Increasing Obesity Awareness by Diagnosis through BMI in Primary Care

Ellie Yip, University of San Diego

Available at: https://works.bepress.com/ellie_yip/1/
UNIVERSITY OF SAN DIEGO
Hahn School of Nursing and Health Science

DOCTOR OF NURSING PRACTICE PORTFOLIO

by

Ellie Yip, BSN

A portfolio presented to the

FACULTY OF THE HAHN SCHOOL OF NURSING AND HEALTH SCIENCE
UNIVERSITY OF SAN DIEGO

In partial fulfillment of the
requirements for the degree

DOCTOR OF NURSING PRACTICE
May 2015

Kathy James, DNSc, APRN, FAAN, Faculty Chair
Mary Jo Clark, PhD, Seminar Faculty
Tara Akins, MSN, FNP, Clinical Mentor
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Acknowledgements

I would like to give my gratitude and appreciation to all the faculty members, especially Kathy James, DNSc, APRN, FAAN, faculty chair, and Mary Jo Clark, PhD, seminar faculty, for making my project completion possible. Without their endless support and encouragement, I would not have been able to reach conclusion of my project in a timely manner. Tara Akins, MSN, FNP, my clinical mentor, has also been amazing in assisting and allowing me to plan and implement a project basically without much advance notice. To the family and friends who have stayed by my side, thank you for dealing with a graduate student for the past few years. Your blessings made this entire journey possible!
Opening Statement

Advanced practice nursing is about providing care for patients through primary and secondary preventive measures and management of chronic diseases while educating patients for prevention. I entered into the graduate nursing program at the University of San Diego so that I might expand my current nursing skills to a higher level to better care for patients. My interest in health promotion and patient education led me down this path. I am a strong proponent of evidence-based practice and support interventions, whether old or new, that would lead to the best patient outcomes. As a graduate student in the Doctor of Nursing Practice program, I have several goals that go beyond the role of a nurse practitioner. More than just providing care, I would like to promote further optimal outcomes by looking into current evidence and synthesizing findings into protocols that can help better manage patients and provide for long-term care for patients with chronic diseases.
USD IRB Approval

Institutional Review Board
Project Action Summary

Action Date: March 23, 2015  Note: Approval expires one year after this date.

Type: ___New Full Review ___New Expedited Review ___Continuation Review ___Exempt Review ___Modification

Action: ___Approved ___Approved Pending Modification ___Not Approved

Project Number: 2015-03-197
Researcher(s): Elle Yip, DNP student SON
Dr. Kathy James, Fac SON
Project Title: BMI Diagnosis by Primary Care Staff to Increase Obesity Awareness in Patients

Note: We send IRB correspondence regarding student research to the faculty advisor, who bears the ultimate responsibility for the conduct of the research. We request that the faculty advisor share this correspondence with the student researcher.

Modifications Required or Reasons for Non-Approval

None

The next deadline for submitting project proposals to the Provost's Office for full review is N/A. You may submit a project proposal for expedited review at any time.

Dr. Thomas R. Herrington
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Letter of Support

Elizabeth Salada, A Medical Corporation
15611 Pomerado Rd, Suite 510
Poway, CA 92064
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To: Institutional Review Board, University of San Diego

From: Elizabeth Salada, MD

Re: Use of Clinical Data

During the Spring semester of 2015, Ms. Ellie Yip will be doing a clinical residency at the Elizabeth Salada, A Medical Corporation as part of her coursework for the DNP Program at the University of San Diego. Ms. Yip is now requesting that she be able to use data from this clinical residency and utilize it for publications and professional presentations.

All data have been cleansed of any patient or institutional identifiers. I am supportive of Ms. Yip using these pre-collected data as a basis for publications and presentations.

If you have any questions, please do not hesitate to contact me at the contact information above.

Sincerely,

Elizabeth Salada, MD
Increasing Obesity Awareness by Diagnosis through BMI in Primary Care

Ellie Yip, BSN
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Tara Akins, MSN, FNP
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Poway, CA
Background

Obesity is one of the leading causes of disease and disability in the United States. The condition contributes to a majority of chronic illnesses that may trigger onset of new disease or exacerbate existing conditions. According to the Centers for Disease Control and Prevention (CDC), 78.6 million, or 34.9% of Americans, are affected, with an estimated $147 billion in related annual healthcare expenditures. This translates to an extra $1,429 per obese patient compared to patients of normal weight (CDC, 2014). Considering that obesity is one of the leading causes of preventable illnesses such as cardiovascular disease, type 2 diabetes, metabolic syndrome, and cerebrovascular accidents, the condition is a major public health concern.

