (2013) found that subjects participating in a portion-controlled intervention (PCD) or diabetes self-management education (DSME) program experienced weight loss and improved glycemic control. Participants in the portion-controlled group experienced more weight loss than the participants in the DSME group.

In a pilot study, Faucher and Mobley (2010) evaluated portion control in comparison to standard care counseling among 24 obese Hispanic women. Of their sample, 13 women reported a weight loss of 6.6 pounds in the intervention group when compared to the standard care group whose mean weight loss was weight loss was 2.8 pounds. Self-reporting was a limitation in this study, as the researchers did not weigh the participants. Their findings and small sample size warrant further investigation using the same intervention and also addressing barriers to weight loss.

The Weight Watchers diet is another method for weight loss that has been proven to be useful in weight loss and management. A randomized control trial study by Dansinger et al., (2005), found that weight watchers was one of the diets that moderately reduced weight and cardiac risk factors.

Support and motivation are key components to assist this population to adhere to diet and physical activity for weight loss. A program called Taking Off Pounds Sensibly (TOPS) provides their participants with motivation and support for weight loss and management. The TOPS program includes information about exercise, healthy diet, and

behavior modification in addition to support. A retrospective cohort analysis by Mitchell, Dickinson, Kempe, and Tsai (2011), found the TOPS program to be affordable and participants who remained in the program for a year or more had clinically significant weight loss.

Summary of Literature Review

This literature review included a review of the most current quantitative and qualitative studies and systematic reviews addressing weight loss among young, obese, Latina women. Hispanic participants also preferred being paired with promotoras as they are similar to the participant in background, ethnicity, language, and also understand the participant's culture. Additionally, the evidence supports the implementation of culturally tailored interventions including diet and exercise for weight loss.

A common theme found was the importance of addressing barriers to program attendance in general and to weight loss specifically and taking culture into consideration in order for the interventions to be successful. Body image, access to health care, financials issues, attitudinal familism, and logistics such as childcare needs are examples of barriers that young women encounter. Additionally, psychological factors, such as depression and social isolation can act as motivational barriers in young, obese Latina women. Some evidence indicates that increased adherence to the intervention and weight loss occurs when barriers were addressed and participants were provided assistance to overcome the barriers.

Promotoras, female interventionists, and lay health care workers are examples of interventions that worked well in behavior change and weight loss. Interventions that did not work were liquid diets, popular diets, and non-prescription weight loss medication.

With changes in technology, web-based weight loss interventions need to be studied more among young, obese, Latina women to determine whether weight loss and maintenance programs offered with web-based components can be effective. In fact, as found in a meta-analysis, weight loss and maintenance with web-based interventions had smaller effect sizes than did in person intervention; this area needs additional research as the programs need to be modified to increase the likelihood of weight loss and maintenance. However, when compared to no or minimal intervention such as pamphlets and usual care, web-based interventions were found to be effective for weight loss and weight maintenance. Combining web-based with occasional in-person interventions may increase weight loss.

METHODS

The purpose of this project was to create a toolkit that provides advanced nurse practitioners (APRNs) with specific resources that are unique to young adult female Latina women and tailored, evidence-based weight loss and management strategies that incorporate methods to address facilitators and barriers to weight reduction and maintenance in an out-patient, clinic-based population.

A literature search was conducted to obtain the most current evidence-based research on weight loss strategies specific to young, obese Latina women. Physical activity and dietary interventions were the focus of the weight loss interventions extracted from the literature search. The findings of this review were then used to create the topic headings used in developing the toolkit. The author then reviewed AHRQ materials related to the purpose of a toolkit and its effectiveness as well as how to construct a toolkit. After the literature was reviewed, multiple web-based searches were performed to obtain dietary and physical activity web-based resources for APRNs to provide to their patient population and for practice recommendations for APRNs.

Toolkit checklists from the AHRQ were utilized to ensure key components for toolkit development were being followed and that the contents included in the toolkit were appropriate for the population to whom they are intended, focused on weight loss and weight maintenance strategies, and represented quality resources.

Application through an Institutional Review Board (IRB) was not needed, as this project involved the development of a toolkit and did not involve human subjects. The goal of this toolkit is to serve as a resource for APRNs to assist young, obese, Latina women with weight loss.

PROJECT DESCRIPTION

A preliminary toolkit in Appendix B and an assessment algorithm in Appendix C consist of tools and resources that include the following assessments and potential intervention strategies:

- Depression screening tools
- Questions and a readiness assessment tool to assist with assessing readiness to change, barriers, and facilitators based on the conceptual frameworks selected for this project
- Measurement tools for BMI and physical assessments
- Literacy and education level assessments
- Dietary resources
- Weight loss strategies that have been found to be successful among young, obese, Latina women along with a description of interventions and recommendations for practice.

The toolkit describes physical assessment and laboratory parameters that should be used to monitor and describe the patient's phase related to weight management trajectory: baseline weight, weight loss, and weight maintenance. Data collected as part of the physical examination will include height, weight, BMI, and blood pressure. In addition specific labs (e.g. TSH, Lipid Panel, and Fasting Glucose) will be ordered and the results reviewed as part of a comprehensive physical assessment.

In addition to the assessments above, a psychosocial assessment including cultural/ethnic identification and traditions, perception of attitudinal familism, social support, pressing social needs, usual social activities, family support, depression

assessment, and current exercise and eating habits in relation to the woman's home and work schedules should be obtained. Resources available in the community are described and where such resources can be obtained are also included.

The toolkit provides APRNs resources to address readiness to change, healthy eating, physical activity, and weight issues with young adult, Latina women. The toolkit is comprised of evidence-based resources that include assessment tools, motivational interviewing, a readiness to change assessment, communication regarding weight status, dietary resources and exercise resources for patients in addition to evidence-based resources for APRNs. A weight loss toolkit can be useful for both APRNs and patients alike as they are valuable in providing education for both provider and patient in addition to providing tools for patients to self-manage their weight loss and diet. This toolkit provides a link to diet and exercise logs for patients to monitor their progress.

