Reducing Obesity Rates Among Adults in a Primary Care Setting: An Evidence-Based Practice Project

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Reducing Obesity Rates Among Adults in a Primary Care Setting:
An Evidence-Based Practice Project

by

Raxita Neupane

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Abstract

**Background:** Over 60% of adults in the United States meet the criteria for being overweight or obese. The estimated obesity-related health care costs are as high as $147 billion per year. Despite the alarming health risks and increasing health care costs, the rates of screening and counseling for obesity in the primary care setting are merely 30%. This project outlines weight-management counseling strategies.

**Purpose of Project:** The purpose of the evidence-based practice project was to implement patient-tailored evidence-based nutritional assessment tools and intensive behavioral counseling. The ultimate goal was to reduce body mass index (BMI) among overweight and obese patients by 5%.

**Evidenced-Based Interventions:** The target population for this project was patients 18 years of age and older with a BMI above 25. Project participants (N = 20) were recruited and enrolled from July 2020-December 2020. During the project, participants completed a nutritional assessment interview and behavioral counseling sessions at the clinic location and phone. A trained, multidisciplinary team of nurse practitioners, physicians, and medical assistants assisted in implementing customized behavioral counseling. Clinic follow-up, phone-call interviews, and behavioral counseling were performed on selected patients once a month for six months. The patient's height, weight, and BMI were recorded in the electronic health record every month for data collection and evaluation. Systematic reviews report that nutritional assessment and behavioral counseling can reduce BMI by 5%-10% and assist in weight loss.
**Evaluation/Results:** Six months after implementing an evidence-based practice project with customized motivational nutritional tools and intensive behavioral counseling, 50% of patients achieved weight loss. An average reduction in BMI was 1.2%.

**Implications for Practice:** The project demonstrates success in weight reduction and health improvement in a select patient population. The sustainability of the project should result in significant cost savings.

**Conclusions:** Tailored evidence-based nutritional assessment and motivational, intensive behavioral counseling in a primary care setting is feasible and can reduce BMI among overweight and obese patients.
Background

Obesity has reached a global pandemic state. In many countries, the prevalence of obesity nearly doubled over the last 30 years (Balani et al., 2019). By 2030, an estimated 38% of the world's adult population will be overweight, and 20% will be obese (Fitzpatrick et al., 2016). The U.S. Preventative Services Task Force (2018) defined overweight as a body mass index (BMI) of 25 kg/m^2-29.9 kg/m^2 and obesity as a BMI equal to or greater than 30 kg/ m^2. According to the Centers for Disease Control and Prevention (CDC, 2021), obesity affects approximately 93.3 million adults in the United States. In 2018, the cost burden related to obesity in the United States was $190.2 billion, or nearly 21% of overall healthcare costs. The cost of medical care for obese people was $1,429 higher than those with a healthy weight. Obesity-related conditions include heart disease, stroke, type 2 diabetes, and certain types of cancer: leading causes of preventable and premature death (CDC, 2021). An estimated 300,000 deaths per year (i.e., 822 deaths per day) are due to obesity. Obesity is now the second-highest risk factor for COVID-19 hospitalizations (Garg et al., 2020).

Despite alarming health risks and increasing health care costs, the rate of screening and counseling for obesity is only 30% in the primary care setting (Sherman et al., 2017). Poor adherence to lifestyle intervention and motivation remains the critical factor in hindering treatment for obesity (Burgess et al., 2017). Nutritional assessment and intensive behavioral counseling for overweight and obese patients could reduce BMI by 5% - 10% (Teixeira et al., 2015). Studies reveal that primary care providers' education in weight management potentially influences a slight decrease in their patients’ weight (Fitzpatrick et al., 2016).
In a systematic review by Sherman et al. (2017), a metanalysis of randomized control trials and practice guidelines revealed that nutritional assessment and behavioral counseling could reduce BMI by 5%-10% and assist in weight loss. Added benefits for patients with weight loss included significant risk reduction in developing cardiovascular disease, improved diabetes, and reduced blood pressure (Gemming et al., 2015). A combination of therapy and a comprehensive weight management program consisting of diet, physical activity, and behavior modification was more successful in promoting weight loss and weight maintenance than a single treatment in isolation (Ferraro & Winter, 2014).

People who engage in 60-75 minutes of brisk walking or 35 minutes-40 minutes of jogging could burn 400-500 calories per day (Ferraro & Winter, 2014). In a 2-year observational clinical study of 271 participants with a BMI greater than 25 kg/m², Sherman et al. (2017) reported that health coaching was associated with a 7.24% initial weight loss after 12 months and a 6.77% weight loss after 24 months (95% CI [8.68, 6.90] and [8.78, 4.76], respectively). The study concluded that health coaching assisted in achieving more than a 5% weight loss among patients (p <.001). Balani et al. (2019) suggested assessing a patient's readiness for change before implementing the motivational interview. It was vital in helping patients manage self-regulation eating patterns and engage in activities to promote long-term weight management.

