Journal of Media Horizons
ISSN: 2710-4060 2710-4052 Volume 7, Issue 5, 2026

PSYCHOSOCIAL FACTORS OF WEIGHT REDUCTION MEDICATION USE IN INDIVIDUALS WITH OBESITY

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DOI: https://doi.org/10.5281/zenodo.20486726

Keywords
Body Image Dissatisfaction, Weight Stigma, Social Desirability, Socio-Cultural Attitudes Toward Appearance, Weight Reduction Medication

Article History
Received: 03 April 2026
Accepted: 15 May 2026
Published: 30 May 2026

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Abstract

A correlational cross-sectional research design was conducted to examine the psychosocial factors associated with weight-reduction medication use in individuals with obesity. The study investigated the extent to which body image dissatisfaction, weight self-stigma, sociocultural attitudes toward appearance, and social desirability influence the use of weight reduction medications. The sample comprised (N = 120) participants (M = 28.42, SD = 8.68) recruited through purposive sampling from hospitals, weight-management clinics, gyms, and community settings. Participants reported current or previous use of different categories of weight-reduction treatments, including GLP-1 receptor agonists, Orlistat, herbal remedies, and homeopathic medications. Data were collected using standardized measures, including the Body Image Satisfaction Scale (BISS) by Cash and Pruzinsky (2002), Weight Self-Stigma Questionnaire (WSSQ) by Lillis et al. (2010), Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ) by Thompson et al. (2004), and Marlowe-Crowne Social Desirability Scale (MCSDS) by Crowne and Marlowe (1960) and Weight Loss Management Questionnaire (Hana et al., 2020).

The findings revealed that greater body image dissatisfaction, self-devaluation, fear of enacted stigma, and family, peer, and media pressure were significantly associated with increased use of weight-reduction medications. Men reported higher body image dissatisfaction, whereas women experienced greater fear of stigma. Urban participants and individuals with higher obesity severity reported greater psychosocial distress and medication use. The findings also revealed that social desirability significantly strengthened the relationship between body image dissatisfaction and weight-reduction medication use, suggesting that individuals concerned with social approval and favorable self-presentation are more likely to adopt medication-based weight-loss strategies when experiencing dissatisfaction with their appearance. Participants from higher-income families were more likely to use weight-reduction medications, whereas those from lower socioeconomic backgrounds experienced greater sociocultural pressure and self-devaluation.

INTRODUCTION

Obesity has become a growing concern worldwide, and the role of psychosocial factor in health-related decision making has grown, the use of weight-reduction drugs has become a growing public health concern. Obesity is defined as an

excess amount of fat that raises the risk for a variety of diseases including cardiovascular diseases, type 2 diabetes and psychological distress and is a major health concern worldwide (World Health Organization, 2023). However, many people are taking treatment for weight loss for reasons other than clinical indications. Non-medical issues like social pressures, dissatisfaction with body image, weight stigma, and digital media exposure are as important as medical necessity for weight-reduction medication decisions, according to recent studies (Teixeira et al., 2016; Puhl & Himmelstein, 2018). This highlights the need for understanding the psychosocial factors that may drive individuals towards using weight loss interventions that contain medications.

Obesity has been on the rise worldwide over the last 30 years and is a serious problem. The World Health Organization (2025) estimates that in 2022, 2.5 billion adults (aged 18 years and older) were overweight, with 890 million of these adults living with obesity. This translates to almost 43% of adults in the world being overweight and 16% being obese. Furthermore, the rates of childhood and adolescent obesity quadrupled over the last 27 years and the rates of adult obesity more than doubled since 1990 and obesity is one of the greatest public health challenges in the world, as reported by WHO. These statistics demonstrate that obesity is becoming a serious problem in high-income countries and low and middle-income countries, such as Pakistan.

Obesity is a chronic disease, growing to epidemic proportions worldwide and becoming a significant health risk for the world. Obesity has been an issue that has preoccupied scientists, organisations and governments around the world, due to its negative impact on people's life and undue load on the economic costs in all health systems. The health sciences are also the primary focus of obesity, and many research studies are directed towards both the prevalence and risk factors associated with obesity as well as the significance for the patient's quality of life (QOL) (Ogden et al, 2004).

The prevalence of obesity is increasing significantly over the past decades, with an estimated 890 million adults living with obesity and 2.5 billion adults as overweight in 2022, which is a more than double rate of prevalence compared to 1990 (World Health Organization, 2023; Jeong, 2024). At the same time, the prescription and public interest in weight-loss drugs have risen substantially in recent years, not just in the region, but the world over (Berning et al., 2025; Mahase, 2024). It reveals the importance of examining the psychosocial factors that impact an individual's initiation and adherence to weight loss medications and their impact on treatment outcomes and quality of life (World Health Organization, 2023; Berning et al., 2025).

Worldwide, over the past decades, the prevalence of obesity has grown significantly and is now affecting well over a billion people: More than 390 million children and adolescents were overweight or obese in 2022 and adult obesity rates have significantly increased since 1990. In this sense, WHO and other international organizations have referred to obesity as a global public health emergency that must be prevented in the population and treated in the long term.

