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Perceived Discrimination and Stigmatisation against Severely Obese Women: Age and Weight Loss Make a Difference

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Key Words

Weight loss · Surgery · Social determinants · Psychological aspects · Obesity

Summary

Aims: Patients' perceptions about weight-related stigma and discrimination were assessed in 2 groups of patients, obese and laparoscopic adjustable gastric banding (LAGB). **Methods:** Seven focus group sessions were held including a total of 32 women, 8 obese (body mass index 35+) and 24 who had lost 50% of excess weight following bariatric surgery. During the sessions, participants were asked to consider their experiences in situations including general, family, friends, work place, medical, and educational settings. **Results:** Whilst perceptions of discrimination and stigmatisation were common and affected many life situations, they were less prevalent than previous reports. It appeared that it was not the frequency or number of events which affected an individual but the intensity of the experience. Younger women reported greater discrimination than older women and felt the social consequences of obesity to a greater extent. Older women were more concerned about the consequences of being overweight on their health. **Conclusions:** Women who had lost weight considered that aspects of their own behaviours when obese contributed to their experiences of discrimination and stigmatisation. Perceptions of discrimination and stigmatisation appear to be influenced by age and current weight status.

Introduction

Obesity is a serious multi-faceted disease affecting approximately 400 million adults worldwide [1]. It has been projected that by 2015 this figure will have risen to 700 million adults. The prevalence of obesity continues to increase dramatically world-wide, and current estimates indicate that in Australia 3.71 million (17.5%) of Australians are obese incorporating 23.5% of adults and 10.6% of children [2]. In addition to physical co-morbidities such as cardiovascular disease, hypertension, type 2 diabetes, and sleep apnoea, obesity causes serious problems with an individual's psychological and social functioning. Obesity is now second only to smoking as a preventable cause of death, accounting for 14% of all deaths in the USA [3–6]. An important factor contributing to the psychological and social consequences of obesity may be weight stigma. Research has shown that obese individuals suffer from stigmatisation and discrimination because of their weight [7–10]. Prior research has indicated that the obese are targets of negative attitudes, stereotyping, and discrimination [7, 8, 11]. A recent study by Andreyeva et al. [12] found that based on data from the National Survey of Midlife Development in the United States (MIDUS) in 1995–1996 and again in 2004–2006, obese individuals reported a 66% higher rate of perceived discrimination than previously reported.

Perceived weight-based discrimination and stigmatisation is reported in many aspects of everyday life. In the workplace, obese individuals have felt that they have been treated poorly by colleagues and employers [8, 9, 13, 14]. Furthermore, there is experimental evidence that obese individuals would be less likely to be hired for jobs, offered lower starting salaries, and viewed as being less competent [15, 16]. This bias against hiring obese individuals also appears to be mediated by one's own view of their own body image [16, 17]. Obese individuals are less likely to marry and more likely to have completed fewer years of study [18]. In health care settings, evidence

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suggests they experience humiliation and derogatory comments from healthcare professionals including doctors, nurses, and dieticians [7, 10, 19, 20]. Overall, obese individuals tend to have an increase in 'general negative experiences' [7, 21].

Anecdotes of ridicule by teachers, family, and friends are common, and the negative stereotypes of obese people include the views that they are ugly, lazy, lack willpower, and are stupid [22]. Research suggests that obese individuals experience overwhelming prevalence of perceived prejudice and stigmatisation, however, there is very limited research from the perspective of the obese individual [7, 10, 23] and only 1 study documenting the perceptions of the obese after weight loss [24]. A major limitation of prior research is that in the majority of studies, stigmatisation and discrimination are defined by the researchers rather than the obese persons themselves. Rand and Macgregor [24] investigated the perceptions of discrimination in obese individuals before and after bariatric surgery. They reported that all patients having surgery had experienced discrimination and weight stigma, with most patients feeling ridiculed and socially condemned for being overweight. A recent study by Sarweret al. [25] assessed self-reported stigmatisation among obese individuals seeking bariatric surgery, and reported very little weight-related stigma. They did, however, report a positive association with poorer quality of life and depression.

