https://doi.org/10.35845/kmuj.2025.23753

ORIGINAL ARTICLE

Physician perspectives in treating obesity: an insight from Pakistan

Fatima Ibrar [1], Farzana Shafqat [1], Faisal Ali [1], Abdul Rehman [1], Saira Akhlaq [1], Maliha Aziz [1], Muslim Atiq [1]✉

1: Department of Gastroenterology and Hepatology, Shifa International Hospital, Islamabad, Pakistan

Email ✉ : muslim.atiq@shifa.com.pk

Date Submitted: August 08, 2024
Date Revised: November 02, 2024
Date Accepted: November 11, 2024

ABSTRACT

Objectives: To explore physician barriers in obesity management and compare the perceptions and approaches of gastroenterologists and other medical specialists toward its pathogenesis and treatment, with a specific focus on behavioral and biological factors.

Methods: This cross-sectional survey was conducted at gastroenterology and hepatology conferences in Karachi (September 2023) and Islamabad (December 2023), Pakistan. The study design was adapted from a prior U.S.-based survey. A structured questionnaire assessed physician perceptions of five biological and two behavioral factors contributing to obesity, satisfaction in obesity management, and the perceived effectiveness of behavioral pharmacologic and surgical treatment modalities.

Results: Among 114 participants, 39 (34%) were gastroenterologists, and 75 (66%) were from other medical specialties. Perceptions of biological (6.40 [5.6–7.6], p=0.722) and behavioral (7.5 [6.5–8.5], p=0.564) factors were comparable across groups. Beliefs in behavioral factors correlated more strongly with perceived treatment efficacy, particularly for lifestyle modification (r=0.48, p <0.001) and medications (r=0.30, p=0.001), while weight-loss surgery had a weaker association. Lifestyle modification was consistently rated as the most effective treatment across both groups. Medications and bariatric surgery were perceived as significantly less effective than lifestyle modification or surgery alone (p<0.001 for both comparisons). There were no significant differences in biological or behavioral factor ratings between the groups.

Conclusion: This study highlights physicians' shared perspectives on obesity management, emphasizing the central role of lifestyle modifications. It identifies gaps in education and interventions needed to enhance satisfaction and treatment outcomes, emphasizing the importance of improved training and interdisciplinary collaboration for optimizing obesity care.

Keywords: Obesity (MeSH); Overweight (MeSH); Knowledge (MeSH); Attitude (MeSH); practices (MeSH); Public Health Practice (MeSH); Body Mass Index (BMI) (MeSH); Pandemics (MeSH); Bariatric Surgery (MeSH); Gastroenterology (MeSH).

THIS ARTICLE MAY BE CITED AS: Ibrar F, Shafqat F, Ali F, Rehman A, Akhlaq S, Aziz M, et al. Physician perspectives in treating obesity: an insight from Pakistan. Khyber Med Univ J 2025;17(1):82-7. https://doi.org/10.35845/kmuj.2025.23753

INTRODUCTION

In western literature, obesity is defined as a BMI >30 kg/m^2 (for Asians ≥25kg/m^2).[1] Obesity is a pandemic, with serious adverse effects, affecting the quality of life, hence requiring timely detection and management. Obesity is a risk factor for various malignancies, which include GI and non-GI malignancies. In non-GI, it causes thyroid, breast, ovarian, and renal malignancies, whereas in GI, esophageal, liver, pancreas, gall bladder, and colorectal malignancies are seen.[2]

