

Integrated health article

Evaluation of nurse's attitudes toward adult patients of size

Harpreet Gujral, R.N., M.S.N., C.B.N.*, Christine Tea, M.S.N., C.E.N.P., N.E.A.-B.C.,
Michael Sheridan, Ph.D.

Department of Bariatrics, Inova Fair Oaks Hospital, Fairfax, Virginia

Received May 24, 2010; accepted March 15, 2011

Abstract

Background: Obesity is a growing epidemic in the United States, with waistlines expanding (overweight) for almost 66% of the population (National Health and Nutrition Examination Survey 1999–2004). The attitude of society, which includes healthcare providers, toward people of size has traditionally been negative, regardless of their own gender, age, experience, and occupation. The purpose of the present study was to determine whether bariatric sensitivity training could improve nursing attitudes and beliefs toward adult obese patients and whether nurses' own body mass index (BMI) affected their attitude and belief scores.

Methods: An on-line survey was conducted of nursing attitudes and beliefs regarding adult obese patients. The responses were compared between 1 hospital that offered bariatric sensitivity training and 1 that did not. The primary study measures were 2 scales that have been validated to assess weight bias: Attitudes Toward Obese Persons (ATOP) and Beliefs Against Obese Persons (BAOP). The primary outcome measures were the scores derived from the ATOP and BAOP scales.

Results: Data were obtained from 332 on-line surveys, to which 266 nurses responded with complete data, 145 from hospital 1 (intervention) and 121 from hospital 2 (control). The mean ATOP scores for hospital 1 were modestly greater than those for hospital 2 (18.0 versus 16.1, $P = .03$). However, no differences were found between the 2 hospitals for the mean BAOP scores (67.1 versus 67.1, $P = .86$). No statistically significant differences were found between the 2 hospitals among the BMI groups for either ATOP or BAOP. Within each hospital, no statistically significant trend was found among the BMI groups for either ATOP or BAOP. The association of BMI with the overall ATOP ($r = .13$, $P = .04$) and BOAP ($r = .12$, $P = .05$) scores was very weak, although marginally significant. The association of the overall ATOP score with the BAOP score was weak, although significant ($r = .26$, $P < .001$).

Conclusion: Annual bariatric sensitivity training might improve nursing attitudes toward obese patients, but it does not improve nursing beliefs, regardless of the respondent's BMI. (Surg Obes Relat Dis 2011;7:536–540.) © 2011 American Society for Metabolic and Bariatric Surgery. All rights reserved.

Keywords:

Obesity bias; Obesity discrimination; Nursing care; Obese patient; Sensitivity training; Antifat bias

The Centers for Disease Control and Prevention National Health and Nutrition Examination Survey statistics has reported that obesity is a growing epidemic in the United States, with 30.4% of adults (≥ 20 yr) overweight, and

waistlines expanding among the 66% of the obese population (National Health and Nutrition Examination Survey 1999–2004) [1]. Although 2 of 3 people are overweight, society's attitude toward people of size has traditionally been negative [2]. Recent studies have suggested that overweight people might perceive themselves to weigh less than their actual weight, even with an increasing body mass index (BMI) [3]. A range of negative beliefs and attitudes toward obesity occurs among healthcare providers, regard-

*Correspondence: Harpreet Gujral, R.N., M.S.N., C.B.N., Department of Bariatrics, Inova Fair Oaks Hospital, 3600 Joseph Siewick Drive, Fairfax, VA 22033.

E-mail: harpreet.gujral@inova.org

less of their gender, age, experience, or occupation [4]. Related biases have been found to affect patient care, and studies have shown that the personal BMI among healthcare providers can influence their attitudes and beliefs [5].

Nurses are the primary care providers in hospitals for all patients, including those who are obese. The personal attitudes and subconscious beliefs toward obese patients could directly or indirectly alter the patient's experience and overall care but needs to be explored further [6].

The purpose of the study were to assess nurses' attitudes and beliefs toward the obese; identify the effectiveness of bariatric sensitivity training and compare to the hospital without bariatric sensitivity training; and explore the relationship between nurses' personal BMI and attitudes and beliefs towards obese patients. Recent work by O'Brien et al. [7] suggests that educating healthcare professionals about the etiology of obesity, including genetic and environmental factors, could improve anti-obesity sentiments.

