The Effect of obesity stigma on obese people, Saudi Arabia, 2020

Rehab Alenazy (1)
Abdullah Almutairi (2)

(1) Family medicine resident, King Saud Medical City, Saudi Arabia
(2) Medical intern, King Fahad Medical City, Saudi Arabia

Corresponding author:
Dr. Abdullah Almutairi
Medical intern, King Fahad Medical City
Saudi Arabia
Tel.: 0569489021
Email: lklk72@gmail.com

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Abstract

Background: Weight stigma contributes to the present epidemic of obesity, and obese people with stigmatization are at risk of acquiring adverse physical, behavioral and psychological health outcomes

Objectives: to identify the source of obesity stigma and to examine the effect of obesity stigma on adults with overweight/obesity in Saudi Arabia.

Methods: A cross sectional study was done on a sample of the Saudi population from different regions. A pre-designed questionnaire was used to collect data about exposure to negative behavior by others because of obesity, ways and sources in which participants face discrimination and prejudice and participants were asked about their feelings and effect of obesity on their life and daily activities.

Results: Often, because of obesity, 25.6% of the participants were exposed to negative behavior by others, 18.2% were exposed to bad comments from children, 25.2% were exposed to physical barriers and 25.4% were exposed to bad comments from the family. The most important sources of discrimination against obese people were by family members (42.4%) and (27.9%) face this discrimination by self-love, and self-acceptance. Participants with an age ranging from 21-29 years had a significant higher frequency of those who reported exposure to negative behavior by others, bad comments from children, family and others, and encountered more physical barriers and obstacles compared to other age groups.

Conclusion: Obese individuals should be health educated to accept themselves and in the national discourse on obesity, weight stigma must be discussed.

Key words: effect, obesity, stigma, obese, people, Saudi Arabia

Introduction

Obesity bias is defined as negative attitudes towards, and beliefs about, others because of their body size and shape (1). These are manifested by stereotypes and/or prejudice towards people with overweight and obesity (1). Internalized weight bias is defined as holding a bad perception about oneself due to body size (2). Social signs or labels are affixed to an individual who is the victim of prejudice. Obesity stigma involves actions against people with obesity that can cause discrimination and lead to inequities in many settings like health care and places of education (3). Almost no cultures do not associate obesity as a sign of personal failure (1).

Weight stigma contributes to the present epidemic of obesity, and obese people who are stigmatized are at risk of acquiring adverse physical, behavioral and psychological health outcomes (4). Weight stigma can also lead to the internalization of such experiences that reduce the overall quality of life (4). Stigma can come from colleagues, family, educators, media and healthcare professionals (5).

Data from the Rudd Center for Food Policy and Obesity indicate that school-aged children with obesity experience a 63 % higher chance of being bullied; 54 % of adults with obesity report being stigmatized by co-workers; 69% of adults with obesity report experiences with healthcare professionals stigmatization (6).

Weight stigma was indirectly linked to higher frequency of depressive symptoms, lower psychological well-being, self-esteem and physical health by adversely affecting them (7). Obesity stigma was strangely linked to an increased risk of DM, high cortisol level, high oxidative stress level, high C-reactive protein level, eating disorders, depression, anxiety, dissatisfaction with body image and negative self-esteem among overweight and obese adults (8).

There is extensive evidence of unfair treatment of people living with obesity in employment, education, healthcare, interpersonal relationships, and maternity care (9).

A pilot study in 15 countries of online newspapers showed that images in the media may contribute to stigmatization attitude toward obese people. A total of 195 images were analyzed and the majority of images scored negatively (i.e. were likely to be stigmatizing). Media in Hong Kong, South Africa, Italy and Morocco had the highest prevalence of stigmatizing imagery, whereas Japan and New Zealand displayed the lowest. Public media in all the countries surveyed show stigmatizing imagery associated with obesity, but there was variability between countries (10). The anti-obesity campaign images promote the feeling of stigma among the obese people (11). The least stigmatizing terms used by health care providers like 'unhealthy body weight' and 'unhealthy lifestyle' strongly promote treatment and lifestyle modifications more than the stigmatizing and blaming terms like Fat/obese (12).

