

## ORIGINAL ARTICLE

# Impact of perceived weight stigma among underserved women on doctor–patient relationships

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## Summary

### Objective

The aim of this study was to evaluate how perception of weight stigma among underserved women with obesity impacts doctor–patient relationships.

### Methods

This study consisted of an interviewer-administered survey of 149 women with obesity (body mass index (BMI) > 30 kg m<sup>-2</sup>) immediately after their physician visit at four Federally Qualified Health Centers. Perceptions of weight stigma and physician empathy were measured using the Stigma Situations in Health Care instrument and Consultation and Relational Empathy (CARE) measure, respectively. Associations of CARE and Stigma scores with BMI and patient characteristics were analysed using Mantel–Haenszel chi-squared test and ordinal logistic regression.

### Results

The mean CARE score was 42.1 (standard deviation 8.4; range 11.0–50.0), and mean stigma score was 4.6 (standard deviation 7.6; range 0–43.0). Each increase in BMI category was associated with almost twofold increased odds of higher perception of stigma (odds ratio, 1.90, 95% confidence interval 1.30–2.78,  $P = 0.001$ ). BMI was not associated with CARE. However, for each increase in stigma category, the odds of lower CARE score doubled (odds ratio, 0.52, 95% confidence interval 0.36–0.75,  $P = 0.0005$ ).

### Conclusions

While BMI was not associated with perception of physician empathy, higher frequency of weight stigmatizing situations was negatively associated with perception of physician empathy. Reducing weight stigma in primary care could improve doctor–patient relationships and quality of care in patients with obesity.

**Keywords:** Minorities, obesity, patient–provider communication, weight stigma.

## Introduction

High rates of obesity remain a public health priority in the USA, particularly among minority women and those who are poor or less educated (1). These populations have worse health outcomes. A contributing factor to poorer health outcomes in women with obesity may be the avoidance of health care and healthy behaviours due to experiences of weight stigma in healthcare settings. Weight stigma refers to denigration towards individuals

who are viewed to be overweight or obese and can result in negative stereotyping, unfair treatment and discrimination (2). The prevalence of weight-based prejudice and stigmatization is high, approaching 69% in healthcare settings (3,4). Weight bias results in shorter physician visits, fewer medical treatments and fewer preventive health screenings in patients with obesity (5,6). Additionally, experiencing weight stigma leads to psychological distress and unhealthy behaviours, such as binge-eating, avoidance of exercise and unsuccessful weight loss

attempts (7–10). Furthermore, internalization of perceived weight stigma increases the odds of obesity, remaining obese and gaining weight over time, further reinforcing obesity (11–13).

Perceptions of weight stigma in health care among patients with obesity may impair doctor–patient relationships and reduce quality of care and health outcomes (6). Better doctor–patient relationships have been positively associated with patient safety, adherence to recommended medical treatments and preventive services, self-reported health and well-being and better health outcomes across a range of diseases (14). While studies have shown perceptions of weight stigma increases with body mass index (BMI), studies examining association of BMI with patient satisfaction have shown mixed results, with some showing higher BMI to be associated with poorer relationships (15,16), while others showing no difference or greater patient satisfaction in those with higher BMI (17–19).

A basic and crucial component of the doctor–patient relationship is physician empathy. Empathy can be defined as ‘an ability to (i) understand the patient’s situation, perspective and feelings (and their attached meanings); (ii) communicate that understanding and check its accuracy; and (iii) act on that understanding with the patient in a helpful (therapeutic) way’ (20). Empathy has been shown to correlate with patient enablement (21–23), patient satisfaction (24,25) and improved health outcomes in a wide range of clinical settings (23,26–31). To date, research is lacking that evaluates the association of BMI and patients’ experiences of weight stigma in health care with their perception of physician empathy.

This study examined whether BMI is associated with perception of weight stigma in health care among women in underserved settings and how perceived weight stigma impacts ratings of physician empathy. The study’s hypothesis was that patients with higher BMI experience more weight stigma in health care and that they would perceive less empathy from their physicians during the clinical encounter.