The present study compared the attitudes of nurses in 2 hospitals providing care to adults obese patients. The objective was to use these findings to evaluate the value or necessity of bariatric sensitivity for healthcare providers and to determine whether recommendations to include bariatric sensitivity training for nurses should be made to operating units within our healthcare system.

Two hospitals located in the mid-Atlantic region of the United States and a part of same healthcare system were used. Both hospitals are in suburban areas and have approximately 180 beds. Bariatric sensitivity training was included in the routine education for all employees only at hospital 1, which has been an American Society for Metabolic and Bariatric Surgery Center of Excellence since 2006.

A review of the published data on the "attitudes toward obese people" from the Cumulative Index to Nursing and Allied Health Literature and PubMed revealed a robust collection of studies presenting the societal views of obese people. Puhl and Brownell [8] and Brownell et al. [9] reported that overweight or obese people are depicted negatively in the media and could have challenges in all areas of life, including education and the work environment. There has been an upward trend in perceived height/weight discrimination among Americans, increasing from 7% in 1995–1996 to 12% in 2004–2006 [10]. Scant research has been done regarding nursing attitudes toward obese patients, and negative attitudes could be related to such variables, such as age, gender, experience, and weight [6].

Societal messages, including avoidable causes of obesity (i.e., diet, exercise) influence even well-meaning people who desire to be unbiased and could lead to unconscious bias and negative attitudes [11]. Furthermore, biases and attitudes can be conveyed without intention or conscious awareness [12]. Even healthcare professionals dedicated to researching and treating obese patients could harbor weight biases [13]. Training for obesity management, including learning about one's beliefs and attitudes, could play an

important role in influencing health service quality and outcomes [14]. Nurses of slim build have demonstrated heightened sensitivity surrounding obesity, and nurses of larger body size perceived themselves as more empathetic but were also concerned about being poor role models [15]. A recent study reported that bariatric education programs could be improved by measuring and addressing nurses' attitudes and concerns [16]. Reto [17] has suggested that acknowledging and accepting our own fears, followed by a delicate balance of responsibility and compassion, is the best defense against fat bias.

Methods

Study design

The study design was an on-line survey of nursing attitudes and beliefs regarding adult obese patients from 2 hospitals, 1 of which offers bariatric sensitivity training and is an American Society for Metabolic and Bariatric Surgery Center of Excellence and 1 that does not.

Study population and procedures

The study population included a self-selected sample of registered nurses who provided care for adult patients in various units, including medical, emergency, and obstetrics/gynecology units, and nurses from surgical units, including those caring for bariatric patients in hospital 1. These nurses worked at 2 different hospitals that are a part of the same regional healthcare system. The nurses completed the survey research form, which was sent by electronic mail. The survey was offered by electronic mail with instructions and the Web link to ensure anonymity. The study survey consisted of demographic questions, BMI, the Attitudes Toward Obese Persons scale (ATOP) [18], and the Beliefs About Obese Persons (BAOP) scale [18] (see Appendixes 1–3 [19,20]).

Simultaneous use of the ATOP and BAOP scales enables researchers to depict prejudices (ATOP) and stereotypes (BAOP) [21]. The reliability of the ATOP scale has ranged from $\alpha = .84$ to $\alpha = .80$ among 3 population groups (graduates students, undergraduate students, and members of the National Association to Advance Fat Acceptance). However, the reliability of the BAOP instrument was lower ($\alpha = .65-.82$) [21]. Hospital 1 is an American Society for Metabolic and Bariatric Surgery Center of Excellence, and hospital 2 does not perform bariatric surgery. Hospital 1 nurses receive an annual Web-based module covering an overview of obesity, bias, and discrimination and available equipment and resources and then must pass the associated post test. Hospital 2 does not offer such training. The investigational review boards granted a certificate of exemption for the present study.

Table 1
Comparison of ATOP and BAOP scores for both hospitals

Scale	Hospital 1	Hospital 2	<i>P</i> value
ATOP			.03
Mean	18.0	16.1	
95% CI	17.0–19.1	15.0–17.3	
BAOP			.86
Mean	67.1	67.1	
95% CI	64.3–69.9	64.1–70.0	

ATOP = attitudes toward obese persons; BAOP = beliefs against obese persons; CI = confidence interval.