The burden of obesity varies between and within countries. High income countries (such as the United States, with prevalence of adult obesity of ~40.3% in 2021-2023) have a prevalence of adult obesity at or exceeding 30-40%. In low and middle income countries, adult obesity is increasing quickly because of urbanisation, changing diets, and a decline in physical activity. Forecasts from global reports and atlases indicate that the obesity burden will continue to increase, as no significant policy action is expected to be taken to address it by 2030.

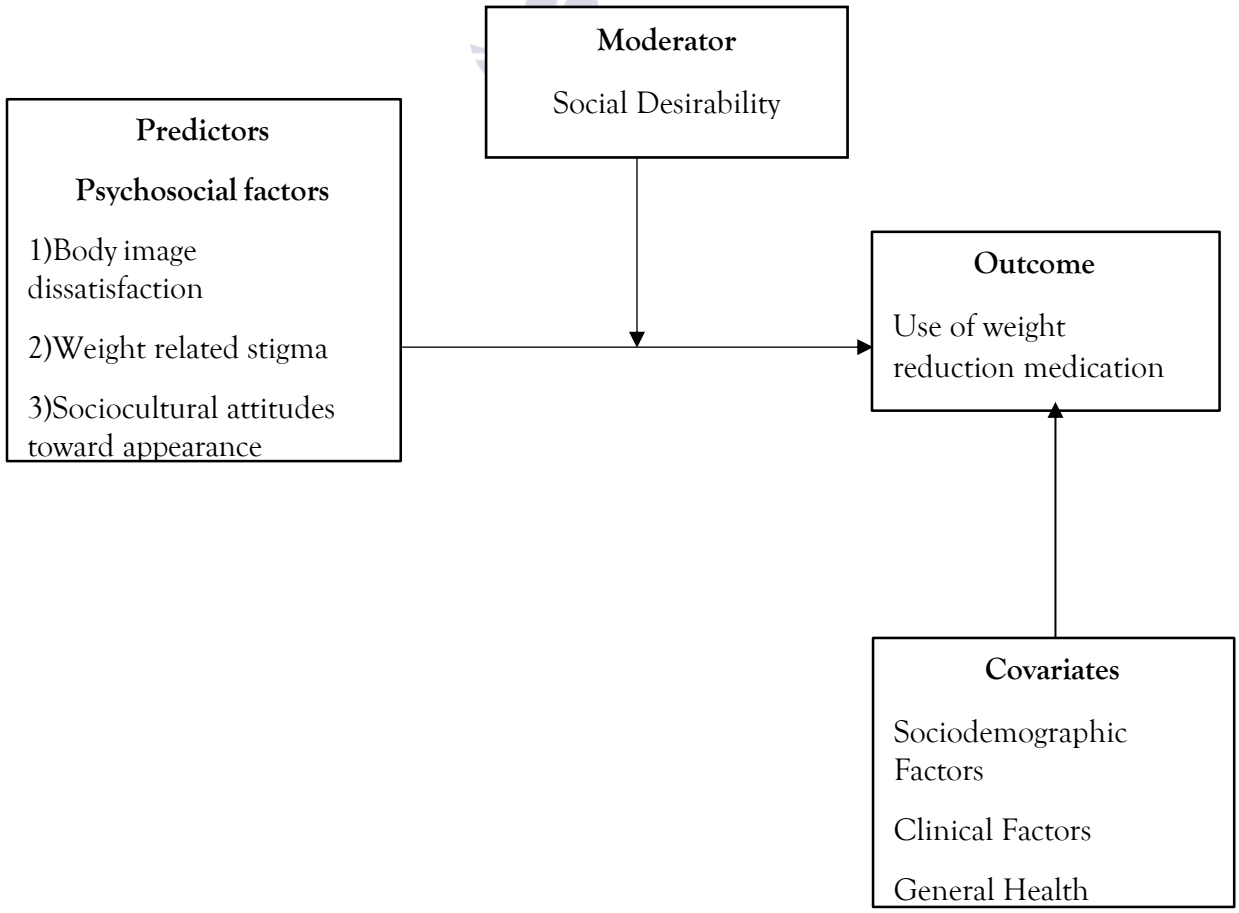
The nutrition transition in Pakistan has led to a dual burden of under nutrition and rising prevalence of overweight and obesity. National survey data, including the Pakistan National Nutrition Survey (2018) and national obesity profiles indicate an increasing trend of overweight and obesity among all age groups and in urban and rural areas from all over the country. This trend of increasing prevalence of overweight and obesity is confirmed at the country level on dashboards, which also highlight the fact that Pakistan is a country in the middle of a growing problem of overweight and obesity that needs multi-sectoral public-health and clinical interventions. The

transition in Pakistan in nutrition has come in the form of higher intake of high calorie foods, lower physical activity, urbanization and sedentary lifestyle. As a consequence of these changes, overweight and obesity has become more common in both rural and urban areas.

Therefore, it is crucial to grasp the psychosocial determinants to the use of weight-reducing medications, so as to be able to design appropriate interventions for obesity management. Medical approaches to obesity treatment are not the only perspective on the treatment of obesity; beliefs, emotions, social contexts, and cultural norms heavily influence weight-management activities. Understanding the psychological motives and sociocultural pressures associated with the use of medicines will assist health practitioners, psychologists and public health professionals in the development of strategies for sustainable lifestyle change that are not solely dependent on medicines.

