ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 18, Issue, 01, pp.35848-35853, January, 2026
DOI: https://doi.org/10.24941/ijcr.49944.01.2026

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

ATTITUDES AND BELIEFS ABOUT OBESITY AMONG HEALTHCARE STUDENTS IN A MALAYSIAN UNIVERSITY

Henna Roshini A/P Alexander[1], Arulsakthi Ramesh[1], Durgaashini Muthu[1], Nanthana Chumthong A/P Som Phon[1], Shenegha Srinivas Rao[1] and Madhumita Sen[2]

[1]Students of AIMST University, Bedong, Kedah, Malaysia; [2]Asst Prof. at AIMST University, Bedong, Kedah, Malaysia

ARTICLE INFO

Article History:
Received 15th October, 2025
Received in revised form
20th November, 2025
Accepted 14th December, 2025
Published online 30th January, 2026

Keywords:

Obesity, Weight Stigma, Healthcare Students, Attitudes, Beliefs, Medical Education, Malaysia.

**Corresponding author:*
Henna Roshini A/P Alexander

ABSTRACT

Background: Obesity is a rising public health concern in Malaysia, with more than half of adults now classified as overweight or obese. Beyond its physical health implications, obesity is strongly associated with weight stigma, which can negatively affect patient care and outcomes. Understanding healthcare students' attitudes and beliefs toward obesity is critical, as these individuals represent the next generation of clinicians. **Objectives**: This study aimed to determine the prevalence of weight stigma among medical, nursing, and dentistry students at AIMST University, and to assess whether greater biomedical knowledge among medical students is associated with lower levels of stigma. **Methods:** A cross-sectional survey was conducted among 300 Year 2 and 3 students (100 each from medicine, nursing, and dentistry). Participants completed validated instruments: the Attitudes Toward Obese Persons (ATOP) scale, the Beliefs About Obese Persons (BAOP) scale, and the Norwegian Obesity Knowledge Questionnaire. Data were collected via Google Forms and analyzed descriptively using Microsoft Excel. Frequencies and percentages were calculated to identify key patterns and trends. **Results:** Respondents demonstrated mixed attitudes toward obesity. While nearly half (49%) agreed that obese individuals could be as happy as their non-obese counterparts, a significant proportion expressed scepticism regarding self-esteem and confidence among obese persons. More than 60% perceived that obese individuals are dissatisfied with themselves, and over 63% disagreed that obese people are as healthy as non-obese individuals. Beliefs about the causes of obesity were also divided: many participants attributed it to lifestyle and willpower, though a notable proportion acknowledged genetic and biological factors. **Conclusion:** Despite awareness of evidence-based approaches to obesity management, misconceptions and stigmatizing beliefs remain prevalent among healthcare students. The findings partially contradict the initial hypothesis, showing that medical, nursing, and dentistry students do exhibit weight stigma, though medical students demonstrated comparatively greater awareness of obesity's complex aetiology. Targeted educational interventions that integrate empathy training, biological education, and inclusive communication strategies are warranted to reduce bias and prepare healthcare students to deliver equitable patient care.

Citation: Henna Roshini A/P Alexander, Arulsakthi Ramesh, Durgaashini Muthu, Nanthana Chumthong A/P Som Phon, Shenegha Srinivas Rao and Madhumita Sen. 2026. *"*Attitudes and Beliefs about Obesity among Healthcare Students in a Malaysian University.". ***International Journal of Current Research, 18, (01), 35848-35853.***

INTRODUCTION

In recent years, obesity and overweight have become pressing public health concerns in Malaysia and beyond. According to the National Health and Morbidity Survey (NHMS) 2023 conducted by the Institute for Public Health, Ministry of Health Malaysia, 54.4% of Malaysian adults are now classified as overweight or obese (BMI ≥ 23.5 kg/m²), marking a significant rise since 2011 (44.5%) and underscoring a sustained upward trend over the past decade (Ministry of Health Malaysia, 2023). This escalating prevalence signals the urgent need for effective strategies in obesity prevention and healthcare planning. Weight stigma, due to negative stereotypes, results in prejudicial attitudes and discriminatory behaviours toward individuals with higher body weight, and significantly affects patient wellbeing. Evidence shows weight stigma leads to suboptimal clinical interactions, reduced quality of care, and avoidance by patients for healthcare services. (Bannuru, 2025). Unfortunately, such bias also exists among healthcare students, who are future healthcare professionals. In a vignette-based study involving 217 Brazilian healthcare undergraduates, 39.4% displayed weight stigma, with more negative attitudes toward hypothetical patients described as overweight (André, Resende and de Carvalho, 2024). This early emergence of weight bias is concerning, as these students are on the path to directly influencing patient experiences and outcomes. The psychological roots of such stigma often lie in the attribution theory, where obesity is seen as a matter of personal control.Conversely, recognizing the multifactorial causes of obesity, such as genetics, environment, and biology, can foster empathy and reduce bias. Assessing such attitudes relies on validated tools like the Attitudes Toward Obese Persons (ATOP) scale and the Beliefs About Obese Persons (BAOP) scale, which measure general attitudes and beliefs

