Reducing Obesity Bias among APRNs

Presentation of this manuscript for consideration of publication, is hereby submitted. It is an evidenced project developed as part of doctoral project authored by Dr. Angela Rutan, DNP, FNP-BC and project lead Dr. Marjorie Vogt PhD, DNP, CNP, FAANP. Dr. Rutan has 37 years in nursing including the last 21 years working as a NP in internal medicine and obesity management. Dr. Vogt is Clinical Professor and DNP Associate Director at Ohio University, Athens, Ohio (vogtm@**ohio**.edu.)

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Obesity-bias awareness education reduces the negative attitudes and beliefs held by APRNs with the potential to optimize care and reduce barriers.

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Amy Keller, MS, RDN, LD ; Author of Educational Invention:

Can We Talk? How to have a productive conversation with your patient about weight.

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Abstract

Background: Obesity is a chronic disease and the fifth leading cause of death in the world, with 3.4 million deaths annually. The prevalence of obesity across the United States is escalating; with the expectation of 1 in 2 adults will be overweight or obese by 2030.

Obesity bias is negative attitudes, beliefs, judgements, stereotypes, and discrimination aimed at individuals because of their weight. Over half of people with obesity have repeatedly faced obesity bias by health professionals. Attitudes and beliefs obtained from over 350 APRNs found significant levels of bias.

Synthesis of Literature: An education intervention proved to increase knowledge, bias awareness, and improved attitudes and beliefs of obesity. **Aim**: The purpose is to evaluate the impact of an obesity bias awareness webinar on the beliefs, knowledge, and attitudes of APRNs managing patients with obesity.

Design/Method: This evidence-based project used a single group, descriptive pre/post assessment intervention design to assess attitudes, and beliefs of obesity held by APRNs, prior to and following an education intervention.

Results: Thirty-four (50%) of 68 participants completed all components. 98% of participants expressed intent to change practice and 95% reported knowledge gained post education. The Wilcoxon sign rank test found the Z score = 2.410 and p= 0.159. Statistically significant findings demonstrated a positive change in attitudes and beliefs when comparing pre and post survey scores.

Implications for Practice: Increasing obesity awareness through education to APRNs has potential to change practice and decrease barriers to management of patients with obesity.

Keywords: Obes*, Bias, Attitudes, Beliefs.

Obesity is a chronic disease, contributing to an increase in morbidity and mortality, and an escalation in prevalence across the population over the past decade. Obesity is the fifth leading cause of death in the world, with 3.4 million deaths reported annually, and accounting for nearly 21% of all its health care expenses in the nation (Smith, K. & Smith M., 2016). Obesity management and treatment can be influenced by healthcare providers' bias (Fruh et all, 2016). Obesity bias is the adverse stereotypical belief or attitude assessed towards individuals based on their weight and can create a major treatment barrier (Alberga, et al., 2019). There is evidence of an unprecedented stigma of obesity proposing a negative effect on the health and wellbeing of people living with obesity interfering with the health care provider-patient relationship (Albury, et al., 2020). Primary care providers, including advanced practice nurses (APRNs) are important in supporting, engaging, and treating patients with obesity yet report a lack of self-assurance and training to treat obesity. There are over 325,000 nurse practitioners (NPs) in the United States and the APRN workforce is growing with 70% of the workforce working in primary care with access to patients with obesity (AANP, 2022). Evidence of obesity bias among healthcare professionals exists, but there is little known about obesity bias among Advanced Practice Registered Nurses (APRNs) (Ward-Smith & Peterson, 2016). A major concern is that health care providers, including APRNs, caring for patients with obesity, lack the confidence, skills, and bias awareness creating barriers to successful obesity management.

Search Strategy

The PICOT question is: For APRNs working in primary care, what is the impact of a virtual education program on obesity bias, causes, and management versus no program on their beliefs and attitudes over a 4-week period? A comprehensive literature search using keywords of the PICOT question including the terms obese adults, obesity training, health care professionals

and beliefs or attitudes using PubMed and CINAHL databases was created. Inclusion criteria were peer-reviewed journal articles written in English, between 2017 and 2022. There were 51 articles reviewed and six relevant articles critically appraised. The articles selected used education as an intervention and attitudes and/or beliefs pertaining to obesity bias as the outcome measured.

Synthesis of Evidence

The six articles using education to decrease overall obesity bias found positive outcomes (Luig, et al.,2020; Hauff et al., 2019; Wijayatunda et al., 2019; Barra, et al., 2018; Hunter et al., 2018; Sanchez-Ramiez et al., 2018). An education intervention did increase factors of knowledge, obesity bias awareness and improved attitudes and beliefs of obesity. See Table 1 for the synthesis table of outcomes. The recommendation is to educate APRNs to raise awareness of obesity bias, and increase knowledge of improved ways to better support, engage and manage these patients.

