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How Does Healthcare Provider Weight Affect Patient Opinion in Receiving Weight Loss Advice?

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ABSTRACT

***Introduction**: Obesity is a momentous national health concern (CDC, 2020; Cawley et al., 2021). Healthcare providers are required to assist and support their patients to address obesity. However, research is needed to determine how healthcare provider weight may affect patient trust in receiving and acting on weight loss advice. The purpose of this study was to determine patient willingness to discuss weight loss with their primary care provider (PCP), and patient opinions about diet change, exercise, or weight loss advice from their providers. A related purpose was to determine if PCPs were discussing their personal health practices with their patients (known to promote patient health) and PCP response to a review of the results of the patient sample data and its expected impact on their practice.*

***Methods**: the study was a descriptive survey design and used Qualtrics to distribute a patient/community member instrument with questions related to patient trust in and receiving weight loss advice from PCPs. A related survey of PCPs in a selected health system determined PCP practices in working with overweight and obese (OW/O) patients. In addition, PCPs were asked to review the community member survey results and comment on possible impact on their practice with overweight and obese patients.*

***Results**: Using X^2 analyses, the patient participants were significantly more likely to recommend to others a normal weight provider as opposed to an OW/O provider. They believed that a normal weight provider could more effectively plan a weight loss program and would better understand the difficulty in losing weight. Finally, patient participants were significantly more likely to be emabarrassed in discussing weight loss with an OW/O provider. Physician participants who reviewed patient data were more likely to increase their counseling regarding weight loss topics.*

***Conclusions**: The current study identified significant patient concerns about accepting diet, exercise, and weight loss advice from an OW/O provider compared to a normal weight provider. Physician participants who reviewed patient data were more likely to increase their counseling regarding weight loss topics. This study identifies the significant problem of OW/O providers in their role to provide weight loss advice. Patients are embarrassed to ask them about weight loss and obese providers do not often raise the topic. There are no easy answers to this dilemma. Realistically, it may be helpful in the short term to develop and investigate new approaches for providers with a weight problem to interact more effectively with their patients regarding weight loss.*

Obesity is an ever increasing concern in the United States (US) and it is quickly reaching epidemic proportions. Currently, it is estimated that over 42% of the US adult population is obese according to current body mass index (BMI) tables (CDC, 2020). People who are overweight or obese are significantly at risk to have coronary artery disease, hypertension, diabetes, and multiple other chronic conditions that can significantly impact their quality of life and life expectancy. It is estimated that annual health care costs were $260 billion due to obesity, a number that rises dramatically every year (Cawley et al., 2021). Healthy People 2020 set a goal to promote health and reduce chronic disease risk through the consumption of healthful diets and achievement and maintenance of healthy body weight and Medicare will now cover intensive counselling to help patients lose weight (Medicare, 2013).

A national study reported that between 35 to 38 percent of physicians in the US were overweight or obese and this number is likely inceased today (Medscape, 2013). Thirty-two percent of Registered Nurses (RNs) and twenty-five percent

of Physician Assistants (PAs)/Nurse Practitioners (NPs) who are employed by the Veteran's Health Administration were obese (Schultz, 2011).

Healthcare providers are in key positions to assist people in changing their lifestyles to include healthy habits. Physicians who practiced preventive health habits, healthy behaviors, and disclosed their own health practices had patients who were more likely to have implemented preventive health practices (Frank, E. 2013). These physicians were also more likely to discuss prevention with their patients, and motivate patients to adopt healthy habits (Frank,E., 2009; Oberg,E.,2009).

PROJECT PROBLEM

Obesity is a national health concern (CDC, 2020; Cawley et al., 2021). Healthcare providers are recognized as being able to assist patients to change their health practices to address obesity. Studies have shown that patients will model preventive practices from their physicians and that healthy physicians are more likely to counsel patients on health promotion and disease prevention (Oberg,E., 2009). However, studies have shown that healthcare providers suffer from obesity as well. A paucity of studies have documented the influence physicians have upon patient's trust in weight loss advice (Frank, E., 2013). Research is needed to explore how a healthcare provider's weight affects patient trust in weight loss advice.

REVIEW OF LITERATURE

A systematic review was conducted using search methods by searching systematically the databases: PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), PsychInfo, Health Source Academic, and Cochrane Library Database. The search base was intentionally broad due to limited studies found. The search included Physicians, NPs, and PAs because they are generally the ones providing primary care. Specific keywords used: healthcare provider, Physician, Nurse Practitioner, Physician Assistant, Health Practices, Health Promoting Practices, Health Advice, Patient Perceptions, and Adherence. There was also a hand search done of the most relevant studies reference and citations list. Websites such as Google Scholar and GreyNet were used to search for grey literature.

Inclusion criteria were any English studies on adults between 1999-2015 related to healthcare provider's (Physician, NP, and PA), weight, BMI, patient perceptions, and adherence to health advice. Studies were excluded if they included any other disease process or any medications.

A multi-step process was used to conduct the review, which progressed from title, to abstract, and then full articles. At each level the citation was fully reviewed and rejected if it did not meet inclusion criteria, if not included, exclusion reasons were documented. Ref-Works facilitated access to the studies and citations.

Data abstraction was completed by one reviewer who examined each title, abstract, and full article for inclusion and exclusion criteria. Obviously due to one reviewer it was not blinded.

Once a final set of studies was decided, the quality of each individual study was assessed using a Critical Review Form developed by Law (1998).

Evidence

Only three studies were found to be relevant in the systematic review. All were cross-sectional studies with evidence level ratings of IVA and quality of evidence ratings of C. All three studies acknowledged their limitations, but noted they are one of few studies done on this subject.

Non-Research Evidence

GreyNet and Google Scholar were searched using all the terms as well as Obesity guidelines and none of the searches found any grey literature related to the research question.

Evaluation

Bleich et al (2013) studied whether physician BMI impacted patient trust and perceived stigma. An internet survey was used and a sample size of 600 adults who were overweight or obese was asked identical questions related to physicians of normal weight, overweight, and obese. It was found that there was no significant difference in trust among all the physicians, regardless of weight. Significantly, overweight and obese patients trusted overweight physicians' weight advice more than from normal weight physicians.