Study measures

The primary study measures were the 2 scales, which have been validated to assess weight bias and have been used for self-assessment, or in group training, to initiate discussions about weight bias in clinical practice. The ATOP scale is a 20-question survey designed to measure explicit attitudes regarding obesity using a 6-point Likert scale. The BAOP scale is an 8-question survey designed to measure explicit beliefs regarding obesity using a 6-point Likert scale. For both ATOP and BAOP scales, the greater the score, the more favorable the attitudes and beliefs are toward obese persons. No parameters for the degree of positive or negative association were defined by the scales' authors.

Study outcomes

The primary outcome measures were differences in the ATOP and BAOP scores from the nurses in the 2 hospitals. The relationship between their personal BMI and obesity attitudes and beliefs was also explored.

Statistical analysis

Comparisons of the ATOP and BAOP scores between hospitals and among the individual BMI levels were examined using a Wilcoxon rank-sum test. However, all measures are reported as the mean and 95% confidence intervals. The association of the overall ATOP score, BAOP score, and BMI was examined using correlation. Analysis of variance was used to examine the differences among the BMI levels. $P < .05$ was considered statistically significant, and analyses were performed using SAS, version 9.2 (SAS Institute, Cary, NC).

Results

During the survey, total of 932 nurses were at both hospitals. A total of 332 surveys were collected, 171 from hospital 1 (intervention site) and 161 from hospital 2 (control). However, several participants did not complete the survey in its entirety, and their data were excluded from analysis, leaving 145 surveys for hospital 1 and 121 for hospital 2 (corrected response rate of 29%). Both hospitals

showed a similar distribution of BMI levels. For hospitals 1 and 2, the frequency of respondents with a BMI of 18.5–29.9 kg/m² was 73.1% and 76.0%, respectively. For a BMI of 30.0–39.9 kg/m², the corresponding frequencies were 21.4% and 19.8%.

The overall ATOP and BAOP scores are reported in Table 1. The mean ATOP score for hospital 1 was modestly greater than that for hospital 2 (control), and the difference was statistically significant (18.0 versus 16.1, $P = .03$). However, no differences were found between the 2 hospitals for the mean BAOP score (67.1 versus 67.1, $P = .86$). The total combined mean ATOP and BAOP scores for both hospitals stratified by BMI are reported in Table 2. Little difference was noted in the ATOP or BAOP scores among the BMI levels. The mean ATOP and BAOP scores between the 2 hospitals by BMI level are reported in Table 3. No statistically significant differences were noted either between the 2 hospitals or among the BMI levels. The association of BMI with the overall ATOP ($r = .13$, $P = .04$) and BOAP ($r = .12$, $P = .05$) scores was very weak, although marginally significant. Finally, the association of the overall ATOP score with the BAOP score was also weak, although significant ($r = .26$, $P < .001$), suggesting the scales were measuring separate domains.

Discussion

There are few data describing the nursing attitudes and beliefs regarding sensitivity training and their own BMI. Our results support other findings suggesting that nurses might have negative associations toward obese patients. The results do suggest that nursing attitudes, as measured using the ATOP tool, can be positively modified by bariatric sensitivity training. However, the intervention did not significantly modify their beliefs, as measured using the BAOP tool.

Several limitations of the present study should be remembered. First, the participants were a self-selected sample. Additionally, the participant's amount and type of contact with obese patients was not measured and therefore was a confounding variable. Second, according to the empirical results found, the study was underpowered to find statistically significant differences, in both the overall ATOP and

Table 2
Nurse BMI and ATOP and BAOP scores for both hospitals combined

BMI (kg/m ²)	Respondents (n)	ATOP	BAOP
<18.5	5	20.2 (14.0–26.4)	67.8 (49.1–86.4)
18.5–29.9	198	16.3 (15.4–17.2)	65.7 (63.4–68.0)
30–39.9	55	19.1 (17.1–21.1)	70.5 (65.9–75.2)
40–49.9	7	21.6 (13.9–29.2)	72.4 (57.5–87.3)
≥50	1	36.0	103

BMI = body mass index; ATOP = attitudes toward obese persons; BAOP = beliefs against obese persons.

Data presented as mean values, with 95% CIs in parentheses.