about weight controllability. (Allison, Basile and Yuker, 1991) While validation studies in non-Malaysian subjects suggest these tools are reliable, there remains a research gap in their application within Malaysian health training programs. Efforts to reduce weight bias have had limited success. A recent systematic review in Current Obesity Reports evaluated randomized controlled trials aimed at reducing weight stigma. It found that while explicit bias could be shifted, implicit bias remained resistant.Evolving strategies like promoting empathy, reframing causal attributions, and applying cognitive dissonance methods could be promising avenues for longer-term change (Wang *et al*., 2025). In the Malaysian context, where obesity affects more than half of the adult population, reducing weight stigma among healthcare students is essential. Addressing this issue early in professional education, with evidence-based, multifaceted curricula that combine biological education, empathy development, and inclusive communication training, can help produce future practitioners better equipped to deliver equitable, respectful care. This study seeks to fill critical gaps by examining attitudes and beliefs toward people with obesity or overweight among the University students in medicine, nursing, and dentistry in one University in Malaysia. Findings from this work can inform curriculum reforms, potentially incorporating long-term, multi-component interventions, to cultivate a more inclusive and empathetic healthcare workforce in Malaysia.

LITERATURE REVIEW

Obesity is a well-known term which refers to a chronic complex disease defined by excessive fat deposits that can impair health, according to the World Health Organization (World Health Organization, 2025). Being overweight or obese can significantly impact a person's physical, mental, and social health. Also, increased body weight results in higher healthcare costs. It is usually defined based on the body mass index (BMI). Although it has a lot of limitations, it is still used worldwide due to its simplicity of calculation, and cost effectiveness.However, different countries and ethnicities have different cut-offs for obesity, especially in Asia. (Lim and Boster, 2024). Individuals who are at greater health risk will be those who are already overweight, and based on research, regardless of geographic location, ethnicity, or socioeconomic status, the prevalence of obesity has increased in people of all ages and genders.However it tends to be higher in older people and women. (Elsafi et. al., 2024). Obesity is the most common risk factor when it comes to comorbidities such as diabetes mellitus, high blood pressure and many more diseases including the life-threatening ones. In one claims study in the USA, hypertension and dyslipidaemia were the leading causes of poor health in people with obesity, with increasing prevalence among older age groups. Of late, it has been seen that obesity and cardiometabolic comorbidities are on the rise among the younger age group, resulting in early onset of ischaemic heart disease in later life. Understanding the range of obesity-related diseases seen in this claims data should guide doctors in diagnosing and better managing obesity early (Bae, *et al*, 2025). Medical students are also not among the healthy. Arecent study in India foundthat 7.5% of medical students were obese, with another 10% overweightaccording to the WHO criteria. Also,male gender, inactivity, and a higher socioeconomic statuswere associated with the obesity among medical students. (Verma, *et al* 2024). Apart from the medical consequences of obesity, there are psychological effects as well, such as eating disorders, depression, anxiety and low self-esteem. Research on the psychosocial aspects of obesity has grown over the years, to better understand the causes and effects of obesity. These studies have shown that obesity, by itself, does not appear to result in psychopathological outcomes. However, obese individualsare at greater risk of psychological disorders, especially depression. (Fabricatore and Wadden, 2004). Weight stigma is defined as discriminatory acts and words targeted towards individuals solely based on their weight and size. Weight stigma is a result of weight bias. Weight biases are negative ideologies based on obesity. (World Obesity Federation, 2018). Healthcare professionals also have lower respect for patients with high BMI and often spend less time providing consultations to patients with obesity compared to healthier weightpersons. Physicians may also be a source of stigmatising comments during consultations. In one study, 53% overweight persons confirmed to receiving inappropriate comments from their doctor about their weight. (Puhl and Brownell, 2006). The primary reason for weight stigma is the misconception that obesity is caused by factors entirely within an individual's control. In truth, causes of obesity are multifactorial, related to genetics and environment. Unfortunately, weight stigma is also perpetuated by the media, and public health campaigns and policies. (Lawrence *et al*., 2022).