Females were found to more frequently experience stigma than males (13). Obesity is not an individual problem; all society must be involved to solve this problem. Overall, future reports, campaigns, and policies should not focus on weight as a proxy for health nor utilize stigmatizing images or terminology (14). Based on the current evidence, obesity stigma poses the same burden of other forms of stigma eg: race, class, ability, gender, sexual orientation, etc.., and has many implications on individual health (1).

Saudi Arabia now has one of the highest obesity and overweight prevalence rates with 44% of the female population and 28% of the male population obese (15). A study done in 2014 found that among Saudi women, obesity attracts stigma and moral failure, and the traditional clothing, foods, hospitality norms and limited outdoor female activities were regarded as barriers to weight loss (16). So it is very useful to address weight stigma and coping in the context of weight management and obesity treatment programs, to help protect individuals from negative health effects of experiencing obesity stigma (7). Based on many studies conducted in western countries Weight stigma contributes to the present epidemic of obesity and according to our knowledge there is no published study in our region despite the significant magnitude of this problems.

As studies addressing the issue of obesity stigma among obese people in Saudi Arabia are limited this study aimed to recognize the perception of obese people about their body shape, to identify the source of obesity stigma and to examine the affect of obesity stigma on adults with overweight/obesity in Saudi Arabia.

Subjects and Methods

A Cross sectional study was done through interviewing 850 people attending MOH hospitals in different regions in KSA (central, northern, southern, eastern and western) from November 2019 to February 2020. We also used 609 online questionnaires. We collected data from different cities in the Kingdom such as Riyadh, Al-Qaseem, Hail, North border districts, Makkah, Jeddah, Al-Medina, and Aseer. The ethical approval was obtained from the administration of health affairs in each region before distribution of the questionnaire. The inclusion criteria were all age groups of both genders and the exclusion were all who refused sharing in the study.

A pre-designed questionnaire was used to collect data about participants' demographic characters. They were asked about exposure to negative behavior by others, bad comments from children or family, physical barriers and obstacles, inappropriate comments from doctors, being embarrassed from close people, because of obesity, if they were being ignored and excluded, if staring was done improperly when entering a place, job discrimination, being attacked or exposed to bullying when being a child because of obesity. Participants were asked about the most important ways and sources in which participants face discrimination and prejudice and were asked about

their feelings and the effect of obesity on their life and daily activities.

Data were analyzed using (SPSS) version 24 where qualitative data was expressed as numbers and percentages, and Chi-squared test ($\chi 2$) was applied to test the relationship between variables. Quantitative data was expressed as mean and standard deviation (Mean ± SD) and a p-value of <0.05 was considered as statistically significant.

Results

Table 1 shows that of the 1,459 participants, 67% are females, 35.4% aged between 21 - 29 years, 62.5% were married, 89.7% were Saudis, and 33.6% were from the central region. The mean weight of the participants was 90.57 ± 23.30 kg, and 27.78% had a BMI ranging from 31-34 kg/m2.

Table 2 shows that many times because of obesity: 25.6% were exposed to negative behavior by others, 18.2% were exposed to bad comments from children, 25.2% were exposed to physical barriers and obstacles, 8.7% were exposed to inappropriate comments from doctors, and 25.4% exposed to bad comments from the family. Also many times because of obesity: 23.1% were exposed to bad comments from others, 12.5% were embarrassed by those close to them, 5.8% were exposed to, ignored or excluded, 8.2% were exposed to and stared at inappropriately, 4.8% were exposed to job discrimination, 4.5% were attacked because of the obesity and 15.8% were exposed to being bullied when they were children.

Figure 1 shows the most important defecnces: ignore the situation (26.4%), avoid negative statements (26%), seeing that this is the view and problem of others (25.4%), positive to talk with self (21.6%), and eating (20.6%).