Over the past few years, new local studies have focused on the clinical effectiveness, safety, and patient outcomes with GLP-1 receptor agonists for obesity and diabetes. The observational cohort study by Memon et al. (2024) in Karachi with obese Pakistani adults with and without T2D showed that 6 months after semaglutide treatment, there was a marked decrease in body weight, glycemic indices and cardiometabolic risk factors. The researchers also found that the patients had good adherence to the treatment and that it was generally well tolerated; many patients continued on treatment despite mild gastrointestinal side effects. Patients' motivation and confidence in long-term weight management seemed to be improved by "visible physical changes" and "improved treatment satisfaction" noted in the research.

Conceptual Model



Rationale

The use of weight-reduction medications in individuals with obesity is shaped by multiple psychosocial factors influencing treatment-seeking behavior. Vulnerable individuals include those with long-standing obesity, prior unsuccessful weight-loss attempts, obesity-related comorbidities, and psychological distress such as body dissatisfaction, low self-esteem, or anxiety (Puhl & Heuer, 2010; Fabricatore & Wadden, 2006). Women, urban residents, and individuals from higher socioeconomic and educational backgrounds are more likely to use pharmacological treatments due to greater exposure to appearance-related social pressures, weight stigma, and improved access to healthcare (Ward et al., 2019). Facilitators include the desire for rapid weight loss, perceived efficacy of medications, and physician recommendation, whereas barriers include fear of side effects, high cost, limited awareness, cultural beliefs favoring traditional or non-pharmacological approaches, and concerns about long-term use (WHO, 2022; Kahan & Igel, 2016). Considering cultural influences is particularly important, as societal norms and family beliefs can strongly affect attitudes toward obesity treatment and medication adherence.

Identifying these psychosocial factors is essential for designing effective awareness campaigns, promoting sustainable lifestyle modifications, and encouraging healthier dietary patterns. Currently, there is limited research and evidence specifically focusing on this dimension particularly the psychosocial influences on the use of weight-reduction medications. As health psychologists, our goal is to educate individuals about the potential adverse effects of these medications, which can negatively impact both physical and mental health and may lead to serious long-term health consequences. These medications are not permanent solutions for weight reduction; without accompanying lifestyle changes, the benefits are often short-lived. Therefore, it is crucial to shift the focus from reliance on pharmacological interventions toward healthy habits, such as regular physical activity, balanced nutrition, and stress management. Additionally, this study aims to highlight the broader implications of medication use both at the individual level, in terms of health risks and psychological impact, and at the social level, by addressing societal attitudes, stigma, and misconceptions surrounding obesity treatment. By doing so, we hope to provide a comprehensive approach that promotes sustainable behaviour change, enhances well-being, and reduces the unnecessary reliance on weight-loss medications.

Aim of the Study

The aim of this study is to investigate the extent to which psychosocial factors (body image dissatisfaction, weight stigma, social desirability, sociocultural attitudes toward appearance) tend to influence the level of weight reduction medication use in individuals with obesity. The study also examined how do these individuals with diverse sociodemographic (age, gender, ethnicity, education level, area of residence) and clinical factors (BMI category, duration of obesity, presence of obesity-related comorbidities (e.g., type 2 diabetes, hypertension), current or past use of weight-reduction medications) tend to differ in their level of psychosocial factors while living with obesity, with a focus on understanding how these factors affect their decision to initiate or continue pharmacological weight-loss treatments.

Research Questions

- How do most participants differ in level of weight reduction as a consequence of psychosocial factors?
- How do most participants differ in their level of weight reduction across diverse sociodemographic?
- To what extent do clinical factors and general health indicators tend to influence level of weight reduction

Hypotheses

1. Psychosocial factors are likely to be associated with weight reduction medication use in individuals with obesity.
2. Individuals with diverse sociodemographic are likely to differ in their level

of weight reduction medication use.
3. Increased Body Image Dissatisfaction, Weight Stigma, Socio Cultural Attitudes Toward Appearance, Social Desirability are likely to be associated with weight reduction medication use.
4. Social Desirability is likely to moderate the relationship between psychosocial factors and weight reduction medication use.

Method

Research Design

A Correlational research design was used to investigate the extent to which psychosocial factors (Body image dissatisfaction, Social desirability, Weight stigma, Sociocultural attitudes towards appearance) tend to influence the level of weight reduction medication use in individuals with obesity.

Sample and Sampling Strategy

A purposive sampling technique was used to recruit study sample meeting the inclusion criteria. The sample was comprised of (N = 120) men women (M=28.42, SD=8.68) adults (n=53 men, n=67 women), sample size was estimated using G-Power. Participants were recruited using Snowball sampling strategy based on the criteria of Obesity by WHO, (BMI) ≥ 30 kg/m² through endocrinology departments of public and private hospitals, nutrition and dietetics clinics, gyms, and community-based advertisements in Lahore and surrounding districts. Initially eligible participants were approached through social networks and invited to participate in the research. After completing the questionnaire these participants were requested to refer other people with obesity from their social networks who met the inclusion criteria. Referrals from healthcare professionals and fitness centers were also utilized to facilitate recruitment of eligible participants.