## Materials and methods

This cross-sectional study consisted of an interviewer-administered survey of a convenience sample of 154 women with obesity ( $\text{BMI} > 30 \text{ kg m}^{-2}$ ), at four New Jersey Federally Qualified Health Centers (FQHCs). Five different research team members recruited and interviewed patients. FQHCs were chosen because minority and poor/less educated women have the highest rates of obesity and may be disproportionately exposed to weight stigma (32–34). Women were recruited on site at each centre and interviewed immediately after their physician visit. They were eligible if they were aged 21–70 years, had obesity, were English speaking and were established

patients in the practice for over 12 months, with at least one other appointment at the centre within the last 12 months. Written informed consent was obtained prior to administering the survey.

Women’s perception of weight stigma in the practice was measured using a modification of Myers and Rosen’s Stigmatizing Situations Inventory (SSI) (35). Because of the lack of validated measures that specifically assess patient experiences of weight stigma in the context of health care, we selected questions related to healthcare experiences of patients from broader measures that have been previously published and used to study weight stigma (35,36). The response scale of Puhl and Brownell’s modification of the SSI was changed to reflect the number of stigmatizing experiences in the particular practice site during the past 12 months. The resultant Stigma Situations in Health Care (SSHHC) instrument contained 20 items regarding different weight stigmatizing situations in health care (e.g. ‘A doctor blaming unrelated physical problems on your weight.’); see Table 1. Women were asked how often they encountered each situation, with points given corresponding to each response: never (0 points), that day (1 point), one other time in the past 12 months (1 point), more than once (2 points) or multiple times (3 points) in the past 12 months (Cronbach’s alpha was 0.92).

Patients’ perception of their physician’s empathy was assessed using the Consultation and Relational Empathy (CARE) measure (37). This instrument has been extensively validated and found reliable in different populations, healthcare settings and countries (38–44). The CARE measure consists of 10 items with answers on a 5-point rating scale (1 = poor to 5 = excellent; Cronbach’s alpha was 0.96); see Table 2. The survey also included questions from the Behavioral Risk Factor Surveillance System (BRFSS) survey regarding participants’ demographic information and ratings of their physical and mental health (45). All participants received a \$25 gift card at completion of the survey. The Robert Wood Johnson Medical School Institutional Review Board approved this study.

The dependent variables were Stigma score and CARE score. The scores were calculated by summing the points for each item from each instrument. Because the distributions of scores were highly skewed, we categorized the scores of CARE (<35, 36–44, 45–49 and 50) and Stigma (0, 1–4 and >5) based on their quartile and tertile distributions, respectively. The main independent variable analysed was BMI, calculated based on self-reported weight and height. Because participants’ weights were measured prior to their physician visit, we expected that their responses would be accurate. BMI was categorized based on standardized definitions of obese categories: obese class I ( $30\text{--}34.9 \text{ kg m}^{-2}$ ), obese class II ( $35\text{--}39.9 \text{ kg m}^{-2}$ ) and obese class III ( $\geq 40 \text{ kg m}^{-2}$ ) (46). Potential confounders