Hash et al (2002) studied whether physician weight affected perception of health advice. They used a survey questionnaire with 228 patients and 5 physicians who were normal weight, overweight, and obese in a primary care office. They found that patients had higher confidence regarding illness advice from normal weight versus overweight physicians and also general weight/fitness advice.

Puhl et al (2013) studied whether there was an effect of physician's body weight on patient attitudes regarding physician selection, trust, and adherence to medical advice. They used a sample recruited from an online database, randomly assigned them to three groups of normal weight physician, overweight physician, and obese physician. They found that a patient was more likely to change providers if provider was obese, more mistrustful, and less inclined to follow advice of provider if overweight or obese.

In today's healthcare, obesity is a major problem that is difficult to prevent and treat. Healthcare providers are at the forefront to assist in advising patients in healthy weight practices. There have been studies that show that patients are more likely to practice health preventive measures from physicians who practice those measures themselves. Little research has been done on whether a physician's weight influences a patient's perceptions, trust, or adherence to

health advice. The systematic review only found three studies that were relevant to the research question. The findings were inconclusive. Two of the studies found that patients had more trust in health advice from normal weight physicians as opposed to overweight physicians (Hash, 2002, Puhl, 2013), but one study found that patients had more trust in overweight physicians (Bleich, 2013). The researchers of this study felt that the patients could self-identify with the overweight provider.

Further research should be done to determine if physician weight does affect the impact of patient's perceptions and whether they will adhere or trust health advice from overweight physicians. There is a lack of evidence regarding Nurse Practitioners and Physician Assistants in this problem area as well. Overall, ideally the problem should be studied from the viewpoint of all three types of providers but there is not sufficient literature except for physicians.

PROJECT FRAMEWORK

Nola Pender's Health Promotion Model (HPM) proposes that human beings realize that they have behaviors that could benefit with change (Pender N. , 2011). This study incorporates the HPM propositions of perceived benefits of action, perceived barriers to action, and role modeling through interpersonal relationships. Perceived benefits of action are positive or reinforcing consequences in behavior (Pender N. M., 2011, pg46). In relation to this study an example could be if a patient changes his health behaviors to practice health promotive behaviors, then the benefit would possibly be weight loss and decreased chronic disease risk. Perceived barriers to action are perceptions about the unavailability or an action (Pender N. M., 2011, pg 47). This could possibly be described as the healthcare provider doesn't discuss health promotive behaviors with the patient possibly because the provider has a bias against overweight or obese patients or doesn't feel comfortable discussing health advice because they are in fact, overweight. Interpersonal influences affect the provider-patient relationship (Pender N. M., 2011,pg 48). The HPM suggests that people are more likely to commit to and engage in health promoting behaviors when significant others model the behavior, expect the behavior to occur, and support this behavior.

PROJECT OBJECTIVES

Objectives include to determine if:

1. healthcare provider weight affects patient opinions about diet change, exercise, or weight loss advice.
2. healthcare provider weight affects patient willingness to discuss weight loss with the provider.
3. providers are discussing their personal health practices with their patients.
4. provider response to a review of the results of the patient sample data.

PROJECT DESIGN AND MEASUREMENT METHODS

The study uses a descriptive survey design. Permission was obtained to modify Puhl's (2013) survey for use in this study. A patient instrument (Appendix A) was developed to include sample demographics and questions related to patient trust and weight loss advice from health care providers. The survey instrument was reviewed for content validity by five experts in primary care, which Lynn (1986) determined was the minimum number to provide sufficient level of control for chance agreement. There was an agreement rate for relevance at 100% and other test suggestions were implemented as received from the experts. The demographics and scale ratings data were analyzed using frequency distributions of mode, median, and mean. The data from the patient surveys were analyzed and included on the healthcare provider survey (Appendix B), which includes demographic data such as age, gender, height, weight, what type of provider, practice specialty, and years in practice. The survey also included questions about thoughts and suggestions about the data, as well as current provider practices regarding weight loss advice.

POPULATION AND SAMPLING PLAN

There is a patient population and a healthcare provider population in this study, both are convenience samples from Central Texas. University of Texas at Arlington's (UTA) Institutional Review Board (IRB) approved the study. The patient sample was recruited from local community groups such as Rotary Club, Exchange Club, and Altrusa. This approach was chosen to obtain a broad response from community groups rather than a direct patient sample. The President of each group was contacted via email and phone to request their groups' participation in the study. After permission was obtained, the enlistment letter with the statement of implied consent and the Qualtrics survey link were then emailed to the designated group for participation.

The provider population was a sample of Family Practice and Internal Medicine healthcare providers employed by Baylor Scott and White. IRB modification approval was obtained from UTA and Baylor Scott and White. The enlistment letter with a statement declaring participation implied consent along with the Qualtrics survey link was then emailed to group members for participation.

DATA COLLECTION PLAN

Emails were sent to the group leaders with an enlistment letter describing participation implied informed consent and a Qualtrics link with the patient survey. The group leaders then forwarded the emails with enlistment letters, implied consents, and Qualtrics survey links to their members. Emails were sent to 190 members of local community groups. The healthcare provider survey, an enlistment letter describing participation implied informed consent, and a Qualtrics link

was emailed to 160 Family Practice and Internal Medicine providers at Baylor Scott and White in Central Texas. This specific group of healthcare providers was selected to be within a fifty-mile radius of the cities the community groups were located in.

DATA ANALYSIS PLAN

The patient survey demographics and scale ratings were analyzed with frequency distributions to include mean, mode, and median, using SPSS. Chi-square testing was used to examine subgroups for correlation. The provider survey contained a summary of the patient survey data, a demographic survey, and a survey regarding thoughts and/or recommendations as to how their clinical practice might be influenced. The provider survey was analyzed similarly to the patient survey using frequency distributions and chi-square tests.

It is anticipated that the results of this project will bring focus to the obesity problem, but also investigate if provider's weight influences patient care, possibly to the point of not accepting or adhering to a provider's advice.