Patients who are obese are typically identified by an elevated body mass index (BMI). Under current clinical guidelines, the CDC (2012) defined adults with a BMI of 30 or greater as obese. Due to the many devastating complications obesity can cause, identifying weight issues and teaching good control before the condition progresses is imperative to preserving the health status of Americans. We have long known that diet and physical activity promote good health and are the most basic and natural methods of controlling weight. Activity programs targeting weight loss, along with nutritional modules, are becoming popular to slow this rapidly growing epidemic. National organizations have organized structured programs in attempts to achieve positive results. For example, the Division of Nutrition, Physical Activity, and Obesity (DNPAO) of the CDC has implemented State Public Health Actions initiatives to combat obesity through state-funded programs, particularly in states of high prevalence such as Tennessee (CDC, 2015). According to the American Heart Association (AHA) clinical guidelines (2015),
while pharmacologic modalities and bariatric surgeries are possible options to treat obesity, diet and physical activity are at the core of managing the condition and its complexities. As primary care providers, properly diagnosing and thus educating and motivating patients with appropriate lifestyle interventions would be most effective in managing obesity (AHA, 2015).

Literature Review

The diagnosis of obesity by a primary care provider (PCP) can significantly improve proper management of the condition. In a large-scale prospective cohort study by Bardia, Holtan, Slezak, and Thompson (2007), 9,827 patients were seen by a PCP, 2,543 of whom had a BMI $\geq 30$. Of these, only 505 (19.9%) were clinically diagnosed with obesity and 574 (22.6%) had an obesity treatment plan. Those patients with a formal obesity diagnosis were more likely to have a management plan documented (OR 2.39, 95% CI, 1.90-3.02). This study also noted that patients with comorbidities of diabetes, obstructive sleep apnea, or BMI $> 35$ were more likely to have obesity diagnosed.

A retrospective, cross-sectional study by Bleich, Pickett-Blakely, and Cooper (2011) utilized data from the 2005 National Ambulatory Medical Care Survey, which examined visits with PCPs across the country. A total of 2,458 obese (BMI $\geq 30$) patients were identified, however only 28.9% were clinically diagnosed with obesity. Additionally, 17.6% received weight-reduction counseling, 20.5% had exercise counseling, and 25.2% received diet counseling. Patients who were female, younger in age (18-29 years), and with BMIs $\geq 35$ were more likely to receive an obesity diagnosis.

Straying from examining administrative data, Huang et al. (2004) utilized focus groups in a prospective cross-sectional study to determine the rate of obesity diagnosis.
and barriers to initiating weight loss counseling perceived by providers. The groups involved 18 residents and 210 patients. Of patients with BMIs $\geq 30$, only 14.4% were clinically diagnosed with obesity. Overall, 79% of patients recalled some kind of weight counseling, but only 28% received specific weight loss recommendations. Patients with a BMI $> 35$ or comorbid with type 2 diabetes mellitus were more likely to receive weight loss counseling ($p<.001$). Providers reported pessimism regarding patient motivation and the efficacy of weight loss counseling as the main barriers to providing counseling. Those patients who reported receiving counseling from their providers were more likely to understand the risks of obesity and more ready to lose weight, demonstrating that the time spent by a provider can and does leave a lasting impression.

Other studies support the need to improve the clinical diagnosis of obesity. Melamed, Nakar, and Vinker (2009) found in a prospective cross-sectional study of 289 patients that among the 78 patients who were obese (BMI>30), only 24.4% had an actual obesity diagnosis documented. Those with comorbidities of diabetes and hypertension were more likely to be diagnosed. Ruser et al. (2005) conducted a cross-sectional medical record review of 428 obese patients to find that only 30.9% were clinically identified as obese by their providers, and only 16.5% received weight management care. Patients with obstructive sleep apnea were more likely to be provided weight loss counseling.