Health professionals also often exhibit significant pro-thin, anti-fat implicit bias on the IAT (The Implicit Associations Test). In addition, many healthcare professionals endorsed the implicit ideology that obese persons are lazy, stupid, and worthless. Doctor characteristics that were predictive of lower levels bias included being male, older, being emotionally positive, personally weighing more, having obese or overweight friends, and having an understanding of obesity pathology. Even professionals who clinically manage obesity showed very strong weight bias. Accepting that anti-fat bias exists will aid in developing intervention strategies to eliminate these damaging attitudes. (Schwartz *et al*., 2003). Stigmatizing experiences lead to diminished patient trust towards doctors, and result in poorer health outcomes. A study found that patients who faced discrimination in clinics had poorer medication compliance. Physicians have been shown to have less respect for obese patients, and this causes patients to have less trust in their PCP.Addressing stigma toward patients with obesity by healthcare providers can build trust in this relationship and improve quality of care. (Gudzune *et al*., 2014) Obese individuals who sense the lack of empathy from their PCP may withdraw from theirtreatment or care, even when they are not feeling well. (Phelan *et al*., 2015). Fortunately, the stigma towards obesity among healthcare workers is lower than the non-healthcare people. Overall, health-care professionals had slightly lower stigma scores compared with the general population (O'Donoghue *et al*., 2021).

A study in China showed that lack of knowledge about the pathology of obesity was common among college students. Most respondents felt obesity can be prevented by focusing on diet and exercise alone. Thus, education about obesity can strengthen knowledge among university students to reduce obesity stigma. (Xue *et al*., 2021). In the United States, HCPs were recruited to complete an online survey based on patient scenarios involving 2 hypothetical patients, one obese and one non-obese. Participants completed the Attitudes Towards Obese Persons (ATOP) scale to assess weight bias. The analysis revealed that HCPs in the high weight bias group gave specific diet and exercise recommendations, offered advice about weight loss, but used less teaching and empathy when dealing with the obese patient. This study suggeststhat it is important to educate HCPs on the importance of empathy and compassion when providing treatment to all patients, regardless of weight, to ultimately improve patient outcomes. (Seymour *et al*., 2018). Educators play an important role in talking about this issue by pointing out implicit weight stigma to medical students, as well as teaching students the importance of not practicing any stigma. In the Rutgers New Jersey Medical School, a three hours educational workshop was conducted for students to reinforce the importance of learning about the issues on weight discrimination and many other biases. (Rutgers.edu, 2018). Medical students in the U.S. claimed that their personal opinions and prejudices towards weight were greatly impacted by societal norms of thinness, which were reinforced in their families. Many said that growing up in circumstances that stigmatised bigger physiques made them develop negative views regarding obesity from an early age, resulting in unintentional prejudices when dealing with obese or overweight patients. Since their opinions are influenced by family and social norms rather than scientific data, such deeply held views may make it more difficult for them to offer objective and compassionate treatment (Cotter *et al*., 2025). It was discovered that attitudes towards obesity differed according to academic disciplines, indicating discipline-specific viewpoints on weight. Individuals pursuing nursing, as opposed to those pursuing education or social work, had greater degrees of weight prejudice. This disparity could be related to

nursing students' clinical exposure, where obesity is often framed as a health risk factor, which might encourage unfavourable perceptions. Students in non-health fields, on the other hand, were less likely to link obesity to personal accountability alone. These differences emphasise the need for discipline-specific approaches to address weight stigma in healthcare education (Darling and Atav, 2019). A large cross-sectional study of 900 Australian healthcare students from 39 universities was conducted. The findings revealed strong evidence of both implicit and explicit bias, including viewing obesity as a matter of personal discipline and showing weight-based prejudice. Unfortunately, negative views are widespread even before students begin clinical practice.Male students were more likely than female students to have prejudiced views about people who are obese. Contrarily, female students tended to show a somewhat greater comprehension of obesity as a multifaceted medical illness impacted by social, psychological and biological aspects. Reducing stigma among healthcare workers may be possible if these discrepancies are addressed (Jayawickrama *et al*., 2023). A study on students at a private institution in Shah Alam, Selangor, Malaysia, evaluated medical students' attitudes and knowledge about obesity and its risk factors. The result showed that most students were aware of the causes of obesity. According to their responses, people acknowledged obesity as a medical issue but were unaware of its deeper consequences. (Nazri, Ghazi and Elnajeh, 2019).