PROJECT LIMITATIONS

Several limitations of this study should be noted. It was a descriptive study and cannot determine causal influences. The study only addressed opinions regarding weight loss advice, specifically diet and exercise. It did not address whether health care provider's weight affects the opinion of other types of health advice. The sample was a convenience sample derived from a small geographic area in Central Texas and it is unknown whether the results can be generalized to a broader population. The study did not address whether there are any differences due to gender, race, ethnicity of either patient or provider sample; it also did not address practice differences in the provider sample.

RESULTS/FINDINGS

Statistical Analysis

The data from both the patient and provider surveys were analyzed using SPSS frequencies and descriptive statistics to obtain the median, mean, and standard deviation. X_2 tests were used to test for unadjusted differences comparing patient BMI, patient education, patient gender, normal weight versus overweight or obese providers, and the following patient sample questions: would patient recommend provider, would patient be embarrassed to discuss weight loss with provider, would provider understand difficulties of losing weight, and could provider develop an effective weight loss plan. X_2 tests were also used to compare provider BMI with the provider questions: how many times a week do you discuss diet with patients, how many times a week do you discuss exercise with patients, do you discuss personal health practices with patients, and will you discuss diet or exercise more often now that you have reviewed the patient data.

Patient Sample Characteristics

Table 1 presents a summary of the patient sample characteristics. Thirty percent of the surveys were returned. Of the total sample, 42 % of the participants were female, 84.2% of the participants were white, 50.9% held a bachelor's degree or higher, and average age was 58 years (s.d.=10.3). Participant BMI was calculated and classified into categories according to the clinical guidelines established by the national Heart Lung and Blood Institute of the National Institute for Health for overweight and obese adults (1). Seventy-five percent of the participants have a physician as their PCP, with 29.8 % seeing a medical provider once this year, 38.6% 2-4 times this year, and 19.3% seeing a medical provider more than 5 times this year. Sixty-two percent of participants were overweight or obese.

Table 1. Patient Sample Characteristics

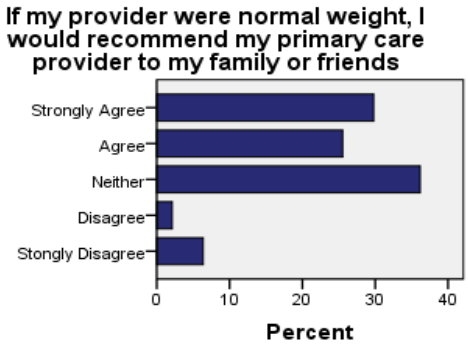
	N	%
Gender		
Male	12	21.1
Female	42	73.7
Highest educational degree		
HS graduate, diploma, GED	5	8.8
Some college, no degree	11	19.3
Associate degree	6	10.5
Bachelor's Degree	11	19.3
Master's Degree	14	24.6
Doctorate Degree	4	7.0
Ethnicity		
Hispanic	2	3.5
Non-Hispanic	36	63.2
Other	13	22.8

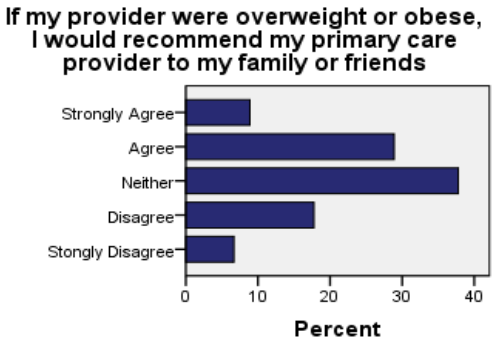
Race		
White	48	84.2
Other	3	5.3
BMI		
<18 (underweight)	1	1.8
18.5-24.9 (normal weight)	16	10.8
25-29.9 (overweight)	16	28.6
>30 (obesity)	19	34.0
My PCP is a:		
Nurse Practitioner	1	1.8
Physician	43	75.4
Physician's Assistant	6	10.5
I have seen a medical provider:		
Once this year	17	29.8
2-4 times this year	22	38.6
More than 5 times this year	11	19.3

Abbreviations: BMI: Body Mass Index; HS: High School; GED: General Educational Development; PCM: Primary Care Manager.

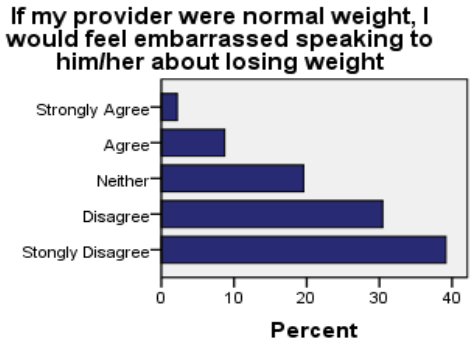
Figure 1 shows that the patient sample would be more likely to recommend a provider to others if they were normal weight. They strongly agreed/agreed they would feel embarrassed to speak to an overweight or obese provider about losing weight compared to a normal weight provider. A large percentage of the sample strongly agreed/agreed that a normal weight provider would be able to develop a plan to effectively lose weight and strongly disagreed/disagreed that an overweight or obese provider could provide an effective weight loss plan. A large percentage of the sample strongly agreed/agreed that a normal weight provider would understand the difficulties of losing weight, more so than an overweight or obese provider. Regardless of whether it is diet changes, exercise advice, provider understanding, or weight loss counseling, a larger percentage of the sample strongly agreed/agreed that the provider's weight affected whether they would follow that advice.