**Table 1** Stigma situations in healthcare items

How often has this happened to you in this practice during the past 12 months?	At least once N (%)
1. A doctor blaming unrelated physical problems on your weight.	11 (7.38)
2. A doctor saying weight is a health problem when you are in good health.	26 (17.69)
3. A doctor makes cruel remarks, ridicules you or calls you names.	1 (0.67)
4. A doctor recommending a diet even if you did not intend to discuss weight.	27 (18.24)
5. Not being able to find medical equipment, such as blood pressure cuffs or gowns that fit you.	8 (5.37)
6. A doctor telling you to lose weight but not providing weight loss treatment options or advice on how to get help for weight loss.	17 (11.41)
7. Being stared at by medical staff when you go to the doctor's office.	16 (10.74)
8. Having medical staff make negative comments about weight to others.	4 (2.68)
9. Having health care professionals suggest diets to you without you asking for advice.	22 (14.77)
10. Overhearing medical staff make rude comments to you.	5 (3.36)
11. When you are weighed on a scale, the scale is not large enough for your size.	2 (1.34)
12. When you are weighed on a scale, the medical staff makes negative comments about your weight.	1 (0.67)
13. Having nurses make negative remarks, ridicule you or call you names.	0 (0)
14. Having office staff, for example a front desk receptionist, make negative remarks to you.	2 (1.34)
15. Not being able to fit in chairs in the waiting room.	0 (0)
16. A doctor refusing to do an exam on you because of your weight.	1 (0.67)
17. Having doctors or other health professionals assume you overeat or binge-eat because you are overweight.	7 (4.70)
18. Having doctors or other health professionals assume you have emotional problems because you are overweight.	10 (6.71)
19. Being treated as less competent by health care providers because of your weight.	7 (4.70)
20. Being treated as lazy by health care providers because of your weight.	7 (4.70)
Overall Stigma score,*mean (SD); median (IQR)	4.6 (7.6); 2.0 (5.0)

\*Overall Stigma score was calculated by summing the scores of each item. Each item score was calculated based on points given for frequency of each experience: never (0 points), that day (1 point), one other time (1 point), more than once (2 points) and multiple times in past 12 months (3 points).

IQR, interquartile range; SD, standard deviation.

were age, race, marital status, education level, employment status, physical health, mental health and practice site.

The patient population and Stigma and CARE scores were characterized using descriptive statistics. Five subjects with reported BMI less than 30 were excluded in the analysis, as the target population of the study was

women with obesity; therefore, the final sample size was 149. Bivariate associations of Stigma and CARE scores with patient characteristics were examined using Mantel–Haenszel chi-squared test for ordinal data. Ordinal logistic regression using the proportional odds model was performed because of non-normal distribution and ordinality of data (47). The association of BMI with Stigma and CARE scores was examined, as well as the association of Stigma to CARE scores, adjusting for BMI, physical health, mental health and practice site. Moderation analysis was conducted, with perceived Stigma, a potential moderator of the relationship between BMI and CARE by testing the interaction of BMI with Stigma. Likewise, CARE was tested as a potential moderator of the relationship between BMI and Stigma. All analyses were performed using SAS 9.3 software (SAS Institute Inc, Cary, NC, USA). All reported *p*-values and 95% confidence intervals (CIs) were two-sided with significance level of 0.05.

## Results

Table 3 summarizes demographic characteristics of the 149 participants. The average age was 47.5 years (standard deviation (SD) 10.5), and the mean BMI was 39.4 kg m<sup>-2</sup>

**Table 2** CARE measure items

How was your doctor at...	Mean (SD)*
Making you feel at ease?	4.35 (0.85)
Letting you tell your story?	4.26 (0.94)
Really listening?	4.16 (1.04)
Being interested in you as a whole person?	4.12 (1.06)
Fully understanding your concerns?	4.29 (0.98)
Sharing care and compassion?	4.28 (0.99)
Being positive?	4.31 (0.88)
Explaining things clearly?	4.24 (0.96)
Helping you take control?	4.10 (1.07)
Making a plan of action with you?	4.08 (1.00)
Overall CARE score,** mean (SD); median (IQR)	42.2 (8.4); 45.0 (14.0)

\*Score for each item ranged from 1 = poor to 5 = excellent.

\*\*Overall score is sum from scores of each item.

CARE, Consultation and Relational Empathy; IQR, interquartile range; SD, standard deviation.