The current study employed focus groups to collect first-hand information from 2 groups of individuals, obese and those who had lost weight following laparoscopic adjustable gastric banding (LAGB). Focus groups are group interviews which are lead by a moderator to guide and facilitate discussion on a particular topic. A distinct feature of focus groups is the group dynamics. Through social interaction data is generated which is often deeper and richer than from using a one-on-one interview [26].

The specific objective of the current study was to investigate the presence and severity of perceived stigmatisation and discrimination based on weight alone. Our aim was to determine if differences existed following substantial weight loss. The focus group methodology allows for information to be gathered in a non-threatening environment amongst other participants who share similar backgrounds. As much of the existing data in regard to stigmatisation and discrimination of obesity is quantitative, survey-based focus groups may help investigators gain a better understanding of participants' thoughts and feelings.

Material and Methods

Recruitment

Two groups of participants were recruited from The Centre for Bariatric Surgery in Melbourne, Australia for this study; i) patients who had a BMI of 35 and had never had bariatric surgery (obese group), and ii) patients who had undergone LAGB at least 18 months prior and had lost at least 50% of their excess weight (LAGB group). Percentage of excess weight loss (%EWL) is calculated by dividing the weight lost in kilograms by the preoperative excess weight (initial weight minus weight at BMI 25), and multiplying the result by 100. Both men and women were sought, however, very few men expressed interest in the study. This study therefore reports the opinions of women only. As emphasised by Morgan [27], a focus group should be homogenous as this makes individuals more comfortable and more likely to engage fully in the discussions. It is suggested that participants should share similar backgrounds including gender and age. The focus groups were separated based on weight loss (obese or LAGB) and age (18–35 and 36–65 years) to look for similarities and differences in perceptions.

Participants

Seven focus groups were conducted from May 2006 to March 2007. Patients were recruited via posters and brochures in the bariatric clinic. The brochures and flyers asked for participants who wanted to talk about their experiences of being overweight and also their experiences following weight loss. Participants donated their time to the study and were not paid for their participation. All focus groups took place in the early evening at the Centre for Obesity Research and Education at the Alfred Hospital in Melbourne. Before the commencement of each focus group, the study was explained and all participants signed a consent form. In an attempt to eliminate bias and or priming, the study was always described as experience and change in experiences. At no time was discrimination or stigmatisation raised. Each session lasted approximately 90 min. The study was approved by the Standing Committee on Ethics in Research involving Humans at Monash University. In total there were 32 patients who participated in the focus groups with group sizes ranging from 4 to 7 individuals. Descriptive sociodemographic details are provided in table 1, however, given the small sample sizes, no statistics were included. The patients ranged in age from 21–61 years (mean age 39.56, standard deviation (SD) 10.50). The mean BMI for the LAGB group was 42.37 preoperatively and 30.07 postoperatively, and for the obese group was 44.8. From table 1 it is evident that there is little difference in age for the younger women between groups and the older women between groups. The age difference between the younger and older women was 20 years for the LAGB group and 18 years for the obese group. Mean pre-operative weights and BMI were slightly lower for the LAGB groups compared to obese. In the LAGB group, current weight (kg), current BMI, weight lost (kg), and %EWL were very similar between the younger and older women.

Focus Groups

The focus groups were conducted using standard methods as described by Morgan [27] and Krueger [28–30]. During each group session two researchers were present, a moderator and an assistant moderator, this ensured that the session progressed smoothly, that all the topics are covered, and that no one person dominated a session. The principal moderator led the focus group and ensured that all participants had their opportunity to express their opinions freely and that no one person dominated the session. The assistant moderator arranged the focus groups, took extensive notes, and also made particular note of non-verbal communication.