Identification and evaluation are the initial components of obesity assessment when addressing this health issue in primary care settings. The toolkit includes valuable assessment tools that will be useful for nurse practitioners caring for young, obese, Latina women in their practice settings. A body mass index (BMI) table is an easy and useful way to identify obesity as this measure provides a patient's index related to one's morbidity and mortality risk assessment based on height and weight (Kushner, 2012). The American Heart Association (AHA) developed a useful algorithm to assist in identifying and treating obese and overweight patients based on the patient's BMI and waist circumference. This algorithm was included in the toolkit as it is supported through evidence-based studies for both the identification and the assessment of cardiovascular risk and management of overweight and obesity in adults (Jensen et al., 2013).

The initial intervention step in obesity care is to take a history that addresses concerns that are specific for obesity treatment. This focused history allows the APRN to develop tailored treatment plan and recommendations that are consistent with the goals and needs of the individual Latina patient. In addition to inquiring about family history of obesity, the APRN should inquire whether the patient was obese or overweight as a child as this is a known predictor for obesity (Kushner, 2012). There are wide ranges of life events that can occur in a woman's life that can catapult her into obesity. Menopause, pregnancy, change in marital status, illness, and change in occupation are examples of life events that can alter a woman's dietary and physical habits (Kushner, 2012). The AHA recommends using the Life-Style Events Body Weight graph to assist in identifying life events and diet attempts that have contributed to one's current weight. An example of this graph can be found in the toolkit for APRNs to use when evaluating their patients.

Dietary and physical activity data should be assessed in all patients as part of the history and resources related to these two assessment areas. Resources to gain this information are included in the toolkit. Unfortunately, most people tend to think walking at work and keeping the home clean are adequate to meet their daily physical activity requirements for a healthy life style. A psychological health assessment should also be evaluated when initiating obesity care. The APRN should evaluate for the presence of mood and anxiety disorders, which are the most common disorders in the general population, and among women they tend to coincide with overweight and obesity (Kushner, 2012). Evaluating for eating disorders such binge eating, bulimia, or night-eating syndrome and the presence of a major depressive episode, eating disorder, or

serious psychological condition is essential. Any positive findings related to the presence of an eating disorder should trigger referring the patient to mental health services. The PHQ-9 and Beck Depression Inventory can be utilized in evaluating for depression. Permission for their use can be obtained from the authors of these evaluation tools.

Determining a patient's readiness for weight loss is an essential part of the initial evaluation. The APRN must take into consideration that most patients are unsure about changing their lifestyle behaviors. Most women fear that losing weight will be difficult and is not possible. Therefore, motivational interviewing is a useful method to explore a patient's ambivalence and has been shown to improve weight loss efforts. Motivational interviewing can be defined as, "a directive, client-centered counseling style for eliciting behavior change by helping clients explore and resolve ambivalence" (ACOG, 2009, p. 1). Motivational interviewing can be an effective tool when used in conjunction with Prochaska's Stages of Readiness for Change. Determining where the patient is at along the stages of change continuum will alert the APRN as to what strategies to use during the motivational interviewing session with the patient. The American College of Obstetricians and Gynecologists published a concise article on principles and practice of motivational interviewing that incorporates Prochaska's Stages of Readiness for Change. A link to this article is provided in the toolkit for APRNs to utilize in their practice.

Baseline lab tests should be obtained during an initial assessment. With increasing BMI the risk for diabetes mellitus, hypertension, and dyslipidemia increases and in turn elevates one's risk for cardiovascular disease. A fasting glucose and lipid profile is consistent with current guidelines recommended by the AHA (Kushner, 2012).

These tests can be obtained initially and then repeated as needed after the patient has experienced some weight loss.

According to the AHA (2012), the initial goal is to achieve a five to ten percent weight loss over the first 6 months after initiation of obesity treatment. Personal choices are influenced by exposure to environmental factors such as home and work responsibilities, childrearing, access to healthier foods, affordability of food and exercise programs (Kushner, 2012). With this in mind, the APRN should make recommendations that are culturally appropriate and tailored to the patient's individual needs while also taking into consideration any co-morbidities the patient might have.

The toolkit includes current recommendations on dietary resources and recommendations based on waist circumference, blood pressure, elevated fasting glucose, and lipid profile results. The Dietary Approaches to Stop Hypertension (DASH) diet has been useful and successful in improving diet, lowering weight, and blood pressure and it is also recommended by the National Heart Lung and Blood Institute (NHLBI). Valuable information on the DASH diet is made available to APRNs and their patients in the toolkit. A study by Bartfield et al. (2011) examined the effects of an 18-month, multicomponent lifestyle intervention for blood pressure reduction. Participants were required to self-monitor food intake incorporating the DASH diet and physical activity. The participants randomized to the intervention group experienced a five percent or greater weight loss by the end of the study when compared to the control group who received advice only. Another organization called Taking Off Pounds Sensibly (TOPS) has provides in-person and online meetings to support people in their weight loss journey. Meetings include a private weigh-in and discussion on challenges and goals for weight

loss. TOPS chapters can be located by entering a zip code on their site. TOPS helps its members achieve weight loss goals by providing support, education, and accountability. The Spanish-speaking Latina can be accommodated as some chapters do have Spanish-speaking leaders facilitating meetings. A study by Mitchell, Dickinson, Kempe & Tsai (2011) evaluated the effectiveness of the TOPS program by comparing consecutive and non-consecutive membership renewal over a three-year timeframe. The authors found the participants who had consecutive enrollment consistently for three years had more weight loss than members who had non-consecutive renewal. Latinas are more likely to adhere to dietary changes when they can continue to eat the same foods that are part of their culture. This can be facilitated by referring the patient to a dietician who can assist the patient in a dietary plan that incorporates foods part of her culture.

