

Prevalence of perceived weight-based stigmatisation in a multiethnic Asian population

Dear Editor,

People with obesity contend with obesity-related stigmas, in addition to health complications.¹ In contrast to the West, literature documenting the prevalence of such stigmas in Asia is sparse. We report the prevalence of perceived weight-based stigmatisation in Singapore.

An anonymised questionnaire was administered to 101 consecutive patients presenting to a multidisciplinary weight management clinic in a single centre in Singapore (Table 1). It was based on the questionnaire by the UK All-Party Parliamentary Group on Obesity in 2018.² The questionnaire comprised demographic information, and responder's perceived stigmatisation in self (perception), social and workplace, or educational domains. A subgroup analysis was performed by segregating respondents into class I (27.5–34.9), class II (35.0–39.9) and class III (≥ 40.0) obesity, in accordance with the World Health Organization body mass index (BMI) cut-off points for determining overweight and obesity, but modified to the interventional thresholds recommended for Asian populations.³

The median age of the respondents was 39 years (interquartile range [IQR] 31.3–48.8), and the median BMI was 39.3 kg/m² (IQR 34.3–46.3). The majority were middle-aged adults from the 31–40 (34%) and 41–50-years-old (23%) age groups, with a slight female predominance (56.4%). The highest educational qualification attained was post-secondary (non-tertiary) qualification (44.6%), and the majority of respondents were in the low-income group (64.4%). The majority of respondents were working individuals, with 10 respondents being unemployed or retired (9.9%), and 3 respondents who were homemakers (3.0%). For our population, job industries had no significant impact on income level ($P=0.843$).

More than half (54.5%) of respondents considered obesity a disease. Most respondents surveyed felt that their weight is their own responsibility (76.2%), and blamed themselves for their own weight issues (74.3%). In total, 60.4% of respondents reported that they have felt stigmatised, criticised or abused as a direct result of their weight. However, only about one-third of respondents (33.7%) reported that they have been blamed by others for their weight issues. Among respondents who felt stigmatised, the most common consequence was an affected level of confidence and

sense of self-worth (86.9%). The majority of the respondents have discussed their weight issues with a healthcare provider in the past 5 years (68.3%), and most respondents were comfortable discussing their weight issues in the primary care setting (85.1%). Most respondents have not felt stigmatised in the healthcare setting. Only 21.6% reported that they were not treated with dignity and respect by healthcare professionals, or felt discouraged to discuss their weight problems with them.

There were a disproportionately larger number of Malays and Indians in the higher BMI categories compared to Chinese respondents ($P=0.018$), consistent with Singapore literature.⁴ There was a larger proportion of respondents with secondary school and post-secondary school qualifications who were class III obese compared to university graduates or postgraduates ($P=0.038$). Most respondents with class III obesity belonged to the low- and middle-income groups ($P=0.041$).

One limitation of this study is the lack of representation of individuals who were not obese, as a comparison control group. In the self (perception) domain, class II obesity respondents were less likely to report that an individual's weight was solely their own responsibility (prevalence rate ratio [PRR] 0.25, 95% confidence interval [CI] 0.07–0.93, $P=0.04$) compared with class I obesity respondents. However, this was not observed in class III obesity respondents (PRR 0.95, 95% CI 0.26–3.55, $P=0.94$). A subgroup analysis revealed that 19 of the 24 (79.2%) class I obesity respondents who believed that weight is their sole responsibility have attempted weight loss, compared with only 14 of the 27 (51.9%) class II obesity respondents. This finding highlights that weight loss efforts should be targeted towards individuals in the class II obesity group to prevent them from progressing to class III obesity.

In the social domain, class III obesity respondents were more likely to report consuming unhealthy food or partaking in less exercise because of stigmatisation (PRR 10.80, 95% CI 2.36–49.46, $P<0.01$). A similar observation of a smaller extent was observed in class II obesity respondents (PRR 3.54, 95% CI 0.78–16.03, $P=0.10$). After accounting for social and demographic baseline differences, the perceived degree of stigmatisation was more pronounced in class III obesity respondents (PRR 24.94, 95% CI 3.61–172.41, $P<0.01$).

Table 1. Unadjusted and propensity score-adjusted analysis¹ on perceived stigmatisation reported by respondents across different weight categories