3.3 Inclusion /Exclusion Criteria

Participants with the following inclusion, exclusion criteria will be followed:

3.3.1 Inclusion Criteria:

- Body Mass Index (BMI) ≥ 30 kg/m² at the time of assessment
- Currently using or have used pharmacological weight-loss medication for a minimum duration of three months.
- Participants with medical comorbidities of PCOS, Diabetes Type I, Hypertension
- Basic formal education, with an ability to understand, read and write and respond to all study questionnaires in English and Urdu.

3.3.2 Exclusion Criteria:

- Clinical diagnosis of Eating disorders (anorexia nervosa, bulimia nervosa, or binge-eating disorder) (As screened in clinical information sheet, see Appendix-B, page no.52)
- Undergone bariatric surgery within the past 12 months
- On long-term treatment with psychotropic medications
- With other medical comorbidities (diabetes type II) (As screened in clinical information sheet, see Appendix-B, page no.52)
- Women undergoing pregnancy

Assessment Measures

Demographic Information Sheet

A self-reported demographic information sheet was used in this study to obtain background and information including personal, familial, educational and occupational details.

Clinical Information Sheet

The clinical information sheet is also made by researcher was used in this study. The clinical information sheet contains questions about clinical and health status of participants such as cause of obesity, duration, BMI, co-morbidity and questions like blood pressure, cholesterol levels, age, height and glucose level.

General Health Indicator Sheet

General health indicator sheet made by researcher was also used in the study to collect the data about the health indicators of participants. The questions included in the general health indicator sheet consisted of height, weight, schedule of blood pressure and blood glucose monitoring, breakfast habits, sleep schedules and schedules of physical activity.

Body Image Satisfaction Scale.

The Body Image Satisfaction Scale (BISS) is a self-report measure used to assess individuals' satisfaction with their physical appearance and body image. It consists of 10 items rated on a 5-point Likert scale ranging from 1 (definitely disagree) to 5 (definitely agree). Higher scores indicate greater body satisfaction and a more positive body image. The scale is widely used to examine body image concerns and has demonstrated satisfactory psychometric properties (Cash, 2000; Cash & Pruzinsky, 2002).

Weight Self-Stigma Questionnaire (WSSQ).

The Weight Self-Stigma Questionnaire (WSSQ), created by Lillis et al., (2010), measures the degree of internalized weight stigma among individuals who are overweight or obese. It comprises 12 items divided into two subscales: Self-Devaluation, which reflects negative self-judgment and shame, and Fear of Enacted Stigma, which assesses anxiety about discrimination or negative evaluation from others. Items are rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating stronger internalized stigma. The WSSQ is widely used in obesity-related studies to understand the psychological burden of societal weight bias and its influence on self-perception and health behaviors.

Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ-4)

The Sociocultural Attitudes Toward Appearance Questionnaire-4 (SATAQ-4) is a self-report measure used to assess the internalization of societal and media-driven appearance ideals. It consists of 22 items rated on a 5-point Likert scale ranging from 1 (definitely disagree) to 5 (definitely agree). The scale measures internalization of appearance ideals, social and media pressures, and appearance-related comparisons. Higher scores indicate greater endorsement of sociocultural appearance standards. The SATAQ-4 has demonstrated strong psychometric validity and is widely used in research on body image and weight-related behaviors (Heinberg et al., 1995; Thompson et al., 2016).

Marlowe-Crowne Social Desirability Scale (MCSDS)

The Marlowe–Crowne Social Desirability Scale Short Form (MCSDS-13) is a self-report measure used to assess individuals' tendency to respond in a socially desirable manner. It consists of 13 true–false items, with higher total scores indicating a greater tendency toward socially desirable responding. The scale is widely used to control for response bias in self-report research, particularly in studies involving sensitive topics such as body image and health-related behaviors (Crowne & Marlowe, 1960).

Weight Loss Management Questionnaire (WLMQ).

The Weight Loss Management Questionnaire (WLMQ) is a self-report measure used to assess individuals' engagement in weight control behaviors, including dieting, exercise, calorie restriction, and the use of weight loss products or medications. It consists of 7 items rated on a 2-point Likert scale, with higher scores indicating greater involvement in weight management practices. The scale is commonly used in research examining body image and weight-related behaviors (Adapted from Grogan, 2016).

Results

The study intended to investigate psychosocial factors of weight reduction medication use in individuals with Obesity. The data was analyzed in the following steps: at first descriptive statistics i.e. mean, standard deviation, frequencies and percentages were computed to provide a preliminary profile of the sample demographic and clinical characteristics. Descriptive and Reliability of the scales were conducted. Pearson product Moment correlation was used to find out relationship between study variables. Multiple Hierarchical Regression analysis was used in order to examine association between constructs and to identify predictors. Independent sample t-test was also used to find out the gender differences. Moderation Analysis by using process macro through SPSS used to access the role of moderator whether it strong or weekend the relationship between predictor and outcome variables.

Findings of all the analyses along with summary of findings are discussed in this chapter.