Data Collection

Based on the results of prior research [8, 11, 13, 18], a discussion guide was developed prior to commencement of the study and used to guide the discussion in 6 settings; general, family, friends, work, school, and medical. Four specific questions were asked but occasionally the discussion naturally evolved in this direction without guidance. The questions asked were: i) Do you think a person's weight influences their interactions in general?; ii) Do you think that overweight people are treated differently because of their weight?; iii) Have you had any experiences where you felt that you were treated differently because of your weight?; – and in the groups who had lost weight – iv) Have you noticed any differences in

Table 1. Characteristics of the LAGB group and the obese group based on age

	Age group			
	LAGB		obese	
	18–35 years	36–65 years	18–35 years	36–65 years
Sessions	2 (11)[a]	3 (13)[a]	1 (4)[a]	1 (4)[a]
Age, years ± SD	28.45 ± 4.5	47.72 ± 5.8	29.50 ± 2.4	47 ± 5.3
Mean pre-operative weight, kg ± SD	120 ± 19	120 ± 28	137 ± 35	127 ± 6.3
Mean pre-operative BMI, kg/m^2 ± SD	42.27 ± 6.08	42.42 ± 5.89	45.17 ± 2.16	44.53 ± 6.08
Current post-operative weight, kg ± SD	87.78 ± 13	84.17 ± 16.90		
Current post-operative BMI, kg/m^2 ± SD	30.67 ± 4.29	29.70 ± 4.10		
Weight lost, kg ± SD	35.09 ± 13.88	36.83 ± 18.29		
% EWL ± SD	68.25 ± 16.28	72.11 ± 20.96		

%EWL = percentage of excess weight lost.
[a]Parentheses: the number of patients across focus group sessions.

your experiences since weight loss? Each participant was invited to respond to each question, and the next question and setting was not progressed to until each person had had the opportunity to express their opinion. All focus group sessions were audio-taped and transcribed.

Analysis

The focus group transcripts were independently evaluated by two researchers, MH and MD. Krueger's [31] framework analysis approach was employed for analysing the focus groups. The 5 key stages included: familiarisation, identifying a thematic framework, indexing, charting, mapping, and interpretation. Before the transcripts were reviewed independently, the criteria for experiences and general feelings were established. Using these criteria, the two researchers, MH and ME, identified all common and recurring themes that emerged in response to each question. The two evaluators then met to discuss the identified themes of each focus group and across groups, and the inter-rater reliability was 84%. During the analysis meetings, both evaluators reported the major themes identified, and each theme was discussed until agreement was reached.

Results

Themes

All groups raised similar issues regarding obesity and weight loss. The 5 themes which emerged in order of strength were: i) social impact of weight and social isolation; ii) health implications of obesity and weight loss; iii) self worth and confidence; iv) indignities experienced by the obese; and v) discrimination by others.

Theme 1: Social Impact and Social Isolation

All of the groups stated that their obesity had an impact on their social interactions, and experiences were reported both pre- and post-weight loss. There were notable differences in experiences between the LAGB women and the obese women, and also between the younger and older LAGB women. The social impact of obesity was felt most strongly by the younger women. For instance one woman stated, 'It's not just a weight issue, it's a huge issue. Like, I feel I missed out on my teenage years.'

The LAGB women felt that they had contributed to their own social isolation, whereas the obese women indicated that they felt others were socially excluding them: '…people just won't spend time to get to know you when you're big', 'as an overweight person I was invisible'. And a LAGB younger woman said, 'It was not so much as how other people treated me but more I think coming from me, like not making eye contact with people and things like that… I was an overweight child as well and I think you learn that pattern of rejection from childhood … you know if you go up to people they're not going to want to play with you – (that) kind of mentality. It carries on into adulthood and into relationships'.