It has been shown that empathy is an essential component that influences attitudes towards obesity, with greater empathy considerably lowering discrimination against overweight/obese individuals. Students who showed better emotional intelligence were more understanding and less prone to think negatively of obese individuals. These results demonstrate that empathy is a crucial component to take into account when developing tactics that fight prejudice and encourage more accepting views of obesity. (Obara-Gołębiowska and Michałek-Kwiecień, 2023). When a medical student is fully aware of obesity and has adequate knowledge of the pathophysiology of obesity, they can implement that knowledge when they practice. The students will show more empathy, and counsel the patients efficiently based on the etiological factors which led to obesity. A study in 2023 in Saudi Arabia identified the prevalence and the factors behind overweight and obesity among the healthcare profession's students.About 21.0% were overweight and 15.5% were obese. The average knowledge score was good (70.6%). But, despite their higher levels of knowledge and positive attitude, the students consumed junk food. The students with higher BMI were also mostly physically inactive, anxious and sleep deprived, which can lead to poor eating habits. Obese and normal-weight students had similar levels of knowledge. Therefore knowledge is not enough to counter obesity and overweight. (Elsafi *et al*, 2024). A study done at the International Islamic University Malaysia (IIUM) on the awareness among healthcare students regarding obesity found that the undergraduate students have moderate awareness and knowledge on obesity leading to cancer. As obesity has now become common, its relation to cancer risk must be emphasised. (Wan Baharuddin,et.al., 2021). Inadequate knowledge may lead to inadequate counselling in patient care. It's interesting to note that a student's personal weight and exercise routine had minimal effect, while exposure to diverse body types and social circles appeared to have a stronger impact on attitudes. In the U.S. studies, unfavourable perceptions were more common among younger students and those who enrolled in nursing compared to education and social work streams. Stigma was also more frequent among individuals without social connection to overweight or obese relatives or peers. Nursing students and recent graduates observed seeing stigma around weight during their clinical placements. This clearly shows that stigma is not only observed but also reinforced within clinical teamsWeight-related prejudice may reduce the effectiveness of the quality-of-care patients receive. (Darling &Atav, 2019). Obese patients may encounter stigma and weight bias in healthcare settings, which can have negative impacts on their physical and emotional well-being. Feelings of guilt, shame, embarrassment, and worthlessness are brought on by healthcare providers' negative attitudes, which show up as poor communication, ambivalence towards medical problems, and rejection of care. Such experiences lead patients to defer seeking medical advice, delay treatment or engage in harmful habits like emotional overeating and increased inactivity, which can exacerbate obesity and its comorbidities. Additionally, stigma triggers physiological stress reactions that can increase blood pressure, inflammation, obesity and susceptibility to metabolic and cardiovascular disorders..On the other hand, weight management programmes that take a collaborative, compassionate and non-judgmental approach are well received, highlighting the significance of patient-centred treatment. (O'Donoghue *et al*., 2021). Rather than feeling supported, patients may feel confused, criticised, and ridiculed when obesity is depicted solely as a matter of willpower. This reduction in empathy diminishes patients' confidence in medical guidance, which also harms the therapeutic alliance. Such unpleasant experiences may eventually deter people from ever seeking medical attention. This underscores that prejudice may be sustained and amplified through the mechanism of professional stigma (Jayawickrama *et al*., 2023). The challenges emphasise the need for improved healthcare training and cultural change. By teaching empathy, addressing bias and understanding the complex causes of obesity, the future medical professionals will prepare and offer equitable care for the patients. In order to create supportive settings for both patients and providers, it is vital to change cultural attitudes within healthcare teams (Cotter *et al*., 2025). Usually people expect the healthcare workers/students to be healthy and of an ideal body type and to be the role model for general people. Individuals who take a comprehensive approach to weight management can improve their physical health, boost their confidence, and enhance their entire quality of life (Bakarman, et. al., 2024). There are various methods in improving the knowledge for a person and it's best to start during their university course. Every healthcare student must know the basics about obesity. To enhance the knowledge among medical students, Rutgers New Jersey Medical School arranged three-hour educational workshops for students to reinforce the importance of learning about the issues on weight discrimination and many more other biases, with good results in changing attitudes. (Rutgers New Jersey Medical School, N.D)