**Table 3** Patient characteristics (*N* = 149)\*

Patient Characteristic	Mean (SD) or <i>N</i> (%)
Age (years)	47.5 (SD 10.5)
<40	39 (26.2%)
41–50	43 (27.5%)
51–60	57 (38.3%)
>60	11 (7.4%)
Race/ethnicity	
White, non-Hispanic	12 (8.0)
Black, non-Hispanic	115 (77.2)
Hispanic	19 (12.8)
Other	3 (2.0)
Marital Status	
Married	35 (23.5 %)
Never married	71 (47.7%)
Divorced, widowed, separated	43 (28.9%)
Education level	
High school or less	97 (65.1 %)
Some college or more	52 (34.9 %)
Employment	
Employed	53 (35.6 %)
Not employed	96 (64.4 %)
Body mass index (kg m <sup>-2</sup> )	39.4 (SD 7.0)
30–34.9	43 (28.9 %)
35–39.9	51 (34.2 %)
>40	55 (36.9 %)
Physical health not good (days in past month)	8.7 (SD 10.6)
0	48 (32.2%)
1–7	49 (32.9%)
8–21	28 (18.8%)
22–30	24 (16.1%)
Mental health not good (days in past month)	8.9 (SD 11.7)
0	57 (38.3%)
1–7	40 (26.8%)
8–21	20 (13.4%)
22–30	31 (20.8%)

\*Total may not add to 149 because of missing data.

(SD 7.0). Most were African–American (77.2%), never married (47.7%), with high school or less education (65.6%) and unemployed (64.4%). The mean CARE score was 42.1 (SD 8.4), and median CARE score was 45 (interquartile range 14; range 11–50). The mean Stigma score was 4.6 (SD 7.6), and median Stigma score was 2.0 (interquartile range 5.0; range 0–43). The most frequently cited stigmatizing situations were: having a doctor or other healthcare professionals suggest diets when the patient did not intend to discuss weight; having a doctor saying that the patient's weight is a health problem despite the patient being in good health; having a doctor telling the patient to lose weight, but not providing treatment options or advice on how to get help; being stared at by medical staff; and having a doctor blame unrelated health problems on weight (Table 1).

Table 4 describes results from the bivariate analysis. BMI was significantly associated with Stigma score

**Table 4** Bivariate association of patient characteristics with Stigma and CARE scores

Patient characteristic	Stigma score mean (SD)	CARE score mean (SD)	Stigma score association ( <i>p</i> -value)*	CARE score association ( <i>p</i> -value)*
Age (years)			0.43	0.643
≤40	3.6 (7.1)	43.2 (7.5)		
41–50	6.4 (9.2)	41.3 (7.9)		
51–60	4.2 (6.8)	42.9 (9.3)		
>60	3.6 (6.4)	39.5 (7.4)		
Race			0.98	0.928
Black	4.8 (8.0)	42.1 (8.5)		
Non-black	3.8 (6.0)	42.4 (8.3)		
Marital status			0.288	0.545
Married	4.5 (5.6)	43.9 (7.4)		
Never married	4.4 (7.7)	41.3 (8.9)		
Divorced, widowed, separated	4.9 (8.8)	42.2 (8.2)		
Educational level			0.098	0.821
High school or less	5.2 (8.4)	41.9 (8.5)		
Some college or more	3.4 (5.6)	42.6 (8.3)		
Employment status			0.101	0.310
Employed	3.1 (5.1)	43.8 (6.8)		
Not employed	5.4 (8.6)	41.3 (9.1)		
Body mass index (kg m <sup>-2</sup> )			0.001	0.469
30–34.9	4.0 (9.5)	42.8 (9.1)		
35–39.9	3.5 (5.3)	41.7 (8.3)		
>40	6.0 (7.6)	42.1 (8.1)		
Physical health not good (days in past month)			0.029	0.17
0	2.8 (4.7)	44.0 (6.9)		
1–7	3.9 (6.8)	43.4 (7.8)		
8–21	5.5 (6.4)	38.1 (8.1)		
22–30	8.3 (12.5)	40.9 (11.0)		
Mental health not good (days in past month)			0.141	0.20
0	2.8 (4.5)	44.1 (7.3)		
1–7	4.0 (5.0)	41.1 (9.1)		
8–21	6.0 (11.0)	41.0 (7.5)		
22–30	7.7 (10.9)	40.9 (9.8)		
Practice site			0.147	0.48
1	7.9 (10.1)	42.3 (7.1)		
2	3.2 (6.1)	45.1 (6.3)		
3	3.0 (4.1)	39.3 (9.1)		
4	5.2 (9.3)	40.7 (10.8)		

\**P*-values were calculated using Mantel–Haenszel chi-squared test for ordinal data.

