ORIGINAL RESEARCH ARTICLE

Media-Driven Sociocultural Pressures and Disordered Eating among Medical and Paramedical Students in Chengalpattu, Tamil Nadu: A Cross-Sectional Study

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ABSTRACT

Background: The rising prevalence of disordered eating among the young population is primarily driven by sociocultural pressures that promote idealised body images. Medical college students deal with academic demands and social pressures while being increasingly exposed to appearance-focused media. The objective was to estimate the prevalence of disordered eating and its relationship with sociocultural pressures amongst college students in Tamil Nadu.

Methodology: This cross-sectional study included 332 undergraduate medical and paramedical students from a tertiary care centre in Tamil Nadu. Sociocultural pressures and disordered eating were assessed using SATAQ-4 and EDE-QS. Associations were analysed using Chi-square tests with odds ratios (95% CI) and Spearman's correlation coefficient (ρ) using SPSS v25.

Results: The prevalence of disordered eating was 45.8% (95% CI: 40.4-51.3%). High sociocultural pressure tripled the odds of disordered eating (OR=3.21; 95% CI: 2.03-5.08; p<0.001). Media pressure had the strongest relationship with disordered eating, showing both higher odds (AOR = 2.54, 95% CI: 1.49-4.32, p < 0.001) and the highest correlation (ρ=0.448, p<0.001). Females showed greater odds of disordered eating than males. No significant difference was observed between medical and paramedical students.

Conclusions: Media-driven sociocultural pressures fuel disordered eating among college students, highlighting the need for targeted media literacy and psychosocial interventions.

Key words: Body Image, Dietary Habits, Medical Students, Peer Groups, Social Media Exposure, Sociological Factors

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Introduction

We live in a time when people are increasingly preoccupied with how others perceive them, striving to conform to socially accepted standards of size and appearance. Rather than embracing authentic self-presentation, many individuals attempt to appear acceptable to avoid criticism and body shaming. While some pursue healthy habits such as physical activity and balanced nutrition, the societal emphasis on rapid weight loss and aesthetic perfection often drives maladaptive eating behaviours. Disordered eating refers to unhealthy eating patterns, which may reflect features of clinical eating disorders but can also occur in individuals without a formal diagnosis, usually with lower severity or frequency.[1] These include restrictive or fad dieting, binge eating, purging, misuse of laxatives or diuretics, and excessive preoccupation with body image. These behaviours are linked with poor nutrition, metabolic disruption, emotional distress, and an increased risk of developing full-threshold eating disorders.[2] Using the SCOFF questionnaire, a systematic review and meta-analysis of 32 studies involving 63,181 children and adolescents across 16 countries reported disordered eating behaviours in approximately 22% of participants, with higher rates observed among females and older adolescents, underscoring its significance as a growing public health concern.[3]

The sociocultural model of body image can be explained through the Tripartite Influence Model. According to this model, pressure about appearance mainly comes from media, peers, and family. These influences affect body perception through social comparison and the internalisation of societal ideals. Over time, this process can result in body dissatisfaction and unhealthy eating behaviours. Thompson et al. outlined these pathways, showing how appearance-related pressures influence both body image and eating patterns.[4] Research among women and men has found strong links between sociocultural pressure, objectification, and body dissatisfaction, confirming that these pathways operate across genders.[5,6] Thinness has traditionally been emphasised as the dominant beauty ideal among women, with documented body image concerns among adolescent and college-going girls in India.[7] Global studies indicate a growing sociocultural emphasis on leanness and muscularity among young men, which has been linked to muscularity-oriented disordered eating behaviours.[8] Studies in specific populations, such as athletes, also report similar patterns, suggesting that these concerns extend beyond general populations.[9] This shift reflects broader sociocultural change and the way cultural norms influence body image and eating behaviours.[10] Together, these gender-differentiated appearance pressures provide important context for interpreting variations in disordered eating behaviours among young Indian adults.