Check for Normality of Distribution

Keeping in view the assumption of normality, all variables were checked and were found normally distributed and significant enough to carried out further analysis in accordance with current research hypotheses. Assessment of normal probability plots, skewness and kurtosis also verified that assumption of univariate normality, linearity between pairs of variables, and homoscedasticity were generally met as Body Image Dissatisfaction: Skewness (.64), Kurtosis (-.05), Weight Stigma Skewness: (.23), Kurtosis (.95), Socio Cultural Attitudes Toward Appearance Skewness a: (-.82), Kurtosis (.27) and Social Desirability Skewness (.25), Kurtosis (.15). There was no need for transformation of data.

Multiple Linear Regression among Study Variables (N=120)

Variables	*B*	SE	*t*	*95%* CI
Constant	1.80**	.573	3.14	[.637,3.01]
BISS	.01*	.006	2.15	[.001,.024]
WSSQ				
Self-Devaluation	.03**	.005	2.62	[.003,.023]
Fear of Enacted Stigma	-.02*	.011	-.14	[-.023,.020]
SATAQ				
Low Body Fat	-.09*	.018	-.50	[-.045,.027]
Athletic	.02*	.01	1.60	[-.006,.054]
Family Pressure	-.07*	.02	-1.11	[-.074,.021]
Peer Pressure	.09*	.03	.39	[-.036,.054]
Media Pressure	-.00**	.01	-.04	[-.033,.031]
MCSDS	-.05	.02	-2.60	[-.095, -.013]

Note. BISS= Body Image Satisfaction Scale; WSSQ= Weight Self Stigma Questionnaire; SATAQ= Socio Cultural Attitudes Toward Appearance; MCSDS= Marlowe Crown Social Desirability Scale; B=Beta; SE= Standard Error

The results of a multiple regression analysis that investigated psychosocial predictors of the outcome variable are presented in Table. The model indicates that body image satisfaction (BISS; B = .01, SE = .006, t = 2.15, 95%) was significant negative predictor and weight-related self-devaluation (B = .03, SE = .005, t = 2.62, 95%) was significant positive predictors of the outcome variable. Higher levels of social desirability were associated with lower levels of reported outcomes as indicated by the negative association between social desirability and the outcome (B = −.05, SE = .020, t = −2.60, 95%. In general, the results indicated that the cognitive distortions of body image (e.g., self-devaluation and dissatisfaction) were the strongest predictors in the model, while the sociocultural pressure variables had only limited direct effect.

Moderation Analysis

	Weight Reduction Medication Use			
			95% CI	
Predictors	*B*	*SE*	LL	*UL*
Body Image				
Main Effect				
BISS	-.2698***	.3797	-1.013	.4743
SD	.1070	.5350	-.941	1.155

BISS*SD	.0086**	.0176	-.025	.0431
Total R^2	.237**			
R^2 Change	11.43*			
Weight Stigma				
Main Effect				
WSSQ	-.023	.436	-.885	.837
SD	.157	.763	-1.337	1.652
WSSQ*SD	.003	.020	-.036	.043
Total R^2	.035			
R^2 Change	11.496			
SATAQ				
Main Effect				
SATAQ	.165	.282	-.388	.718
SD	.759	1.015	-1.230	2.748
SATAQ*SD	-.006	.013	-.032	.019
Total R^2	.221			
R^2 Change	7.79			

Note. BISS= Body Image Satisfaction Scale; WSSQ= Weight Self Stigma Questionnaire; SATAQ= Socio Cultural Attitudes Toward Appearance; SD= Social Desirability. B=Beta; SE= Standard Error.

Table shows the moderation analyses for the study that tested the interaction between social desirability (SD) and the association of each psychosocial variable with weight reduction medication use. Body image model accounted for a substantial amount of variance in medication use (R^2 = .237, $p < .01$) and there was a significant interaction effect between body image dissatisfaction (BISS) and social desirability (B = 0.0086, SE = 0.0176) such that the relationship between body image and medication use was moderated by the level of social desirability. The main effect of BISS was negative (B = −0.2698) but the confidence interval contained 0, indicating an inconsistent direct effect.

Pearson Correlation Among Demographic

		1	2	3	4	5	6	7	8
1.	Age at Onset of Obesity	-	-.06	-.02	.06	-.12	-.15	-.07	.22*
2.	Sleep		-	.12	.07	-.23*	-.07	-.06	-.25**
3.	Monthly Family income			-	.15	-.18	-.21*	-.03	.29**
4.	BISS				-	-.34***	-.59***	.13	.25**
5.	WSSQ					-	.54***	-.06	.15
6.	SATAQ						-	-.07	-.08*
7.	MCSDS							-	-.18*
8.	Weight Reduction Medication								-

$p < .05$*, *$p < .01$, **$p < .001$.