Figure 2 shows the most important sources of discrimination and prejudice against obese people were: family members 42.4%, community members in general 33.4%, friends 24%, classmates 21.1%, co-workers 18.9%.

Table 3 shows that 40% don't suffer from extreme sadness and not enjoying daily activities, 30.8% sometimes suffer from this, while 29.3% already suffer from extreme sadness and not enjoying daily activities. According to whether they feel that discrimination and prejudice against them contributed to their weight gain, we note that 50.5% don't suffer from this, 23.6% sometimes suffer from this, while 25.9% feel that discrimination and prejudice against them contributed to their weight gain. According to the feeling that being overweight changes the way they deal with them, 43.7% don't suffer from this, 22.7% sometimes suffer from this, while 33.7% feel that being overweight changes the way people deal with them. As for their preference to describe their body size, 62.3% prefer to describe it as "increased weight", 18.3% prefer to describe "ghee", while 14.2% prefer to describe "obesity". On asking them whether discrimination and prejudice prevents them from visiting the doctor, 66.8% reported that discrimination and prejudice does not prevent them from visiting the doctor, 20.5% reported that discrimination and prejudice prevents them from visiting the doctor, while 12.7% reported that discrimination and prejudice comes from visiting the doctor. We note that 61.2% of them said the discrimination and prejudice does not prevent them from going to the club.

Participants with an age ranging from 21-29 years had a significantly higher frequency of those who reported exposure to negative behavior by others, bad comments from children family and others, physical barriers and obstacles compared to other age groups (p=<0.05) (Table 4).

Discussion

We set out in this cross-sectional study to assess the effect of obesity stigma on obese adults in Saudi Arabia. The results of the current study showed that almost 64.6% of the respondents were obese (BMI> 30kg/m2), and almost two thirds of them have been exposed to negative behavior by others because of the weight gain. Family members were the main source of discrimination and prejudice according to the current study, and obese subjects try to face this mainly by ignoring, and through self-love and self-acceptance. The highest percentage of the participants reported suffering from extreme sadness and not enjoying daily activities, being overweight changes the way they deal with things, and half of them feel that discrimination and prejudice against them contributed to their weight gain.

Stigma and discrimination toward obese persons are prevalent and pose numerous consequences for their psychological as well as physical health, and this was also highlighted in our study (1). Many studies have documented harmful weight-based stigma, prejudice, and discrimination against obese people in multiple living domains, including the workplace, health care facilities, educational institutions, and even in close interpersonal relationships (5,6,7).

In line with the current study findings, previous studies [1,17] reported negative attitudes and stereotypes toward obese persons. This has been frequently reported by coworkers, physicians, nurses, dietitians, psychologists, friends, family members and even among children (1,17). This might be attributed to the fact that weight stigma remains a socially acceptable form of bias (5,6,7,10).

Obesity is highly prevalent in the whole Gulf Cooperation Council (GCC) countries including Saudi Arabia (18). In 2011, Alhyas et al (12) estimated that, in the GCC countries, the prevalence of overweight ranges between 25%-50% and the prevalence of obesity ranges between 10%-50% and is found to be relatively higher in women showing an increase with age. The current study results revealed great rises in obesity prevalence over the past decade, which indicate that a large a high percentage of the Saudi population might be at risk of stigma and discrimination because of obesity (12).