A guide to selecting treatment for weight loss will be included in the toolkit as recommended by the AHA (2012). This guide helps the APRN identify patients who would benefit from being referred for surgical intervention. The guide includes treatment recommendations based on BMI for diet, exercise, behavior therapy, pharmacotherapy, and bariatric surgery. Patients with a BMI greater than 35 with co-morbidities are candidates for bariatric surgery and this should trigger a referral to a bariatric surgeon by the APRN. Prior to bariatric surgery, patients are required to undergo psychiatric evaluation to determine their psychological readiness for what will be involved with the surgical intervention.

DISCUSSION AND RECOMMENDATIONS FOR CLINICAL PRACTICE

APRNs play an integral role in obesity prevention and management among young Latina women. APRNs are well suited to provide education and support for weight loss as the primary focus of the APRN role is health promotion and disease prevention. Providing education, culturally tailored interventions, resources, and support are key components that will assist this population in their weight loss journey. APRNs can advocate weight loss through promoting increased physical activity and dietary changes through motivational interviewing. By gathering findings from a thorough assessment and history, providing culturally tailored resources for diet and physical activity have been proven to help the Latina population in weight loss and maintenance.

Time constraints during appointments are a problem in the primary care setting. This leaves a short amount of time for the APRN to address the various aspects of obesity management. Consequently, the evaluation, education, and management of obesity should take place over several visits. Patients are likely to have success in a weight loss program when they have support and regular follow up in addition to their own accountability. Long-term follow up is necessary to incorporate into a weight loss program to evaluate a patient's success over an extended period of time.

The ideal approach to a weight program after the initial health assessment conducted by the APRN is to meet with the patient for another visit to discuss weight goals, previous weight-loss attempts, physical activity and eating habits. This is in line with the AHA recommendations to implement the use of a life events graph to have the patient reflect and identify life events associated with weight gain and previous weight

loss attempts. It is imperative that the APRN has an in depth understanding of the patient's psychological, family, and social history.

Patients may not have access to a gym membership or may be embarrassed due to their weight to attempt physical activity. Encouraging the use of a pedometer can help the patient increase their physical activity by reaching the daily limit of 10,000 steps. Freak-Poli et al. (2014) evaluated a four-month pedometer-based workplace program. They found increased physical activity through use of a pedometer, improved wellbeing in the employees and was sustained eight months later after completion of the program. Various health insurance companies offer discount programs for gym memberships and weight loss program such as Weight Watchers and Jenny Craig. The TOPS program is also an affordable weight loss option for patients. It is important for the APRN to know what the available resources are for each individual patient.

Weight maintenance is another challenge after the patient has lost weight. Some patients relapse and gain the weight they lost. The APRN can recommend the continued use of an activity and diet journal log after the weight has been lost. This method has proven to be helpful in weight maintenance. This is also where long-term follow up should be incorporated to ensure continued weight maintenance. Return office visits at 6 months then annually is beneficial to ensure the patient is maintaining their weight and new positive dietary and physical activity habits.

CONCLUSION AND RECOMMENDATIONS

Obesity among young Latina women will continue to be a challenge in future of healthcare. APRNs specializing in women's health and primary care have the knowledge and expertise to positively impact long-term change and promote weight loss and maintenance among this population. The findings and recommended resources from this toolkit will assist the APRN in caring for this specific population to promote weight loss and maintenance. It is imperative that the APRN performs a thorough multi-faceted assessment to plan for reasonable weight loss and assist with implementing realistic weight loss strategies that are evidence-based and culturally tailored for the young, obese Latina population.

It is recommended that results of the literature review, the assessment algorithm and the toolkit be disseminated to APRNs caring for young, obese Latina women. Literature findings and the assessment algorithm can be shared at a conference for APRNs through a podium or a poster presentation. The toolkit can be printed and shared as a handout at the presentation. The California Association for Nurse Practitioners (CANP) and the Nurse Practitioners in Women's Health (NPWH) holds annual educational conferences where this information and the toolkit can be presented. Web dissemination of the toolkit is another way to reach a greater number of APRNs. At the conclusion of the DNP program, a web developer will be engaged to assist with creating a user friendly website to display the components of the toolkit. A simple evaluation about the usefulness of the toolkit was developed and APRNs receiving the toolkit will be asked to rate its usefulness and applicability to practice.

The evaluation tool is found in Appendix D. The evaluation tool can be used in paper form at conferences or can be administered on the internet through use of a program such as Survey Monkey. An internet survey is advantageous tool as responses are easily tabulated.

The toolkit provides the APRN with realistic strategies to help their patients achieve weight loss and maintenance. With the growing problem of obesity and overweight among young Latina women, APRNs and their patients can benefit from the resources of the toolkit to promote weight loss and maintenance and in turn decrease the risk of diabetes mellitus, hypertension, cardiovascular disease, and various types of cancers among the young Latina population.