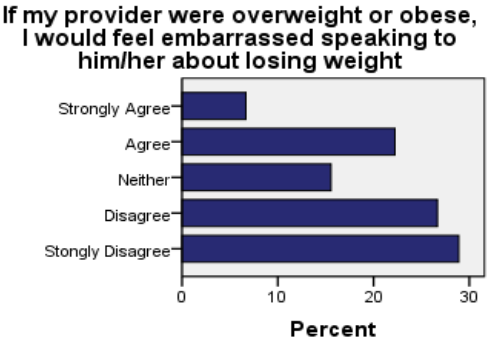
Figure 1



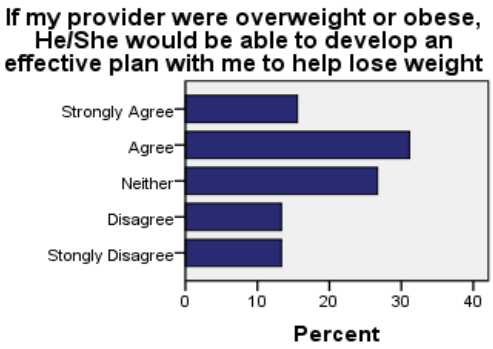


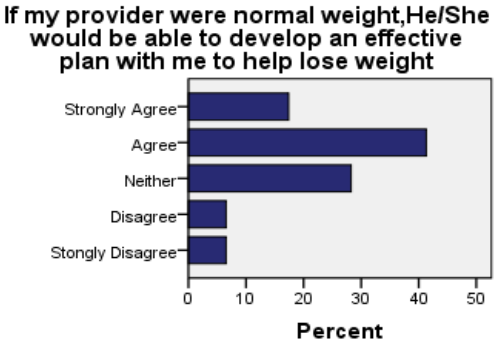
NOTE: The results above show that the sample would be more likely to recommend a provider if they were normal weight.



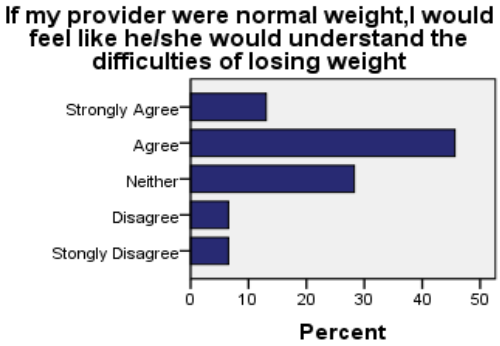


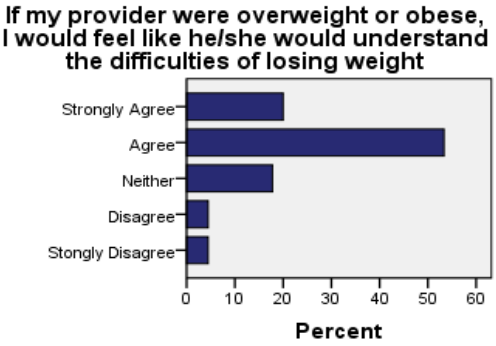
NOTE: The results above show that the sample strongly agreed/agreed that they would feel embarrassed to speak to an overweight provider about losing weight, then to a normal weight provider.



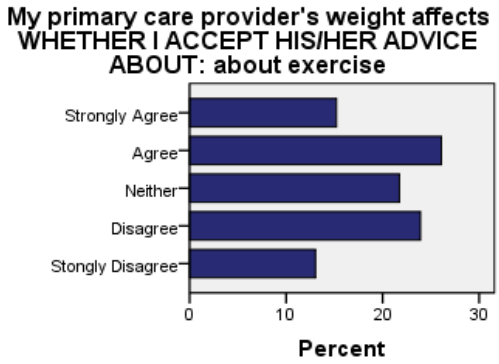


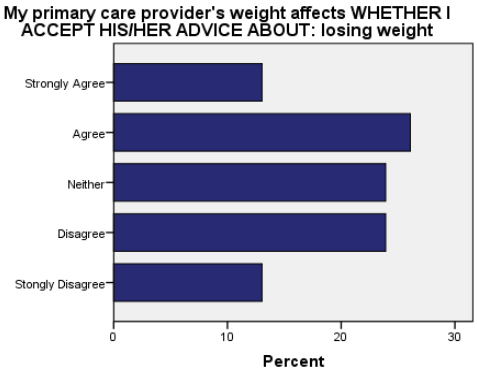
NOTE: The results above shows that a larger percentage of the sample agreed/agreed that the normal weight provider would be able to develop an effective plan to help them lose weight more so than the overweight/obese provider. More of the sample strongly disagreed/disagreed that the overweight/obese provider could develop an effective plan to help them lose weight.

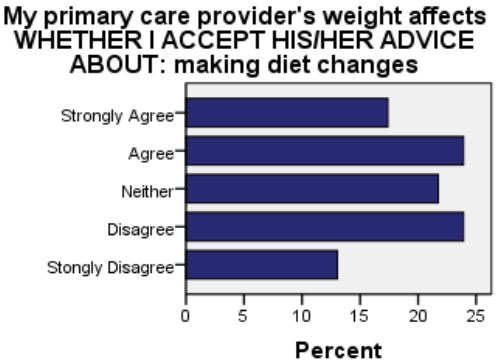




NOTE: The results above show that a larger percentage of the sample strongly agreed/agreed that the overweight/obese provider would understand the difficulties of losing weight than a normal weight provider.







NOTE: The above results show that regardless of whether it is diet changes, exercise, or weight loss advice, a higher percentage of the sample population strongly agreed/agreed that the provider's weight affects whether they accept that advice.

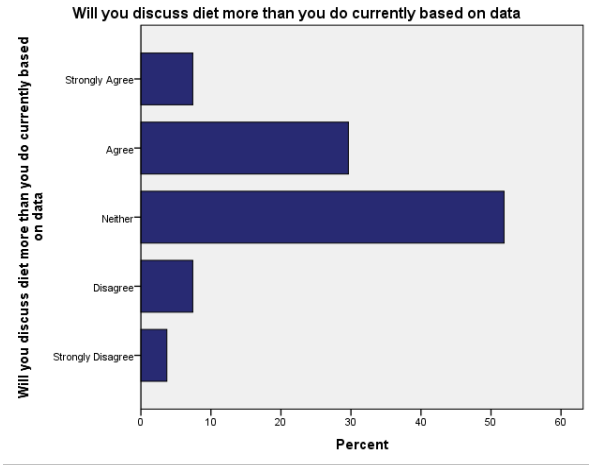
Table 2 presents a summary of the sample characteristics for the health care provider sample. Twenty percent of the healthcare providers returned the survey. Of the total sample, 58% of participants were female, 74% of participants were white, and the average age was 43 years (s.d. =12.2). The participants were 77.4% Family Practice providers and 58% were physicians. The provider participants' BMI were calculated and categorized according to the clinical guidelines established for overweight and obesity in adults by the National Heart Lung and Blood Institute of the National Institute of Health (1). This showed 3.2% of the provider participants to be underweight, 45.2% to be normal weight, 35.5% to be overweight, and 6.5% to be obese. Average BMI was found to be 23 (s.d. 7.5).