The younger women noticed a great change in relationships with the opposite sex after weight loss. When obese, they felt they were viewed as asexual, and as 'one of the boys'. One of the young women recounted that before her weight loss someone said to her, 'You really have no sexuality do you', and I was so pathetic that I just burst into tears'. Social relationships that they had with men at school or at work changed once they lost weight. Suddenly they were viewed as a 'female'. One postoperative weight loss young woman said, 'You are treated as asexual when obese. Now I'm Jane, who looks pretty good!' And another said, 'I am seen as a female now!' While this was viewed as a positive outcome, they reported missing the relaxed relationships that they had with males when they were overweight.

The LAGB younger women also reported being viewed as competition after they had lost weight – 'my old friends just don't seem to know how to relate to me anymore, it is a competition'. There was a reported re-ordering of relationships with other females, friends, family, and work colleagues, one of the women said, 'I found that a shock, the female jealousy, when you actually lose weight and become attractive'. The LAGB women were no longer prepared to put up with poor treatment by friends after they had lost weight. This they most commonly put down to increased confidence. One of the younger women said, 'Because you gain confidence and assertiveness, (you) stick up for yourself, which you didn't do

before and now they (your friends) say "you aren't you anymore" and I (say or think) I am. I am just not prepared to put up with your crap anymore'. Other comments included: 'one of the girls at work said to me "now you are competition, … you have lost 1/3rd of your body weight" and it is like an accusation not a compliment'. These changes and reordering in friendships were often qualified as the difference between 'friends' and 'true friends', and this concept continually recurred across all the postoperative weight loss groups. One said, 'Some friends can almost get jealous if you've lost a fair bit of weight. They're not really a true friend'.

Bullying at school was reported to a varying degree, with more than one of the young women saying that she left school because she could not cope. Bullying could also have been included under theme 4, the indignity of obesity, but given that the context of the bullying was mainly within the school setting by peers the inclusion within theme 1 was more appropriate. Again, the younger women experienced this most, although it should be noted that many of the weight loss older women did not begin to put on weight until after having children. Bullying was reported both in primary and secondary school. One of the young women said, 'I remember getting teased at primary school about my weight and coming home day in and day out in tears'. Several of the common taunts included 'pink elephant' and 'rhinoceros' and one said, 'Girls are bitchy if you don't fit into the norm'. One particularly poignant recollection came from a young weight loss woman: 'I had to hide in the library at lunchtime to avoid getting teased … I would sneak in...just before lunch … before they kicked everyone out. And I'd go and find a corral or a hidey hole or something where they couldn't see me just so I wouldn't have to be out in the yard with the other kids.'

Theme 2: Health

Health was rarely mentioned by the younger women except when specifically asked, and then it was only in regard to experiences with health professionals rather than concern with their own health. For the older women, health was their primary motivator behind having LAGB, and it was also the area where the postoperative weight loss older women had seen the biggest changes. They reported feeling more energetic and healthier. One of the women said when describing her weight loss: 'I like "healthier". That's my response ... I am feeling so much healthier', and 'I am a healthier, happier person, and it shows'. The older women said that their families' concerns about their health had worried them greatly, especially the prospect of not being there for their children. They said that some of their children were worried about their health but only expressed it after weight loss. 'My 13-year-old son said "oh gee mum, you're going to be around forever" because he was frightened that prior to the surgery and weight loss she might have died. They felt it was important to set a good example for their children and that now they are healthier, it is flowing on to their children.

Medical professionals also played a significant role. The obese women said that their doctors related everything back to their weight – a cold, high blood pressure, and so on. When they went to the doctors they just wanted their immediate problem treated – not to be told that everything was due to their weight. The LAGB groups all reported feeling this way prior to losing weight but afterwards felt that maybe the doctors were right and that their weight was affecting many of these other conditions. One of the LAGB women said: 'It frustrated me the way some GPs put everything down to weight. You go in with a headache – it's because you are overweight. … I think it may contribute but it's not the only reason'. Another said '…, I've got a chest infection. I just want an antibiotic. I don't want the latest slimming aid … but then I don't go again'.