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APPENDIX A

TABLES OF EVIDENCE

Intervention Studies Targeting Weight Loss or Physical Activity Increases

Purpose	Design & Key Variables	Sample & Setting	Measures	Results	Conclusions, Limitations, Notes
To determine if a nutritional intervention aimed at portion control leads to significant weight loss compared to standard care counseling in low-income Mexican-American women. Promotora used to deliver education in both groups (Faucher & Mobley, 2010).	<p>Randomized controlled study</p> <p>Experimental (intervention)</p> <p>Portion control education intervention. Four class sessions out of the 20-week intervention were held for intervention group only. The standard care group received a physical examination, education counseling on portion control and exercise from both the promotoras and the primary care provider.</p>	<p>$n = 19$</p> <p>Control group $n=8$</p> <p>Intervention group $n = 11$</p> <p>Participants recruited from a community center.</p>	<p>Demographic data obtained from each participant</p> <p>Baseline weight and post-intervention weight obtained</p>	<p>The attrition rate was 11 in the intervention group and 8 in the standard care group</p> <p>Women in intervention group lost more weight than standard care group. $P = .35$</p> <p>Mean weight loss was 2.8 pounds in standard care group.</p> <p>Mean weight loss was 6.6 pounds in intervention group</p>	<p>Portion control education leads to significantly greater weight loss than does education not containing portion control information</p> <p>Promotora used to deliver education to both control and intervention groups</p> <p>Limitations: Small sample size and high attrition rate. Promotora used for both groups, thus, quantifying the benefit of using a Promotora could not be done</p>
To examine the efficacy of a commercially available, portion-controlled diet (PCD) on body weight and HbA _{1c} over 6 months	<p>Randomized controlled study</p> <p>Experimental (intervention)</p> <p>Control group received Diabetes Self-</p>	<p>$n = 100$ (men and women)</p> <p>Intervention Group $n = 50$ (PCD)</p>	<p>Weight, height, waist circumference, blood pressure, HbA_{1c}, lipid panel, glucose, HbA_{1c}, CRP, and diabetes medication regimen were</p>	<p>At six months: PCD participants lost 7.3 kg (95% confidence interval (CI): -5.8 to - 8.8 kg); 2.2 kg loss (95% CI: - 0.7 to - 3.7 kg) for DSME participants.</p>	<p>PCD intervention was effective in lowering HbA_{1c} levels, weight loss, systolic blood pressure.</p> <p>Participants in the PCD group also experienced a reduction in</p>

Purpose	Design & Key Variables	Sample & Setting	Measures	Results	Conclusions, Limitations, Notes
<p>in obese patients with type 2 diabetes. (Foster et al., 2013).</p>	<p>Management Education (DSME) PCD and its effects on weight and HbA1c levels.</p> <p>This entry does not tell what the intervention is. Experimental: 9-session group lifestyle intervention that included a PCD (pre-packaged food used along with conventional foods); control: 9-session group program of diabetes self-management education (DSME). Both prescribed same goals for energy intake and physical activity.</p>	<p>Control Group <i>n</i> = 50 (DSME)</p> <p>Setting: Two medical centers in Philadelphia</p>	<p>evaluated at baseline, three, and six months</p>	<p>At six months: HbA_{1c} declined by 0.7% (95% CI: - 0.4 to - 1.0%) in PCD participants, compared with a significantly (<i>p</i> < .026) smaller 0.4% decline (95% CI: - 0.1 to - 0.7%) in DSME participants</p> <p>28.0% of PCD participants, compared with 4.0% of DSME, had a reduction in the intensity of their diabetes medication regimen (<i>p</i> = 0.0034)</p> <p>6.0% of PCD versus 12.0% of DSME participants had an intensification of their medication regimen</p> <p>The PCD participants attained a greater reduction in systolic blood pressure and waist circumference when compared to the DSME participants</p> <p>Vigorous activity (<i>p</i> < .001) and walking (<i>p</i> <</p>	<p>their medication regimen</p> <p>The findings of this study suggest that PCD is an effective strategy for weight loss. Only when considered along with the rest of the intervention</p> <p>Although this study had only 2% Hispanics, the findings are relevant as more than half of the participants in each group were obese/overweight women</p> <p>Limitations: The study was underpowered to assess clinically significant differences in secondary outcomes</p> <p>Both study arms offered a stronger behavioral intervention than what most patients are likely to receive in practice</p>

Purpose	Design & Key Variables	Sample & Setting	Measures	Results	Conclusions, Limitations, Notes
To determine the efficacy of community-based, culturally-tailored exercise intervention for low-income Latinas (Hovell et al., 2008)	<p>Randomized trial contrasted safety & disease prevention education (18 sessions over 6 months) to an aerobic dance intervention (3 90-min education/exercise sessions/week x 6 months in a community setting).</p> <p>Primary Outcomes: Increase vigorous physical activity and relative $VO_{2\max}$</p> <p>Secondary Outcomes: Body Mass Index (BMI) and moderate intensity exercise were also explored How was the intervention “culturally tailored” and how did it address barriers?</p>	<p>Sedentary low-income Latinas aged 18-55 ($n = 151$) living in a North San Diego County community. 70% overweight/obese</p> <p>Intervention Group: $n = 75$</p> <p>Control Group: $n = 76$</p> <p>Setting: “Storefront” property near a community clinic</p>	<p>Single-blind measures were used for this study during three separate appointments for lab, physiologic, and physical activity assessments</p>	<p>.001) at post-test were higher in the intervention group than in the control group</p> <p>At follow-up, physical activity in the intervention group was higher than that of the control group ($p < .001$)</p> <p>In the intervention group, an increase in relative $VO_{2\max}$ was seen from baseline to post-test ($p < .001$) followed by a decrease from post-test to follow-up ($p < .001$). No changes were seen for the control group</p> <p>The control group moved into the higher risk category as high density lipoprotein (HDL) levels decreased from baseline (71%) to post-test (85%) ($p = .049$)</p> <p>The intervention group moved into the lower risk category from baseline (33%) to post-test (51%)</p>	<p>A culturally tailored aerobic dance program can be effective in increasing vigorous physical activity in sedentary, overweight Latinas</p> <p>The participants faced multiple cultural barriers to exercise. They had limited knowledge of the benefits of exercise, and little experience with exercise</p> <p>Limitations: Post-test improvement in physical activity lost during follow-up. BMI and body composition failed to change despite increase in physical activity</p>