Needs Assessment & Gaps

The primary cause of bias is the common belief that obesity is a result of individual behaviors of unhealthy eating and sedentary lifestyle, yet discount the deeper issues of genetic, hormonal, and metabolic disorders that are not the blame of these individuals. Obesity bias creates barriers limiting access to care and impeding engagement of available obesity treatment options by the patients in need of care. Over 50% of people with obesity claim repeated exposure of obesity bias by health care professionals and reports of weight discrimination have increased by 66% over the past decade (Fruh, et al., 2016). Attitudes and beliefs obtained from over 350 APRNs found significant levels of bias (Ward-Smith & Peterson, 2016). The prevalence of

obesity across the United States is escalating and it is suggested that nearly 1 in 2 adults will have obesity by 2030 (Ward et al., 2019). Ross et al. (2019) surveyed over 350 nurses revealing over half being overweight or obese. This above average rate of obesity may influence nursing encounters with their patients with obesity. Obesity rates of 34% of Ohioans are like national rates of 35% (Ohio, 2019). Amongst the 50 states in the nation, Ohio ranks 13th in obesity rates. Logan County, Ohio's 2020 needs assessment found that over 49% of its population are obese (Logan County Health risk and Community Needs Assessment Committee, 2020). This needs assessment raises serious concerns and defends the perspective of need from which this author practices. This supports APRNs position to engage and influence the critical issue of obesity.

Problem Statement & Purpose Statement

The problem of obesity bias is its permeation into the healthcare system and its influence amongst APRNs, resulting in the increase of barriers to healthcare interventions for patients with obesity. The purpose of this project is to assess the beliefs and attitudes of APRNs managing patients with obesity, and measure the effect of an educational webinar aimed to address obesity bias on these very attitudes and beliefs. The expectation is to improve quality of care by increasing obesity bias awareness and, cultivating an understanding of the evidenced based management of obesity.

Project Design

This evidence-based project used a single group, descriptive pre and post assessment intervention design to assess attitudes, and beliefs of obesity held by APRNs. Each participant served as his or her own control.

Theoretical Implementation Framework

This evidence-based project focused on increasing APRN awareness of obesity bias, obesity causes and obesity management. The process of putting planned change into effect on a small trial basis and learning its impact is a great way to advance a new idea (Melnyk & Fineholt-Overholt, 2019). The Plan-Do-Study-Act model is a scientific method that best framed this project in its effort to provide action-oriented learning to promote improved treatment opportunities for the care of obesity conditions. See Figure A for pictorial conceptualization of this project plan. The "Plan" creates the objective to increase awareness of obesity bias and gain greater understanding of the causes of obesity. The "Do" is to provide education to impact this objective then to "Study" or collect data for analysis based on pre and post assessment collection. Finally, the "Act" frames this project to support an evaluation of the process of the implementation and to allow for adjustments and replication.

Implementation & Instrument

Recruitment Strategy

The participants for this project were licensed APRNs. Inclusion criteria are APRNs treating adult patients, consenting, completing pre/post assessment surveys, and attending the education intervention within a 4-week time span. Exclusion criteria are those APRNs not employed treating adults. Participants were recruited via Ohio Association of Advanced Practice Nurses (OAAPN). This organization uploaded the survey link to its website and posted in the monthly newsletter promoting access to over 10,000 APRN members, while additional participants were recruited via email with use of a recruitment flyer. Participation was strictly voluntary and human subjects protection was confirmed through the University Institutional Review Board as exempt by the Ohio University Office of Research Compliance 45 CFR 46.102(l) and (f).

Setting

The setting of recruitment and the intervention was virtual. Emails and hyperlinks were used to promote communication, access QualtricsXM® links for consent, pre assessment, and a self-paced webinar. A second QualtricsXM® link, found at the end of the webinar was required to access the course evaluation and post assessment.

Education Intervention

Each participant used a QualtricsXM® link to consent to the study, create a unique identifier, answer demographic data and respond to the survey questions. A link to the education intervention was available at the end of the assessment. The intervention component of this evidence-based project included a one-hour self-directed webinar. One free contact hour of continuing education (CE) was offered to participants. The self-directed module presented the pathophysiology of obesity and discussed obesity biases, offered techniques to increase patient engagement, and provider confidence in treating patients with obesity. Each participant used a second QualtricsXM® link, found at the end of the webinar, to access the course evaluation (See Appendix E) and post assessment. Contact information was provided for questions or technical assistance. Upon completion of the post-education knowledge survey and course evaluation, participants were eligible to receive the certificate for one contact hour of continuing education.