The issue of primary care physicians raising the big picture of weight during a consultation resulted in lively discussion in the focus group participants. The majority said that they did not like their doctor bringing up their weight as they knew that they had a problem and didn't need or want it brought up. The most common reason behind this was not denial of their weight but because they did not feel the doctors had any useful advice and did not say anything they did not already know, '… it was like "don't eat that food, eat low GI food" … gee I must be stupid!' Many were very judgemental of doctors, saying that they lack knowledge, especially in regard to LAGB, and need to be better educated. After weight loss, however, they were very positive about their doctors, with several commenting that their experience had increased their doctor's knowledge.

Theme 3: Self-Worth and Confidence

The third theme which was consistently raised was self-esteem and confidence. They all reported low self-esteem and low confidence when overweight, and all of the postoperative weight loss women reported a significant increase following weight loss. This increase in confidence affected every aspect of their lives, and they reported being more outgoing, outspoken, and ambitious. One woman said, 'I'm so much more confident in situations and put myself forward much more than I used to. I often wonder if that's it, not the weight issue … maybe it was that I was standing back and feeling judged … (now) I'm walking confidently, I'm making myself physically more approachable by opening my body language …' and another said, 'It (her view of self) has changed, … I'm projecting myself in a different way, I might be coming across as more easy going than aggressive, so I think that it's as much as I am projecting myself too as I am being perceived.'

Feeling judged and being thought of as lazy and stupid arose throughout all sessions. Interestingly one postoperative weight loss woman controversially said 'the reason I was overweight was because I was lazy. I ate too much and I didn't take care of myself'. During the discussions what others felt about them was often raised. One of the women said, 'We're

assuming that person's looking at me. We're assuming a lot of things.' These negative assumptions that they felt others had about them were often linked to their low self-esteem and overall lack in confidence.

In the preoperative obese groups this lack of self-esteem was especially evident in the manner in which they described normal weight people. The women continually referred to normal weight people throughout the session as 'skinny little so and so', 'little nymph' and 'shallow little …' and said, 'Don't you hate them (normal weight people)'. This language is indicative of the severity to which this group of women feels victimised and judged by others. The preoperative obese women had a very poor opinion of themselves and judged themselves very harshly. One of the women said, 'I get angry with my lack of self control, self discipline, and willpower. I just hate my body.'

Theme 4: The Indignity of Obesity

Almost all of the participants reported experiencing indignities due to their weight when obese. The young women once again experienced more than the older women. The main areas where these indignities were experienced were in the medical setting, travel, and shopping, and included medical gowns not fitting properly, beds in hospitals being too small, blood pressure cuffs not fitting, theatre and aeroplane seats being too small, having to ask for a seat belt extension, being ignored in clothing shops, and school sports uniforms such as netball skirts or gym leotards being ill fitting and unflattering. One of the young women went to her primary care physician for the contraceptive pill prior to surgery and he said to her: 'What! You are having sex?!' which she found humiliating, and she left in tears. When travelling, all the women reported dreading airline seats. This was not only due to uncertainty about whether they would be asked to buy a second seat, would fit in the seat, or require a seat belt extension, but also due to embarrassment (theirs and others'). They were worried about reactions of those travelling in adjacent seats to encroaching on their personal space. One woman said that at university: 'I wouldn't go and sit next to someone because I might take up too much of the seat, squash them up or something like that, or how embarrassing for them!!!' She was as worried about their embarrassment as her own.

Theme 5: Discrimination

Discrimination due to their weight was felt by all to be present in nearly every situation in everyday life, yet only a few individuals could think of any times it had specifically happened to them. The younger women experienced discrimination the most, citing medical professionals, peer groups, and teachers at school and the workplace.