Purpose	Design & Key Variables	Sample & Setting	Measures	Results	Conclusions, Limitations, Notes
				(<i>p</i> = .041)	
<p>The purpose of this study was to conduct the first randomized trial to examine the impact of a tailored, home-based, TTM-based multiple behavior interventions targeting behaviors essential to weight management in overweight and obese adults (Johnson et al., 2008).</p>	<p>RCT, Experimental (Intervention) study</p> <p>Weight loss and management are the key variables.</p>	<p><i>n</i> = 1277</p> <p>Intervention Group <i>n</i> = 628</p> <p>Control Group <i>n</i> = 649</p> <p>Participants were recruited nationwide from large employers</p>	<p>Participants completed baseline assessments by phone. At 3, 6, 9, 12, and 24 months, mail assessments were sent, followed by telephone for non-responders</p> <p>Intervention group received four series of individualized reports tailored on TTM constructs, based on assessments at baseline, 3, 6, and 9 months</p> <p>The control group completed measures at 6, 12, and 24 months</p> <p>Measures: Ht, Wt, Stage of change for exercise, Stage of change for healthy eating, Stage of change for managing emotional distress,</p>	<p>Healthy Eating Outcomes (<i>n</i> = 1121)</p> <p>The intervention group had greater percentages than the control group of persons progressing to action and maintenance at 6, 12, and 24 months</p> <p>Exercise Outcomes (<i>n</i> = 713)</p> <p>The intervention group, 43%, 37.7%, and 44.9% progressed to action and maintenance at 6, 12, and 24 months, respectively, compared to 34.6%, 35.9%, and 38.1% of the control group</p> <p>Managing emotional distress outcomes (<i>n</i> = 458)</p> <p>Greater percentages of the intervention group achieved treatment success at 6 (44% versus 25.3%), 12 (45% versus 38.3%), and 24 months</p>	<p>Individualized stage-matched, behavior interventions had significant effects on progression to action and maintenance for healthy eating, exercise, managing emotional distress, and weight among obese and overweight individuals</p> <p>Limitations: The control group also did well in this intervention study. The plausible reason is that they received more than standard care</p> <p>Objective measures were self-reported</p>

Purpose	Design & Key Variables	Sample & Setting	Measures	Results	Conclusions, Limitations, Notes
			Stage of change for fruit, and vegetable intake.	(49.7% versus 30.3%) Weight Outcomes: The intervention group lost more weight than the control group at follow up	
To assess the feasibility of a culturally appropriate weight-loss intervention targeting obese Spanish-speaking Mexican women (Lindberg et al., 2012).	<p>Quasi-experimental study, Pre-test and Post-test design</p> <p>Adopting health behaviors such as diet and exercise to reduce body weight</p> <p>The intervention consisted of weekly group sessions for 6 months (Phase 1). Then 6 months of monthly group meetings (Phase 2)</p> <p>Sessions consisted of individual weigh-ins, and continued with a group check-in where participants could share their difficulties or successes and ask questions</p>	Female, Spanish-speaking, Mexican, and Mexican-American women age 18 or older, and a BMI of 30 or above living in Oregon <i>n</i> = 47	<p>Physical Activity Readiness Questionnaire</p> <p>Dietary intake using the bilingual (Spanish– English) version of the Block Food 2005 Frequency Questionnaire</p> <p>Ht and Wt</p>	<p>-5.3 kg was the average weight reduction for all participants (<i>n</i> = 47)</p> <p>Reduction of percentage of calories from fat from baseline to follow up. Sugar intake lower at follow up when compared to baseline</p>	<p>30% of the participants dropped out of the study for various reasons</p> <p>15% of participant data was censored due to pregnancy</p> <p>Limitations: Short-term study. Effects measured within subjects rather than comparing groups</p>

Purpose	Design & Key Variables	Sample & Setting	Measures	Results	Conclusions, Limitations, Notes
To test the efficacy of a home-based, individually tailored physical activity print intervention for Latinas. (Pekmezi et al., 2012)	RCT, Intervention study Examine the efficacy of a physical activity print intervention	268 sedentary Latinas were randomly assigned to receive either the Tailored Intervention or the Wellness Contact Control arm	Physical assessments, psychosocial assessments, demographics obtained through brief questionnaire Brief Acculturation Scale utilized to obtain information regarding language at home, with friends Short test of functional health literacy used to obtain level of health literacy for each participant 7-Day Physical Activity Recall used to obtain information regarding each participant's level of physical activity Psychosocial assessments were completed Stage of change, self-efficacy for physical activity, and processes of change	Participants reported low levels of physical activity at baseline Baseline data indicates the need for more physical activity interventions in this population due to high rates of obesity that reflect national data	Sample with the high rates of obesity and sedentary lifestyle Limitations: Findings likely not generalizable to other populations as the focus was on Hispanic/Latina women The intervention is mostly web-based and not in-person

Purpose	Design & Key Variables	Sample & Setting	Measures	Results	Conclusions, Limitations, Notes
			administered at baseline and on a monthly basis		
To evaluate a culturally appropriate intervention to increase activity in overweight Mexican American women (Poston et al., 2001)	RCT, Experimental (intervention), Prospective block design	Participants recruited along communities in southern Texas along the US-Mexico border <i>n</i> = 379 Intervention: <i>n</i> = 194 Control: <i>n</i> = 185	Physical activity recall questionnaire used to obtain information about activity Ht, Wt, BMI, waist to hip ratio, lipid panel, and BP were evaluated at baseline, 6, and 12 months.	<i>n</i> = 269 participants completed the 6-month assessment <i>n</i> = 134 Intervention group, <i>n</i> = 135 in control group Participants in both study arms reported increased physical activity at 6 and 12 months Fewer participants who met the activity goal in treated group than in wait-list control group at baseline (22% vs 35%, Fishers exact test <i>p</i> = 0.003) (36% vs 37%, Fishers exact test <i>p</i> = 0.468) or 12 months (37% vs 42%, respectively; Fishers exact test <i>p</i> = 0.300) At 12 months, there was a significant attrition rate in the treatment group that was twice the dropout rate in the control group	The findings were not significant for an increase in physical activity in the intervention group as there was a high attrition rate. A plausible reason for this is barriers were not adequately addressed, which is also a limitation in this study. Although the findings are not favorable, they are relevant for future studies as it is imperative to address barriers in weight loss/physical activity intervention studies