The efficacy of provider counseling on weight loss has been examined in other strong studies. The National Institutes of Health sponsored a study of 2,649 obese participants to find that providers who initiated counseling were more likely to report a 5% weight loss (adjusted OR 1.79, 95% CI 1.30-2.46) and more than twice as likely to report a 10% weight loss (adjusted OR 2.15, 95% CI 1.23-3.74) (Pool et al., 2014).
meta-analysis of 12 studies conducted by Rose, Poynter, Anderson, Noar, and Conigliaro (2013) with 207,226 participants showed an effect size for weight loss efforts of OR=3.85 (p<.01). These studies demonstrate that the time and effort invested in provider counseling can make a significant impact on weight loss.

The evidence from these studies demonstrates that the preliminary step of diagnosing obesity is the greatest predictor of appropriate management of obesity. Healthcare providers have a responsibility to properly diagnose and implement preventive and treatment measures to address the large scale of this problem.

Clinical Problem

Providers in a private practice clinic in southern California recognized the prevalence of obesity and embraced an integrative and multidisciplinary approach to managing this growing epidemic. With each clinic visit, diet and physical activity were addressed, particularly for patients who had an elevated BMI. Specific recommendations were reviewed that tailor care to the patients’ needs and abilities, and reasonable goals were set. The providers also supported referrals to life coaches in the community for a more directly involved and dynamic approach to obesity management.

Obesity had been noted to be a problem based on demographic data. A review of 123 randomly selected patients’ electronic medical records (EMRs) was conducted from January to December 2014. Thirty six patients (29.3% of the population) were shown to be obese based on a BMI ≥ 30. This falls close to the expected ratio according to national data from the CDC (2014). Of those patients, 50% had a documented diagnosis of obesity and 41.7% had a treatment plan. These data were actually greater than expected, but still
mean that a large number of obese patients may not be adequately managed for excessive weight.

The purpose of this evidence-based project was to increase the documentation of a diagnosis of obesity in patients with a BMI $\geq 30$ and promote initiation of weight management plans tailored to the patients’ needs. The primary approach to achieving this purpose was education of primary care staff on current AHA obesity guidelines.

**Intervention**

At each clinic visit, a baseline height and weight are recorded for every patient. Weights are recorded at each subsequent visit and BMIs are calculated automatically in the EMR. Dietary habits and physical exercise patterns are typically discussed during the patient-provider visit. Patients in a healthy weight range are encouraged to keep up with their current efforts. Those who are obese are reviewed in more detail and nutritional and physical activity behaviors are discussed further.

Many of the obese patients actually do know that they are overweight and have weight loss in their plans. However, they do not always know what their ideal weight should be and how much physical activity and caloric intake is necessary to achieve that goal. Patients need proper guidance to achieve these goals.

An educational module for the staff detailing the importance of diagnosing obesity and reviewing the clinical obesity guidelines was implemented. A brief synopsis of the evidence was presented to the staff to demonstrate the benefits of diagnosing obesity. Thereafter, recommendations based on the obesity clinical guidelines of the American Heart Association were discussed. First, reviewing a BMI table with the patient would be highly beneficial, especially to make sure that patients are aware of their BMI
status. Those patients who fall under the obese category would be counseled on appropriate dietary and physical activity goals (Jensen et al., 2014). This would involve a weight loss of 3% to 5% to reduce the risk of cardiovascular disease through reductions in blood glucose, cholesterol, and blood pressure. A dietary deficit of 500-750 kilocalories (kcal) per day or a prescription of 1200-1500 kcal per day for women and 1500-1800 kcal for men would be effective for weight loss. These goals may be aggressive, so appropriate targets should be set along the way so that the ultimate objective of weight loss is achievable. At the conclusion of the visit, patients would be reminded to continue regular follow up as directed. A diagnosis of obesity and management plan would be documented in the EMR. A summary of this module was compiled as a handout distributed to all staff.

Confidentiality of patient data was maintained through de-identification by use of generic numbering of participants. Only the necessary data of height and weight, diagnosis of obesity, and documentation of a management plan were recorded. The rules and regulations of Health Insurance Portability and Accountability Act were maintained with the utmost security. Any paper documentation was shredded appropriately. University Institutional Review Board approval was obtained for this quality improvement project.