Academic discrimination was reported by 3 of the young women, of whom one changed schools and the other two left school early. In all 3 instances, the reasons behind leaving were due to being overlooked and given up on by the teaching staff. One of the young women said, 'Before I left my old school I was the bottom of the class, the "lost cause", then I changed schools and I ended up dux in VCE', and another said, 'I felt I was given up on'. One said the main reason she left school was because of bullying: 'I left high school because I couldn't handle the ridicule and peer pressure'. Medical issues were also overlooked in some young women. Instances were related where broken bones were not set optimally because the physician did not want to have an obese child rendered immobile. This ultimately resulted in a lifelong physical handicap, being told they were a hypochondriac and overall being dismissed by health professionals and told, 'If you just lost weight…'.

Across groups, discrimination was mainly reported at and in the workplace. The phrase 'sex sells' (about companies) was repeated in both the pre- and post-weight loss groups. They felt that they were not offered positions or were put into background roles because they did not fit the company image. 'I worked in the administration field … in those roles I felt discriminated against because I wasn't able to wear the short little suits … One job I went for, the boss of the company said not to employ me. "No she's too big to be on our reception desk. She's not attractive enough … not the image we want". And another said, 'Now (after weight loss) I'm in contact with the public more. Whereas before I would have been a bit nervous, I've actually gone into that feeling fantastic. And somebody joked about another person in the library who deals with the public (saying) "only the good looking ones get the desk", "well that is why they want me now", I said'. One woman knew that she had been denied a position due to her weight. 'I was 16 and fresh out of school. I sat a test for a bank. And the next day was interview stage ... everything was going fine and when the interview was finished the guy said "I'm sorry to say that we don't have a position for you" and I said "Oh. What let me down so that I can brush up on it?" and he said "your skills and everything are fine but it's your weight, that's what's holding you back. We won't employ you because you are overweight'". The women also felt overlooked for promotions, and that they had to try extra hard to prove that they were as capable as normal weight employees, that they had to be a 'super worker'.

Interestingly, almost all of the weight loss groups reported the most discrimination now, after having had gastric banding. They consistently reported that when people found out that they had undergone weight loss surgery they were viewed as having taken the easy way out and felt judged. One woman said, '(other people think) people who get surgery are lazy and should just get out running'. Almost all of the women had not told others, other than immediate family, that they had undergone or were planning on having weight loss surgery. Reasons varied but one woman said, 'I don't want people to think that you were so out of control and so grotesque that the only option was weight loss surgery'.

Minor Themes

In general, immediate families were very supportive and understanding, however, issues arose around extended families. The women with children were concerned that their children were worrying about their health and that they were an embarrassment to them. Their children, however, were a major motivating factor for losing weight. For instance, 'I thought, I've got to get control. My kids are young and I want to see them get married, be around for them; they need me'. The women who had lost weight generally described their husbands as being very supportive: 'Since I had the lap-band and lost weight, he (her husband) said it was the best money he ever spent' and 'my husband is normal weight and he "gets it" (understands the problem of obesity). I appreciate that'. However, for the younger obese women there was uncertainty about the stability of their relationships: 'My husband looks at slim women at the beach', and another, 'I feel pressure from my husband to lose weight … I'm worried that he will leave'.

While it was not specifically asked and was not included as a major theme, surgery for weight loss continually arose throughout all the focus group sessions. All weight loss groups felt LAGB had changed their lives often describing themselves as being 'evangelical' about LAGB. It was repeatedly mentioned that they wanted to tell all overweight people they met about the procedure and to encourage them to do the same. However, they reported checking their enthusiasm as they remembered how it felt to be confronted about weight by others. 'I don't want to appear as a Lap-band crusader!' Not all experiences with LAGB were good. They all discussed how much work they had to put in to achieve the weight loss and how other people thought that they had taken the easy way out. 'I love my lap-band. I've had it for 2 years and 4 months. I'm still not used to living with it. It's a daily challenge … it has given me my life back. I wish I'd had it done 20 years ago.' It was very interesting to hear the women report that they now experienced new discrimination and stigma, not because of their weight, but about the procedure itself. The feeling of being judged and being told by others that they had taken the easy way out had affected them greatly.