Twenty-nine percent of the participants did not discuss personal health practices with their patients, while 68% discussed exercise and 71% discussed diet changes related to weight loss more than eleven times a week. This means that these important topics were discussed on average only two times per day when >40% of typical patients seen per week are overweight or obese.

Table 2. Healthcare Provider Characteristics

	N	%
Gender		
Male	10	32.3
Female	18	58.1
Race		
White	23	74.2
Asian	4	12.9
Other	1	3.2
Ethnicity		
Hispanic	3	9.7
Non-Hispanic	23	74.2
Other	2	6.5
Practice Specialty		
Internal Medicine	4	12.9
Family Practice	24	77.4
Type of Provider		
Nurse *Practitioner*	4	12.9
Physician	18	58.1
Physician Assistant	5	16.1
BMI		
<18.5 (underweight)	1	3.2
18.5-24.9 (normal weight)	14	45.2
25-29.9 (overweight)	11	35.5
>30 (obesity)	2	6.5
Discusses Personal Health Practices		
Yes	19	61.3
No	9	29.0
How many times a week do you discuss diet changes regarding weight loss with your patients?		
1-5 times	3	9.7
6-10 times	3	9.7
11-15 times	8	25.8
16 + times	14	45.2
How many times a week do you discuss exercise regarding weight loss with your patients?		
1-5 times	2	6.5
6-10 times	5	16.1
11-15 times	7	22.6
16 + times	14	45.2

Figure 2 shows that after reviewing the patient sample data, the majority of the provider sample indicated that they would increase their discussions of diet changes and exercise, as part of weight loss advice with their patients.



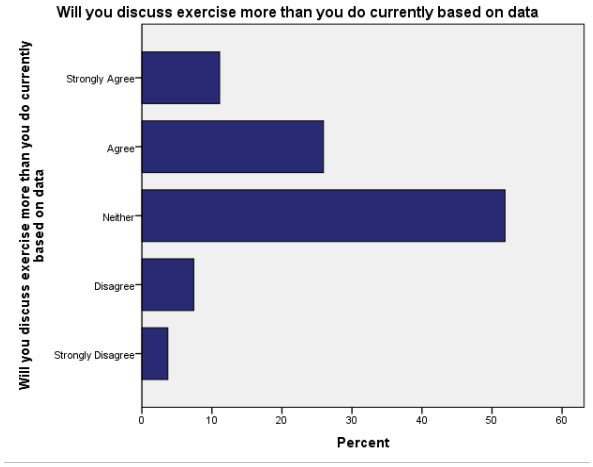


Table 3 shows that all patient questions showed X^2 significance using a p value of <0.05 regarding a provider's weight:

- I would recommend my normal weight provider to others,
- I would feel embarrassed speaking to overweight/obese (OW/O) provider about losing weight,
- I would feel a normal weight provider would understand the difficulties of losing weight and,
- A normal weight provider would be able to develop an effective plan with me to help lose weight.

Seen further in Table 3, 55% of patients strongly agreed/agreed to recommend a normal weight provider and only 38% of the time to recommend an overweight or obese provider. While 29% of patients strongly agreed/agreed that they were embarrassed to discuss weight loss with an overweight or obese provider, only 11% were embarrassed to speak with a normal weight provider. A higher percentage of patients strongly agreed/agreed that they believed a normal weight provider would understand the difficulties of losing weight and could develop an effective weight loss plan more so than an overweight or obese provider. Results indicated that patients valued the advice of normal weight providers more so than overweight or obese providers.

Table 3. Normal Weight Provider/Overweight or Obese Provider

Chi Square Values df=16	***X_2***	***% of patients who SA/A***	***SD/D***
N=58			
Patient would recommend provider to friends and family	** **32.663**		
Would recommend NW provider		**55%**	**8%**
Would recommend OW/O provider		**38%**	**25%**
Patient would feel embarrassed speaking to provider about losing weight	** **36.492**		
Speaking to NW provider		**11%**	**70%**
Speaking to OW/O provider		**29%**	**56%**
Patient would feel like the provider would understand the difficulties of losing weight	*** **48.313**		
NW provider		**58%**	**13%**
OW/O provider		**53%**	**9%**
Patient would feel like provider could develop an effective plan to help lose weight	*** **55.950**		
NW provider		**58%**	**13%**
OW/O provider		**47%**	**26%**

Significance = * =/> .05, ** =/> .01, * =/>.001NW = Normal Weight, OW/O = Overweight/Obese, SA=Strongly Agree, A= Agree, SD= Strongly Disagree, D= Disagree**

The above patient questions were analyzed with patient gender and educational level. The only question that showed significance was: He/she normal weight would be able to develop an effective plan with me to help lose weight indicated a relationship between educational level and confidence in a normal weight provider developing an effective weight loss plan (Table 4).

Table 4 shows that when provider BMI and provider practice description were analyzed: How many times a week do you discuss diet with your patients, how many times a week do you discuss exercise with your patients, do you discuss personal health practices with your patient, will you discuss diet more often with your patients after reviewing patient data, and will you discuss exercise more often with your patients after reviewing patient data, only providers with normal BMI and how many times a week do you discuss diet with your patients showed significance with a p value of >0.05. Providers with obese BMI levels rarely discussed diet or physical activity with patients while overweight providers and normal weight providers discussed this more often.