Obesity is the root cause of many diseases, including diabetes mellitus, hypertension, MI, stroke, sleep apnea, and several cancers, hence leading to decreased life expectancy.[3] According to WHO, in 2022, 43% of people aged 18 years and above were overweight, and 16% were found to have obesity. A cross-sectional study performed in Pakistan between 2018 and 2019 in Lahore to determine non-communicable disease burden showed that 68.8% of participants were obese/overweight.[4] Pathogenesis of obesity involves variable factors, including physiological, psychological, environmental, and genetic factors.[5] There are five major pillars of managing obesity: behavioral changes, nutrition, physical activity, pharmacotherapy, and endoscopic/surgical management. The decision to pursue life style modification and / or surgical intervention depends on patient's BMI. A combination of these components is used for managing obesity. Alone in physical activity, less weight is reduced as compared to combined dietary modifications and physical activity, which can cause 5-10% weight loss. In addition to the above, anti-obesity medication can be used in overweight or obese nonpregnant patients. These medications include GLP 1 analogues (Liraglutide and semaglutide), tirzepatide, orlistat, phentermine-topiramate, naltrexone-bupropion. Tirzepatide has the highest effect, with a mean weight loss of 21% at 72 weeks. Comparatively, intragastric balloons and endoscopic sleeve gastroplasty have 10-13% weight loss over six- months, and weight loss from surgical procedures is greater by 25-30% over one year.[6] There are different barriers to the management of obesity. Patient-related barriers include a lack of understanding that obesity is the root cause of many diseases and that it needs compliance to treatment; otherwise, it can relapse. The cost of medical treatment in patients with low socioeconomic status and medical conditions like hypothyroidism and PCOS, and drugs like antidepressants (amitriptyline, mirtazapine) and steroids can cause weight gain. Physician barriers include a lack of training in obesity management, leading to delayed diagnosis, and also numerous patients in OPD with limited time for each patient, making it challenging to

discuss weight management.[7] The aim of this study was to explore physician perceptions related to the pathogenesis and management of obesity. Little is known about how physicians in our setting approach obesity. Study holds significant value as it delves into the perspectives of Pakistani doctors' perspectives on behavioral and biological factors in obesity management. A secondary aim was to compare differences between gastroenterologists and other medical specialties, as it was believed that gastroenterologists would have greater awareness of biological factors than other medical specialties.

METHODS

The construct and design of this study was based on a previous study published from the United States.[1] The authors of that study used a questionnaire aimed to investigate five biological factors and two behavioral factors implicated in weight gain with regards to physician's perceptions in treating obesity. (Appendix A) No validated instrument exists to ask about these factors. The questionnaire also asked about satisfaction in treating obesity and about the perceived effectiveness of behavioral, pharmacologic and surgical treatment of obesity. All items were rated on a scale of 0-10, with 0 listed as 'least important' and 10 listed as 'most important'. A summary score was created of the five biological factors and of the two behavioral factors.

Study population: The study population included medical professionals, both gastroenterologists and medical specialists including endocrinologists. For data collection, Google forms were distributed online, while printed forms were handed out during gastroenterology and hepatology conferences in Karachi and Islamabad in September and December 2023.

Sample size calculation: The Raosoft® online sample size calculator yielded 150 participants based on a response rate of 50%, a 95% confidence level, and a 5% margin of error. Our response rate was 76%, with 36 of the 150 questionnaires remaining unfilled.

Informed consent: An informed consent was obtained by all participants before the survey was undertaken.

Ethics committee approval: The study was approved by the Institutional Review Board and Ethics Committee of Shifa international hospital Islamabad (IRB#0344-23), approved on Nov 17, 2023.

Statistical analysis: The data was rigorously analyzed using Fisher's exact test to compare the categorical variable of gender across gastroenterology and medicine physicians. The Mann-Whitney U test was then employed to compare the quantitative variables of age, years since degree item scores, and summary scores between gastroenterology and medicine physicians. The results were reported as median±SD for quantitative variables as most of the variables were not normally distributed. Spearman's rho was used to investigate potential correlations between the perceived importance of biological/behavioral factors and the perceived efficacy of treatment approaches. A p-value of <0.05 was considered significant for all comparisons.

RESULTS

Of the 114 study participants, 39 (34%) were from gastroenterology and 75 (66%) from medicine. The overall mean age was 35±9.2 years, with gastroenterology participants being significantly older (36±6.7 years) compared to those in other medical specialties (31±10.1 years; $p < 0.05$).

The majority of participants (N=63, 55.3%) were male, while 51 (44.7%) were female. Among the gastroenterology participants, most participants were male (31/39; 79.5%), whereas in the medical specialties, the majority were female (43/75; 57.3%).

The mean duration since graduation was 11.5±9.1 years overall, with gastroenterology participants having a significantly longer duration (14±6.2 years) compared to medicine participants (9±9.9 years; $p < 0.05$).