METHODOLOGY

The primary objective of this study is to determine the presence and prevalence of weight stigma among healthcare students and to evaluate whether knowledge of obesity pathology influence weight stigma. This was a cross-sectional study on 300 students, estimated around 100 each from the faculties of years 2 and 3 of medicine, nursing and dental, at AIMST University, Malaysia. Participants signed a consent form before starting the survey.

Participants completed two validated questionnaires

- **Attitudes Towards Obese Persons (ATOP) Scale:** 20 Likert-type items assessing positive and negative attitudes toward people with obesity. The Cronbach's alpha reliability range of 0.80 to 0.84. (Allison, D. B. 1995)
- **Beliefs About Obese Persons (BAOP) Scale:** 8 items assessing perceived controllability of obesity with Cronbach's alpha reliability range of 0.65 to 0.82. (Allison, Basile and Yuker, 1991)

All questionnaires were distributed electronically via Google Forms between February to April 2024. These tools are structured, validated measures that have been extensively used to help increase self-awareness of bias toward obese patients. Place of study:AIMST University, Bedong, Kedah. A total of 304 graduate students of years 2 & 3, faculties of medicine (MBBS), Nursing and Dentistry of AIMST University responded to our survey. Consent and Ethical Considerations: Ethical approval was obtained from the AIMST University Human Ethics Committee (AUHEC/FOM/2022/05). Participation was voluntary, and written informed consent was obtained before data collection. Confidentiality was maintained by anonymizing responses.

Responses were collected via Google Forms and later exported into Microsoft Excel for analysis.

RESULTS

Total respondents = 304
Most respondents were between 20–23 years oldand very few were above 26.
Females were more than male respondents at 68.8%
Indian students form the largest proportion of respondents (42.4%), followed by Chinese (32.6%) and Malay students (21.7%). This reflected the actual racial composition of the student population.

ATOP Questionnaire Results

SN	Beliefs	Agree%	Neutral %	Disagree %
1.	Obese people are as happy as non-obese people.	49	11.8	39.2
2.	Most obese people feel that they are as good as other people.	48.7	15.8	34.8
3.	Most obese people are not more self-conscious than other people	39	14.5	30.5
4.	Obese workers can be as successful as other workers	65	15.8	20
5.	Most non-obese people would want marry anyone who is obese as much as they would want to marry a non-obese person	51	22	27
6.	Severely obese people can be as untidy as a non-obese person	38.2	35.8	26
7.	Obese people are usually sociable	57.5	22.4	24
8.	Most obese people are not satisfied with themselves	61.9	17.1	23
9.	Obese people are just as self-confident as other people	48.4	19	42.7
10.	Most people do not feel uncomfortable when they associate with obese people	61.9	16.8	21.7
11.	Obese people are often as aggressive as non-obese people	52.6	20.1	27.8
12.	Most obese people have the same personalities as non-obese people	63.5	15.1	21.4
13.	Very few obese people are ashamed of their weight.	37.8	16.8	45.4
14.	Most obese people do not resent normal weight people.	40.7	18.8	40.5
15.	Obese people are as emotional as non-obese people.	66.8	12.8	20.4
16.	Obese people should expect to lead normal lives.	51	12.8	36.2
17.	Obese people are just as healthy as non-obese people	23	13.2	63.8
18.	Obese people are just as sexually attractive as non-obese people.	35	32.2	32.8
19.	Obese people tend to have the same family problems as non-obese people.	45.7	17.1	37.2
20.	It would not upset me if I became obese.	15.5	12.5	72.0