Table 1. Participants distribution according to personal data

		No.	%
Age	17 or less	66	4.5
	18 to 20	121	8.3
	21 to 29	516	35.4
	30 to 39	444	30.4
	40 to 49	221	15.1
	50 to 58	74	5.1
	60 and more	17	1.2
Gender	Male	481	33.0
	Female	978	67.0
Marital status	Married	531	62.5
	Single	293	34.5
	Other	26	3.1
Nationality	Saudi	1308	89.7
	Non-Saudi	151	10.3
Region	Central Region	490	33.6
	Northern region	379	26.0
	Southern region	150	10.3
	Eastern region	263	18.0
	Western Region	177	12.1
Weight	Mean ±Std. D	90.57 ±23.307	
Height		161.66 ±10.599	
BMI	less than 25	155	10.6
	25 to 30	361	24.7
	31 to 34	406	27.8
	35 to 40	300	20.6
	More than 40	237	16.2

Table 2. Participants' distribution according to their exposure to discrimination and prejudice attitudes because of the obesity

Variable	Never		Once in your life		More than once in your life		Many times	
	N	%	N	%	N	%	N	%
1. Exposure to negative behavior by others (Implicit: as mocking looks or publidy as comments or sarcastic smiles) because of the weight gain	516	35.4	172	11.8	397	27.2	374	25.6
2. Bad comments from children.	419	28.7	122	8.4	168	11.5	265	18.2
3. Physical barriers and obstades	368	25.2	124	8.5	185	12.7	311	21.3
4. Inappropriate comments from doctors.	533	36.5	120	8.2	127	8.7	119	8.2
5. Bad comments from the family.	322	22.1	83	5.7	256	17.5	370	25.4
6. Bad comments from others	306	21.0	89	6.1	256	17.5	337	23.1
7. Those close to you embarrass you because of obesity.	341	23.4	94	6.4	230	15.8	183	12.5
8. You are ignored and excluded	524	35.9	88	6.0	154	10.6	84	5.8
9. Staring is done improperly when entering a place	473	32.4	78	5.3	178	12.2	120	8.2
10. Job discrimination.	568	38.9	85	5.8	125	8.6	70	4.8
11. They attack you.	595	40.8	94	6.4	96	6.6	65	4.5
12. Bullying you when you were a child	532	36.5	86	5.9	117	8.0	230	15.8

Figure 1. Most important ways in which participants face discrimination and prejudice