Medical students constitute a particularly vulnerable group for disordered eating habits due to demanding academic workloads, high stress, and heightened body awareness.[11] A recent systematic review and meta-analysis of 35 studies including more than 21,000 medical students worldwide reported a pooled prevalence of eating disorder symptoms of 17.35% (95% CI: 14.15-21.10%), highlighting the considerable global burden.[12] Large national medical student cohorts also report high symptom rates along with significant associations with psychosocial and mental health factors.[13] Indian studies also report abnormal eating attitudes, body image disturbances, and emerging disordered eating behaviours among medical students.[14] The increasing influence of social media further amplifies these risks, as exposure to appearance-focused content promotes body comparison and unhealthy dietary behaviours among adolescents and young adults.[15-17]

Studies suggest that exposure to food and health content is associated with higher levels of disordered eating, with body satisfaction playing a mediating role.[18] Research on eating disorders in India is expanding, but data on disordered eating among South Indian medical students is limited. Given their susceptibility and changing sociocultural influences from social media and beauty trends, region-specific data are essential. This study investigated the prevalence of disordered eating and its associations with sociocultural pressures in undergraduate students attending a tertiary care institution in Tamil Nadu.

The study aimed to assess the prevalence of disordered eating and its relationship with sociocultural pressures among undergraduate students at a tertiary care centre in Chengalpattu district over six months.

Methodology

Study Design and Setting: The cross-sectional study included undergraduate students from a tertiary care centre in Chengalpattu District, Tamil Nadu. Ethical approval was obtained in October 2024, and data collection took place from December 2024 to May 2025. The study design was chosen to estimate the prevalence of disordered eating and to explore its associations with sociocultural pressures among undergraduate students within a defined tertiary care setting.

Sample Size and Sampling Technique: Based on a 28.7% prevalence of tendency to develop disordered eating among undergraduate medical students as reported by Sharma et al.[14], the sample size was calculated using the Dobson formula $N=Z^2pq/d^2$ ($p=28.7\%$, $q=71.3\%$, $d=5\%$), yielding a minimum required sample of 330 participants. An absolute precision of 5% was adopted in line with recommended methods for cross-sectional prevalence studies.[19]

In total, 332 undergraduate students were selected using stratified random sampling, based on course (medical and paramedical) and year of study (Year I

to Year IV). Equal allocation was maintained between medical and paramedical students (166 each). A larger proportion of first-year students was included, since early adulthood is a key period for the onset of disordered eating. Hence, the recruitment included 135 students from Year I, 67 from Year II, 67 from Year III, and 63 from Year IV. The Medical group included MBBS students, and the Paramedical group included students from Allied Health Sciences (AHS) and Bachelor of Occupational Therapy (BOT). The sampling frame consisted of the official class attendance registers. Within each stratum, participants were selected using computer-generated random numbers. If a selected student was absent on the day of data collection, the next random number was chosen sequentially until the required sample size was achieved. A 100% response rate was obtained through prior participant engagement and classroom announcements.

Inclusion and Exclusion Criteria: Undergraduate students of both genders aged 17-25 years were eligible for inclusion, reflecting the typical age range of medical and paramedical students. Students with a self-reported or documented history of psychiatric illness or an eating disorder under treatment, those absent during data collection, and interns were excluded from the study. Written informed consent was obtained from all participants prior to data collection.

Study Tools:

Sociocultural Attitudes Towards Appearance Questionnaire-4 (SATAQ-4): The English version of the SATAQ-4 was used to measure internalisation of societal appearance ideals. It consists of 22 items rated on a 5-point Likert scale from strongly disagree to strongly agree. It assesses thinness and muscularity ideals, along with pressures from family, peers, and media. The SATAQ-4 reported good to excellent internal consistency across subscales (Cronbach's $\alpha \approx 0.82$-0.95), with strong factorial and convergent validity.[20] For analysis, a median score of 58 was used to group participants into high- and low-risk categories.