There were no statistically significant differences between the gastroenterology and medicine groups in median summary scores for biological

Table I: Ratings for biological and behavioral factors causing obesity

Variable	Total (n=114)	Gastroenterology (n=39)	Medicine (n=75)	p-value
Summary score for biological factors	6.40[5.6-7.6]	[a]6.40[6-7.4]	[a]6.4 [5.6-7.6]	0.722
Summary score for behavioral factors	7.5[6.5-8.5]	[a]7.5[6-8.5]	[a]7.5[6.5-8.5]	o.564
Increased levels of ghrelin	7[5-8]	[a]6[5-8]	[a]7[5-8]	0.527
Decreased levels of leptin	7[5-8]	[a]7[5-8]	[a]7[5-8]	0.236
Reduced 24h energy expenditure	8[6-9]	[a]8[6-9]	[a]8[5-9]	0.505
Increased sensitivity of brain to food cues	6[5-8]	[a]6 [5-7]	[a]7 [5-8]	0.504
Increased cellularity of adipose tissue	6[5-8]	[a]6[6-8]	[a]6[5-8]	0.988
Reversion to previous dietary habits	7[6-9]	[a]8[6-9]	[a]7[6-9]	0.776
Depression or other negative mood states	8[6.5-9]	[a]8[6-9]	[a]8[7-9]	0.238

Superscripts with different letters are significantly different at $p < 0.05$. All values are median [IQR].

Table II: Pairwise correlations between perceived efficacy of obesity treatment and belief in strength of biological and behavioral factors causing obesity

Variable	Summary score of biological factors	Summary score of behavioral factors
Satisfaction in treating obesity	0.39 (p<0.001)	0.28 (p=0.002)
Effectiveness of lifestyle modification	0.29 (p=0.001)	0.48 (p<0.001)
Effectiveness of medications	0.09 (p=0.297)	0.30 (p=0.001)
Effectiveness of weight loss surgery	0.17 (p=0.068)	0.24 (p=0.012)

Table III: Perceived effectiveness of obesity treatment modalities

Variable	Gastroenterology Group	Medicine Group
Satisfaction in treating obesity	6.33	6.6
Effectiveness of lifestyle	8.47	8.47
Effectiveness of medications	6.81	6.9
Effectiveness surgery	7.03	6.87

(6.40 [5.6–7.6], p = 0.722) and behavioral factors (7.5 [6.5–8.5], p = 0.564) contributing to obesity (Table I), indicating a shared perception among participants.

Among biological factors, increased ghrelin (7 [5–8]), decreased leptin (7 [5–8]), and reduced 24-hour energy expenditure (8 [6–9]) had similar ratings across both groups (p>0.05). Brain sensitivity to food cues was rated slightly higher in medicine (7 [5–8]) than gastroenterology (6 [5–7]) participants, but the difference was not significant (p = 0.504).

For behavioral factors, reversion to previous dietary habits was rated slightly higher in gastroenterology (8 [6–9]) than medicine participants (7 [6–9], p=0.776). Depression and negative mood states had high ratings in both groups (8 [6.5–9] overall), with medicine participants rating it slightly higher (8 [7–9]) than gastroenterology (8 [6–9], p = 0.238).

Beliefs in behavioral factors were more strongly linked to the perceived effectiveness of obesity treatments, particularly lifestyle modification and medications, whereas weight loss surgery showed weaker associations with both biological and behavioral factors (Table II). Perceived efficacy in treating obesity correlated significantly with biological factors (r = 0.39, p < 0.001) and behavioral factors (r = 0.28, p = 0.002). Lifestyle modification showed moderate correlations with both (biological: r = 0.29, p = 0.001; behavioral: r = 0.48, p < 0.001), while medications correlated only with behavioral factors (r = 0.30, p = 0.001). Weight loss surgery had a weak correlation, significant only for behavioral factors (r = 0.24, p = 0.012).