CARE, Consultation and Relational Empathy measure; SD, standard deviation; Stigma, Stigma Situations in Health Care instrument.

( $p=0.001$ ), but not with the CARE score ( $p=0.469$ ). The only other patient characteristic that was significantly associated with Stigma score was physical health ( $p=0.029$ ). None of the patient characteristics was associated with CARE score; however, Stigma score was significantly associated with CARE score ( $p=0.0005$ ). The proportional odds models showed that each increase in BMI category was associated with almost twofold increased odds of higher perception of Stigma (odds ratio (OR), 1.90, 95% confidence interval (CI) 1.30–2.78,  $p=0.001$ ). Additionally, each increase in CARE category was associated with 40% lower odds of higher Stigma (OR, 0.62, 95% CI 0.47–0.81). Results did not change after controlling for physical health, mental health and practice site. Furthermore, for each increase in Stigma category, the odds of higher CARE score decreased by half (OR, 0.52, 95% CI 0.36–0.75,  $p=0.0005$ ); in other words, for each increase in Stigma category, the odds of lower CARE scored doubled. This association between Stigma and CARE score did not change after adjusting for BMI, physical health, mental health and practice site. No significant interactions were found between BMI and CARE in the Stigma models, nor BMI and Stigma in the CARE models.

## Discussion

This study confirms previous studies demonstrating perceived weight discrimination increases with BMI (34). While BMI was not associated with perception of physician empathy, higher number of experiences of weight stigma in health care was negatively associated with perception of physician empathy. This study may have elucidated the reason behind the conflicting results from previous studies evaluating the association of BMI with lower rapport building by physicians and lower patient satisfaction with the doctor–patient relationship (15–19). BMI, itself, may not be contributing to poorer ratings of doctor–patient relationships; rather, the perception of weight stigma in health care may be a contributing factor in doctor–patient relationships.

The most frequently cited stigmatizing situations were related to doctors equating weight with bad health and discussing weight and diets when the women did not want to discuss weight. Guidelines from the National Institutes of Diabetes and Digestive and Kidney Diseases acknowledge that patients do not want providers to assume that their presenting health problems are due to weight and suggest that providers should ask about main health concerns first, followed by respectfully asking if the patient would be willing to talk about weight (48). Additionally, when women did want to discuss weight, they were not provided with specific advice or treatments. This

concur with other research describing the desire for specific weight loss strategies and individualized plans by physicians who were empathetic, sensitive and compassionate (49). In this study, women associated receipt of generic weight loss advice with physicians lacking attention, concern and support.

This study is the first to specifically examine the association of women's perception of weight stigma in health care with their ratings of physician empathy. While Gudzone et al. found that persons who perceived negative judgement about their weight from their physicians were less likely to report high trust in their physicians, they did not specifically assess perceptions of physician empathy (50). The cross-sectional design of this study, however, precludes any assumptions about causality. BMI and lower perception of physician empathy may also be independently influencing perceived stigma. The moderation analyses showed no interactions between BMI and CARE in the Stigma models, nor BMI and Stigma in the CARE models.