	Class I obesity BMI 27.5–34.9	Class II obesity BMI 35–39.9 (unadjusted)	Class III obesity BMI ≥40 (unadjusted)	Class II obesity BMI 35–39.9 (adjusted)	Class III obesity BMI ≥40 (adjusted)
	PRR (95% CI)	PRR (95% CI)	PRR (95% CI)	PRR (95% CI)	PRR (95% CI)
Self (perception) domain					
1. Do you consider obesity a disease?	1	0.79 (0.26–2.37)	1.10 (0.41–2.97)	0.84 (0.28–2.57)	0.92 (0.32–2.62)
2. Do you believe that your weight is solely your own responsibility?	1	0.25 (0.07–0.93)	0.95 (0.26–3.55)	0.23 (0.06–0.87)	0.85 (0.22–3.33)
3. Do you believe that pressures (out of your control) have affected how you manage your weight?	1	0.34 (0.09–1.28)	0.82 (0.23–3.01)	0.31 (0.08–1.20)	0.62 (0.16–2.43)
4. Do you blame yourself for your weight issues?	1	0.49 (0.15–1.61)	1.58 (0.48–5.25)	0.52 (0.15–1.79)	1.36 (0.38–4.89)
Social domain					
1. Have you ever been stigmatised, criticised, or abused as a direct result of your weight?	1	1.69 (0.55–5.26)	1.44 (0.53–3.93)	1.60 (0.51–5.03)	1.14 (0.40–3.31)
2. Has this (stigmatisation) affected your motivation to gain better health by healthy diet and exercise?	1	0.50 (0.12–2.14)	2.40 (0.57–10.05)	0.31 (0.06–1.56)	4.66 (0.86–25.38)
3. Has this (stigmatisation) led you to consume unhealthy food, overconsume food or partake in less exercise?	1	3.54 (0.78–16.03)	10.80 (2.36–49.47)	2.54 (0.48–13.41)	24.94 (3.61–172.41)
4. Has this (stigmatisation) affected your overall confidence level and sense of self-worth?	1	0.64 (0.10–4.14)	2.46 (0.31–19.68)	0.95 (0.13–7.01)	3.23 (0.31–34.31)
5. Has this (stigmatisation) caused you to have low mood or feel depressed?	1	0.38 (0.08–1.84)	1.44 (0.29–7.21)	0.46 (0.09–2.37)	1.48 (0.27–8.13)
6. Have you ever been blamed by others for your weight issues?	1	0.35 (0.09–1.35)	1.29 (0.46–3.62)	0.34 (0.08–1.37)	0.94 (0.31–2.87)
Healthcare domain					
1. Have you discussed being overweight or losing weight with a healthcare provider over the last 5 years?	1	0.40 (0.11–1.53)	0.34 (0.10–1.17)	0.38 (0.10–1.44)	0.32 (0.09–1.15)
2. Do you feel comfortable discussing your weight problems at the polyclinic?	1	0.19 (0.02–1.77)	0.18 (0.02–1.51)	0.18 (0.02–1.69)	0.24 (0.03–2.10)
3. Have you ever felt that you were not treated with dignity and respect by healthcare professionals, or discouraged to discuss your weight problems?	1	0.63 (0.13–3.13)	2.19 (0.63–7.59)	0.65 (0.13–3.27)	1.85 (0.49–6.91)
Workplace or education domain					
1. Have you ever been bullied at school because of your weight?	1	1.77 (0.53–5.92)	1.76 (0.59–5.29)	1.88 (0.55–6.40)	1.33 (0.41–4.27)
2. Have you ever missed out on jobs, overlooked for job promotions, or retrenched because of your weight?	1	3.14 (0.57–17.35)	7.74 (1.62–36.91)	3.34 (0.60–18.72)	5.73 (1.16–28.47)

BMI: body mass index; CI: confidence interval; PRR: prevalence rate ratio

¹ Propensity score was computed to adjust for all sociodemographic parameters, which include age, sex, ethnicity, education and income level. BMI 27.5–34.9 (class I obesity) was taken as the reference category. Values in bold are statistically significant

This eating behaviour has been previously described⁵ and postulated to be due to a dopamine-based reward mechanism to diminish the negative impact of such stigmatisation.⁶ In addition to further weight gain, these maladaptive eating behaviours put obese individuals at increased risk of eating disorders involving bulimia, binge eating episodes and overeating,⁷ as well as mental health conditions such as depression and low self-esteem.^{7,8} Such weight-related prejudice may also worsen body image disturbances,⁸ resulting in avoidance of exercise for fear of further stigmatisation. Ultimately, this results in a triple detriment—the first being their initial obesity; the second being their maladaptive eating and exercise behaviours that compound further weight gain; and the third the subsequent medical complications associated with further weight gain.

In the education and workplace domains, a significantly higher number of respondents with class III obesity reported missing out on jobs, being overlooked for job promotions or being retrenched, as a direct result of their weight on the unadjusted analysis (PRR 7.74, 95% CI 1.62–36.91, $P=0.01$). This finding persisted even after adjusting for social and demographic parameters (PRR 5.73, 95% CI 1.16–28.47, $P=0.03$). The perceived prevalence of stigmatisation appeared to be present among respondents with class II obesity, although it did not reach statistical significance. Since the 18th century, stereotypes of obese individuals as being lazy have been ingrained and perpetuated.⁹ Such discriminatory practices at the workplace are detrimental to an individual's mental health,¹⁰ as well as income. Individuals with lower income will resort to the consumption of inexpensive calorie-dense foods, thus worsening weight gain and further fuelling employers' stereotypes.

In conclusion, the findings suggest that obesity stigmatisation remains prevalent in Asia. Individuals with higher BMIs were more likely to report perceived workplace stigmatisation. They also had negative adaptive responses to diet and exercise in response to weight-based discrimination, independent of socioeconomic status.

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