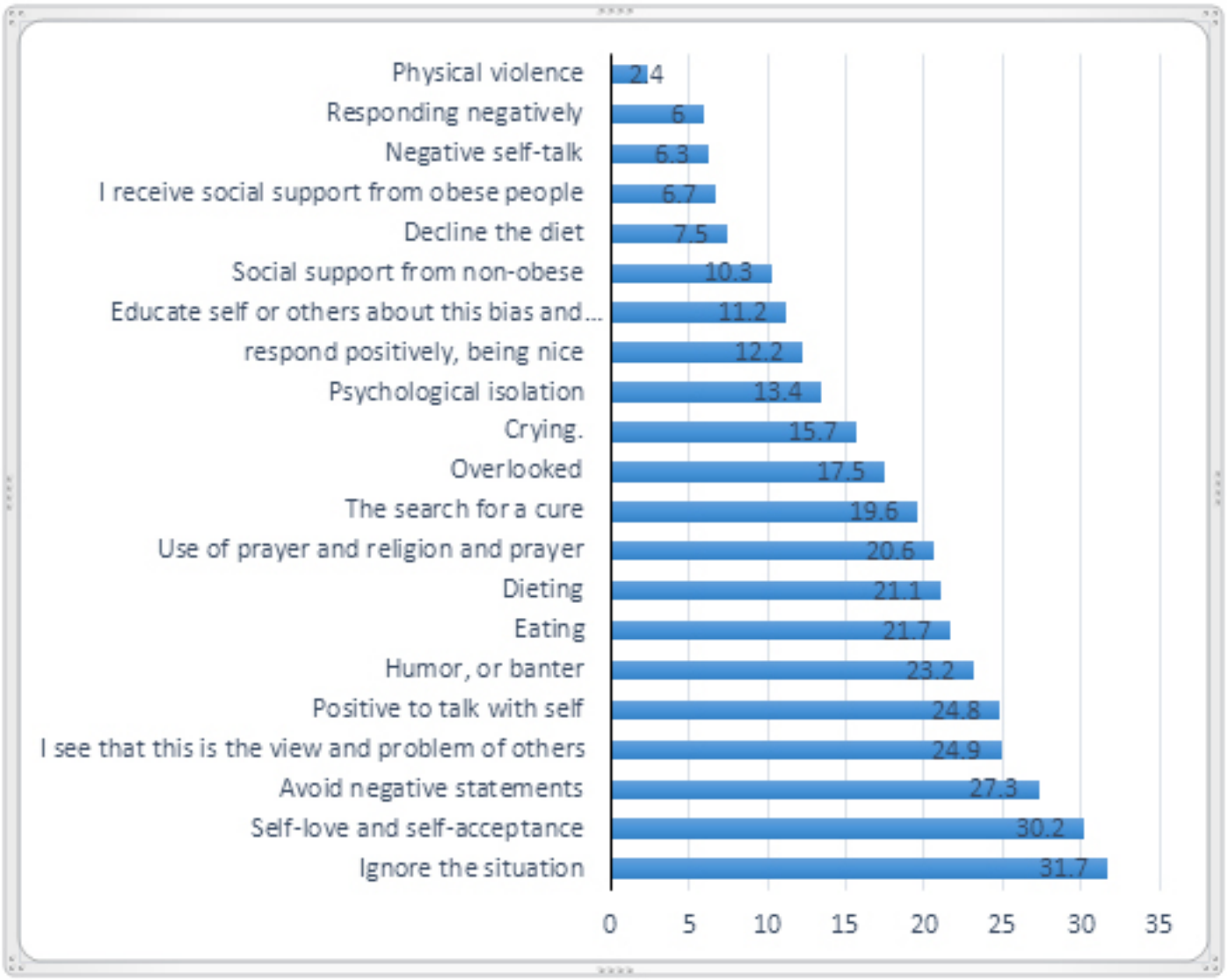

Figure 2. Most important sources of discrimination and prejudice against obese people