Table III shows that perceived effectiveness of obesity treatment modalities was largely similar between Gastroenterology and Medicine groups. Satisfaction in treating obesity was slightly higher among Medicine groups (6.6), while lifestyle modification was rated equally effective (8.47) in both groups. Medications (Gastroenterology: 6.81, Medicine: 6.9) and surgery had comparable ratings across both groups.

DISCUSSION

In our study we did not see any difference between mean biological rating scores or the behavioral rating scores between gastroenterologists and other medical specialties. Moreover, there was no difference in gastroenterologists and other medical specialties with regards to all individual parameters of biological or behavioral rating scores including increased levels of ghrelin, decrease level of leptin reduced 24-hour energy expenditure, increased sensitivity of brain to food cues, increased cellularity of adipose tissue, reversion to previous dietary habits and depression or other negative mood states. Likewise, both groups showed similar satisfaction levels with regards to treating obesity and perceived effectiveness of various interventions. We did however notice high ratings for biological factors that correlated with greater perceived efficacy of lifestyle modifications but not with weight loss medications or surgery. Similarly, high ratings for importance of behavioral factors in causing weight management correlate with greater perceived efficacy of behavioral treatment of obesity. This was a surprising finding. One would imagine that; somebody who consider biological factors as important causative factor for obesity would put more emphasis on interventions other than lifestyle modifications to help augment the effect of lifestyle modifications alone. These interventions could be surgery or medication use. This was not identified in our study and we identify it as potential gap in physician's understanding on how to approach obesity. On contrary it was noted in our study that higher ratings for behavioral factors correlate with greater perceived efficacy of weight loss medications and weight loss surgery. Physicians need to be better educated with regards to employing lifestyle modifications along with the use of adjunctive therapies such as weight loss medications and weight loss surgery to help patients with obesity.

Obesity results from an imbalance between caloric intake and energy expenditure.[8] Weight loss improves complications associated with obesity like hypertension, fatty liver disease, diabetes mellitus type 2, and obstructive sleep apnea and also improves quality of life. Managing obesity requires a multimodal approach. As obesity has a complex etiology, only diet and exercise have less of a role in long-term

management.[9] Lifestyle modifications, pharmacotherapy and surgery improve weight loss maintenance.[10] A study performed to assess the knowledge of medical professionals in diagnosing and treating obesity showed that 32.9% of physicians do not know about obesity diagnosis and management.[11] A similar study showed that 88.9% of physicians calculate BMI, but only 13% discussed results. Our study, which aimed to investigate physicians' perceptions of obesity and its treatment modalities, employed a comprehensive methodology. We sought to examine various factors contributing to obesity, including behavioral and biological aspects, and the effectiveness of different treatment approaches, such as lifestyle changes, medications, and bariatric surgery. We also categorized the physicians into two groups; gastroenterologists and those from other medical specialties and compared their perceptions to identify any differences. Our results are slightly discordant with regards to the results presented by Tsai et.al.[1] Tsai et al found out that respondents rated behavioral modifications as more effective as compared to medications or surgery to treat obesity. Intuitively, they found out that respondents who reported a belief in the role of behavioral factors rated life style modifications as more effective as well.