Note. BISS= Body Image Satisfaction Scale; WSSQ= Weight Self Stigma Questionnaire; SATAQ= Socio Cultural Attitudes Toward Appearance; MCSDS= Marlowe Crown Social Desirability Scale

The correlation matrix between demographic, clinical and psychosocial variables are shown in Table. There was a significant positive association between the age at obesity onset and medication for weight reduction (r = .22, $p < .05$), and a significant negative association with SATAQ scores (r = −.23, $p < .05$) and medication use (r = −.25, $p < .01$). The more families earned per

month, the more they used the medications (r = .29, p < .01) and the less they scored on SATAQ (r = −.21, p < .05). BISS was significantly related to negative associations with weight stigma (WSSQ; r = −.34, p < .001) and sociocultural attitudes (SATAQ; r = −.59, p < .001) and positive associations with medication use (r = .25, p < .01). WSSQ was significantly associated positively with SATAQ (r = .54, p < .001). Social desirability (MCSDS) was negatively related to medication use (r = −.18, p < .05).

Mean, Standard Deviations and t-values for Men and Women on Study Variables

	Men (n=53)		Women (n=67)				
Variables	M	*SD*	M	*SD*	*t*(118)	*p*	Cohen's *d*
BISS	29.62	8.66	24.75	7.53	3.29	.001	0.60
WSSQ							
Self-Devaluation	18.75	3.41	20.70	10.76	1.27	.208	0.24
Fear of Enacted Stigma	18.67	4.93	20.42	4.36	2.04	.043	0.37
SATAQ							
Internalization Low body fat	16.24	2.90	17.24	2.65	1.95	.053	0.36
Internalization Athletic	15.54	3.15	16.55	3.32	1.68	.095	0.31
Family Pressure	13.79	3.34	14.52	2.95	1.27	.208	0.23
Peer Pressure	14.13	3.39	15.01	3.42	1.41	.162	0.26
Media Pressure	14.20	3.44	15.07	4.19	1.22	.227	0.23
MCSDS	21.19	2.31	20.50	1.35	2.02	.046	0.36
Weight Reduction Medication	22.53	1.15	15.95	1.02	1.72	.000	0.85

p < .05*, **p* < .01, ***p* < .001.

Note. BISS= Body Image Satisfaction Scale; WSSQ= Weight Self Stigma Questionnaire; SATAQ= Socio Cultural Attitudes Toward Appearance; MCSDS= Marlowe Crown Social Desirability Scale.

Independent samples t-tests was used to determine whether there are differences between genders on the study variables, as shown in Table. Significant differences were found in body image dissatisfaction, with men reporting higher BISS scores (M = 29.62, SD = 8.66) than women (M = 24.75, SD = 7.53), t(118) = 3.29, p = .001, d = 0.60. Women reported significantly higher fear of enacted stigma (M = 20.42, SD = 4.36) compared to men (M = 18.67, SD = 4.93), t(118) = 2.04, p = .043, d = 0.37. A significant gender difference was also observed in social desirability, with men scoring higher (M = 21.19, SD = 2.31) than women (M = 20.50, SD = 1.35), t(118) = 2.02, p = .046, d = 0.36. Additionally, weight reduction medication use showed a large and significant gender difference, with men reporting higher use (M = 22.53, SD = 1.15) than women (M = 15.95, SD = 1.02), t(118) = 1.72, p < .001, d = 0.85. The other variables, however, (WSSQ self-devaluation and SATAQ subscales) did not reveal a statistically significant differences.

Mean, Standard Deviations and t-values for rural and urban family system on Study Variables

	Urban (n=61)		Rural (n=59)				
Variables	M	*SD*	M	*SD*	*t*(118)	*P*	Cohen's *d*
BISS	28.67	9.00	25.18	7.39	2.32	.022	0.42
WSSQ							
Self-Devaluation	18.94	3.78	20.70	11.13	1.15	.253	0.21
Fear of Enacted Stigma	19.66	4.30	19.63	5.07	.032	.974	0.01

SATAQ							
Internalization Low body fat	16.75	3.04	16.85	2.57	.208	.836	0.04
Internalization Athletic	16.28	3.35	15.93	3.21	.590	.557	0.11
Family Pressure	14.10	2.87	14.29	3.40	.336	.738	0.06
Peer Pressure	14.47	3.03	14.77	3.78	.472	.638	0.09
Media Pressure	14.69	3.34	14.68	4.37	.00	.993	0.00
MCSDS	20.72	2.14	20.88	1.56	.459	.647	0.08
Weight Reduction Medication	23.65	4.14	21.05	2.45	3.07	.003	0.62

$p < .05$*, *$p < .01$, **$p < .001$.

Note. BISS= Body Image Satisfaction Scale; WSSQ= Weight Self Stigma Questionnaire; SATAQ= Socio Cultural Attitudes Toward Appearance; MCSDS= Marlowe Crown Social Desirability Scale.

The results of independent samples t-tests comparing urban and rural differences on each of the study variables are shown in table. Significant differences were found in body image dissatisfaction, with urban participants reporting higher BISS scores (M = 28.67, SD = 9.00) than rural participants (M = 25.18, SD = 7.39), t(118) = 2.32, p = .022, d = 0.42. A significant difference was also observed in weight reduction medication use, with urban participants scoring higher (M = 23.65, SD = 4.14) compared to rural participants (M = 21.05, SD = 2.45), t(118) = 3.07, p = .003, d = 0.62.