Eating Disorder Examination Questionnaire-Short (EDE-QS): The English version of the EDE-QS was used to screen for disordered eating behaviours over the past seven days. It comprises 12 items rated on a scale from 0 (no days) to 3 (every day), with a maximum total score of 36. The shorter 7-day recall period was chosen over the standard 28-day EDE-Q to minimise recall bias and better capture recent symptom changes in a high-stress student population. A cut-off of ≥15 was used to indicate clinically significant disordered eating.[21] The scale has shown excellent internal consistency (Cronbach's $\alpha = 0.91$) and strong agreement with the full EDE-Q ($r > 0.90$), supporting its criterion validity among university students.[22]

Data Collection Procedure: Once ethical approval was obtained, information was gathered using a structured Google Form questionnaire that incorporated sociodemographic information alongside the SATAQ-4 and EDE-QS instruments. The questionnaire link was distributed to the selected students during pre-scheduled classroom sessions under the investigator's supervision, in the absence of faculty, to minimise social desirability bias. The purpose of the study and confidentiality measures were explained before obtaining electronic Informed Consent. Each submitted form was verified for completeness immediately after collection to prevent missing data. All completed responses were saved in password-protected folders, viewable only by the principal investigator.

Ethical Considerations: Ethical approval was obtained from the Institutional Human Ethics Committee of the affiliated institution (Ref. No. 002/SBMCH/IHEC/2024/2332) in October 2024, in line with the principles of the Declaration of Helsinki. Participation was voluntary, and anonymity was ensured by assigning coded IDs to all the study participants. Participants were made aware that they were free to withdraw at any time, and there would be no academic penalty. Pamphlets containing mental health information were shared with all the study participants.

Statistical Analysis: Data were initially entered into Microsoft Excel 2024 and later analysed using IBM SPSS Version 25. Normality of continuous variables was assessed with the Shapiro-Wilk test. Descriptive statistics were used to summarise participant characteristics, with categorical variables such as gender, course, and year of study reported as frequencies and percentages, and continuous variables including SATAQ-4 and EDE-QS scores expressed as median with interquartile range (IQR). Associations between categorical factors and disordered eating (defined as EDE-QS ≥15) were evaluated using the Chi-square test, and odds ratios (OR) with 95% confidence intervals (CI) were calculated to estimate effect size. Variables that reached statistical significance ($p < 0.05$) in bivariate analyses were included in a binary logistic regression model to derive adjusted odds ratios (AOR) with corresponding 95% confidence intervals. Model performance was examined using the Hosmer-Lemeshow goodness-of-fit test and Nagelkerke R^2. Spearman's rank correlation coefficient (ρ) was applied to assess the relationship between SATAQ-4 and EDE-QS scores. Statistical significance was defined as a two-tailed p-value <0.05. Data completeness was maintained through immediate verification during collection, resulting in no missing responses.

Results

All 332 students completed the questionnaires, yielding a 100% response rate. The sample comprised 188 females (56.6%) and 144 males (43.4%), equally distributed between medical (MBBS, 50%) and paramedical (AHS and BOT, 50%) courses.

Table 1: Factors Associated with Disordered Eating (n=332)

Variable	Disordered Eating (n=152) (%)	No Disordered Eating (n=180) (%)	χ^2	OR (95% CI)	p-value
Sociocultural Pressure					
High	108 (58.1)	78 (41.9)	25.70	3.21 (2.03-5.08)	<0.001‡
Low	44 (30.1)	102 (69.9)		Reference	
Gender					
Female	95 (50.5)	93 (49.5)	3.94	1.56 (1.00-2.42)	0.047*
Male	57 (39.6)	87 (60.4)		Reference	
Course					
Paramedical	83 (50.0)	83 (50.0)	2.38	1.41 (0.91-2.17)	0.123
Medical	69 (41.6)	97 (58.4)		Reference	

*Statistically significant at p<0.05, †Statistically significant at p<0.01, ‡Statistically significant at p<0.001.

Table 2: SATAQ-4 Sub-domain Associations with Disordered Eating (n=332)

SATAQ-4 Subdomain	OR (95% CI)	p-value
Media Pressure	2.91 (1.85-4.57)	<0.001‡
Peer Pressure	2.24 (1.43-3.51)	<0.001‡
Family Pressure	1.89 (1.21-2.94)	0.005†
Internalisation-Thinness	1.59 (1.02-2.47)	0.040*
Internalisation-Athletic	0.89 (0.58-1.38)	0.601

*Statistically significant at p<0.05, †Statistically significant at p<0.01, ‡Statistically significant at p<0.001.