Measurement Tool

The measurement tool used was an assessment called Attitudes and Perceptions of Nurse Practitioners Survey (APNPS) (See Appendix F). This instrument measured the outcome expressed in the PICOT question. The pre assessment provided a baseline of the participants' obesity attitudes and beliefs, and the post assessment served as comparative data following the

intervention. The tool has a Cronbach alpha score of 0.912 for attitude and 0.709 for perceptions (beliefs) and 0.939 for social desirability making this a reliable tool (Ward-Smith, & Peterson, 2016). Face validity is reported, but content validity was not calculated for this tool. The tool collects data using a Likert scale. The primary author of this tool provided a copy of the tool along with permission for use (Ward-Smith, personal communication, September 19, 2021).

Data collection/Analysis

Collection

The data for the study was collected electronically via QualtricsXM® and uploaded into an excel program. Only participants completing all components of the project were included in collection and final analysis. Demographic data, course evaluation responses, and pre/post assessment data was all collected for analysis. All data was linked to each participant by their unique identifier. The pre and post assessment Likert scale responses were assigned numbers for quantitative data collection.

RESULTS

Demographics

Sixty-eight APRNs consented and completed the pre assessment portion of the project with only 34 (50%) participants meeting inclusion criteria having completed all components in a 4-week period or less. See Table 2 for demographic description of APRN participants. These 34 participants are all licensed APRNs eligible for data collection and analysis. The profile of the participants found detailed in Table 2. The majority of the participants were female (82%). Of all the participants, 94% work in Ohio, and 100% are Caucasian. More than half the APRNs (58 %) had three to ten years of experience, 24% had over 11 years of experience, and the remaining

18% had less than 2 years. The majority of participants (56%) are normal weight, while 32% are overweight and 9% report as obese.

Statistical Results

The Wilcoxon sign rank test chosen appropriately for this project with the non-parametric and ordinal data collected. The goal of the test is to determine if the two sets are different from one another in a statistically significant manner. The ordinal data collected from the APNPS tool used in the pre and post assessment design found grouped median scores were 73 and 65 respectively. The decrease in the grouped median scores represents a decline in overall bias. The Wilcoxon sign rank test found the Z score = 2.410 and p= 0.159. The resulting P-value is small and accepted that the median of the differences between the paired observations is statistically significant from zero. These results demonstrate a positive change in attitudes and beliefs when comparing pre and post intervention scores. See Table 3 for grouped median score comparison.

Intent to Change Practice

Ninety-seven percent of the participants recorded an intent to change practice behavior and 95% reported gained knowledge after viewing the educational webinar. Themes identified on comments of the course evaluation by these APRNs were the importance of asking permission to discuss weight, and to focus on clients' health without blaming their obesity. Several participants recognized need to self-examine their own bias, the importance of learning more about obesity treatments and adjusting the physical environment to be sensitive to their patients with obesity as strategies learned from the education intervention.

Discussion

Health care professional's attitudes and beliefs toward persons with obesity may affect the care provided to these patients. The predicted escalating numbers of persons with obesity

makes this an important issue to APRN practice. There is evidence of obesity bias in this sample as anticipated based on the literature. The change in participant responses using a validated and reliable tool supports the benefit of the education intervention. The PICOT question adequately drove the project through the implementation of a virtual education program. Statistically significant differences between pre and post assessment found positively changed attitudes and beliefs of APRNs within a 4-week period. Participants (95%) expressed intent to change their practice and the majority (95%) agreed knowledge was gained from the intervention.

Limitations

Limitations associated with this evidence-based project are the small sample size of 34 completed the project. The participants lacked diversity with only Caucasians represented in the project. In 2022, the national average age of nurse practitioners (NPs) is 49 years old and this sample is much younger with 58% of participants less than age 40. In addition, the sample lacked professional experience with 58% reported only three to ten years of practice experience compared to the national average of 11 years (AANP, 2022). This suggests a younger less experienced sample. There was a narrow reaching access to APRNs with 94% from Ohio resulting in a possible uniqueness compared to the rest of the population. Most participants (55%) reported normal weight, unlike the population overall, that is reported to be 70% overweight or obese. This project sample is inconsistent with national and state averages of obesity, and may create a bias due to lack of similarity compared to the current target population. There is no clear evidence in the literature nor does this project infer how a clinicians' own weight or personal experience may influence their bias.