The purpose of this evidence-based practice (EBP) project was to implement patient-tailored, evidence-based nutritional assessment and motivational, intensive behavioral counseling in a primary care setting to reduce BMI by 5% among selected overweight and obese patients within six months.
**Methods**

**Design**

According to Meynyk and Fineout-Overholt (2019), Marita G. Titler, Ph.D., RN, FAAN, Director of Nursing Research at University of Iowa Hospital, developed the Iowa Model of EBP (Figure 1) that has been widely used since 1994 to guide the implementation of research into clinical practice. The Iowa model, recognized for its ease of use by healthcare providers, uses evidence-based knowledge and utilizes the entire health care system, including the providers, patients, and infrastructure, to guide practice decisions (Melnyk & Fineout-Overholt, 2019). It outlines a simple, step-by-step process with feedback loops.
Figure 1

*Iowa Model*

![Iowa Model Diagram]


**The Rationale for Model Selection**

The Iowa Model is designed to guide clinicians through the EBP process. The model includes several feedback loops, reflective analysis, evaluation, and modification based on the structure process's evaluative data (Brown, 2014). The priority of the Iowa
model framework is to recognize an existing problem in a clinical setting. Establishing an issue earlier in the EBP process aids in the effective implementation of a change project and cultivates the most relevant research. As EBP is a problem-solving approach, one can identify obesity as an existing problem in a family practice clinical setting. The Iowa model could be integrated with a step-by-step approach in clinical decision-making driven by the best evidence from well-designed studies with clinician's expertise that respects patients' preferences and values (Melnyk & Fineout-Overholt, 2019). This EBP project aimed to implement a simple, user-friendly, and sustainable nutritional assessment tool that emphasizes motivational interview questions to assist in managing overweight and obese patients.

**Model Strength**

The Iowa Model's strength is its framework designed to simplify identifying opportunities and problems and using evidence-based problem-solving tools to implement research into practice in any clinical setting. In this project's family practice clinical setting, obesity was an ongoing problem among patients 18 years of age and older and represented the first step in the Iowa Model. An evaluation of selected patients included calculating their BMI and the healthcare provider's knowledge. The last step was determining if the nutritional assessment tool was a sustainable, evidence-based approach for this clinical setting.

**Model Weakness**

Barriers in implementing an EBP project include buy-in from stakeholders, knowledge deficits among clinic staff, lack of clinical guidelines, compliance by patients, and cost. As the Iowa model framework does not incorporate these barriers
simultaneously, the length and time needed to implement all the steps for a successful project must be considered. A well-established entity aligned with the evidence was needed to evaluate whether the nutritional assessment tool was sustainable in the family practice setting.

**Setting and Population**

This EBP project was implemented at a small private practice setting focused on family medicine located in southern California. Most clinic patients were established with the providers and managed for chronic conditions such as diabetes, hypertension, and hyperlipemia. A significant number of patients who had been diagnosed with chronic conditions were overweight or obese. The clinic had not tried a nutritional assessment tool or behavioral counseling to manage obesity. Therefore, this project was implemented to educate patients and providers on evidence-based tools related to obesity management for improved health outcomes. The target population was patients 18 years of age and older with a BMI score above 25. The physician and nurse practitioner identified the participants. Verbal consent was obtained from each participant and enrolled in the project from July 2020–December 2020.

**Process and Intervention**

An Iowa Model-based EBP project was initiated following letters of support from the faculty advisor and the clinical mentor in the primary care clinic. The University of San Diego granted institutional Review Board approval in July 2020. The U.S. Preventative Services Task Force (2018) recommended that all adults aged 19 years or older should be screened for obesity using BMI and be offered intensive counseling and behavioral intervention to promote sustained weight loss in obese adults. Participants
completed the nutritional assessment interview and behavioral counseling sessions at the clinic and by phone, focusing on diet, physical activity, motivation, and mindset (Figure 2).

Figure 2

*Behavioral Modification Motivational Tool*

![Behavioral Modification Motivational Tool](image-url)

*Note:* Motivational tool designed by the clinic in collaboration with Obesity Action Coalition (OAC).. Reprinted with permission.
The clinic’s electronic medical records were accessed for medical history, weight, height, and calculated BMI (Table 1).