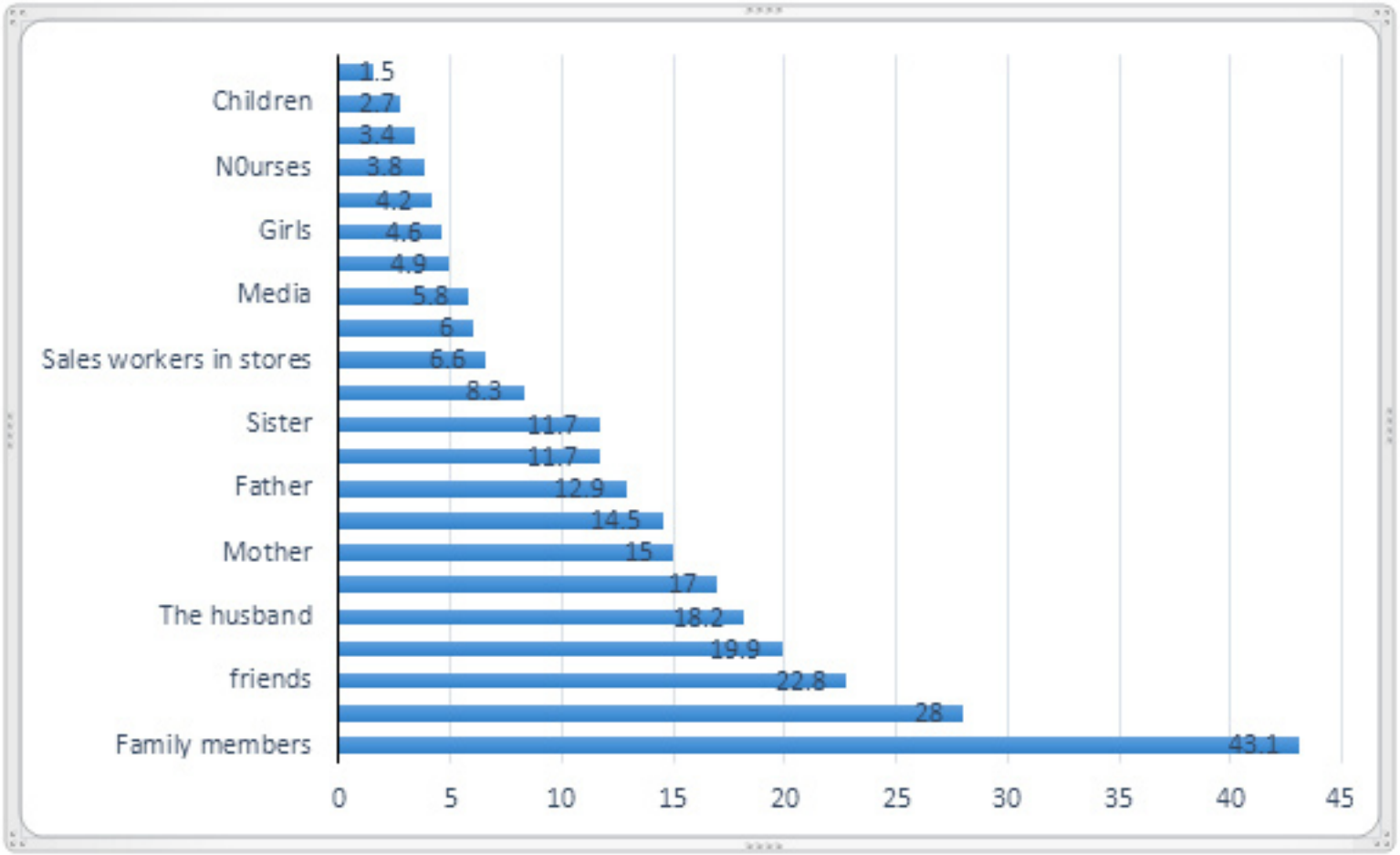

Table 3. Participants distribution according to their feelings and effect of obesity on their life and daily activities

Variable	No.	%
suffering from extreme sadness and not enjoying daily activities.		
Yes	427	29.3
No	583	40.0
Sometimes	449	30.8
feeling that discrimination and prejudice against them contributed to their weight gain		
Yes	378	25.9
No	737	50.5
Sometimes	344	23.6
feeling that being overweight changes the way others deal with them.		
Yes	491	33.7
No	637	43.7
Sometimes	331	22.7
preference to describe the body size		
increase weight	909	62.3
ghee	267	18.3
obesity	207	14.2
Other	76	5.2
discrimination and prejudice prevent them from visiting the doctor		
Yes	186	12.7
No	974	66.8
Sometimes	299	20.5
discrimination and prejudice prevent them from going to the club		
Yes	270	18.5
No	893	61.2
Sometimes	296	20.3

Table 4. The relationship between exposure and age

		AGE							Chi-square	P-value	The comment
		17 or less	18 to 20	21 to 29	30 to 39	40 to 49	50 to 58	60 and more			
Exposure to negative behavior by others (Implicit: as mocking looks or publicly as comments or sarcastic smiles) because of the weight gain.	Never	19	29	172	173	72	41	10	42.63	.001	There is a relationship
	Once in your life	7	21	70	35	33	5	1			
	More than once in your life	17	36	144	123	57	15	5			
	Many times	23	35	130	113	59	13	1			
Bad comments from children.	Never	13	28	128	129	67	42	12	57.06	.000	There is a relationship
	Once in your life	6	11	60	21	16	6	2			
	More than once in your life	17	15	49	38	36	11	2			
	Many times	18	32	86	80	38	10	1			
Physical barriers and obstacles.	Never	24	27	111	115	53	27	11	49.47	.000	There is a relationship
	Once in your life	3	19	47	22	23	10	0			
	More than once in your life	13	13	64	39	31	20	5			
	Many times	12	29	102	104	52	12	0			
Inappropriate comments from doctors.	Never	23	48	179	145	84	42	12	12.86	.800	No relationship
	Once in your life	7	9	43	29	21	9	2			
	More than once in your life	11	11	39	29	24	11	2			
	Many times	9	12	39	37	16	6	0			
Bad comments from the family.	Never	14	23	91	99	54	30	11	39.88	.002	There is a relationship
	Once in your life	4	10	27	19	16	6	1			
	More than once in your life	16	21	98	57	42	18	4			
	Many times	21	41	137	111	45	15	0			
Bad comments from others.	Never	8	16	101	93	50	29	9	39.90	.002	There is a relationship
	Once in your life	6	12	35	17	16	3	0			
	More than once in your life	24	24	83	68	34	18	5			