The Stigma Situations in Health Care instrument may not have captured all stigmatizing experiences, so the results may underestimate the prevalence of weight stigma. In this study, the Stigma score was skewed, with many respondents scoring 0, suggesting that these results may be conservative. If there were more women in the sample with higher perceived stigma, greater associations may have been found. This sample of women, requiring them to be established patients with at least two clinic visits within 12 months, selected for a sample of women who were already very engaged in the practice. This sample could represent individuals who were less likely to have had stigmatizing experiences in health care. Women with higher perceived stigma may be more likely to doctor shop or avoid seeking care altogether (50,51). The convenience sample would have missed these women who potentially might have higher perceived stigma. The convenience sample may have also introduced other potential biases because of patient age, health status, time of year of recruitment or other unmeasured factors. Additionally, by collapsing the Stigma and CARE scores into categories, the power to find significant associations may have been reduced. Other studies examining physician empathy using the CARE measure, found similarly high means and skewed results, with many perfect scores of 50. (21,30,38,43) Most measures assessing weight bias in health evaluate stigma as expressed by health providers towards patients, rather than patient experiences (52). The only two studies that included patient perspectives of weight stigma in health care did not have pre-defined cut-off points (35,36). Sensitivity analysis of the Stigma instrument testing other cut-points was conducted, and results did not change. While this study suggests that the Stigma measure has good internal

reliability (Cronbach's alpha 0.92) in this sample of patients, there is a need to develop and test measures to examine stigma in healthcare settings in broader and more diverse populations.

There are other limitations to consider when interpreting these results. First, this study population was comprised of mostly African–American, English-speaking women seeking care at four FQHCs in New Jersey. Results may not apply to other populations, those who are non-English speaking or women who avoid health care because of lack of access or dissatisfaction with the healthcare system. However, the conclusions may extend to English-speaking underserved women with obesity seeking care in other FQHCs. Second, different cultural perceptions of body weight and stigma may potentially affect these results. African–American women with obesity tend to describe excess weight as healthy and attractive and have higher levels of body satisfaction, body image and self-esteem than White women (49,53–56). It is unknown whether African–American women experience or internalize weight stigma differently than White women, especially in healthcare settings. While experiences of weight discrimination are particularly prevalent among African–American women (24%), being African–American has not been shown to be independently associated with experiences of weight discrimination (34). Future research is needed with a larger more diverse sample to enable comparisons between women of different races.

In addition, there were five different interviewers who recruited and interviewed subjects. Subjects may have been more or less likely to report stigmatizing experiences to different interviewers. Potential biases were minimized by having standardized training, recruitment and interview protocols. A final limitation is the likelihood of some clustering of women sharing the same physician, thereby causing the true variance of the estimates to be larger than what was calculated and biasing the findings towards significance. Unfortunately, information on the participant's physicians was not obtained, so this could not be accounted for in the analyses. However, when practice site was added as a variable in the models, the results did not change. Although beyond the scope of this study, it will be important for future work to collect information on providers to evaluate whether provider-related factors (such as gender, age, race and provider's BMI) are associated with patient perceptions of weight stigma and its impact on patient–provider relationships.

## Conclusion

This study demonstrated that underserved women with higher BMI were more likely to experience weight stigmatizing situations in primary care and perceived weight

stigma in health care was negatively associated with perception of physician empathy. Because of the lack of validated measures assessing patient experiences of weight stigma in healthcare settings, this study offers a new contribution of a potential Stigma Situations in Health Care instrument that could be informative as part of research efforts to understand perceptions of health care among populations with obesity. While it was beyond the scope of this study to conduct a survey validation or more comprehensive analysis of psychometrics on this measure, these are important issues for future research.

Because prior studies have documented poorer health outcomes and health habits in patients experiencing weight stigma, as well as those experiencing lower physician empathy and poorer patient–provider relationships (6–9,14,23,26,29,30), it is important to decrease weight stigma in healthcare settings. Promising interventions targeted at health professionals to decrease weight stigma include increasing self-awareness of biases, providing education on the uncontrollable reasons for obesity and using anti-stigma films (57–62). In addition, interventions teaching acceptance and mindfulness in patients with obesity may decrease their perceptions of obesity-related stigma, psychological distress and body dissatisfaction and improve healthy eating behaviours (63,64). These findings suggest that interventions to reduce weight stigma may be warranted in primary care settings to improve doctor–patient relationships and quality of care in patients with obesity.

## Conflicts of interest statement

No conflict of interest was declared.

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