Discussion

Obese and overweight individuals suffer a myriad of negative experiences as a consequence of their weight, and the emotional suffering due to the impact on their social interactions is immense. The results of the current study provide a unique insight into how stigma and discrimination alters following weight loss. Previous research asked participants if they felt discriminated against or stigmatised, however, the current study was carefully designed so as not to lead or prime participants. Questions were phrased in asking about differences, this choice of language was important as prejudice or stigmatisation did not always fit the behaviour experienced and described. The results of the focus group indicated that stigma and discrimination based on weight was not common, and that it is not the types or frequency of negative experiences which have the greatest impact on an obese individual but the intensity of an experience. This finding is very similar to that reported by Cossrow et al. [21] and Sarwer et al. [25]. However, while there was little or no weight-related stigma reported, the coping mechanisms described in the session are in line with documented coping mechanisms dealing with stigma [32].

There was a substantial difference in experiences between the younger and older women who had lost weight. The social impact was much greater for the younger women whereas the health aspect of obesity played a much more important role for the older women. A study by Wardle et al. [33] found that patients with early onset of obesity (by age 16) had a higher BMI, greater body image dissatisfaction, and lower self-esteem than those with late onset obesity. These findings may help explain the younger women's focus on the social impact of obesity. Supporting the results of Puhl et al. [23], the current study indicated that for young women the worst experiences occurred with family or friends. The young weight loss women reported that their weight had a negative impact on their social interactions and development, and also their development as women. For the older women, the focus was primarily on health, their improved health, what they could now do physically, and how their families and children no longer worried about them. Libeton et al. [34] reported that 32% of patients indicted that psychological and body image-related reasons were primary motivators towards surgery, and that being female and younger in age were significant predictors of this. In contrast, Munoz et al. [35] reported that for 74% of patients health was the main motivator, however, they did not state the age of their patients nor indicated if there was a difference in younger and older participants. To date, there is limited research investigating the impact of age on stigmatisation. The findings from the current study suggest that age plays a very important role, not only with experiencing weight-related stigma but also ways of coping with it.

The younger women described how when they were obese they were seen by their peers as 'asexual', and describe their relationships with males as 'matey'. For this group of women, weight loss changed their lives dramatically, and their confidence and self-esteem increased substantially. In an unexpected finding, it was observed that these young women felt that the stigma and prejudice they experienced when they were obese was also influenced by the way they themselves behaved and their social avoidance. They believed it was also their own withdrawn and closed behaviour which isolated them socially as well as their weight, and felt that this was due to their lack of self-esteem and poor confidence. Prior to

weight loss, however, they believed their social interactions were predominantly mediated by their weight. This belief that social interactions are mediated by weight was also reported in a study by Crocker et al. [36]. In a positive and negative feedback study, they reported that overweight and obese women who received negative feedback were more likely to believe their weight a pivotal factor in determining social outcomes. This belief was not held by the older women who in contrast felt that their treatment by friends and family before and after weight loss had not really changed. This difference between the younger and older women may also have been due to when the weight gain began. All of the younger women were obese as children whereas almost all of the older women did not gain weight until adulthood, predominantly after pregnancy. This pattern of weight gain for both the younger and older women is very similar to that reported by Thomas et al. [7].