Purpose	Design & Key Variables	Sample & Setting	Measures	Results	Conclusions, Limitations, Notes
To assess the feasibility of a culturally tailored behavioral intervention for improving hypertension-related health behaviors in Hispanic/Latino adults (Rocha-Goldberg et al., 2009).	Feasibility pilot study, Experimental (intervention) study	Community health center and a Latino organization in Durham, North Carolina. <i>n</i> = 26 enrolled <i>n</i> = 19 completed the intervention Due to missing data, <i>n</i> = 17 completed the measurements at baseline and at the end of the study	SBP, weight, BMI, fat intake	SBP was reduced an average of 10.49/10.6 mmHg, corresponding to a <i>d</i> -value of 1.01 (large effect size) Largest impact on behavior-related variables was seen for change in weight (<i>d</i> = 0.49) and exercise (<i>d</i> = 0.68), corresponding to medium-large effect sizes Participants did not improve on fat intake	Employing interventionists/staff similar to the patient improved study outcomes A culturally adapted intervention is effective in Hispanics/Latinos, as there was an improvement in BP, wt, and dietary pattern Limitations: Small sample size, short-term study, comparisons made within subjects as opposed to control group Lessons learned from this study: use of staff/investigators familiar with the Latino culture, recognizing cultural differences among Latinos of different national origin, using individuals organizations that are familiar to facilitate recruitment, intervention should focus on key foods that are familiar to the participants, incorporate physical activity into the intervention

Note. BMI=Body Mass Index; CI=Confidence Interval; DSME=Diabetes Self Management Education; HDL=High Density Lipoprotein; Ht=Height; PCD=Portion Controlled Diet; SBP=Systolic Blood Pressure; TTM=Transtheoretical Model; Wt=Weight.

Qualitative Studies Related to Diet and Weight Loss/Management

Purpose (Source)	Conceptual/Theoretical Underpinnings, Design	Sample & Setting	Data Collection & Analysis	Results	Conclusions, Limitations, Notes
To examine perceptions of obesity and weight management among Latina immigrant women (Agne, Daubert, Munoz, Scarinci, & Cherrington, 2011)	Health Belief Model constructs used to facilitate the study and data collection Focus group methodology consisting of 4-10 participants	25 Latina immigrants recruited from a community hospital in Alabama	Moderator's guide with HBM constructs used as a script to facilitate focus group Participants filled out short questionnaire to assess demographics and factors related to obesity and level of acculturation was obtained through a short level of acculturation scale Focus groups lasting 90 minutes Deductive and inductive analysis used to analyze data	Average age 38. Most women married/living with partner; level of acculturation low 4 domains into which the results fell: Perceptions regarding obesity, contributors to weight gain, prior weight-loss attempts, and motivators and need. Depression, isolation, and stress were perceived contributors to weight gain in most of the participants. Less access to healthier foods and physical activity Less physically active due to stores and other places not being within close proximity to walk. Participants were able to walk more in their country prior to emigrating	Role of culture and tradition in weight management for Latinas is important Focus on changing attitudes toward obesity may provide a starting point for implementing weight-management programs Programs tailored for Latina immigrants should address barriers, including limited access to fresh fruits and vegetables, low levels of physical activity, and high levels of social isolation and depression Limitations: Small sample size, not generalizable to other Latino populations as 88% of the participants were from Mexico

Purpose (Source)	Conceptual/Theoretical Underpinnings, Design	Sample & Setting	Data Collection & Analysis	Results	Conclusions, Limitations, Notes
				Diets not consistent with their cultural traditional beliefs and usual activities	
To examine the experiences, concerns, and beliefs regarding diet, weight and weight loss of Mexican-American immigrant women (Lindberg & Stevens, 2009)	Focus group methodology including 4-10 participants	25 women Recruited from community centers, business, and agencies serving the Mexican community in Portland, Oregon	Focus groups facilitated by a bilingual Mexican clinical psychologist and conducted in Spanish. Notes taken at each focus group; sessions audiotaped Analysis based on field notes and audiotapes Key words and themes identified and coded	25 women; mean age was 36 Participants felt adapting to American society contributes to weight gain as they eat more processed foods due to the faster pace of life. They also enjoy all the new foods in the U.S. They also felt overwhelmed, as they do not have enough help with childcare and home responsibilities. Experiences with Weight-Loss Attempts and Need for Nutritional Information: Most of the participants reported trying to lose weight by eating less fried foods, drinking more water, taking vitamins. They also reported feeling frustrated with their weight loss efforts, as they were not successful.	This study sheds light on the importance the role of culture plays in developing effective culturally tailored weight loss interventions The participants expressed the importance of maintaining a healthy weight and weight loss. They also expressed concern about decreasing their risk of developing diabetes Participants also believe their weight gain was attributed to their emigration to the U.S. and how long they have been living in the states Family was identified as a barrier as they do not want to offend them by not eating the same foods in an effort to lose weight Limitation: Small sample size

Purpose (Source)	Conceptual/Theoretical Underpinnings, Design	Sample & Setting	Data Collection & Analysis	Results	Conclusions, Limitations, Notes
				<p>They also reported food label confusion</p> <p>Family also impacted their ability to change their diet in an effort to lose weight. They were concerned about negatively impacting the family if they made changes to their diet. Certain members in the household did the food preparation making it hard for them to make dietary changes</p>	

APPENDIX B

WEIGHT LOSS TOOLKIT

Evidence-Based Weight Loss Toolkit for Young Latina Women



Introduction

The purpose of this toolkit is to provide Advanced Practice Nurses (APNs) evidence-based weight loss and weight management resources to provide their young, obese, Latina population. The prevalence rate of obesity in Hispanic women is 45.1% compared to a prevalence rate of 35.5% for all women (Agne et al., 2012). These higher rates of obesity contribute to obesity-related illnesses such as diabetes, hypertension, cancer, and other comorbidities (Agne et al., 2012; Graves, 2010; Kulie, Slattengren, Redmer, Counts, Eglash, & Schragar, 2011; Peterson & Cheng, 2012). This toolkit addresses physical activity, healthy eating, and weight-loss interventions and strategies for young, obese Latina women.