Table 4. Patient Education Level/ Normal Weight Provider providing effective weight loss plan

N= 39	X_2	**df**
Patient would feel like **NW provider** would be Able to develop an effective plan to help lose weight/**Patient Education**	** 33.419	20
NW=Normal Weight Provider, df=degrees of freedom, Significance = * +/> .05, ** =/> .01, * =/> .001**		

Provider BMI/Times Provider discusses diet, exercise, personal health practices with patients

N=29	X_2	**df**	**Times/Week**
How many times a week does provider **discuss diet** with patient/**Provider BMI**	**12.905	6	1-5x=9.7% 6-10x=9.7% 11-15x=25.8% 16+= 45.2%
How many times a week does provider **discuss exercise** with patient/**Provider BMI**	*8.143	6	1-5x=6.5% 6-10x=16.1% 11-15x=22.6% 16+=45.2%
Does Provider **discuss personal health practices** with patients/**Provider BMI**	*5.761	3	Yes=61.3% No=29% SA/A or SD/D Percentage
Will Provider **discuss diet more often** after reviewing patient response data/ **Provider BMI**	*7.343	8	SD/D=9.7% SA/A= 32.3%
Will Provider **discuss exercise more often** after reviewing patient response data/**Provider BMI**	*5.242	8	SD/D=9..7% SA/A=32.3%
Significance = * =/> .05, ** =/> .01, * =/> .001 df= degrees of freedom, BMI= Body Mass Index SD=Strongly Disagree, D=Disagree, SA=Strongly Agree, A=Agree**			

DISCUSSION

It is concerning that obesity in the US is reaching epidemic proportions, even more so because the healthcare providers who are supposed to assist in meeting Healthy People 2020's goal to promote health and reduce chronic disease risk through the consumption of healthful diets and achievement and maintenance of healthy body weight are estimated to be 35-38% overweight and obese themselves. This study's provider data showed that 42% of the providers who participated were overweight or obese. The patient data showed that 62% of the participants were overweight or obese.

The patient participants were significantly more likely to recommend a normal weight provider to others as opposed to an OW/O. They believed that a normal weight provider could more effectively plan a weight loss program and would better understand the difficulty in losing weight. Finally, patient participants were significantly more likely

to be emabarrassed in discussing weight loss with an OW/O provider. This finding is in contrast to that of Bleich et al (2013) who reported that there was no significant difference in patient trust among physicians, regardless of physician weight. Overweight and obese patients trusted overweight physician weight loss advice more than from normal weight physicians. It is unclear why these results differ from this study's findings. It may be that since 2013 when Bleich's study was conducted, a greatly increased emphasis on overweight and obesity in U.S. society has sensitized patients to issues of weight and they negatively judge their providers weight today more so than they did a decade earlier.

Overall, in this study, a higher percentage of the patient participants agreed that regardless if the advice was about diet changes, exercise, or weight loss, they reported that a provider's weight affected whether or not patients accepted the advice; the advice of overweight/obese physicians was not valued as much as that from normal weight physicians.

Studies have shown that physicians who practice preventive health habits, healthy behaviors, and disclose their own health practices have patients who are more likely to have engaged in preventive health practices (Frank, E., 2013), are more likely to discuss prevention with their patients (Frank, E., 2009, Oberg, E., 2009), and increase their ability to motivate patients to adopt healthy habits (Frank, E., 2000). This is concerning information given that in this study, 30% of providers reported they do not share or discuss their personal health practices with their patients. This study is limited in determining whether or not the providers who do not share personal health practices are actually practicing preventive health practices, or are in the 42% who are overweight or obese. The majority of provider participants answered yes when asked if the patient data they reviewed from this study would persuade them to discuss diet changes, exercise, and weight loss more often then they currently do.

In review, this study showed that regardless of whether it is diet changes, exercise, or weight loss advice, significantly more patient participants felt that a provider's weight affected whether or not they would accept the advice. Patient participants would feel embarrassed to speak to an overweight or obese provider about weight loss, which means these conversations are unlikely to happen as almost no obese providers reported they spoke to patients about diet or exercise.

Almost 30% of provider participants acknowledged that they do not share their personal health practices with their patients. Provider participants revealed that 68-71% of them discuss diet and exercise more than eleven times a week with their patients, but a higher percentage acknowledged that they strongly agreed/agreed that after seeing the patient participant data they will discuss diet, exercise, and weight loss with their patients more often than they do currently.

CONCLUSIONS

The problem that has been identified is an obesity epidemic and it is growing every day. Nationally 42% of adults are obese (CDC, 2020) and 35-38% of physicians in the US are overweight or obese. This is significant in that we rely on our health care providers to assist patients to make health care choices and develop preventive health plans. If the provider is overweight or obese, then how does that influence the patient coming for help? This study found a significant gap in the evidence-based research on this topic. Only three studies were found related to this problem. The current study identified patient concerns about accepting diet, exercise, and weight loss advice from an overweight or obese provider. This information was brought to the attention of the provider participants in the study. The provider participants acknowledged in the study that based upon the patient participant data they would increase the number of times they would address diet, exercise, and weight loss advice with their patients, in fact, changing and improving their practice. However, increased counseling of patients does not address the issue of patient attitudes toward overweight or obese providers, and, in this study, they were not asked to comment on this.

It is hoped that sharing the results of this study will educate others. Overall, this study advocates for providers of all types to think about the image they are projecting. Is an overweight or obese provider projecting a professional appearance? Are they aware of the impact of their weight on patient perceptions regarding their advice? Are they comfortable or even effective in counseling overweight or obese patients when, in fact, they have a weight problem as well? This study brings to light the potential problems of overweight or obese providers in their roles as health promoter regarding weight loss advice. The provider should strive to be a healthy role model and use that to help to motivate patients to adopt a healthier lifestyle.

It is unknown how this study could potentially affect policy at any level. In the last few years, several healthcare institutions made the decision not to hire people who smoke. It is doubtful that they could refuse to hire overweight or obese people without legal repercussions and an impact on the availability of providers. It may also be that as scientific understanding of the pathophysiology of obesity advances and new treatment options become available, there will be fewer overweight and obese providers. It may also be helpful to develop and investigate new approaches for providers with a weight problem to interact more effectively with their patients regarding weight loss. To this investigator's knowledge, this has not ever been identified as an important area for exploration to improve weight loss counseling. It is hoped that this study will encourage the importance of healthcare providers' roles as healthy mentors to the public and their patients.

