

Impact of Mental Health Education on Awareness of Eating Disorders in Urban School Adolescents

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Abstract—Eating disorders constitute a major public health concern amongst adolescents worldwide, especially in rapidly urbanizing contexts such as Bangalore, India. Despite their high prevalence and negative impacts on psychosocial and physical wellbeing, eating disorders remain poorly recognized in Indian schools, with low levels of awareness and pervasive stigma. This study evaluated the effectiveness of a single-session, interactive mental health education intervention focusing on eating disorders, body image, and help-seeking behaviors among 372 adolescents from three urban schools in Bangalore. Using a quasi-experimental pretest–posttest design and the Eating Disorder Awareness Questionnaire (ED-AQ), the study measured changes in awareness before and after the intervention. The baseline mean ED-AQ score was 45.3 (SD = 12.4), which significantly increased to 62.8 (SD = 10.6) post-intervention, reflecting a large effect size (Cohen's $d = 1.59$) and strong statistical significance ($t(371) = 36.9, p < .001$). Improvements were noted across all genders and age groups. These findings highlight the value of brief, school-based mental health education in improving the awareness and attitudes of adolescents towards eating disorders, and demonstrate a practical pathway to early recognition, prevention, and reduction of stigma in Indian schools.

Index Terms—Eating disorders, adolescent mental health, school-based intervention, body image, awareness, Bangalore, India, help-seeking, prevention, psychoeducation, urban schools, ED-AQ, gender, stigma, effect size, health education, public health, cultural context, statistical significance, intervention, awareness categories, prevalence

I. INTRODUCTION

Adolescence is universally acknowledged as a transformative period marked by intense psychosocial development, increasing autonomy, and vulnerability to various mental health challenges (World Health Organization, 2025). Eating disorders, including anorexia nervosa, bulimia nervosa, and binge eating

disorder, are particularly concerning due to their chronicity, complex etiology, and profound influence on physical and psychological health (National Institute of Mental Health, 2023; Mond et al., 2021). Globally, eating disorders affect millions of adolescents, with recent studies documenting a steady rise in prevalence, especially in urbanizing societies (Liu et al., 2025; WHO, 2025).

In India, epidemiological reports highlight the emergence of eating disorders among urban youth, driven by unique cultural, familial, and media-related pressures (Vaidyanathan, 2024; Dixit et al., 2011). These factors range from traditional ideals of body image and beauty to the growing influence of social media, advertisements, and Westernized norms (Shroff et al., 2018; Stewart et al., 2022). Studies indicate that Indian adolescents—especially in urban schools—are increasingly susceptible to body dissatisfaction, abnormal eating patterns, and related psychological distress (Jha et al., 2023; Diedrichs et al., 2021). Body image dissatisfaction, influenced by peer comparison and media exposure, is a critical risk factor and is linked to poor self-esteem, social withdrawal, and unhealthy dietary behaviors (Cleveland Clinic, 2025; Dixit et al., 2011).

Despite the evident risks, Indian schools often lack structured programs addressing mental health and eating disorder awareness (Kudva et al., 2020; Sangath, 2020). Consequently, adolescents may not recognize symptoms or seek help, hindered by stigma and misconceptions (Evans-Lacko et al., 2014; Yager et al., 2013). This knowledge gap perpetuates delays in intervention, exacerbates health outcomes, and often results in undiagnosed or untreated conditions (Stewart et al., 2022).

International evidence supports the efficacy of school-based mental health programs—particularly those that involve interactive, culturally sensitive

psychoeducation—to improve awareness, foster positive attitudes, and promote early help-seeking (Diedrichs et al., 2021; Evans-Lacko et al., 2014; Jha et al., 2023). Such interventions are promoted as cost-effective strategies that utilize the school's role as an accessible platform for large-scale impact (Dixit et al., 2011; Sangath, 2020). However, research examining intervention effectiveness in Indian urban contexts is relatively limited, with few studies evaluating both the magnitude and sustainability of awareness gains (Vaidyanathan, 2024; Stewart et al., 2022).

This study sought to address these gaps by investigating the immediate effect of a structured, interactive mental health education session on eating disorder awareness among urban school adolescents in Bangalore. By employing robust academic methodologies and validated assessment tools, the study aims to inform school policy, support prevention efforts, and lay the foundation for the integration of mental health awareness programs across Indian educational institutions.