Our results revealed no significant difference between the two groups regarding the importance of biological and behavioral factors contributing to obesity. Interestingly, both groups scored higher for behavioral factors in contributing more to obesity than biological factors. This belief was consistent with existing literature, which identifies that while both factors are essential in their respects, behavior is perceived to be a crucial contributor to weight gain and, consequently, their obesity.[12] Based on the rating scores, however, our respondents perceived lifestyle modifications as more valuable than pharmacotherapy or bariatric surgery. These results are similar to those of another study, in which most healthcare physicians are more likely to offer lifestyle modifications compared to pharmacotherapy and surgery.[13] However, this is in stark contrast to existing literature, which, while acknowledging the efficacy of lifestyle modifications, determines they are best utilized as adjuncts with medical or surgical interventions, especially treating higher-grade obesity. It is interesting to note that despite attributing moderate importance to biological factors as determinants of obesity, our respondents failed to appreciate the efficacy of medical and surgical interventions. These interventions ultimately trigger weight loss through various mechanisms, including hormonal changes that cause increased satiety or decreased hunger.[14] Additionally, surgical interventions are particularly effective in causing acute weight loss and profoundly impacting substantial improvement in comorbid conditions.[15] Many physicians have positive attitudes towards bariatric surgery. However, they are not confident enough to refer their patients for bariatric surgery because they are often unsure if the patients really need a more aggressive approach like surgery;[16] and perhaps, somewhat hesitant to refer them for surgery due to side effects seen in few patients. Hence, well-structured and customized educational programs are needed to address these barriers.[17] Our study revealed that physicians who perceived behavioral factors as important components contributing to obesity, demonstrated a better understanding of all the treatment modalities. This could partly be explained by physicians understanding the importance of incorporating a multifaceted approach while treating obesity. By understanding and implementing this approach, healthcare professionals can effectively target the biological and behavioral aspects of obesity, empowering them to provide comprehensive care. Our findings underscore a significant knowledge gap among physicians regarding the effectiveness of medical and surgical therapies for obesity. This gap, which our study has brought to light, highlights the urgent need for improved education and awareness. It is our collective responsibility to ensure that healthcare professionals and trainees stay updated with international guidelines, thereby enhancing the quality of obesity treatment. In one study looking at 92 primary care physicians, participants took an eating history on their initial encounter. BMI was calculated by 82% of participants, with a very small percentage calculating body fat composition. Only one-fourth of the participants prescribed anti-obesity medicines, and half referred patients for surgery only in severe cases.[18] A survey from Turkey stated that factors preventing gastroenterologists from participating in weight management of obese patients were lack of interest to obesity treatment in 20.5%, lack of sufficient time in 43.6%, and lack of effective treatment options in 24.9%.[19] These factors need to be taken into account in apprising practicing and aspiring gastroenterologists to include comprehensive obesity evaluation and management in their clinical practice.

Limitations of the study

The limitations of this study include the challenges of data collection with knowledge, attitude and practice studies and the associated response rate.

CONCLUSION

This study highlights the shared perspectives of gastroenterologists and other medical specialists on obesity management, with no significant differences in their perceptions of biological and behavioral factors contributing to obesity. Physicians showed a stronger association between behavioral factors and perceived treatment efficacy, particularly for lifestyle modification, which was consistently rated as the most effective intervention. Medications and bariatric surgery were viewed as less effective in comparison. These findings underscore the need for enhanced physician education and interdisciplinary collaboration to optimize obesity treatment strategies, ensuring evidence-based approaches that integrate lifestyle modifications with appropriate medical and surgical interventions.

REFERENCES

1. Tsai AG, Histon T, Kyle TK, Rubenstein N, Donahoo WT.

Evidence of a gap in understanding obesity among physicians. Obes Sci Pract 2018;12(4):46-51. https://doi.org/10.1002/osp4

2. Zou Y, Pitchumoni CS. Obesity, obesities and gastrointestinal cancers. Dis Mon 2023;69:101592.https://doi.org/10.1016/j.disamonth.2023.101592

3. Blüher M. Obesity: global epidemiology and pathogenesis. Nat Rev Endocrinol 2019;15:288-98. https://doi.org/10.1038/s41574-019-0176-8

4. Kazmi T, Nagi M, Razzaq S, Hussnain S, Shahid N, Athar U. Burden of noncommunicable diseases in Pakistan. East Mediterr Health J 2022;30(28):798-804. https://doi.org/10.26719/emhj.22.83

5. Caterson ID, Alfadda AA, Auerbach P, Coutinho W, Cuevas A, Dicker D, et al. Gaps to bridge: Misalignment between perception,reality and actions in obesity. Diabetes Obes Metab 2019;21:1914-24. https://doi.org/10.26719/emhj.22.083

6. Elmaleh-Sachs A, Schwartz JL, Bramante CT, Nicklas JM, Gudzune KA, Jay M. Obesity Management in Adults: A Review. JAMA 2023;28(330):2000-15. https://doi.org/10.1001/jama.2023.19897

7. Kim TN. Barriers to Obesity Management: Patient and Physician Factors. J Obes Metab Syndr 2020;30:244-7. https://doi.org/10.7570/jomes20124