Summary of Findings

- The results of the study Revealed that most of the Weight Reduction Medication Recipients appeared to manifest body image dissatisfaction, weight stigma and pressure from family, peers and media to take medication for weight reduction as indicated by their mean scores. Body image satisfaction was negatively associated with weight stigma and sociocultural attitude variables, while positively associated with weight reduction medication use, suggesting that greater body image concerns were linked with increased medication use. Most of the participants reported a family history of obesity, indicating that obesity may be influenced by hereditary factors as well as shared dietary and lifestyle patterns within families.
- Weight-related self-devaluation showed positive associations with fear of enacted stigma, sociocultural pressures, and medication use, indicating that individuals with higher internalized stigma experienced greater appearance-related pressure and were more likely to use weight reduction medications. Fear of enacted stigma was strongly associated with family, peer, and media pressures, highlighting the role of sociocultural influences in stigma experiences. This finding are consistent with previous literature indicating that negative body image is one of the strongest psychological predictors of unhealthy weight-control behaviors, including excessive dieting, misuse of slimming products, and pharmacological weight-loss interventions (Griffiths et al., 2018; Fardouly & Vartanian, 2021). Individuals who perceive a large discrepancy between their actual and ideal body image often experience emotional distress, shame, and reduced self-worth, which increases motivation for rapid physical change.
- Individuals who developed obesity at a later age were more likely to use weight reduction medications. Sleep duration was negatively associated with sociocultural attitudes toward appearance and medication use, suggesting that individuals with poor sleep quality experienced greater appearance-related pressures and were more likely to engage in weight reduction medication use.
- Monthly family income showed a positive association with medication use, indicating that participants from higher-income families were more likely to use weight reduction medications, possibly due to greater financial access to treatment options. In contrast, higher income was negatively associated with sociocultural attitudes toward appearance, suggesting that individuals

from financially stable backgrounds experienced comparatively lower appearance-related sociocultural pressures.

- In terms of gender distribution, the study found notable disparities that warrant clinical attention. Men appeared to be more dissatisfied with their body image as compared to women. Emerging research indicates that men are increasingly experiencing body image concerns, particularly related to muscularity, leanness, and social expectations.
- People with higher education level (Post Graduate) reported highest body image dissatisfaction and greatest use of weight reduction medications, while experiencing the lowest level of media pressure compared to other educational groups.
- Participants belonging to joint families reported comparatively higher use of weight reduction medications than those from nuclear and extended family systems. This may suggest that individuals living in joint family environments experience greater social awareness, family influence, or appearance-related concerns, which may contribute to increased engagement in weight reduction practices.
- Unmarried and engaged participants reported higher body image dissatisfaction compared to married individuals, suggesting that concerns related to physical appearance may be greater among individuals who are unmarried or preparing for marriage. Weight reduction medication use also differed across marital groups, with unmarried and engaged participants reporting higher medication use than married participants. This may indicate greater concern about physical appearance and social expectations among unmarried and engaged individuals.
- The current study found that junk food (43.3%) was reported as the most common cause of obesity, followed by hormonal and genetic factors. This suggests that unhealthy eating habits and high-calorie diets play an important role in increasing obesity.
- Participants with more than one comorbid condition reported higher internalization of athletic ideals compared to those with one or no comorbid condition, suggesting greater concern with achieving an ideal physical appearance. Weight reduction medication use was also higher among participants with comorbid conditions, indicating that individuals experiencing additional health problems may be more likely to use medications to manage their weight and improve overall health.
- Participants in Obesity Class I reported higher body image dissatisfaction, while participants in higher obesity classes experienced greater fear of stigma and stronger athletic appearance ideals. Family, peer, and media pressures also increased with obesity severity, indicating that individuals with more severe obesity faced greater appearance-related social pressure. In addition, participants in Obesity Class III reported the highest use of weight reduction medications, possibly due to greater health and weight-related concerns.
- Individuals with higher body image dissatisfaction were more likely to engage in the use of weight reduction medication. This suggests that participants who were more concerned about presenting themselves in a socially acceptable or favorable manner were also more likely to adopt weight reduction medication practices when experiencing dissatisfaction with their body image

Discussion

The present study examined psychosocial factors associated with weight-reduction medication use among individuals with obesity. The findings indicated that participants experienced substantial body image dissatisfaction, weight stigma, and sociocultural pressures from family, peers, and media regarding body appearance and weight management. Body image dissatisfaction was significantly associated with weight stigma and sociocultural appearance pressures, suggesting that individuals with greater dissatisfaction were more likely to experience social pressure and to use weight-reduction medications. These findings align with previous research identifying body dissatisfaction as a significant predictor of unhealthy weight-control behaviors and pharmacological weight-loss practices (Griffiths et al., 2018; Fardouly & Vartanian, 2021).

Weight-related self-devaluation was positively associated with fear of enacted stigma, family, peer, and media pressures, as well as medication use. Participants who internalized negative beliefs about their weight reported greater concern about social judgment and rejection. Consistent with prior literature, these findings highlight the role of internalized stigma in promoting psychological distress and maladaptive coping strategies among individuals with obesity (Pearl & Puhl, 2018; Puhl & Heuer, 2010).