BOAP Questionnaire Results

SN	Beliefs	Agree%	Neutral %	Disagree %
1.	Obesity often occurs when eating is used as a form of compensation for lack of love or attention.	61.5	11	27
2.	In many cases, obesity is the result of a biological disorder	50	16.1	33.9
3.	Obesity is not usually caused by overeating.	22	10.2	66
4.	Most obese people are obese even if they are getting enough exercise.	36.3	15.1	48.7
5.	Most obese people do not eat more than non-obese people.	11	14.5	69.1
6.	The majority of obese people have normal eating habits.	16	10.9	69
7.	Obesity is rarely caused by a lack of willpower.	20	19.1	63.2
8.	Food can be addictive, just like drugs, but this does not usually lead to obesity.	20	16.4	62

shows that most respondents are aware that obesity is not healthy. About 35% agreed that obese people are just as sexually attractive as non-obese people, and 32.2% were neutral. 32.2% disagreed. Hence, obesity was perceived as sexually attractive. A majority disagreed that it would not upset them if they became obese and only a minority of agreed that it would not upset them if they became obese. Most people do not want to be obese. A considerable proportion believed that most obese individuals remain obese despite exercising, suggesting doubts about physical activity's effectiveness. Similarly, many respondents strongly rejected the idea that obese individuals can

DISCUSSION

This study, which explored perceptions of obesity among AIMST University participants,has found mixed but insightful views regarding its causes, and consequences. The majority agreed that obese people are as happy as non-obese people. However around 39% disagreed. Again, most respondents agreed that obese people feel as good about themselves as others, but almost 35% disagreed, showing that there is still a perception of lower self-esteem among obese individuals. Almost half of the respondents agreed that obese workers can be as successful as other workers. This shows that the majority think being obese is not an obstacle or excuse for one to not be successful. 51% would want marry anyone who is obese as much as they would want to marry a non-obeseperson.A large percentage of respondents agreed that most obese people are not satisfied with themselves. Many respondents acknowledged the role of emotional and psychosocial factors, such as eating in response to unmet emotional needs, aligning with evidence linking emotional eating to higher BMI. However, perceptions about biological and behavioural contributors were more divided. While some participants agreed that obesity is a biological disorder, others disagreed, reflecting on-going debate despite evidence that genetics significantly influences obesity risk. 41.4% agreed that most obese people do not resent normal weight people. The majority (63.8%) disagreed that obese people are just as healthy as non-obese people, while about 23% agreed. This have normal eating habits, reflecting a bias toward attributing obesity primarily to overeating. Notably, a large percentage linked obesity to lack of willpower, revealing persistent stigma contrary to medical consensus that obesity is a chronic, multifactorial disease. Overall, the findings reveal both accurate knowledge and common misconceptions or implicit bias, underscoring the need for targeted education to reduce stigma and promote evidence-based understanding of obesity as a complex, chronic and multifaceted condition.

CONCLUSIONS AND RECOMMENDATION

In Malaysia, eating patterns, shaped by cultural, economic, and personal factors, describe how individuals consume food daily and significantly affect health. According to the results of this survey, perspectives on obesity are still diverse; some recognise that it has several causes, while others still just criticise over nutrition, lack of exercise, and lack of willpower. This study exposes an unmet need in undergraduate education. All healthcare students need to be educated about obesity in the future to regulate their knowledge and practice and avoid stigmatisation, especially in this country, where the overweight and obese adult population exceeds those with normal weight. Health programs for obesity management and education on the negative effects of obesity are also required. Community policies and initiatives to implement, spread, and sustain healthy weight programs among individuals by healthcare professionals will not only help the general public, but also help remove stigma among the

healthcare professionals. The Quarter-Half Diet is a healthy eating concept introduced by the Ministry of Health Malaysia (MOH) to help the community adopt a balanced lifestyle. (KalamTranung, 2025) Exercise programs promoting physical activities will also help a great deal. In the final analysis, eliminating explicit bias by education must be amalgamated with removing implicit bias by cognitive based therapies.This can be achieved by increasing awareness and combating negative beliefs by attending various metabolic disease classes and seminars; and awareness programs like interactions between obese and non-obese persons socially and professionally.

List of Abbreviations

NHMS: National Health and Morbidity Survey
ATOP: Attitudes Toward Obese Persons
BOAP: Beliefs About Obese Persons
BMI: Body Mass Index
WHO: World Health Organisation
AIMST University: Asian Institute of Medicine, Science and Technology, a University in Malaysia
IAT: The Implicit Associations Test
PCP: Primary Care Provider
HCP: HealthCare Professionals

REFERENCES

Allison, D. B. (Ed.). (1995). Handbook of assessment methods for eating behaviors and weight-related problems: Measures, theory, and research. Sage Publications, Inc.