It has been previously reported in the literature that 78% of severely obese patients awaiting bariatric surgery have permanently or frequently been treated insolently by the medical profession due to their weight (19), whereas more than 70% feel that most doctors do not understand how difficult it is to be overweight (20).

Carr D, and Friedman MA reported that in the workplace, stereotypes see 26% of people with moderate obesity (BMI 30-35) and 31% of those with severe obesity (BMI ≥ 35) being discriminated against because of their weight or appearance.[21]. In the current study, most (>60%) of the obese subjects have been exposed at least once to negative behavior by others; a percentage which is almost more than double that of the previously mentioned study (21).

Family members being the main source of stigma and discrimination in the current study is more or less in line with a previous similar study in which participants' worst stigma experiences occurred most frequently at home from parents, spouses, other family members and health professionals (1,22,23).

Such findings highlight the importance of investigating weight stigma in the context of close interpersonal relationships and recognizing the nature, extent and consequences of bias when it comes from familial sources (23). However, this finding may be counterintuitive and have different explanations including that weight bias may become so normative that even family members are not immune to negative attitudes toward obesity, and increased exposure to these interactions in home settings where more time may be spent compared with other settings where bias could occur (1). Additionally, some comments, though hurtful, may reflect desperate efforts to motivate weight loss efforts among obese relatives, and push them harder to lose weight (24). Moreover, there is a suggestion that family members may express criticism or negative attitudes as a result of stress induced in their own lives from living with an overweight person (1,25).

Irrespective of which explanation is correct, it is critical to identify intervention strategies that reduce the contribution of families of overweight individuals to the experience of weight bias (8). Puhl RM, and Heuer CA (1) reported that the available evidence challenges the assumption that weight stigma is a useful tool for changing health behaviors. Instead, and similar to our findings, research shows that weight stigma reinforces unhealthy lifestyle behaviors which contribute to obesity and is an unlikely method of inducing successful weight loss.

Muennig P (26) claimed that obese subjects experience a high degree of psychological stress due to weight stigma, and this contributes to the pathophysiology associated with obesity. Additionally, he mentioned that, many of the adverse biochemical changes that are associated with adiposity can also be caused by the psychological stress that accompanies the experience of frequent weight-based discrimination. This finding was augmented also by many other previous studies (27,28).

Major B et al (29), and Schvey NL et al (30) in their laboratory experiments, found that when participants were manipulated to experience weight stigma, their eating increases, their self-regulation decreases, and their cortisol (an obesogenic hormone) levels are higher relative to controls. Moreover, weight stigma was correlated with exercise avoidance in a survey study (31). Therefore, it is likely that weight stigma drives weight gain and poor health and thus should be got rid of. This can be achieved through training concerned and knowledgeable healthcare providers who will deliver better care and eventually lessen the negative effects of weight stigma (31).

The current study showed a statistically significant association between age and exposure to negative behaviors from others. This is in contrast with an Australian study that reported no association between weight stigma and age (32). On the other hand, the relationships between weight discrimination and age in our study were consistent with Puhl et al's study in which age was a significant predictor of weight discrimination (33).