The findings further showed that individuals who developed obesity later in life were more likely to use weight-reduction medications. Sleep duration was negatively associated with sociocultural appearance pressure and medication use, while longer obesity duration was linked with poorer sleep quality, supporting evidence of the reciprocal relationship between obesity and sleep disturbances (Knutson et al., 2020). Monthly family income was positively associated with medication use, indicating that participants from higher-income families were more likely to access pharmacological treatment. In contrast, lower socioeconomic status was associated with greater media pressure, peer pressure, and self-devaluation. These findings are consistent with evidence suggesting that socioeconomic disparities influence access to obesity treatment and vulnerability to appearance-related pressures (Kumanyika et al., 2020).

Gender differences revealed that men reported greater body image dissatisfaction and social desirability, whereas women reported greater fear of enacted stigma. While body dissatisfaction has traditionally been more commonly reported among women, recent literature indicates increasing body image concerns among men due to societal emphasis on muscularity and attractiveness (Nagata et al., 2020). Educational differences indicated that participants with postgraduate education reported higher body image dissatisfaction and greater medication use, whereas those with lower educational attainment experienced greater media pressure. This suggests that education may influence awareness of appearance standards and attitudes toward weight management (Fardouly & Vartanian, 2021).

Participants from joint family systems reported comparatively greater medication use, possibly reflecting stronger family influence and social evaluation within collectivistic family structures. Similarly, unmarried and engaged participants reported greater body image dissatisfaction and medication use than married participants, suggesting heightened appearance-related concerns in relation to social acceptance and marital expectations (Cash & Pruzinsky, 2002). Junk food consumption emerged as the most frequently perceived cause of obesity, followed by hormonal and genetic factors. The high prevalence of family history of obesity further highlights the contribution of hereditary and shared lifestyle factors, consistent with global evidence on obesity risk determinants (World Health Organization, 2023).

Participants with multiple comorbid conditions reported stronger internalization of athletic appearance ideals and greater medication use, suggesting that health complications may intensify appearance concerns and motivate weight-loss efforts (Pearl & Puhl, 2018). Obesity severity also influenced psychosocial outcomes, with higher obesity classes associated with stronger enacted stigma, greater sociocultural pressure, and increased medication use. Urban participants reported greater body image dissatisfaction and showed preference for GLP-1 agonists and herbal remedies, whereas rural participants more commonly used homeopathy and Orlistat, likely reflecting differences in healthcare access and treatment availability (Kumanyika et al., 2020).

Strengths of the Study

The present study has several notable strengths that enhance its contribution to understanding psychosocial factors associated with weight-reduction medication use among individuals with obesity. First, it addressed an underexplored area in the Pakistani context by examining the psychological and sociocultural determinants of weight-reduction medication use. The inclusion of multiple psychosocial variables, such as body image dissatisfaction, weight self-stigma, sociocultural attitudes toward appearance, and social desirability, provided a comprehensive

understanding of obesity-related experiences. The use of standardized and psychometrically established instruments, including the Body Image Satisfaction Scale (BISS), Weight Self-Stigma Questionnaire (WSSQ), Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ), and Marlowe-Crowne Social Desirability Scale (MCSDS), strengthened the reliability and validity of the findings. Data collection from diverse settings, including hospitals, weight-management clinics, and gyms, improved ecological validity and participant variability. Furthermore, the inclusion of participants from diverse demographic backgrounds enabled broader exploration of psychosocial differences across obesity-related experiences. The study also examined moderation effects, particularly the moderating role of social desirability in the relationship between body image dissatisfaction and medication use, adding analytical depth to the findings. Finally, the study contributes to the growing literature emphasizing that obesity management should address psychological and sociocultural dimensions alongside physical health outcomes, while offering practical implications for healthcare professionals, psychologists, and obesity-management practitioners in designing holistic intervention strategies.

Limitations and Future Suggestions

The present study has certain limitations that should be acknowledged, along with suggestions for future research. As the study was conducted by a novice researcher, technical and procedural challenges may have affected the research process; therefore, future studies should adopt more rigorous planning and supervision to ensure methodological accuracy. Participant disinterest in completing questionnaires, likely due to the absence of incentives and limited engagement with research, may have contributed to response bias and reduced the accuracy of self-reported data. To address this, future researchers should ensure greater anonymity and confidentiality, use indirect questioning techniques, and consider mixed-method approaches, such as interviews alongside questionnaires, to obtain more authentic responses. Delays in data collection due to time-management constraints may also have affected data completeness and consistency; future studies should employ better-structured timelines and follow-up procedures.

Additionally, limitations in participant screening during recruitment may have influenced sample accuracy, highlighting the need for stricter inclusion and exclusion criteria in future investigations. The cross-sectional nature of the study restricted causal interpretations of relationships among variables; therefore, longitudinal or experimental designs are recommended to better examine causal pathways and changes over time. Reliance on lengthy self-report measures may have caused participant fatigue and measurement error, suggesting that future research should use shorter, concise, and psychometrically sound instruments, administered in manageable sections where possible. Furthermore, incorporating multiple methods of data collection, such as clinical assessments, behavioral observations, or medical records, would strengthen reliability and validity. Finally, future studies should apply advanced statistical techniques, such as structural equation modeling, to provide deeper insights into the complex relationships between psychosocial factors and weight-reduction medication use among individuals with obesity.

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