Table 3: Logistic Regression Analysis of Factors Associated with Disordered Eating (n=332)

Variable	Adjusted OR (95% CI)	p-value
Media Pressure	2.54 (1.49-4.32)	<0.001‡
Peer Pressure	1.63 (1.01-2.63)	0.046*
Family Pressure	1.41 (0.88-2.27)	0.149
Internalisation-Thinness	1.32 (0.82-2.11)	0.249
Gender (Female)	1.34 (0.86-2.10)	0.198
Course (Paramedical)	1.18 (0.76-1.83)	0.452

*Statistically significant at p<0.05, †Statistically significant at p<0.01, ‡Statistically significant at p<0.001.

The sample included 135 first-year (40.7%), 67 second-year (20.2%), 67 third-year (20.2%), and 63 fourth-year students (19.0%). Disordered eating (EDE-QS ≥15) was identified in 152 students (45.8%). High sociocultural pressure (SATAQ-4 above median) was observed in 186 participants (56%), with a median SATAQ-score of 58 (IQR: 48-66).

As shown in Table 1, students experiencing high sociocultural pressure had significantly greater odds of disordered eating compared to those with low sociocultural pressure (OR=3.21, 95% CI: 2.03-5.08, p<0.001). Females were more likely to report disordered eating than males (OR = 1.56, 95% CI: 1.00-2.42, p = 0.047), whereas no significant difference was observed between medical and paramedical students (OR=1.41, 95% CI: 0.91-2.17, p=0.123).

Analysis of SATAQ-4 sub-domains (Table 2) revealed that media (OR=2.91, 95% CI: 1.85-4.57, p<0.001), peer (OR=2.24, 95% CI: 1.43-3.51, p<0.001), and family pressure (OR=1.89, 95% CI: 1.21-2.94, p=0.005) were the strongest predictors of disordered eating. Internalisation-thinness showed a weaker but significant association (OR=1.59, 95% CI: 1.02-2.47, p=0.040), while internalisation-athletic showed no significant association (OR=0.89, 95% CI: 0.58-1.38, p=0.601). These findings indicate that external sociocultural pressures, particularly from media and peers, play a more prominent role than internalisation processes in shaping disordered eating behaviours.

Binary logistic regression analysis was performed to determine whether sociocultural subdomains independently predicted disordered eating after adjusting for background characteristics (Table 3). Variables that were statistically significant in univariate analysis and theoretically relevant, including media pressure, peer pressure, family pressure, internalisation-thinness, gender, and course of study, were entered simultaneously into the model. The model showed moderate overall fit (Hosmer-Lemeshow test, p = 0.58) and explained 32% of the variance in disordered eating status (Nagelkerke R^2 = 0.32), reflecting moderate explanatory power.

After adjustment, media pressure continued to be the strongest independent predictor of disordered eating (AOR = 2.54, 95% CI: 1.49-4.32, p < 0.001), while peer pressure showed a weaker but still statistically significant association (AOR=1.63, 95% CI: 1.01-2.63, p=0.046). Family pressure and internalisation-thinness were no longer statistically significant in the adjusted model, indicating that their observed univariate associations were largely mediated through media and peer influences. Gender and course of study also did not retain statistical significance after adjustment, suggesting that demographic differences in disordered eating were primarily explained by sociocultural exposures rather than acting as independent determinants.

Spearman's correlation analysis (Table 4) demonstrated a moderate positive relationship between overall sociocultural pressure (total SATAQ-4 score) and disordered eating severity (ρ = 0.429, p<0.001). Among the subdomains, media pressure (ρ=0.448, p<0.001) showed the strongest correlation, followed by peer (ρ=0.334, p<0.001) and family pressure (ρ=0.325, p<0.001). Internalisation-thinness (ρ=0.193, p<0.001) and internalisation-athletic (ρ=0.120, p=0.028) displayed weak but significant correlations. These correlation patterns are con-