8. Marcelin G, Silveira ALM, Martins LB, Ferreira AV, Clément K. Deciphering the cellular interplays underlying obesity-induced adipose tissue fibrosis. J Clin Invest 2019;1:129. https://doi.org/10.117/CI129192

9. Kheniser K, Saxon DR, Kashyap SR. Long-Term Weight Loss Strategies for Obesity. J Clin Endocrinol Metab 2021;16(106):1854-66.https://doi.org/10.1210/clinem/dgab091

10. Perdomo CM, Cohen RV, Sumithran P, Clément K, Frühbeck G.Contemporary medical, device, and surgical therapies for obesity in adults. Lancet 2023;401(10382):1116-30. https://doi.org/10.1016/S0140-6736(22)02403-5

11. Mojkowska A, Sobczak K, Leoniuk K, Henzler M, Jackowski M. Medical or Common Knowledge? Knowledge of Medical Professionals on Obesity Diagnosis Criteria and Treatment. Obes Facts 2023;16:216-23.https://doi.org/10.1159/000529266

12. Byrne, N.M., Hills, A.P. Biology or Behavior: Which Is the Strongest Contributor to Weight Gain?. Curr Obes Rep 2013;2:65-76. https://doi.org/10.1007/s13679-012-0040-9

13. Falvo AM, Hite Philp F, Eid GM. Primary care provider management of patients with obesity at an integrated health network: A survey of practices, views, and knowledge. Surg Obes Relat Dis 2018;14(8):1149-54. https://doi.org/10.1016/j.soard.2018.05.002

14. Chakhtoura M, Haber R, Ghezzawi M, Rhayem C, Tcheroyan R, Mantzoros CS. Pharmacotherapy of obesity: an update on the available medications and drugs under investigation. EClinicalMedicine 2023;20(58):101882. https://doi.org/10.1016/j.eclinm.2023.101882

15. Raman PGR, Banzal S. "Obesity Management-Bariatric Surgery vs Lifestyle Modification," Open J Endocr Metab Dis 2013;3;60-74. https://doi.org/10.4236/ojemd.2013.31011

16. Lopez EKH, Helm MC, Gould JC, Lak KL. Primary care providers' attitudes and knowledge of bariatric surgery. Surg Endoscopy 2020;34:2273-8. https://doi.org/10.1007/s00464-019-07018-z

17 Conaty EA, Denham W, Haggerty SP, Linn JG, Joehl RJ, Ujiki MB. Primary Care Physicians' Perceptions of Bariatric Surgery and Major Barriers to Referral. Obes Surg 2020;30:521-6. https://doi.org/10.1007/s11695-019-04204-9

18. Guglielmi V, Capoccia D, Russo B, Lubrano C, Mariani S, Poggiogalle E, et al. Knowledge, experiences, and perceptions relating to obesity management among primary care physicians in the Lazio Region, Italy. Front Endocrinol 2023;10(14):1249233.https://doi.org/10.3389/fendo.2023.1249233

19. Tahtacı M, Yıldırım E, Üçbilek E, Şen İ, Bilican G, Şimşek Z et al. Perception and Attitude of Turkish Gastroenterologists Toward Obesity: A Nationwide Survey Conducted by the Obesity Study Group of the Turkish Gastroenterology Association. Turk J Gastroenterol 2024;1;35(3):1617. https://doi.org/10.5152/tjg.2024.22733

AUTHORS' CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

SFI: Study design, acquisition of data, drafting the manuscript, approval of the final version to be published

MA & AR: Acquisition of data, drafting the manuscript, approval of the final version to be published

MAz , FS & SA: Analysis and interpretation of data, critical review, approval of the final version to be published

FA: Conception and study design, critical review, approval of the final version to be published

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

CONFLICT OF INTEREST

Authors declared no conflict of interest, whether financial or otherwise, that could influence the integrity, objectivity, or validity of their research work.

GRANT SUPPORT AND FINANCIAL DISCLOSURE

Authors declared no specific grant for this research from any funding agency in the public, commercial or non-profit sectors

DATA SHARING STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request

KMUJ web address: www.kmuj.kmu.edu.pk
Email address: kmuj@kmu.edu.pk