Allison, D.B., Basile, V.C. and Yuker, H.E. (1991). Beliefs About Obese Persons Scale. PsycTESTS Dataset. doi:https://doi.org/10.1037/t76490-000.

André, W. dos S.S., Resende, T.R.O. and de Carvalho, P.H.B. (2024). Weight Stigma among Undergraduate Healthcare Students: A Vignette Study. Obesities, 4(3), pp.329–340.doi:https://doi.org/10.3390/obesities4030026

Bae, J.P., Nelson, D.R., Boye, K.S. and Mather, K.J. (2025). Prevalence of complications and comorbidities associated with obesity: a health insurance claims analysis. BMC public health, [online] 25(1), p.273.doi:https://doi.org/10.1186/s12889-024-21061-z.

Bakarman, S.S., Asiri, S., Bashatha, A., Syed, W. and Al-Rawi, M.B.A. (2024). Evaluation of clinical aspects of obesity among undergraduate healthcare students- a cross-sectional study at King Saud University, Riyadh, Kingdom of Saudi Arabia.Journal of Health, Population and Nutrition, 43(1).doi:https://doi.org/10.1186/s41043-024-00651-y.

Bannuru, R.R. (2025). Weight stigma and bias: standards of care in overweight and obesity—2025. BMJ Open Diabetes Research & Care, [online] 13(3), pp.e004962–e004962.doi:https://doi.org/10.1136/bmjdrc-2025-004962.

Cotter, E.W., Dunford, A., Gilchrist, K., Yan, T., Deyton, L. and Essel, K. (2025). Reckoning with the past: a qualitative analysis of medical students describing their formative experiences with weight bias. Journal of Eating Disorders, 13(1).doi:https://doi.org/10.1186/s40337-025-01231-z.

Darling, R. and Atav, A.S. (2019). Attitudes Toward Obese People: A Comparative Study of Nursing, Education, and Social Work Students. Journal of Professional Nursing, 35(2), pp.138–146.doi:https://doi.org/10.1016/j.profnurs.2018.07.009.

Elsafi, S., Al-Dossari, R., Al-shaqi, R., Fakirah, W., Al-Dossari, R., Al-sharif, O., Maawadh, R.M., Al Musallam, L., Alaohali, A., Abu Hassan, A., Alfahad, O., Al Naam, Y. and Al Zahrani, E. (2024). Obesity-Related Knowledge and Practice Among the Healthcare Professions Students in Saudi Arabia. Diabetes, Metabolic Syndrome and Obesity, [online] Volume 17, pp.427–434.doi:https://doi.org/10.2147/dmso.s445385.

Fabricatore, A.N. and Wadden, T.A. (2004).Psychological aspects of obesity.Clinics in Dermatology, [online] 22(4), pp.332–337.doi:https://doi.org/10.1016/j.clindermatol.2004.01.006.

Gudzune, K.A., Bennett, W.L., Cooper, L.A. and Bleich, S.N. (2014). Patients who feel judged about their weight have lower trust in their primary care providers. Patient Education and Counseling, 97(1), pp.128–131.doi:https://doi.org/10.1016/j.pec.2014.06.019.

Jayawickrama, R.S., O'Connor, M., Flint, S.W., Hemmingsson, E. and Lawrence, B.J. (2023). Explicit and implicit weight bias among health care students: a cross-sectional study of 39 Australian universities. eClinicalMedicine, 58, p.101894. doi:https://doi.org/10.1016/j.eclinm.2023.101894.

KalamTranung (2025). DIET SUKU-SUKU SEPARUH: PANDUAN PEMAKANAN SIHAT UNTUK SEMUA. [online] Laman Web MKN. Available at: https://www.mkn.gov.my/web/ms/2025/11/11/diet-suku-suku-separuh-panduan-pemakanan-sihat-untuk-semua/.

Lawrence, B., de la Piedad Garcia, X., Kite, J., Hill, B., Cooper, K. and Flint, S. (2022). Weight stigma in Australia: a public health call to action. Public Health Research & Practice, 32(3).doi:https://doi.org/10.17061/phrp3232224.

Lim, Y. and Boster, J. (2024).Obesity and Comorbid Conditions. [online] PubMed. Available at: https://www.ncbi.nlm.nih.gov/books/NBK574535/.