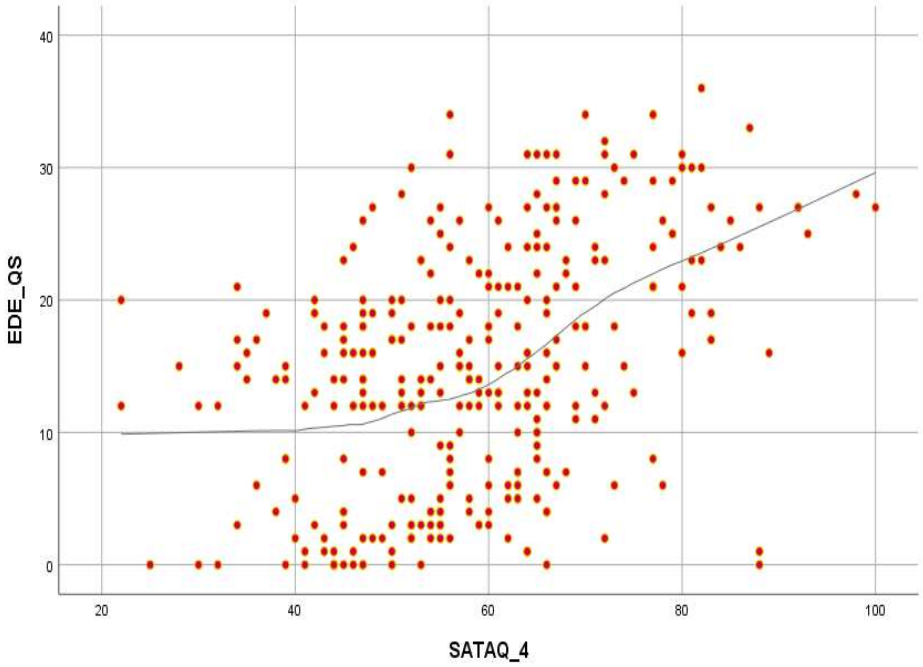
sistent with the multivariable logistic regression findings (Table 3), which identified media and peer pressures as independent predictors of disordered eating.

The scatter plot (Figure 1) visualizes the relationship between sociocultural pressure (SATAQ-4 scores, x-axis, 22-110) and disordered eating tendencies (EDE-QS scores, y-axis, 0-36). The LOESS-smoothed trend line confirms a moderate positive monotonic association, indicating that higher sociocultural pressure scores correspond with increased disordered eating behaviours, which is consistent with the correlation analysis (Spearman's ρ=0.429, p<0.001, two-tailed).

Table 4: Correlation between SATAQ-4 and EDE-QS (n=332)

SATAQ-4 Variable	Spearman's ρ	95% CI for ρ	p-value
Total SATAQ-4	0.429	0.334-0.516	<0.001‡
Media Pressure	0.448	0.355-0.532	<0.001‡
Peer Pressure	0.334	0.234-0.427	<0.001‡
Family Pressure	0.325	0.225-0.419	<0.001‡
Internalisation-Thinness	0.193	0.088-0.293	<0.001‡
Internalisation-Athletic	0.120	0.013-0.224	0.028*

*Statistically significant at p<0.05, †Statistically significant at p<0.01, ‡Statistically significant at p<0.001. 95% CI calculated using Fisher's Z transformation.



X-axis: SATAQ-4 scores (22-110); Y-axis: EDE-QS scores (0-36). The LOESS smoothed trend line indicated a moderate positive monotonic correlation (Spearman's ρ=0.429, p<0.001, two-tailed).

Figure 1: Scatter Plot Illustrating the Relationship between SATAQ-4 and EDE-QS scores (n=332)

A subgroup analysis was performed to assess whether the relationship between sociocultural pressures and disordered eating varied by gender. Gender-specific Spearman correlations showed that internalisation-thinness had a stronger association with EDE-QS scores among female students (ρ=0.268, p<0.001), whereas internalisation-athletic was significantly associated only among males (ρ=0.294, p<0.001). Media and peer pressures showed consistent moderate correlations in both genders. These findings suggest that gender acts as an effect modifier in the relationship between internalisation-related sociocultural pressures and disordered eating, with thinness-oriented ideals predominating among females and athletic-oriented ideals among males, an effect not evident in pooled analyses.