Table 3
BMI and ATOP/BAOP scores stratified by hospital

BMI (kg/m ²)	ATOP			BAOP		
	Hospital 1	Hospital 2	P value	Hospital 1	Hospital 2	P value
<18.5	22.0 (9.6–34.4)	17.5 (–27.0–62.0)	.23	70.0 (19.0–121.0)	64.5 (20.0–109.0)	.56
18.5–29.9	17.1 (15.8–18.3)	15.4 (14.1–16.6)	.08	65.6 (62.5–68.8)	65.8 (62.4–69.1)	.79
30–39.9	20.2 (17.3–23.0)	17.7 (14.8–20.6)	.23	69.8 (63.0–76.6)	71.7 (64.9–78.1)	.65
40–49.9	21.4 (10.4–32.4)	22.0 (–66.9–111.0)	1.00	78.8 (60.7–96.9)	56.5 (37.4–75.6)	.053
≥50	—	—	—	—	—	—

BMI = body mass index; ATOP = attitudes toward obese persons; BAOP = beliefs against obese persons.

Data presented as mean values, with 95% CIs in parentheses.

BAOP scores between the 2 hospitals and among the varying levels of BMI. Third, no nurses were in the super obese/obesity class IV group in hospital 1 and only 1 was in hospital 2. Finally, some “halo effect” might have occurred, because it was not possible to blind the purpose and origin of the study.

Additional research evaluating the effectiveness of bariatric sensitivity training is needed with adequate nurse sample sizes and both ATOP and BAOP scales used. If feasible, it might prove useful to stratify the nursing population by department (i.e., medical, surgical, emergency room, operating room), gender, and job categorization. We hope to explore this issue in the future by conducting a bariatric sensitivity training program in hospital 2, in which we will include pre- and post-test intervention surveys with the ATOP and BAOP scales.

Conclusion

Annual bariatric sensitivity training could improve nursing attitudes toward obese patients, but it did not improve nursing beliefs, regardless of the nursing respondent’s BMI.

Disclosures

The authors have no commercial associations that might be a conflict of interest in relation to this article.

References

- [1] Ogden CC, Curtin LA, McDowell MA, Tabak CJ, Flegel KM. Prevalence of Overweight and Obesity in the United States of America 1999–2004. *JAMA* 2006;295:1549–55.
- [2] Carr D, Friedman MA. Is obesity stigmatizing? Body weight, perceived discrimination and psychological well being in United States. *J Health Soc Behav* 2005;46:244–59.
- [3] Johnson-Taylor WL, Fisher WL, Fisher RA, Hubbard VS, Starke-Reed P, Eggers PS. The change in weight perception of weight status among the overweight: comparison of NHANES III (1988–1994) and 1999–2004 NHANES. *Int J Behav Nutr Phys Act* 2008;12:5–9.
- [4] Poon MK, Tarrant M. Obesity: attitudes of undergraduate student and registered nurses. *J Clin Nurs* 2009;16:2355–65.
- [5] Brown I, Stride C, Psarou A, Brewins L, Thompson J. Management of obesity in primary care: nurses’ practices, beliefs and attitudes. *J Advan Nurs* 2007;4:329–41.
- [6] Brown I. Nurses’ attitudes towards adult patients who are obese: literature review. *J Adv Nurs* 2006;2:221–32.
- [7] O’Brien K, Puhl RM, Latner JD, Mir AS, Hunter JA. Reducing anti-fat prejudice in preservice health students: a randomized trial. *Obesity* 2010;18:2138–44.
- [8] Puhl R, Brownell KD. Bias, discrimination, and obesity. *Obes Res* 2001;12:788–805.
- [9] Brownell KD, Rogan K, Ludwig D, et al. Personal responsibility and obesity: a constructive approach to a controversial issue. *Health Aff* 2010;3:379–87.
- [10] Andreyeva T, Puhl RM, Brownell KD. Changes in perceived weight discrimination among Americans, 1995–1996 through 2004–2006. *Obesity* 2008;16:1129–34.
- [11] Teachman BA, Brownell KD. Implicit anti-fat bias among health professionals: is anyone immune? *Int J Obes* 2001;25:1525–31.
- [12] Bessenoff GR, Sherman JW. Automatic and controlled components of prejudice toward fat people: evaluation versus stereotype activation. *Soc Cogn* 2000;4:329–53.
- [13] Schwartz MB, Chambliss HO, Brownell KD, Blair SN. Weight bias among health professionals specializing in obesity. *Obes Res* 2000;9:1033–41.
- [14] Vacek L. Sensitivity training for nurses caring for morbidly obese patients. *Bariatric Nurs Surg Patient Care* 2007;4:251–3.
- [15] Brown I, Thompson J. Primary care nurses’ attitudes, beliefs and own body size in relation to obesity management. *J Adv Nurs* 2007;5:535–43.
- [16] Zuzelo PR, Seminara P. Influence of registered nurses’ attitudes toward bariatric patients on educational programming effectiveness. *J Contin Educ Nurs* 2006;2:65–73.
- [17] Reto C. Psychological aspects of delivering nursing care to the bariatric patient. *Crit Care Nurse Q* 2003;2:139–49.
- [18] Schwartz MB, Vartanian LR, Nosek BA, Brownell KD. The influence of one’s own body weight on implicit and explicit anti-fat bias. *Obesity* 2006;14:440–7.
- [19] Allison DB, Basile VC, Yunker HE. The measurement of attitudes toward and beliefs about obese persons. *Int J Eating Disorders* 1991;10:599–607.
- [20] Allison DB. *Handbook of Assessment Methods for Eating Behaviors and Weight-Related Problems: Measures, Theory, and Research*. Thousand Oaks, CA: Sage Publications; 1995.
- [21] Ruggs EN, King EB, Hebl M, Fitzsimmons M. Assessment of weight stigma. *Obes Facts* 2010;3:60–9.