Assessment Tools

The Body Mass Index (BMI) is an easy method to screen for overweight and obesity because it is quick and non-invasive. The best use for BMI is to observe weight trends over time. The APRN should calculate the woman's BMI at each visit and use the current BMI to compare to past visits. To calculate BMI you must have an accurate weight and height for your client. The following links provide quick and easy to use BMI calculators for APRNs and their patients.

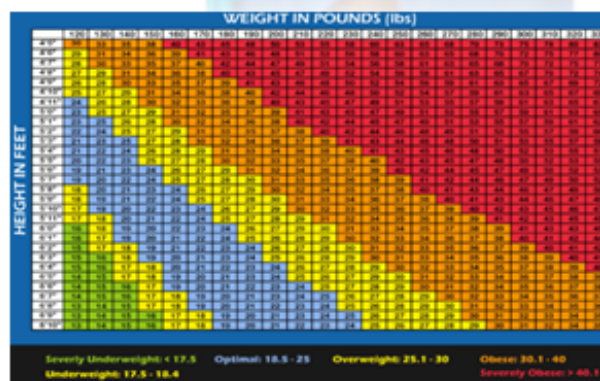


[AHA BMI Calculator](#)

[NHLBI BMI Calculator](#)

[CDC BMI Calculator](#)

[NHLBI BMI Chart](#)



Motivational Interviewing and Stages of Change



The application of motivational interviewing principles has been to be useful and effective in promoting behavior change leading to positive health outcomes. According to the American College of Obstetricians and Gynecologists (2009), motivational interviewing has been useful in promoting weight reduction, exercise, and dietary modification. Motivational interviewing can be defined as, "A client-centered directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence (Lussiere & Richard, 2007, p. 2117).

Motivational Interviewing and Readiness to Change

The following links are resources that will assist the APRN to acquire the knowledge and skill set for motivational interviewing.

[Motivational Interviewing for Diet/Exercise and Obesity](#)

[Motivational Interviewing Script](#)

[Readiness to Change Scale](#)

[The Motivational Interview](#)

[Encouraging Patients to Change Unhealthy Behaviors](#)



Taking off Pounds Sensibly (TOPS) is useful for providing support and motivation for weight loss and maintenance.

[TOPS](#)

Addressing Weight Status and Communication

Most people experience anxiety with clinic appointments. Those who are overweight or obese, feelings of anxiety can be magnified. Some individuals may feel shameful for being overweight, and for many people, excess weight creates a barrier to receiving adequate health care. Additionally, those who have emigrated from another country may not be aware of their overweight or obese status, thus, making communication more challenging. APRNs play an important role in eliminating those barriers and making patients feel secure in the healthcare environment. The script below can help the APRN address this sensitive topic with their patient. Obtaining an interpreter for Spanish speaking patients is also recommended for the patient to have a clear understanding of what is being communicated.



Sample Script When Addressing Weight Status

Ask Permission

Can we take a minute to discuss your weight and health?

Share BMI

Your BMI is _____. What questions do you have about how your BMI relates to your health?

Other questions to ask:

1. How do you feel about your weight?
2. How do you feel about your health?
3. What would you change to be healthier?
4. What is keeping you from making those changes?
5. What would help you make those changes?

Assess Readiness

1. How ready are you to make changes to improve your health? Rate from 0-10
 - a. Not ready
 - b. Getting ready
 - c. Ready



[Depression Screening](#)

[PHQ-9 English](#)

[PHQ-9 Spanish](#)

[Beck Depression Inventory](#)

Dietary Resources

Acculturation to the American way of life can be associated with poor eating habits, less physical activity, and excess weight among Latinas. Cost, transportation, and knowledge are contributing factors that contribute to lack of access to healthy foods among the young Latina population. The APRN can provide the following resources to increase access to healthful foods and knowledge on healthier a healthier diet.



[California Government Supplemental Nutrition Program](#)

[Women, Infants, and Children Program](#)

[CalFresh Program-Supplemental Nutrition Assistance Program](#)

[Dietary Approaches to Stop Hypertension \(DASH\)](#)

Below are examples of SNAP strategies and interventions to promote a healthier diet in all states:

1. Promote participation in federal food and nutrition assistance programs
2. Encourage use of farmers market with SNAP and WIC access at key community outlets
3. Develop and disseminate family-friendly educational materials that encourage family meals and kids' cooking

Dietary Educational Information Resources for Patients

[Nutrition Information From the CDC](#)

[Food and Drug Administration Nutrition Information](#)

[American Diabetes Association Nutrition Information and Recipes](#)

[The Academy of Nutrition and Dietetics](#)

[Exercise Resources for Patients](#)

[Guide for Pedometer Use](#)

[CDC - Physical Activity](#)

[Blue Cross Blue Shield - Health Club Discounts](#)

[Blue Shield of California - Wellness Discount Programs](#)

[Cigna Member Discounts](#)

[Los Angeles County - Discounts and Programs](#)

[San Bernardino County - Exercise and Nutrition Resources](#)



[Kaiser Permanente - Healthy Weight](#)

[Watch Your Weight -](#)

[Sample Food and Exercise Logs](#)

[NIH Sample Food and Exercise Logs for Patients](#)

[Educational Resources for Patients](#)

[Women'sHealth.gov](#)

[CDC Nutrition](#)

[CDC Healthy Weight](#)

[Strategies for Success](#)

[NHLBI - Get Active](#)