A moderation analysis using a generalised linear model was conducted to examine whether the course of study modified the association between media pressure and disordered eating. An interaction term between media pressure and course was added to the model, but it was not statistically significant (p=0.781), indicating that the relationship between media pressure and disordered eating was comparable among medical and paramedical students, despite presumed differences in health literacy.

A one-way ANOVA was performed to compare the mean EDE-QS scores across academic years (Table 5). The analysis demonstrated a statistically significant difference in mean scores between the four academic years (F=4.92, p=0.002). Post-hoc Tukey anal-

ysis showed that EDE-QS scores were higher in fourth-year students than in first-year students (p=0.001), indicating a progressive increase in disordered eating tendencies with academic progression.

Table 5: Comparison of Mean EDE-QS Scores Across Academic Years (N=332)

Academic Year	n	Mean EDE-QS ± SD
Year I	135	13.8 ± 6.2
Year II	67	15.1 ± 6.5
Year III	67	16.4 ± 6.8
Year IV	63	17.2 ± 7.1
ANOVA (F, p-value)		F=4.92, p=0.002†

*Statistically significant at p<0.05, †Statistically significant at p<0.01, ‡Statistically significant at p<0.001.

Discussion

The study identified a notably high prevalence of disordered eating (45.8%) among undergraduate students in medical and paramedical courses of an urban tertiary care institution in Tamil Nadu. The prevalence of disordered eating in the present study substantially exceeds comparable Indian studies, but aligns with global findings using similar screening tools. The increased prevalence found in this study may support a transdiagnostic approach to eating pathology, suggesting shared psychological processes across both subclinical and clinically diagnosed eating disorders,[23] particularly when using sensitive instruments like the EDE-QS. Recent meta-analyses have reported pooled prevalence rates of 10.4% to 17.35% among medical students globally when using traditional screening tools.[12,24] In contrast, research in French medical students detected higher levels than average population benchmarks through thorough evaluations, which aligns with our results.[13] The variation in prevalence reported across studies may be due to differences in assessment tools, definitions used, and population characteristics, all of which can affect epidemiological results.[25] This study found a higher prevalence of disordered eating compared to many Indian studies. Research conducted by Sharma M et al.[14] reported a disordered eating prevalence of 28.7% among medical students in Delhi using the EAT-26, which focuses on clinical symptoms rather than subclinical expressions. Studies from a medical college in Kerala found a 19.1% prevalence using similar assessment approaches, while research in Chennai reported 13% among 332 medical students.[26,27] In contrast, Mallaram GK et al.[28] documented a 39.2% prevalence among female medical students in Tirupati using a modified form of the full Eating Disorder Examination Questionnaire (EDE-Q); this figure aligns fairly well with the present study, although somewhat lower. Such variation might stem from their focus on females alone or because the EDE-Q uses a 28-day timeframe instead of the shorter 7-day window used by the EDE-QS. The unique vulnerability of medical students to disordered eating stems from multiple converging factors. Medical education creates substantial psychological pressure through its rigorous curriculum, competitive environment, and high expectations for performance.[26,27] Earlier studies have reported links between peer pressure in medical colleges, excessive exercise, and behaviours such as the use of laxatives or diet pills.[27] In addition, the hierarchical nature of medical training and unspoken expectations within the hidden curriculum may increase self-monitoring and psychological stress among trainees.[29] Medical students also tend to form close social networks around health-related habits, including eating and exercise, which can be shaped and reinforced through peer influence.[30] Depending on the prevailing norms, these peer communities can either exacerbate or mitigate the risk of developing unhealthy behaviours.[27] Since early adulthood is a key period for the onset of disordered eating, prevention efforts focused on first-year students may be especially helpful.