Ministry of Health Malaysia (2023).NHMS 2023. [online] Institute for Public Health. Available at: https://iku.gov.my/nhms-2023.

Nazri, W.N.F.S.W.M., Ghazi, H.F. and Elnajeh, M. (2019).Health Promoting Lifestyle and its Associated Factors among Private University Students in Shah Alam, Selangor. Indian Journal of Public Health Research & Development, [online] 10(2), p.611. doi:https://doi.org/10.5958/0976-5506.2019.00360.7.

O'Donoghue, G., Cunningham, C., King, M., O'Keefe, C., Rofaeil, A. and McMahon, S. (2021). A qualitative exploration of obesity bias and stigma in Irish healthcare; the patients' voice.PLOS ONE, 16(11), p.e0260075.doi:https:// doi.org/ 10.1371/ journal.pone.0260075.

Obara-Gołębiowska, M. and Michałek-Kwiecień, J. (2023). Empathy as a factor associated with prejudice toward obese people. Study conducted on Polish students population. Colloquium, [online] 15(2).doi:https://doi.org/10.34813/16coll2023.

Phelan, S.M., Burgess, D.J., Yeazel, M.W., Hellerstedt, W.L., Griffin, J.M. and van Ryn, M. (2015). Impact of Weight Bias and Stigma on Quality of Care and Outcomes for Patients with Obesity. Obesity Reviews : an Official Journal of the International Association for the Study of Obesity, [online] 16(4), pp.319–26. doi:https://doi.org/10.1111/obr.12266.

Puhl, R.M. and Brownell, K.D. (2006). Confronting and coping with weight stigma: An investigation of overweight and obese adults. Obesity, 14(10), pp.1802–1815.doi:https://doi.org/ 10.1038/ oby.2006.208.

Rutgers.edu. (2018).Rutgers New Jersey Medical School. [online] Available at: https://njms.rutgers.edu/ departments/ medicine/ internal_medicine/programming.php [Accessed 24 Dec. 2025].

Schwartz, M.B., Chambliss, H.O., Brownell, K.D., Blair, S.N. and Billington, C. (2003).Weight Bias among Health Professionals Specializing in Obesity.Obesity Research, 11(9), pp.1033–1039.doi:https://doi.org/10.1038/oby.2003.142.

Seymour, J., Barnes, J.L., Schumacher, J. and Vollmer, R.L. (2018). A Qualitative Exploration of Weight Bias and Quality of Health Care Among Health Care Professionals Using Hypothetical Patient Scenarios. Inquiry: A Journal of Medical Care Organization, Provision and Financing, [online] 55, p.46958018774171. doi:https://doi.org/10.1177/0046958018774171.

Verma, A., Chauhan, S., Lazarus, A. and Kale, S. (2024). A cross-sectional assessment of obesity among medical students of central India.Asian Journal of Medical Sciences, [online] 15(5), pp.168–172. Available at: https://www.nepjol.info/ index. php/AJMS/article/view/63561 [Accessed 23 Dec. 2025].

Wan Baharuddin, W. K. And Abdul Ghani, R. (2023) "The Knowledge And Awareness Of Obesity And Its Risk Of Cancer Among International Islamic University Malaysia Undergraduate Students", International Journal of Allied Health Sciences, 7(1), pp. 2845–2852. doi: 10.31436/ijahs.v7i1.770.

Wang, C., Murley, W.D., Panda, S., Stiver, C.A., Garell, C.L., Moin, T., Crandall, A.K. and Tomiyama, A.J. (2025). Assessing Weight

Stigma Interventions: A Systematic Review of Randomized Controlled Trials.Current Obesity Reports, 14(1).doi:https://doi.org/10.1007/s13679-025-00628-w.

World Health Organization (2025).Obesity and Overweight. [online] World Health Organization. Available at: https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight.

World Obesity Federation (2018).Weight Stigma. [online] World Obesity Federation. Available at: https://www. worldobesity.org/what-we-do/our-policy-priorities/weight-stigma.

Xue, B., Zhang, X., Li, T., Gu, Y., Wang, R., Chen, W., Ren, X., Liu, X., Chen, G., Lin, Y., Pan, C., Zhao, W., Li, T., He, L. and Han, C. (2021). Knowledge, attitude, and practice of obesity among university students.Annals of Palliative Medicine, [online] 10(4), pp.4539546–4534546.doi:https://doi.org/10.21037/apm-21-573.

****