[NHLBI - Eat Right](#)

[AHA Weight Management](#)

Evidence-Based Resources For APRNs

**2013 AHA/ACC/TOS Guideline for Management of
Overweight and Obesity in Adults**

[AHA Recommendations For Obesity Assessment and
Treatment](#)



Motivational Interviewing Tool – ACOG

[Motivational Interviewing Tool](#)

Literacy Assessment Using the Newest Vital Sign

[Literacy Assessment Tool](#)

**Management of Obesity and Overweight – VA Clinical
Practice Guidelines**

[VA Clinical Practice Guidelines](#)

**Managing Overweight and Obesity in Adults:
Systematic Evidence Review from the Obesity Expert
Panel**

[NHLBI Recommendations](#)

US Preventive Services Task Force

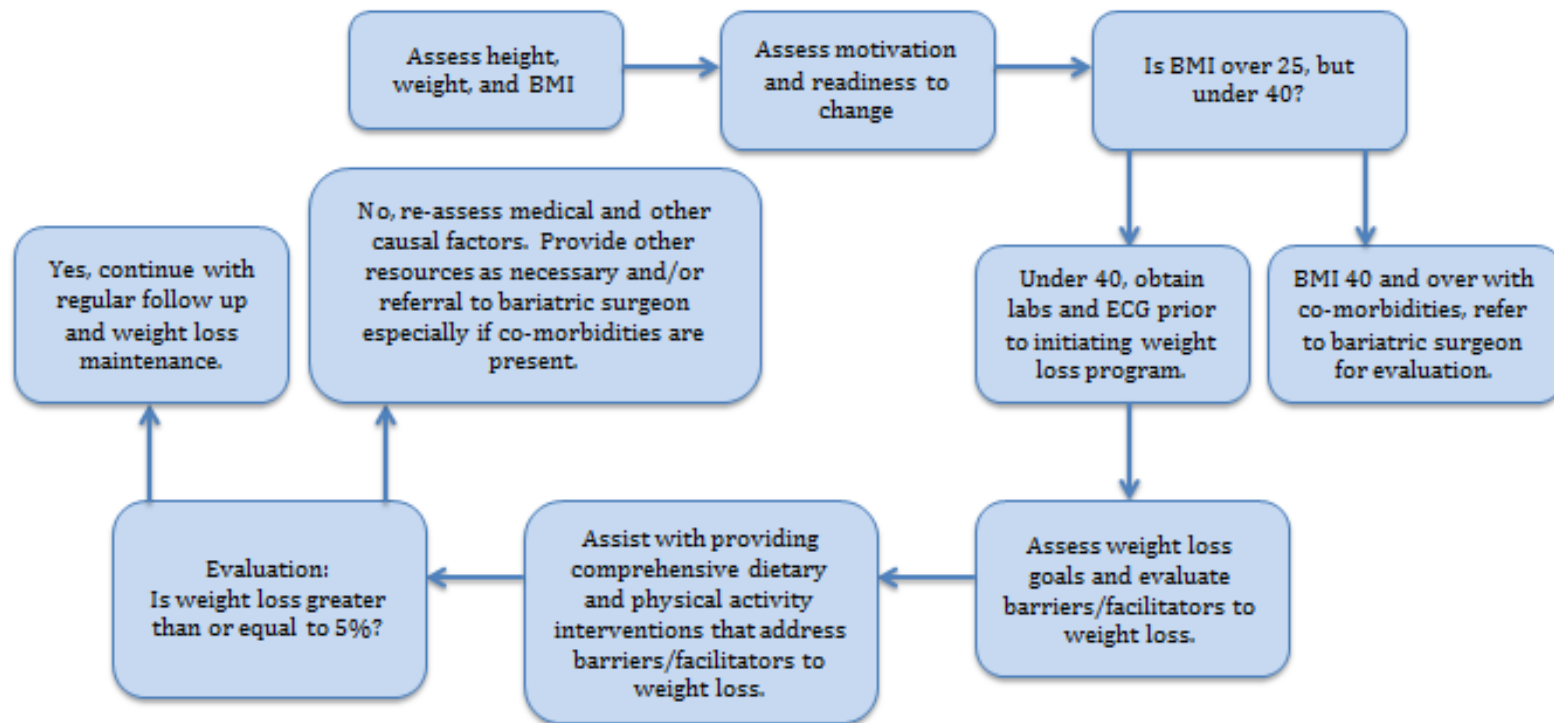
[Obesity and Adults: Screening and Management](#)

National Guideline Clearinghouse

[Prevention and Management of Obesity in Adults](#)

APPENDIX C

ASSESSMENT AND DECISION ALGORITHM



APPENDIX D

SAMPLE EVALUATION TOOL

1. Are you a:

NP ___
 CNM ___
 RN ___
 CNS ___

2. Are you currently practicing?

- a. Yes
- b. No
- c.

3. The toolkit will assist in improvement of my:

- a. Patient Outcomes
- b. Competence
- c. Performance as a clinician

Indicate your agreement to the following questions:

4. How would you rate the quality of the overall toolkit?

Strongly Agree 5	Agree 4	No Opinion 3	Disagree 2	Strongly Disagree 1
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5. The toolkit was organized to facilitate learning.

Strongly Agree 5	Agree 4	No Opinion 3	Disagree 2	Strongly Disagree 1
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6. The content learned from the toolkit will positively impact your practice.

Strongly Agree 5	Agree 4	No Opinion 3	Disagree 2	Strongly Disagree 1
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7. How likely are you to recommend this toolkit to others?

Strongly Agree 5	Agree 4	No Opinion 3	Disagree 2	Strongly Disagree 1
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8. How well did this toolkit meet your expectations?

Strongly Agree 5	Agree 4	No Opinion 3	Disagree 2	Strongly Disagree 1
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9. Is there anything you would change about the toolkit?

10. Please suggest ideas for future topics in the toolkit.