Health inequities and explicit bias are controversial and emotive having the potential to garner truthful responses (Wynn, et al., 2018). The participants may not have been honest in

their responses. The participants' previous experience with obesity education or bias awareness presents a potential limitation within this sample that is unknown. There is a self-reported bias risk as there is no accountability held to participants to view the entire webinar. Replication of this project with greater diversity of the sample will be important to determine if similar outcomes would occur.

Challenges

This project did experience some technical difficulties with access and flow of the hyperlinks that limited participants' ability to complete the project. It is probable this reduced the total number of participants. This project was only available virtually creating another possible trial to participants incapable of navigating this type of project.

Clinical implications

Raising obesity bias awareness has the potential to change practice habits. Obesity bias and obesity treatment education should be an integral part of APRNs' collegiate curriculum. The greater exposure to this issue will prepare students to engage and comfortably discuss the issue of obesity with their patients. Continuing education opportunities, such as this webinar, anticipate to better support APRNs in their clinical practice, and could improve health equity to patients with obesity. APRNs are on the frontline able to manage and create an environment of support for patients with obesity. Greater large-scale education interventions are recommended to determine if an education intervention replicates positive changes in behaviors and attitudes applicable to a greater diverse population, as well as other health care providers. Studies to confirm confidence of clinical practice changes, while exploring the potential outcomes for patients because of this education exposure will be beneficial.

Conclusion

The escalating obesity rates prompted a thorough assessment of the concerns of health care providers, including APRNs, and patients living with obesity. The literature identifies obesity bias places a significant barrier to provide care to patients with obesity (Hauff et al., 2019). As a result, the PICOT question was developed. The search strategy found six articles using education among health care providers and measured the change in beliefs and attitudes of obesity bias. Evidence supports interventions used to increase the knowledge of the causes and treatment of obesity and raising bias awareness, proved to change attitudes and/or beliefs amongst health professionals. Addressing and reducing obesity bias are vital first steps to ensure APRNs are positioned to provide quality care and effective obesity management. The purpose of this project was executed with the development of an educational webinar addressing obesity bias and a valid, reliable tool measuring the attitudes and beliefs of APRNs was used to collect data objectively and anonymously. The findings of statistically significant changes in attitudes and beliefs of obesity among APRNs promotes evidence that education can reduce obesity bias. The overwhelming positive intent to change practice expressed by participants promises to decrease barriers and reduce obesity bias while creating improved APRN clinical practice in their treatment of patients with obesity.

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Tables

Table 1

Education Intervention on Outcomes of Obesity Knowledge, Bias, Attitudes and Beliefs

	Studies	A[e +]	B[c +#]	C[c +]	D[f +#]	E[e +#]	F[e +#]
Outcome Criteria							
Knowledge		⇧*	NE	⇧*	NE	NE	⇧*
Obesity Bias Awareness		⇧*	⇧*	⇧*	⇧	NE	⇧*
Improved Attitudes		NE	⇧*	NE	⇧	⇧*	⇧*
Improved Beliefs/ Perceptions		NE	⇧*	NE	⇧	⇧*	NE

A (Luig et al., 2020); B (Hunter, et al., 2018); C (Wijayatunda et al.,2019); D (Hauff et al., 2019); E (Barra, et al., 2018); F (Sanchez-Ramirez et al., 2018)

[b] randomized control trial; [c] non-randomized control trial; [d] uncontrolled cohort study; [e] quality improvement project; f qualitative study

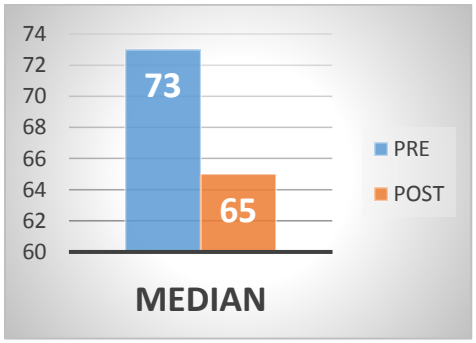
X [+] <100 participants; ^ >100 participants [#] nurses used in study [*] statistically significant ⇧ represents improvement of outcome NE- not evaluated

Table 2.

Demographic description of APRN participants

Age in years old	6 % 20-29 38 % 30-39 26 % 40-49 12 % 50-59 6 % 60-64 12 % >65
Years of Experience	18 % < 2 years 32 % 3-5 years 26 % 6-10 years 6 % 11-15 years 6 % 19-20 years 12% >21 years
BMI classification (personal)	3 % underweight 56% normal weight 32% overweight 9% obese
Gender	82% female 18% male
Race	100 % Caucasian
State of Practice	94% practice in Ohio

Table 3. *Wilcoxon sign rank grouped median scores*



Z score 2.4109; p=.0159

Figures

Figure A.