The strong association between overall sociocultural pressure and disordered eating (OR=3.21, 95% CI: 2.03-5.08, p<0.001) reinforces the sociocultural framework underpinning the SATAQ-4, which posits that societal and media-driven ideals shape body image and eating behaviours.[20] The study findings align with recent large-scale U.S. Body Project studies showing similar pathways between sociocultural and objectification factors and body image outcomes among young adults.[5,6] Among individual sociocultural pressure dimensions, media pressure emerged as the strongest predictor of disordered eating in both categorical (OR=2.91, 95% CI: 1.85-4.57, p<0.001) and continuous (ρ=0.448, p<0.001) analyses. The relevance of the above finding is high, driven by the substantial number of young adults currently active on online platforms. Growing evidence suggests that social media negatively affects eating habits and body image, with many college students showing a higher risk for eating disorders, a phenomenon significantly associated with social media consumption, particularly when users follow diet or fitness posts. Lower body satisfaction was identified as a key factor mediating this pattern, often leading to more frequent disordered eating behaviours.[18] Similarly, evidence from adolescent populations suggests that a large proportion of females perceive social media platforms, particularly Instagram and TikTok, as negatively influencing their appearance-related self-perceptions, which aligns with broader findings linking online engagement to a higher risk of unhealthy eating patterns.[31] A systematic review examining problematic internet use and eating disorders revealed that excessive social media use connects with disordered eating behaviours, mainly because some social media posts spread pro-anorexia content, making extreme thinness seem normal while encouraging constant physical comparisons.[32] These observations are consistent with findings among young people globally, where social media engagement has been strongly linked to greater worry about looks and stronger belief in unrealistic beauty

standards.[33] Comparable patterns are also evident in the Indian context, where adolescents and young adults exposed to image-centred, idealised, and influencer-driven content tend to experience lower body satisfaction and adopt harmful eating mindsets, influenced by curated portrayals of celebrities and peers across social media platforms.[34] The pervasive nature of social media in contemporary youth life, combined with Instagram algorithms that promote engagement with appearance-focused content, creates a particularly challenging environment for vulnerable young individuals.

Peer pressure showed the second-strongest association (OR=2.24, 95% CI: 1.43-3.51, p <0.001; ρ=0.334, p <0.001), showing how social comparison among friends and peers matters greatly in late teens and early twenties, as these are times when peer comments and appearance-based comparisons, such as body shaming, strongly predict body dissatisfaction and elevated eating-disorder risk.[35,36] Family pressure demonstrated a moderate association (OR=1.89, ρ=0.325), suggesting that as young urban adults spend more time at university or engage heavily with peer groups and digital platforms, the relative impact of family influence may lessen compared to the stronger pressures stemming from peers and media.[37]

Thin-ideal internalization demonstrated a significant but moderate association with disordered eating behaviours (OR=1.59, 95% CI: 1.02-2.47, p=0.040; ρ=0.193, p<0.001), consistent with the sociocultural model's proposition. The weaker association of internalisation in our findings may indicate that the students are either reacting to direct external pressure before fully internalising it, or that our cross-sectional design failed to capture the full, continuous process of internalisation. The internalisation of athletic ideals showed no significant association with disordered eating behaviours (OR=0.89, 95% CI: 0.58-1.38, p=0.601), despite a weak positive correlation (ρ=0.120, p=0.028). This divergence from Western literature may reflect cultural differences in appearance norms, as traditional Indian beauty standards have historically prioritised slimness over athletic muscularity. Indian adolescent girls frequently report fear of fatness and attempt to attain a slim body shape irrespective of actual weight status, reinforcing thinness-oriented concerns.[38] The SATAQ-4 athletic subscale, developed primarily in Western contexts, may have limited cultural relevance in Indian student populations, highlighting the need for contextual adaptation of appearance-related measures. The persistence of thinness-oriented pressures is further supported by Indian studies documenting high levels of body dissatisfaction among female undergraduate students, with media playing a central role in reinforcing thin-ideal internalisation.[39]

Disordered eating was more prevalent among female students than among males (OR=1.56, 95% CI: 1.00-2.42, p=0.047), which aligns with well-established gender disparities in eating pathology documented globally.[5] A study of medical students in West Bengal reported that 41% of females and 25% of males scored 20 or higher on the EAT-26, showing a much higher risk of disordered eating among female students, which is similar to the pattern seen in the present study.[40] The absence of a meaningful difference between medical and paramedical students (OR=1.41, 95% CI: 0.91-2.17, p=0.123) suggests a clear gap between health knowledge and actual behaviour, indicating that medical knowledge alone does not confer protection against disordered eating. This finding suggests that awareness of health consequences is insufficient to counteract internalised appearance ideals, emotional distress, and pervasive sociocultural pressures. Moreover, healthcare students are exposed to additional stressors, including academic workload, performance pressure, and appearance-related expectations in professional settings, which may further reduce the protective impact of medical knowledge.