Results

Two weeks following the implementation of an educational module with clinic staff, a review of EMRs was conducted to evaluate the effectiveness of the intervention in promoting obesity diagnoses and provider discussion of a weight management plan. The charts of 50 randomly selected patients seen since the intervention were reviewed.
Among these patients, 15 had a BMI $\geq 30$ and 8 (53.3%) had a documented diagnosis of obesity recorded in the EMR. A treatment plan was initiated for 9 (60%) of the patients with BMIs indicating obesity. Compared to baseline, the education improved obesity diagnoses by 6.6% and provision of management plans by 43.9%.

Discussion

These findings demonstrate that an evidence-based intervention is effective in improving the documented management of obesity. Although the rate of obesity diagnosis did not increase substantially, further education of the medical staff will probably make a difference.

Properly managing obesity has several obvious benefits. First and foremost, patients who undergo weight management are likely to become healthier and reduce medical costs. Obese patients tend to spend 42% more on medical costs and are twice as likely to be on prescription medications compared to those of normal weight (Trust for America’s Health, 2015). Obese patients attempting to lose weight have better quality of life based on better physical health, fewer activity limitations, and improved mental health (Hassan, Joshi, Madhavan, & Amonkar, 2003). From the provider perspective, coding obesity and thus discussing weight interventions means billing, which would generate income for the practice. Medicare does reimburse for intense behavioral therapy, with up to weekly visits in the first month and every other week for the first six months until reassessment (Centers for Medicare and Medicaid, 2012). Advantages are apparent for both patients and providers.

Practice Implications
Education of providers on properly diagnosing obese patients and the associated dietary and physical activity recommendations for obesity can improve patient outcomes by promoting behavioral changes that could improve health and prevent adverse health conditions. Even though many providers may cite pessimism regarding willingness of their patients to make lifestyle changes or a lack of time to educate patients, including obesity in patients’ active problem list can facilitate continued weight management that may lead to positive long-term results. Obesity is a disease that is best managed with lifestyle interventions of nutritional awareness, physical activity, and behavioral changes, as led by a primary care provider. When provided with appropriate guidance, patients undergoing weight management can prevent complications and improve their quality of life, leading to reduced overall health care expenditures. Such educational programs could be incorporated into routine primary care practice.
References


http://www.heart.org/HEARTORG/GettingHealthy/WeightManagement/Obesity/

Treating-Obesity-as-a-Disease_UCM_459557_Article.jsp


Poster Abstract

Effectiveness of Weight Management Programs in Veterans

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Background: Overweight and obesity are common health problems among veterans. According to 2009 data compiled from the Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System, 23.9% of veterans are obese and 47.6% overweight, with the latter value being 3.5% higher than civilians. Having a greater body mass index (BMI) is a major contributor to a multitude of chronic diseases and disabilities, particularly diabetes and cardiovascular disease, in veterans. A variety of weight management programs have been implemented by the Veterans Health Administration (VHA) to promote physical activity and weight loss among veterans.

Objective: The purpose of this review was to evaluate the prevalence of obesity in veterans, efficacy of weight loss programs among overweight and obese veterans, and effective methods to promote a healthy weight and physically fit lifestyle among veterans receiving VHA care.

Methods: Electronic databases from the Cochrane Library and CENTRAL, MEDLINE, EMBASE, CINAHL Plus, PubMed, PsycINFO, ClinicalTrials.gov were searched from 2000 to 2014. Search terms included obesity, fitness, treatment, outcomes, success, behavior, and veterans. Only randomized controlled trials (RCTs) or quasi-experimental studies were included in the review. Studies of overweight or obese veterans, with BMI measuring $\geq 25$ kg/m$^2$, involved in weight management programs without
pharmacological intervention were included. Studies of less than four weeks duration or loss to follow-up of greater than 20% were excluded. The primary endpoint was completion of a behavioral treatment program excluding pharmacological means with a primary outcome of at least 5% weight loss success. Treatment effects were calculated and compared across interventions.

**Results:** A total of 1,235 articles resulted from the search criteria. Only 11 studies were RCTs related specifically to veterans. Of these, three articles were part of a large study, two were connected to a different study, and two were clinical trials still in progress. This led to a final count of six distinct RCTs. The quality of studies was critically appraised using the Levels of Evidence tool available through the Oxford Centre for Evidence-Based Medicine. Treatment effects were compared across interventions using $p$ values. Two level IIb RCTs (N=507) of different weight loss interventions showed significant weight loss but high dropout rates of >20%. Four level IIIb quasi-experimental and cohort studies (N=224,380) showed significant weight loss through educational classes led by an ongoing coach, whether through in-person group, telephone, or video sessions.