The experiences described by the weight loss women and the obese women were very different. The obese women felt stigmatised and judged, not by family and friends but outside people, however, few specific personal examples were given. A recent study of overweight and obese women about interpersonal experiences of weight stigma reported that family members were the most frequent source of weight stigma for 72% of participants [37]. While the younger women in particular experienced stigma from family, predominantly mothers, aunts, and husbands, the most frequent source of weight stigma was within the social context. Even though there were few examples of stigma and discrimination, the behaviour described was in line with described coping mechanism for stigma as outlined by Puhl and Brownell [38]. The behaviours were predominantly self-protective, personal attributional, and compensatory (i.e. being jolly and funny). A major difference between the two groups was how weight loss changes ones self beliefs, confidence, and self-esteem. It is also possible that as described by the weight loss groups, their own behaviours such as being withdrawn, shy, and putting up a protective barrier affected the way others interacted with them. When discussing change after weight loss, the women often answered in terms of how they themselves had changed and how they personally felt rather than how others' behaviour had changed. A major finding of this study is that when obese, the women were unable to see how they played a role in their own social interactions and others' reactions towards them socially but following weight loss, they were able to see how their own closed off behaviour pushed others away. Furthermore, all the younger women acknowledged that they avoided social situations as much as possible, so social interactions were very limited.

Stigmatisation and discrimination do not appear to be as prevalent in the current study compared with the majority of prior studies [7, 21, 23, 24] with the exception of Sarwer et al. [25]. Sarwer et al. also reported little stigmatisation in obese individuals seeking surgery. However, regardless of the frequency or quantity of the negative experiences of the patients, they still had a negative impact on the obese individuals' life. This inconsistency with previous research may be due several factors including: i) the design of the study investigating opinions of obese individuals after losing significant amounts of weight; ii) cultural difference; and iii) the increase in prevalence of obesity over the past decade and community changes over time in underlying attitudes towards the obese. The weight loss women gave important insights into the coping mechanisms used by the obese including self-protective, compensatory, personal attribution, and avoidant and social disengagement. These coping mechanisms have the disadvantage of further distancing them from the general public and internalising beliefs, thus magnifying perceptions of stigma and discrimination.

With the dramatic increase in obesity rates, there has been increased media attention and an increased emphasis to change attitudes, and it is possible that discrimination towards the obese is lessening as the obesity epidemic increases. Thomas et al. [7] reported significant and extensive negative experiences by obese Australians compared to the current study in which, while discrimination was evident, it was not experienced by all. This may be due to the different designs of the study and as stated by Thomas a limitation of their study being the 'opt-in' design, and a self-selection bias within the study possibly towards those who have experienced more negative or extreme experiences than those who did not respond to their advertisements. The current study included a significantly smaller and exclusive sample (obese individuals seeking or who had undergone LAGB) than that of Thomas et al. [7].

The sample size of the current study was small and limited to female participation. While the overall study consisted of 32 patients, there were only 8 patients in the obese group compared to 23 in the LAGB group. When comparing between the younger and older women within each group, the numbers were even smaller: 4 versus 4 for the obese, and 11 versus 13 for the LAGB. These small numbers limit the conclusions which can be drawn between those who are obese compared to those that have lost significant weight. All of the patients had either had bariatric surgery or were considering having surgery. Future research should consider including men, non-surgical patients, more patients who are obese, and also prospectively comparing responses before and after weight loss.

Overall the findings of the current study suggest less stigma and discrimination than previously reported, that stigma and discrimination may be mediated by age, and significant differences in perceived bias and stigmatisation between the pre- and post-weight loss women. It does not appear to be the frequency or prevalence of events but the intensity of a single event which has the greatest negative impact on an overweight individual. Younger and older women have very different experiences of obesity and weight loss. Younger

women are more focused on the social impact and consequences of being overweight, and the change with weight loss. Conversely, the older women were predominantly focused on health and it was the health benefits of weight loss which they emphasised the most. Finally, all of the weight loss women indicated that they themselves had played a role in others' bias and perceptions of them when they were obese and that these protective behaviours may have actually exacerbated feelings of bias and discrimination. Poor self-image, low self-esteem, and a lack of confidence all played a contributing role in their negative experiences with others.

Disclosure

The authors declared no conflicts of interest.

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