Appendix 1

Attitudes Toward Obese Persons Scale

Please mark each statement below in the left margin, according to how much you agree or disagree with it. Please do not leave any blank. Use the numbers on the following

scale to indicate your response. Be sure to place a minus or plus sign (– or +) beside the number that you choose to show whether you agree or disagree.

–3	–2	–1	+1	+2	+3
I strongly disagree	I moderately disagree	I slightly disagree	I slightly agree	I moderately agree	I strongly agree

- _____ Obese people are as happy as nonobese people.
- _____ Most obese people feel that they are not as good as other people.
- _____ Most obese people are more self-conscious than other people.
- _____ Obese workers cannot be as successful as other workers.
- _____ Most nonobese people would not want to marry anyone who is obese.
- _____ Severely obese people are usually untidy.
- _____ Obese people are usually sociable.
- _____ Most obese people are not dissatisfied with themselves.
- _____ Obese people are just as self-confident as other people.
- _____ Most people feel uncomfortable when they associate with obese people.
- _____ Obese people are often less aggressive than nonobese people.
- _____ Most obese people have different personalities than nonobese people.
- _____ Very few obese people are ashamed of their weight.
- _____ Most obese people resent normal weight people.
- _____ Obese people are more emotional than nonobese people.
- _____ Obese people should not expect to lead normal lives.
- _____ Obese people are just as healthy as nonobese people.
- _____ Obese people are just as sexually attractive as nonobese people.
- _____ Obese people tend to have family problems.
- _____ One of the worst things that could happen to a person would be for him to become obese.

Appendix 2

Beliefs About Obese Persons Scale

Please mark each statement below in the left margin, according to how much you agree or disagree with it. Please

do not leave any blank. Use the numbers on the following scale to indicate your response. Be sure to place a minus or plus sign (– or +) beside the number that you choose to show whether you agree or disagree.

–3	–2	–1	+1	+2	+3
I strongly disagree	I moderately disagree	I slightly disagree	I slightly agree	I moderately agree	I strongly agree

- _____ Obesity often occurs when eating is used as a form of compensation for lack of love or attention.
- _____ In many cases, obesity is the result of a biological disorder.
- _____ Obesity is usually caused by overeating.
- _____ Most obese people cause their problem by not getting enough exercise.
- _____ Most obese people eat more than nonobese people.
- _____ The majority of obese people have poor eating habits that lead to their obesity.
- _____ Obesity is rarely caused by a lack of willpower.
- _____ People can be addicted to food, just as others are addicted to drugs, and these people usually become obese.

Appendix 3

Scoring instructions for ATOP

Step 1: multiply the response to the following items by –1 (i.e., reverse the direction of scoring): items 2 through 6, items 10 12, items 14 through 16, and items 19 and 20.

Step 2: sum the responses to all items.

Step 3: add 60 to the value obtained in step 2. This value is the ATOP score.

Greater numbers indicate more positive attitudes.

Scoring instructions for BAOP

Step 1: multiply the response to the following items by –1 (i.e., reverse the direction of scoring): item 1, items 3 through 6, and item 8.

Step 2: sum the responses to all items.

Step 3: add 24 to the value obtained in step 2. This value is the BAOP score.

Greater numbers indicate a stronger belief that obesity is not under the obese person's control. Data in Appendix 3 from Allison [20].