**Implications:** Although the weight management programs do not show significant weight loss of at least 5% reduction, they promote behavioral changes that can lead to positive results and prevent adverse health conditions. Greater physical fitness through participation in weight loss programs also lends to cardiorespiratory advantages that decrease morbidity and mortality. Obesity is a disease that is best managed with lifestyle interventions of dietary awareness, physical activity, and behavioral changes. With appropriate guidance, weight management will prevent development of complications,
improve patients’ quality of life, and decrease overall health care expenditures. Such educational programs could be incorporated into routine primary care practice.
Poster Abstract

Increasing Obesity Awareness by Diagnosis through BMI in Primary Care

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Tara Akins, MSN, FNP
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Background: According to the Centers for Disease Control and Prevention, 78.6 million (34.9%) of Americans are obese, costing approximately $147 billion in annual healthcare expenditures. Obesity is a major cause of preventable diseases such as cardiovascular disease, type 2 diabetes, metabolic syndrome, and cerebrovascular accidents. Properly diagnosing obesity in primary care can significantly improve weight management.

Aims: The purpose of this evidence-based project was to increase the documented diagnosis of obesity in patients with a body mass index (BMI) of 30 or greater and initiation of a weight management plan tailored to the patients’ needs after educating primary care staff on current obesity clinical guidelines.

Methods: The electronic medical records of 100 randomly selected patients were reviewed at baseline. Those with a BMI ≥ 30 were evaluated for a clinical diagnosis of obesity and whether they had a weight management plan in place. Staff was subsequently educated on the benefits of properly diagnosing obesity and formulating a treatment plan based on recommendations of the 2013 American Heart Association obesity guidelines. Two weeks post-intervention, the records of 50 randomly selected patients were reviewed.
to determine changes in the documentation of obesity diagnoses and weight management. Effectiveness was calculated by percentage difference.

**Results:** Pre-intervention data revealed an obesity prevalence rate of 29.3% (N=36), of which 50% (N=18) were clinically diagnosed and 41.7% (N=15) had a management plan. Post-intervention evaluation showed 30% (N=15) with a BMI ≥ 30, of which 53.3% (N=8) were clinically diagnosed and 60% (N=9) had a treatment plan implemented. Compared to baseline, education improved obesity diagnosis by 6.6% and management by 43.9%.

**Implications for Practice:** Education of providers on properly diagnosing obese patients and recommending achievable goals for obesity management can improve patient outcomes by promoting behavioral changes that could prevent adverse health conditions. Obesity is a disease that is best managed with lifestyle interventions of nutritional awareness, physical activity, and behavioral changes. With appropriate guidance, patients undergoing weight management can prevent complications and improve their quality of life, leading to reduced health care expenditures. Such educational programs could be incorporated into primary care.
Greetings and Congratulations:

On behalf of Dean Hardin, we are pleased to inform you, your abstract is accepted for a Research Information Exchange (RIE) poster presentation at The Western Institute of Nursing (WIN) 48th Annual Communicating Nursing Research Conference “Equity and Access: Nursing Research, Practice, and Education” April 22–25, 2015 at the Hotel Albuquerque at Old Town in Albuquerque, New Mexico.

This year USD's Hahn School of Nursing and Health Science will have a strong presence at WIN. In addition to the 11 student R&IE participants, various students, alumni, and faculty will be showcasing their work at poster and podium presentations. Should you plan to stay at the conference hotel, I suggest you make reservations soon to secure the conference room rate.

We will notify you with the day and time of USD's R&IE session as soon as we are notified, usually in late February early March. As an RIE presenter you are eligible to receive a registration discount. I WILL PROVIDE THE CODE AS SOON AS I RECEIVE IT.

Again, thank you again for submitting an abstract for the 2015 conference. We look forward to seeing you in Albuquerque.