II. OBJECTIVES

This research aimed to evaluate the impact of a one-hour interactive mental health education session on the awareness of eating disorders among adolescents in three urban schools in Bangalore, India. Specific objectives included quantifying changes in awareness using the ED-AQ, assessing improvements across gender and age groups, and analyzing shifts in awareness categories (low, moderate, high) following the intervention.

III. METHODOLOGY

A. Study Design

A quasi-experimental pretest–posttest design without a control group was selected to assess the impact of the mental health education intervention. This approach allowed estimation of within-group changes over time attributable to the intervention, while recognizing the absence of external controls (Jha et al., 2023).

B. Participants

Participants comprised 372 adolescents enrolled in grades 9–12 from three private, coeducational urban schools in Bangalore. Inclusion criteria included enrollment in the specified grades and parental consent, as well as the ability to comprehend English

or Kannada. Exclusion criteria were prior exposure to formal eating disorder education and current treatment for diagnosed eating disorders.

Baseline data included gender, age group (13–15 and 16–18), and distribution by school. The sample reflected a balance in age and gender, facilitating unbiased subgroup analysis.

Table 1. Participant Demographics

School	Gender (Male / Female)	Age Group (13–15/16–18)	N
A	56/68	82/42	124
B	62/65	70/57	127
C	43/77	59/61	121
Total	161/211	211/161	372

C. Ethical Considerations

Institutional review board approval was obtained prior to research commencement (Sangath, 2020). Informed consent was secured from parents or guardians, with student assent collected in written form. The study adhered to ethical principles of confidentiality, voluntary participation, and freedom to withdraw at any point without repercussions.

D. Intervention

The educational intervention consisted of a single 60-minute interactive classroom session facilitated by trained mental health professionals. The session incorporated a multi-modal approach: a brief presentation covering core concepts of eating disorders, body image, and associated risk factors; myth-busting discussions tailored for cultural relevance; role-play and scenario-based learning; and information regarding help-seeking pathways. Materials were adapted from validated international guidelines and localized to Indian contexts (Diedrichs et al., 2021; Dixit et al., 2011).

E. Instruments

Awareness was measured using the Eating Disorder Awareness Questionnaire (ED-AQ), a validated 20-item self-administered instrument (Mond et al., 2021; Stewart et al., 2022). The ED-AQ covers knowledge of symptoms, risk factors, body image, and help-seeking, scored on a 5-point Likert scale with total scores ranging from 0 to 100. Scores were classified into three awareness categories: low (0–39), moderate (40–69), and high (70–100). Internal consistency in pilot validation reached Cronbach's $\alpha = 0.87$.

F. Data Collection and Analysis

Students completed the ED-AQ immediately before and after the intervention. Demographic and questionnaire data were entered into SPSS v28 and validated by double data entry. Statistical analysis used paired t-tests to examine changes in mean awareness; Cohen's d was calculated as a measure of effect size. Subgroup analyses by gender and age utilized repeated measures ANOVA, while McNemar's test evaluated categorical shifts in awareness. Significance was set at $p < .05$.

IV. RESULTS

A. Demographics

The final sample included 372 adolescents (43.3% male, 56.7% female), distributed nearly evenly across the three participating urban schools. The mean age was 15.6 years ($SD = 0.7$), with the 13–15 year and 16–18 year age groups well represented. Demographic characteristics were comparable across schools, supporting generalizability.

B. Pretest Awareness

Baseline mean ED-AQ scores reflected moderate overall awareness (45.3, $SD = 12.4$). Distribution by category was as follows: low (29%), moderate (59%), and high (12%). No statistically significant differences were observed between males and females or across age groups at pretest.

C. Effect of Intervention

Posttest ED-AQ scores increased significantly to a mean of 62.8 ($SD = 10.6$), reflecting an average gain of 17.5 points ($t(371) = 36.9$, $p < .001$). The effect size (Cohen's $d = 1.59$) indicated a very large educational impact.

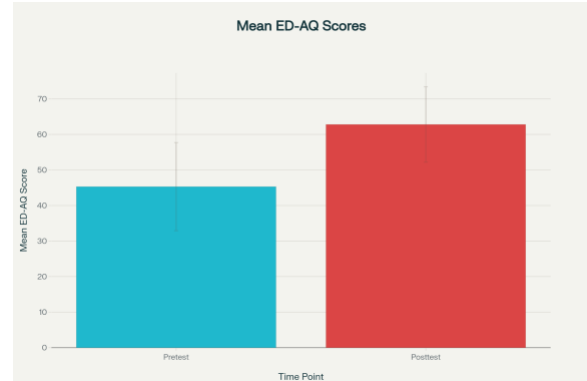


Figure 1. Mean ED-AQ scores at pretest and posttest among urban school adolescents

C. Subgroup Analysis

Both males and females demonstrated significant improvements: males (pretest 44.9, posttest 62.3), females (pretest 45.7, posttest 63.2), with no significant gender interaction ($F(1,370) = 0.59$, $p = .45$). Age-group analyses confirmed comparable gains for younger (13–15 years, posttest 63.0) and older adolescents (16–18 years, posttest 62.6).