The strong association between sociocultural pressures and disordered eating observed in our study aligns with theoretical models linking internalised appearance ideals to maladaptive eating behaviours. Mindfulness-based third-wave interventions aim to address these pathways by strengthening emotional regulation and reducing automatic negative thoughts related to body image. Meta-analyses have reported moderate improvements in disordered eating and body image concerns,[41] as well as meaningful reductions in binge eating behaviours,[42] although substantial heterogeneity exists across studies. While much of the current evidence derives from clinical or high-risk populations, these findings support the potential preventive role of mindfulness-based approaches in college settings.

Strength and Limitations

This study benefited from the use of validated tools (SATAQ-4 and EDE-QS) with good psychometric reliability across diverse populations, systematic assessment of multiple sociocultural pressure dimensions,[20-22] adequate sample size, stratified sampling, and appropriate statistical methods. This study is limited by its cross-sectional design, which makes it difficult to determine causal or temporal association between sociocultural pressures and disordered eating. Additionally, while the measures taken to ensure anonymity (the absence of faculty during data collection) helped to reduce self-report bias, its potential influence cannot be entirely dismissed. The single-centre setting in an urban area of Tamil Nadu may limit generalizability to other regions of India, particularly rural areas where sociocultural norms may differ substantially. The higher representation of first-year students may also limit the generalizability of results across different academic years. The moderate correlation (ρ=0.429) indicates that disordered eating is shaped by a complex interplay of biological vulnerability, personality traits such as perfection-

ism, and psychological distress, including anxiety or depression, suggesting that several unmeasured factors may also have influenced risk in the present study.[43] Future longitudinal research incorporating these additional variables would provide a more comprehensive understanding of eating disorder aetiology among young student populations.

Conclusion

A high level of disordered eating was observed among undergraduate medical and paramedical students in urban Tamil Nadu. More than half of the participants reported strong sociocultural pressures related to body image, with media and peer influences emerging as the most significant correlates. Female students showed greater vulnerability compared to their male counterparts, although both groups exhibited susceptibility to such influences. The strong associations between media exposure, appearance-focused online content, and disordered eating underscore the need for structured, evidence-informed prevention strategies within college settings. Strengthening the awareness and early recognition of disordered eating among medical and paramedical students may not only improve their personal well-being but also enhance their capacity to provide empathetic, patient-centred care in their future clinical practice.

Recommendations

The high prevalence of disordered eating (45.8%) and strong association with sociocultural pressures, particularly media and peer influences, necessitate institution-based preventive interventions. Instead of focusing solely on general media awareness programs, colleges may benefit from introducing evidence-based cognitive dissonance programs, such as the Body Project, which has been shown to reduce thin-ideal internalisation and lower the risk of eating disorders among young adults.[44] Meta-analyses also support third-wave behavioural approaches, including mindfulness, which report moderate improvements in disordered eating symptoms and body image concerns.[41,42] Student wellness programs should also address social media exposure by offering digital literacy sessions that help students recognise and manage appearance-focused and thinspiration content, as research has consistently linked social networking site use with body dissatisfaction and disordered eating.[45] Together, these approaches could be incorporated into routine student support services to reduce the impact of sociocultural pressures on eating behaviours. In addition, elevated levels of body-image dissatisfaction and media-driven appearance pressures among adolescents suggest that interventions promoting body-positivity and diverse body types may offer further benefit.[46] Regular screening using brief tools such as the EDE-QS would help colleges identify vulnerable students early and guide them toward timely support. Strengthening campus mental-health services with counsellors trained in recognising and managing eating-related concerns is equally important. Adding topics on mental health, stress, body image, and healthy eating into the curriculum, along with creating a campus environment that limits appearance-focused cues and encourages supportive peer interactions, can together foster a healthier and more accepting atmosphere for college students.

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