Sincerely,

RIE Abstract Review Committee
Effectiveness of Weight Management Programs in Veterans

Ellie Yip, BSN, RN, DNP Student; Kathy James, DNSc, APRN, FAAN, Associate Professor of Nursing

BACKGROUND

- 23.9% of veterans are obese (CDC, 2012)
- 47.6% of veterans are overweight, 3.5% higher than civilians (CDC, 2012)
- Greater body mass index (BMI) contributes to chronic diseases and disabilities, especially diabetes and cardiovascular disease in veterans
- Several evidence-based weight loss programs have been attempted at the Veterans Health Administration (VHA). The efficacy of these have not been compiled into a formal review.

OBJECTIVES

- Evaluate the prevalence of obesity in veterans, efficacy of weight loss programs in overweight and obese veterans, and effective methods to promote a healthy weight and physically fit lifestyle in veterans receiving VHA care

METHODS

- Electronic databases from Cochrane Library and CENTRAL, MEDLINE, EMBASE, CINAHL Plus, PubMed, PsycINFO, ClinicalTrials.gov were searched from 2000 to 2014
- Search terms: obesity, fitness, treatment, outcomes, success, behavior, veterans
- Inclusion criteria: overweight or obese veterans with BMI measuring ≥ 25 kg/m², participation in a behavioral treatment program
- Exclusion criteria: Any program with pharmacological intervention, studies of ≤ 4 weeks duration, or loss to follow-up of ≥ 20%
- Primary endpoint: Completion of a behavioral treatment program with a primary outcome of at least 5% weight loss success

RESULTS

- 1235 articles resulted
- 11 studies specifically pertained to veterans
- 3 articles were part of a large study, 2 were connected to a different study, and 2 are clinical trials still in progress
- Final count of 6 unique studies
- 2 Level IIb RCTs, n=507, of different weight loss interventions demonstrated significant weight loss but high drop out rates of >20%
- 4 level IIIb quasi-experimental & cohort studies, n=224,380, showed significant weight loss through educational classes led by an ongoing coach, whether through in group, telephone or video sessions

TABLES

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<td>BMI ≥30 Age 27.4</td>
<td>Weight loss of support group + fitness devices and DVDs</td>
<td>Social support improves physical activity, motivation, &amp; medication</td>
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<td>Ahrens 2014</td>
<td>Level IIb Cohort</td>
<td>BMI &gt;30 Age 58.5</td>
<td>Structured weight loss program led to 5.5 lbs (p&lt;.001)</td>
<td>Telephonic coaching is effective for initial weight control</td>
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<td>Dahn 2011</td>
<td>Level IIb Quasi</td>
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<td>Neal 2012</td>
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<td>Damschr 2010</td>
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<td>Significant weight loss of 5.8lbs thru 12 week program</td>
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<td>Damschr 2014</td>
<td>Level IIb RCT</td>
<td>BMI ≥30 Age 35</td>
<td>Mean weight loss of 0.5-2.6%</td>
<td>Larger programs with single facilitator is more effective</td>
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IMPLICATIONS FOR CLINICAL PRACTICE

- Coaching sessions led through in-person group classes, telephone or video conferencing can lead to significant weight loss.
- Modest changes in weight can promote behavioral changes that lead to positive results and prevent adverse health conditions.
- Greater physical fitness through participation in weight loss programs leads to cardiorespiratory advantages that decrease morbidity and mortality.
- Lifestyle interventions of dietary awareness, physical activity, and behavioral changes should be emphasized at every health care visit.
- Adoption of a group-based weight loss group targeting overweight and obesity can be effective.
- Motivational factors need to be considered, which may have a strong correlation with negative values or lack of improvement.
- Overall health, patient satisfaction, and quality of life are expected to improve with better self-care management. Health care expenditures are also expected to decline with weight control.