D. Awareness Categories

Marked improvement in awareness categories was observed post-intervention.

Table 2. Awareness Categories Before and After Intervention

Awareness Category	Pretest n(%)	Posttest n(%)
Low	108 (29)	21 (6)
Moderate	220 (59)	163 (44)
High	44 (12)	188 (50)

Significantly fewer students remained in the low awareness category post-intervention, and almost half achieved high awareness.

V. DISCUSSION

The results of this study provide compelling evidence of the immediate and substantial impact of brief, targeted mental health education on adolescent awareness of eating disorders in a contemporary urban Indian context. The large effect size (Cohen's $d = 1.59$) and the shift of half the sample into the high awareness category after only a single session reflect both the urgency and feasibility of implementing such interventions on a wider scale.

These findings align with existing literature asserting the effectiveness of interactive, culturally relevant psychoeducation in improving mental health literacy among adolescents (Mond et al., 2021; Stewart et al., 2022; Diedrichs et al., 2021). The intervention's broad-based success across genders and age groups is particularly notable; it challenges outdated assumptions that eating disorder risk and receptivity to education differ substantially by gender (Shroff et al., 2018). Instead, evidence increasingly indicates that both male and female adolescents are susceptible to the psychosocial pressures that foster body image dissatisfaction and disordered eating patterns (Cleveland Clinic, 2025).

The cultural context of contemporary India—and Bangalore specifically—amplifies these risks, with adolescents navigating conflicting appearance ideals fueled by traditional norms, family dynamics, and pervasive social media influence (Dixit et al., 2011; Stewart et al., 2022; Cleveland Clinic, 2025). The lack of nationwide mental health awareness campaigns and limited mental health education embed further barriers to help-seeking, perpetuating stigma and misinformation (Kudva et al., 2020; Evans-Lacko et al., 2014). The present intervention addressed these gaps by normalizing conversations about eating disorders and facilitating peer engagement within the classroom.

Comparisons with related studies support these results. International trials using dissonance-based and mindfulness programs have reported improvements in awareness and body acceptance, though effects are maximized in interventions that blend psychoeducation with participatory formats (Stewart et al., 2022). Recent Indian studies of body image

interventions similarly document high engagement and sustained self-esteem gains among students when professional facilitators deliver content tailored to local needs (Diedrichs et al., 2021; Jha et al., 2023).

Strengths of the current study include its robust sampling, use of a validated tool (ED-AQ), and rigorous statistical analysis. However, limitations merit acknowledgment: the absence of a control group precludes causal inference, immediate posttest measurement does not reflect long-term retention, and reliance on self-report may have introduced bias. Future research should include randomization, longer follow-up, and exploration across varied educational environments to strengthen generalizability.

VI. IMPLICATIONS AND RECOMMENDATIONS

This study affirms that brief, school-based mental health education can significantly raise awareness and modify attitudes toward eating disorders amongst adolescents in Indian urban schools. To maximize public health impact, educational policymakers should integrate regular psychoeducational sessions into existing curricula, ensuring interventions are age-appropriate, culturally contextualized, and delivered by trained professionals.

Schools should prioritize comprehensive approaches, including teacher workshops, parental involvement, and peer-led initiatives. Multi-session formats and ongoing reinforcement may yield even greater benefits. Collaboration between public health authorities, mental health experts, and media organizations can support destigmatization and extend campaign reach.

Systematic evaluation and adaptation are essential for sustainability, with future efforts expanding to include marginalized and rural populations, as well as diverse linguistic and socioeconomic backgrounds.

VII. CONCLUSION

This research demonstrates that a single, interactive education session can produce a substantial, statistically significant increase in eating disorder

awareness among urban adolescents in Bangalore, spanning all genders and age groups. The intervention's efficacy supports the broader integration of mental health education in schools as a public health measure to promote early recognition, prevention, and destigmatization of eating disorders, ultimately improving developmental outcomes for Indian youth.

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