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Appendix A

Patient Survey

Q2 What is your gender? M or F

- Male (1)
- Female (2)

Q3 What is your height? (Feet/Inches)

Q4 What is your weight? (pounds)

Q5 What is your age?

Q6 What is your education level?

- some high school, no diploma (1)
- High school graduate, diploma, or equivalent(for example: GED) (2)

- Some college credit, no degree (3)
- Associated degree (4)
- Bachelor's degree (5)
- Master's degree (6)
- Doctorate degree (8)

Q7 What is your ethnicity?

- Hispanic (1)
- Non-Hispanic (2)
- Other (3)

Q8 What is your race?

- White (1)
- African American (2)
- Asian (3)
- American Indian or Native Alaskan (4)
- Pacific Islander or Native Hawaiian (5)
- Other (6)

Q9 My primary care provider is a: (This means the health care provider that sees you for the majority of your health care needs)

- Nurse Practitioner (1)
- Physician (2)
- Physician Assistant (3)

Q10 I have seen a medical care provider:

- Once this year (1)
- 2-4 times this year (2)
- More than 5 times this year (3)

Q11 If my provider were NORMAL weight: (PLEASE CLICK ON THE BEST ANSWER IN EACH ROW BELOW)

	Strongly Disagree (1)	Disagree (2)	Neither (3)	Agree (4)	Strongly Agree (5)
I would recommend my primary care provider to my family or friends if he/she were normal weight (1)	•	•	•	•	•
I would feel embarrassed speaking to him/her about losing weight (2)	•	•	•	•	•
I would feel like he/she would understand the difficulties of losing weight (3)	•	•	•	•	•
He/She would be able to develop an effective plan with me to help lose weight (4)	•	•	•	•	•

Q12 If my provider were OVERWEIGHT or OBESE (PLEASE CLICK ON THE BEST ANSWER IN EACH ROW BELOW)

	Strongly Disagree (1)	Disagree (2)	Neither (3)	Agree (4)	Strongly Agree (5)
I would recommend my primary care provider to my family and friends if he/she were overweight or obese (1)	•	•	•	•	•
I would feel embarrassed speaking to him/her about losing weight (2)	•	•	•	•	•
I would feel like he/she would understand the difficulties of losing weight (3)	•	•	•	•	•
He/She would be able to develop an effective plan with me to help lose weight (4)	•	•	•	•	•

Q13 My primary care provider's weight affects WHETHER I ACCEPT HIS/HER ADVICE ABOUT:

	Strongly Disagree (1)	Disagree (2)	Neither (3)	Agree (4)	Strongly Agree (5)
Losing weight (1)	•	•	•	•	•
Making diet changes (2)	•	•	•	•	•
About exercise (3)	•	•	•	•	•

Appendix B

Provider Survey

Q3 Age?:

Q4 Gender: M or F

- Male (1)
- Female (2)

Q5 Practice Specialty: Family Practice/Internal Medicine

- Family Practice (1)
- Internal Medicine (2)

Q19 What type of provider are you?

- Physician (1)
- Nurse Practitioner (2)
- Physician Assistant (3)

Q20 Years in Practice?

Q7 What is your race?

- White (1)
- African American (2)
- Asian (3)
- American Indian/Native Alaskan (4)
- Pacific Islander/Native Hawaiian (5)
- Other (6)

Q8 What is your ethnicity?

- Hispanic (1)
- Non-Hispanic (2)
- Other (3)

Q9 Weight in pounds?

Q10 Height in feet and inches?

Q11 How many times a week, do you think you discuss diet changes regarding weight loss with your patients?

- 1-5 times (1)
- 6-10 times (2)
- 11-15 times (3)
- 16+ times (4)

Q12 How many times a week, do you address exercise in relation to weight loss with your patients?

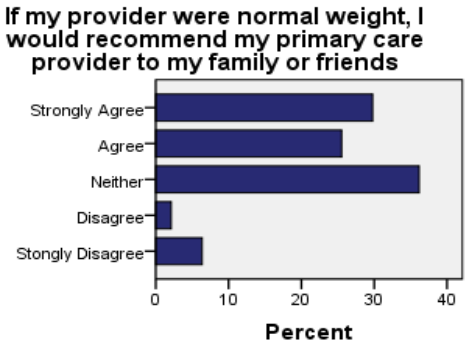
- 1-5 times (1)
- 6-10 times (2)
- 11-15 times (3)
- 16+ times (4)

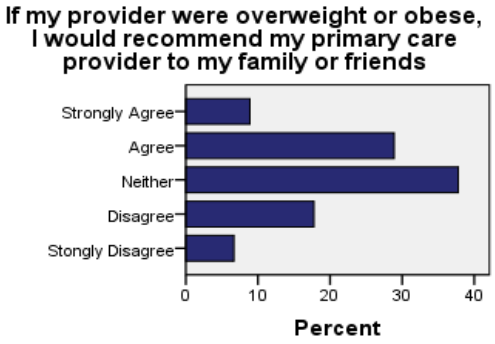
Q13 Do you discuss your personal health care practices with your patients? Yes or No

Q14 If you answered yes to the above question, "Do you discuss your personal health practices with your patients", how and how often?

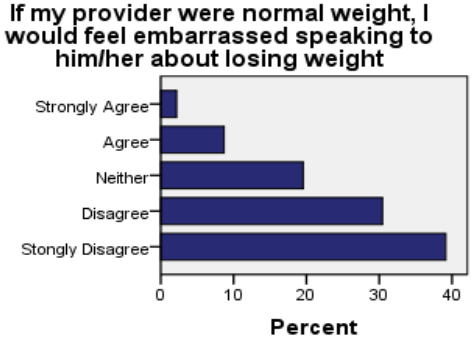
Q15 The sample population were asked questions about

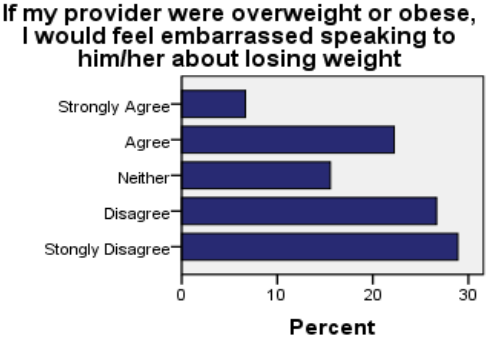
how they felt about certain aspects of their care in relation to whether their provider was normal weight or overweight/obese. The tables below show the results:



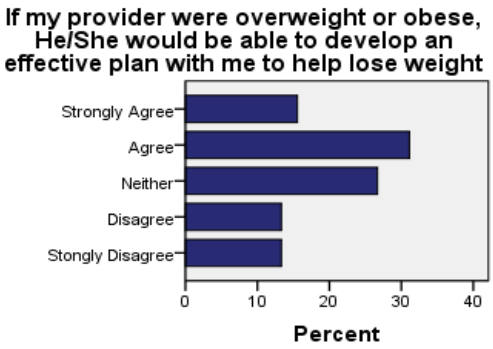


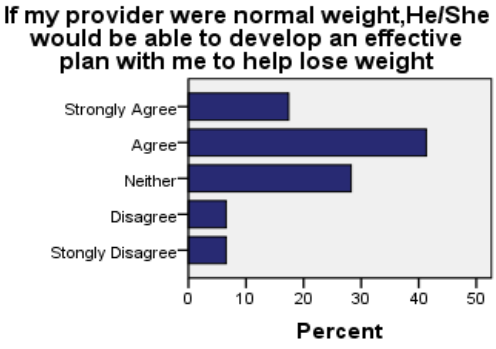
NOTE: The results above show that the sample would be more likely to recommend a provider if they were normal weight.



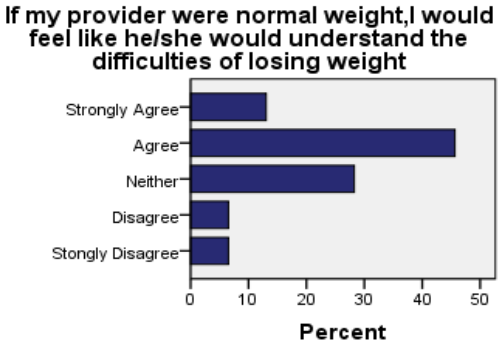


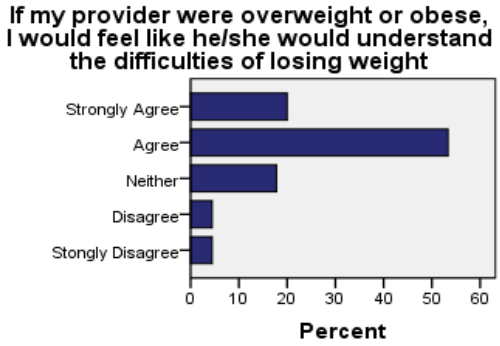
NOTE: The results above show that the sample strongly agreed/agreed that they would feel embarrassed to speak to an overweight provider about losing weight, then to a normal weight provider.



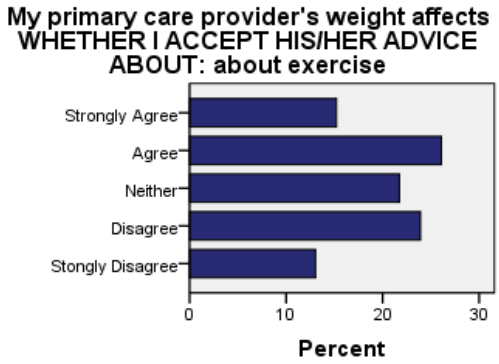


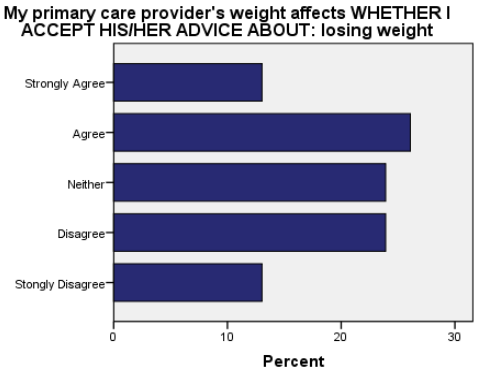
NOTE: The results above shows that a larger percentage of the sample agreed/agreed that the normal weight provider would be able to develop an effective plan to help them lose weight more so than the overweight/obese provider. More of the sample strongly disagreed/disagreed that the overweight/obese provider could develop an effective plan to help them lose weight.

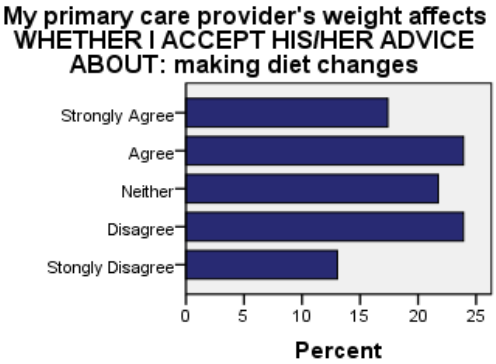




NOTE: The results above show that a larger percentage of the sample strongly agreed/agreed that the overweight/obese provider would understand the difficulties of losing weight than a normal weight provider.







NOTE: The above results show that regardless of whether it is diet changes, exercise, or weight loss advice, a higher percentage of the sample population strongly agreed/agreed that the provider's weight affects whether they accept that advice.

Q16 Based on the findings above please answer the questions below:

	Strongly Agree (1)	Agree (2)	Neither (3)	Disagree (4)	Strongly Disagree (5)
Will you discuss DIET more than you currently do with overweight/obese patients? (1)	•	•	•	•	•

Q17 Based on the findings above please answer the questions below:

	Strongly Agree (1)	Agree (2)	Neither (3)	Disagree (4)	Strongly disagree (5)
Will you discuss exercise more than you currently do with overweight/obese patients? (1)	•	•	•	•	•

Citation: Cindy Runkle, Maureen Courtney, "How Does Healthcare Provider Weight Affect Patient Opinion in Receiving Weight Loss Advice?", American Research Journal of Nursing, Vol 7, no. 1, 2021, pp. 1-16.