REFERENCES

See handout provided for full list
Increasing Obesity Awareness by Diagnosis through BMI in Primary Care

Ellie Yip, BSN, DNP Student; Kathy James, DNSc, APRN, FAAN; Mary Jo Clark, PhD; Tara Akins, MSN, FNP

**BACKGROUND**
- 78.6 million (34.9%) Americans are obese, costing $147 billion in annual healthcare expenditures and an extra $1,429 per obese patient (CDC, 2012)
- Obesity is a major cause of preventable diseases, such as cardiovascular disease, type 2 diabetes, metabolic syndrome, and cerebrovascular accidents
- At a private practice clinic in San Diego, many patients with a body mass index (BMI) of 30 or greater were discovered to be lacking an active diagnosis of obesity

**PURPOSE**
- Increase documentation of both obesity as a diagnosis in patients with a BMI ≥30 along with a weight management plan among primary care providers

**EVIDENCE**
- A large cohort study of 9,827 patients found 19.9% clinically diagnosed with obesity and 22.6% with a weight management plan
- A study of 2,458 obese patients showed 28.9% diagnosed. Of these, 17.6% received weight-reduction counseling, 20.5% had exercise counseling, and 25.2% received diet counseling
- Patients with BMIs ≥35 or co-morbid with diabetes and hypertension were more likely to be diagnosed. Those diagnosed were more likely to have a treatment plan
- In a study of 2,649 obese participants, those who received weight loss counseling were more than twice as likely to report a 10% weight loss

**EVALUATION METHOD**
- Patient height and weight are recorded at every visit. BMI is automatically calculated in the electronic medical record
- Of 123 randomly selected patients from January to December 2014, 20.3% (N=36) had a BMI ≥30. 50% had a clinical diagnosis and 41.7% had a treatment plan documented
- A formal teaching module on the efficacy of diagnosing obesity based on BMI and the 2013 obesity guidelines per the 2013 American Heart Association was presented to the medical staff

**RESULTS**
- Of 50 patients, 30% (N=15) had a BMI ≥30. 53.3% had an active obesity diagnosis. 60% had a weight management plan
- The educational intervention among the providers showed an improvement of 6.6% in obesity diagnosis and 43.9% in treatment plan documentation

**IMPLICATIONS FOR CLINICAL PRACTICE**
- Education of providers on properly diagnosing obese patients and the dietary and physical activity recommendations for obesity can better patient outcomes by promoting behavioral changes that could improve health and prevent adverse conditions
- Providers may cite pessimism in their patients in making lifestyle changes or lack of time to educate patients, however adding obesity to patients’ active problem list can assist with continued weight management that can lead to positive long-term results
- Obesity is best managed with lifestyle interventions of dietary awareness, physical activity, and behavioral changes, as led by a PCP
- When provided with appropriate guidance, patients undergoing weight management are less likely to develop complications and improve patients’ quality of life and reduce overall health care expenditures

**REFERENCES**
See handout provided for full list
Increasing Obesity Awareness by Diagnosis through BMI in Primary Care

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Background

• 78.6 million (34.9%) Americans are obese, costing $147 billion in annual healthcare expenditures, leading to an extra $1,429 per obese patient (CDC, 2012)

• Obesity is a major cause of preventable diseases, such as hypertension, dyslipidemia, heart disease, type 2 diabetes, stroke, and sleep apnea

• Clinical guidelines per the 2013 American College of Cardiology/American Heart Association/The Obesity Society recommend that adults with a body mass index of ≥30 should undergo intense dietary and physical activity counseling

Synopsis of Evidence

• In a large cohort study of 9,827 patients, 19.9% were clinically diagnosed with obesity and 22.8% had a weight management plan

• A study of 2,458 obese patients showed 28.9% diagnosed. Of these, 17.6% received weight-reduction counseling, 20.5% had exercise counseling, and 25.2% received diet counseling.

• Patients with BMI >35 or comorbid with diabetes and hypertension were more likely to be diagnosed. Those diagnosed were more likely to have a treatment plan.

• Patients who report receiving counseling from their provider were more likely to understand the risks of obesity and be ready to lose weight
Synopsis of Evidence

• NIH study of 2,649 obese participants found that those who received weight loss counseling from their provider were more likely to report a 5% weight loss (OR 1.79, CI 1.30-2.46) and 2x more likely to report a 10% weight loss (OR 2.15, CI 1.23-3.74) (Pool et al., 2014)

• A meta-analysis of 12 studies with n=207,226 showed a significant effect size for weight loss efforts (OR=3.85, p<.01) (Rose, Poynter, Anderson, Noar, & Conigliaro, 2013)

Practice-Setting Problem

• At a private practice clinic in San Diego, many patients with a BMI ≥30 were discovered to be lacking an active diagnosis of obesity

• Height and weight are recorded at initial visits. Weights are measured at subsequent visits. BMI calculations are automatically done in the electronic medical record.