As per the literature (33), it is notable that females reported a significantly higher frequency of stigma experiences than males. Even though both men and women experience obesity stigma, women experience more eating-related psychopathology, and report experiencing more obesity stigmatization, and internalized weight bias more than men (34). In the US, people with greater BMI report higher rates of discrimination because of their weight (33). Additionally, male patients with higher BMI report that physicians spend less time with them compared to the time they spend with lower BMI patients (35). Moreover, physicians engage in less health education with higher BMI patients (36). Obesity degree was significantly correlated with negative behaviors in the current study.
In accordance with the current study which showed a significant association between bad comments from family with age, it was reported that weight teasing during adolescence predicted hurtful weight-related comments in young adulthood (37).

In a national multilevel study among school children in the US, it reported disproportionate risks of being verbally bullied for obese/overweight second graders. The risk of being verbally bullied was significantly higher for obese/overweight white children vs. obese/overweight Hispanic children (38). This is more or less in line with our findings that showed a relation between nationality and region and being bullied during childhood. However, such interpretation should be taken with caution due to the difference between the two studies' populations. In a previous study that included only men, it was found that men reporting weight stigma were: younger, had higher BMIs, and less likely to be married (39). Such results are considered consistent with ours that showed a significant association of obesity stigma with age, BMI, and marital status.

In line with our findings, a body of evidences has consistently demonstrated that experiencing weight stigma increases the probability of engaging in unhealthy

eating behaviors and lower physical activity levels, both of which exacerbate obesity and weight gain. In addition, weight-based victimization among overweight youths has been linked to lower physical activity level, negative attitudes about sports, and lower participation in physical activity (40).

In a population-based study among English middle-aged and older adults that aimed to assess the association between perceived weight discrimination and physical activity, it was reported that independent of BMI, participants who perceive biased treatment based on their weight are less physically active than those who do not perceive discrimination (41).

The current study results revealed that 12.7% of the participants reported that discrimination and prejudice prevent them from visiting the doctor, while 20.5% reported that this happens sometimes. In this regard, an article published in obesity reviews in 2015 [4] showed that many healthcare providers hold strong negative attitudes and stereotypes towards obese people. Poor treatment experiences or expectations may cause mistrust of doctors, stress and avoidance of care, and poor adherence among obese patients.

It is important to address the widespread health and social disparities faced by obese people. We must move past the victim-blaming approach and instead advocate a comprehensive obesity prevention strategy that includes efforts to reduce weight-based stigma and discrimination. Puhl RM and Heuer CA (1) provided suggestions to achieve this including: weight stigma should be addressed in obesity interventions and incorporate anti-stigma messages into obesity prevention campaigns. Obesity prevention efforts need to focus on individual behaviors toward larger-scale, coordinated policies that initiate social changes to help reverse the societal and environmental conditions that create obesity (1). Additionally, they mentioned that efforts for improving obese individuals' health will be facilitated by legislation to prohibit weight-based discrimination.
Obesity stigma is inescapable, damaging, and threatens main public health values (1). Overweight and obesity rates are alarming in Saudi Arabia, (15,16) and ignoring weight stigma means that the public health community ignores substantial suffering of a large proportion of the population (1,4).

Limitation
A limitation of this study is having a cross sectional design that may determine the association between variable without assessing the causal relationship.

Conclusion

This study found that many times, because of obesity, 25.6% of the participants were exposed to negative behavior by others; 18.2% were exposed to bad comments from children, 25.2% were exposed to physical barriers and obstacles, 8.7% were exposed to inappropriate comments from doctors, and 25.4% exposed to bad comments from the family. The most important sources of discrimination against obese people were: family members (42.4%) and (27.9%) face this discrimination by self-love, self-acceptance. 30.8% sometimes suffer from extreme sadness and not enjoying daily activities while 25.9% feel that discrimination and prejudice against them contributed to their weight gain. Participants with an age ranging from 21-29 years had a significant higher frequency of those who reported exposure to negative behavior by others, bad comments from children, family and others, and physical barriers and obstacles compared to other age groups. This study calls for encountering common societal assumptions that perpetuate weight stigma and prioritize discussions of weight stigma in the national discourse on obesity.

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