**Table 1**

*Patient’s Demographics, Weight, Height, and BMI (July 2020–December 2020)*

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A trained multidisciplinary team of nurse practitioners, physicians, and medical assistants aided in implementing customized behavioral counseling for patients with BMI scores of over 25. The DNP student conducted clinic follow-ups, phone interviews, and behavioral counseling on selected patients once a month for six months. Data collection and evaluation were performed utilizing the electronic health records for patient height, weight, and BMI once a month.

**Results**

The post-intervention data in August 2020 (i.e., BMI1M) revealed that, out of 20 patients, four (20%) achieved weight loss. In the second month (i.e., BMI2M) post-intervention, eight participants (40%) achieved a slight decrease in weight with corresponding BMI reduction. At the end of the project (i.e., BMI5M), 10 participants
(50%) reported decreased BMI. Monthly phone calls to all project participants were conducted to discuss behavior modification focused on their diet, activity, and motivation. The 10–15-minute phone calls included obtaining the current weight of each patient and integrating patient-tailored motivational interviews. Six months after project implementation, 50% of the participants achieved weight loss. Figure 3 displays the average monthly weight reduction and the overall result of a 1.2% decrease in BMI.

**Figure 3**

*Post Intervention Results*

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**Discussion**

**Facilitators and Barriers**

The research literature suggested that obesity interventions involving intensive behavioral treatment with auxiliary health care professionals or allied health care combined with physician oversight through quarterly visits were more likely to produce
clinically significant weight loss (i.e., 5%+ loss of initial weight) than physician counseling alone (Balani et al., 2019). This EBP project was unable to recruit auxiliary and allied health providers due to a lack of staff and resources in the family-practice clinic setting to establish provider and patient relationships. To ensure motivational interview and behavior counseling are implemented in the future in their entirety, the provider must have available resources such as nutritionists and dietitians for patient-referral to counseling sessions. Primary care providers should consider opportunities to engage and motivate patients to promote weight loss to achieve effective behavioral change counseling.

Limitations

As this EBP project was a pilot program implemented during the COVID-19 pandemic, there was inconsistency in educating the providers regarding the motivational interview and behavior counseling techniques. Another barrier identified was patient hesitancy or state-mandated restrictions on the use of outdoor space or gyms. The pandemic also limited patient contact to phone calls; participants did not receive face-to-face counseling with the provider as would have been done under normal circumstances. The post-data collection also coincided with the holiday season (i.e., October 2020-December 2020) and could potentially skew the weight loss results due to seasonal fluctuations. With reliance on home-based scales for biometric measurement and patient recall, results may have been inconsistent or inaccurate.

Implications for Practice

This EBP project suggests successful outcomes in weight reduction and health improvement in a select patient population. The project’s sustainability could result in
significant cost savings. According to CDC (2021), a 1% decrease in the predicted obesity trend would equate to 2.9 million fewer obese adults by 2030, a $4.7 billion annual cost savings. The critical factors for this EBP project were the focus on sustainability, weight management, and overall lifestyle modification, not temporary weight changes. Unquestionably, obesity management in primary care settings needs more research, established guidelines, and practical recommendations to manage the obesity crisis. Studies and EBP projects should consider patient attitudes and motivation in communities with health disparities and lack of resources (e.g., financial, access to healthy food). This EBP project demonstrated that keeping the patient at the center of care while moving forward with the counseling sessions can yield successful weight reduction and maintenance. Reliable weight measuring tools in the telehealth environment should be explored. The project also outlined the importance of educating clinic staff and patients about obesity as a chronic disease condition, utilizing patients’ support system, and family involvement can reinforce their motivation to lose weight. In follow-up visits, providers could assess patient progress with SMART goals (i.e., specific, measurable, attainable, relevant, time-based), review self-monitoring records, assist the patient with problem-solving, address barriers encountered since the last visit, and follow-up on referrals. Providers may consider referral to a behavioral psychologist, a dietitian with expertise in weight management, or a commercial program with established efficacy (e.g., Weight Watchers) to optimize weight loss success (Balani et al., 2019).

There is an excellent opportunity for revenue to be generated in a primary care setting associated with the recommended follow-up appointments among adult patients
with a BMI above 30. CMS (2012) will reimburse Medicare beneficiaries on visits that counsel for obesity. The CMS reimbursement model consists of 10 minute-15 minute visits (maximum of 22 visits) with a 3 kg (6.6 lbs) weight-loss requirement during the first six months of treatment.

**Conclusion**

This project's sustainability could result in potential cost savings for the current health care system. These outcomes suggest that multidisciplinary provider involvement can influence weight reduction and improve the health of selected, at-risk patients. Brief telehealth visits can provide an opportunity to engage and motivate patients to improve adherence to treatment plans. Tailored, evidence-based nutritional assessment and motivational intensive behavioral counseling in a primary care setting are feasible practices and can reduce BMI among overweight and obese patients.


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