• A random selection of 123 patients were selected from January to December 2014. 29.3% (n=36) had a BMI ≥30. Of these patients, 50% had a clinical diagnosis and 41.7% had a treatment plan documented.
Aim/Purpose

- Increase documentation of both obesity as a diagnosis in patients with a BMI ≥30 along with a weight management plan among primary care providers.

Evidence-Based Intervention

- A formal educational module on the efficacy of diagnosing obesity based on BMI was presented to the medical staff. The 2013 ACC/AHA/TOS clinical guidelines were reviewed.

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<th>Recommendations</th>
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<td>1a. Measure height and weight and calculate BMI at annual visits or more frequently.</td>
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<td>1b/c. Identify overweight (BMI &gt;25.0-29.9 kg/m2) and obese (BMI ≥30 kg/m2) adults. Advise that the greater the BMI, the greater the risk of CVD, diabetes, and all-cause mortality.</td>
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<td>2. Counsel overweight &amp; obese adults that lifestyle changes with weight loss of at least 3-5% can result in clinically meaningful reductions in triglycerides, blood glucose, &amp; Hba1c, and potentially reduce BP, improve cholesterol, &amp; may even reduce need for medications.</td>
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<td>3. Reduce caloric intake with a low calorie diet of 1200-1500 for women or 1500-1800 for men or a 500-750 kcal/day deficit</td>
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Evaluation Method

• A random selection of 50 patients were reviewed 2 weeks after the educational module intervention.

• The total number of patients who had a BMI ≥30 were determined. Those with a documented diagnosis and weight management plan were recorded.

• Percentages were calculated for documented obesity diagnosis and treatment plan.

Results

• Of 50 patients, 30% (n=15) had a BMI ≥30. 53.3% had an active obesity diagnosis. 60% had a weight management plan.

• The educational intervention among the providers showed an improvement of 6.6% in obesity diagnosis and 43.9% in treatment plan documentation.
Results

![Graph showing Pre-Intervention and Post-Intervention trends in Obesity Rate, Diagnosis, and Treatment Plan]

Cost-Benefit Analysis

- Patients who undergo weight management are more likely to become healthier and reduce overall medical costs. Obese patients tend to spend 42% more on healthcare and are twice as likely to be on prescription medications compared to those of normal weight (Trust for America’s Health, 2015).

- Obese patients attempting to lose weight have greater quality of life based on better physical health, less activity limitations, and improved mental health (Hassan, Joshi, Madhavan, & Amonkar, 2003).

- From the provider perspective, coding obesity and thus discussing weight interventions means billing - Medicare pays for intense behavioral therapy (CMS, 2012)
Implications for Clinical Practice

- Adding obesity to patient’s problem list can be done by any medical staff, and should be done with any qualifying BMI.

- Providers may cite pessimism in their patients in making lifestyle changes or lack of time to educate patients, however adding obesity to patients' active problem list can assist with continued weight management that can lead to positive long-term results.

- Education of providers on properly diagnosing obese patients and the dietary and physical activity recommendations for obesity can better patient outcomes by promoting behavioral changes that could improve health and prevent adverse conditions.

- Obesity is best managed with lifestyle interventions of dietary awareness, physical activity, and behavioral changes, as led by a PCP.

- When provided with appropriate guidance, patients undergoing weight management can prevent complications and improve their quality of life, leading to reduced overall health care expenditures.

References


References


Concluding Essay

When I first transitioned from the Masters to the Doctoral program, I was still unsure of the benefits of the doctoral degree as a nurse practitioner. At that time, I had made my decision based on the fact that DNP was the way of the future. However, at the end of this long journey, I finally realize that a doctoral-prepared NP is completely different than a masters-prepared one. As we are about to be entry-level nurse practitioners, we will be caring for patients at a primary care level. We will be learning to implement clinical guidelines and guide patients towards health at all levels of prevention. However, a DNP does more than this role. We do not just accept standard protocol. We continuously seek to improve our practice and ourselves. DNPs synthesize findings and implement evidence-based interventions to better patient outcomes. This is a never-ending process, and as a DNP, I am ready to take on the responsibilities of a primary care provider who continues to strive for improvement in all aspects of care.