



# Eating Disorders Among Undergraduate Students at Al-Biruni Institute of Medical and Health Sciences, Hyderabad

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## Abstract

**Background:** Eating disorders are prevalent psychiatric conditions characterized by abnormal eating behaviors, body image disturbances, and significant health consequences. Previous studies have shown rising rates among young adults, particularly university students. **Objective:** This study aimed to assess the frequency of eating disorder risk among undergraduate students. **Methods:** A cross-sectional survey was conducted among 114 undergraduate students. Demographic data were collected, and participants completed the SCOFF questionnaire to screen for risk of eating disorders. Responses were analyzed descriptively, and chi-square tests were used to compare observed proportions against expected distributions. **Results:** The mean age of participants was  $21.42 \pm 1.8$  years, with females comprising 62.4% of the sample. Overall, 72 (63.2%) students demonstrated a potential risk for eating disorders. Specifically, 42 (36.8%) reported self-induced vomiting due to feeling uncomfortably full ( $p = 0.005$ ), 48 (42.1%) expressed concern about loss of control over eating ( $p = 0.092$ ), 18 (15.8%) reported a weight loss of more than one stone within three months ( $p < 0.0001$ ), 42 (36.8%) perceived themselves as fat despite others stating they were too thin ( $p = 0.005$ ), and 66 (57.9%) indicated that food dominated their lives ( $p = 0.092$ ). **Conclusion:** A considerable proportion of undergraduate students exhibited behaviors suggestive of eating disorder risk, particularly self-induced vomiting, perceived fatness, and rapid weight loss. These findings underscore the importance of early screening and preventive interventions in this population.

## Keywords:

Eating disorders, SCOFF questionnaire, undergraduate students, prevalence, screening

## 1. Introduction

Eating disorders (EDs) are classified into three main categories by the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5): anorexia nervosa (AN), bulimia nervosa (BN), and binge eating disorder (BED).<sup>1</sup> Binge eating disorder is characterized by recurrent episodes of binge eating without inappropriate compensatory behaviors, anorexia nervosa by extremely low body weight, and bulimia nervosa by recurrent binge-eating episodes accompanied by compensatory behaviors occurring for at least three months.<sup>2</sup>

Eating disorders represent a spectrum of mental health conditions related to food and weight that can result in significant emotional distress and adverse physical health outcomes.<sup>3,4</sup> Data from the National Comorbidity Survey Replication indicate that approximately 1.2% of individuals in the United States experience an eating disorder at some point in their lifetime, with prevalence among women being more than twice that observed in men.<sup>5</sup> Young adults in their college years are disproportionately affected, with the median age of onset reported as 21 years for BED and 18 years for both BN and AN.<sup>6</sup>

The risk of developing eating disorders is elevated during the college years due to major life transitions, academic pressure, and increased psychological stress.<sup>7,8</sup> Prevalence estimates among university students range from 8% to 17%, as reported in multiple studies conducted in this population.<sup>9,10</sup> Eating disorders, particularly when not identified and treated promptly, may become severe and chronic conditions. Patient surveys suggest that an average of 5.28 years elapse between symptom onset and seeking emergency medical care.<sup>11</sup>

One contributing factor to delayed diagnosis is limited awareness and recognition of disordered eating behaviors among treating physicians.<sup>12</sup> Identifying psychological, physiological, and genetic risk factors may enhance early recognition of eating disorders, even in the absence of overt weight or eating abnormalities.<sup>13</sup>

In Pakistan, only a limited number of published studies on eating disorders are currently available, highlighting a significant gap in the existing literature. Therefore, the present study aimed to determine the frequency of eating disorder risk among first-year undergraduate students at Al-Biruni Institute of Medical and Health Sciences, Hyderabad.

## 2. Materials and Methods

### 2.1. Study Design and Setting

This cross-sectional study was conducted to assess the risk of eating disorders (EDs) among undergraduate students at Hyderabad's Al-Biruni Institute of Medical and Health Sciences. Data collection took place from March to May 2025. Participants completed a paper-and-pencil survey, which included demographic questions and the SCOFF questionnaire for screening ED risk.<sup>13,14</sup>

Individual interviews using the Eating Disorder Examination (EDE) were conducted with students who agreed to further evaluation. Interviews were performed by a counseling psychologist or a qualified graduate student. All participants provided written informed consent before taking part, and participation was voluntary. Students could complete the survey anonymously and optionally provide contact information for follow-up. Ethical approval was obtained from the Institutional Review Board of Hyderabad's Al-Biruni Institute of Medical and Health Sciences.

### 2.2. Participant Selection

A total of 114 undergraduate students participated in the study. Inclusion criteria required enrollment at Al-Biruni Institute, willingness to participate, and provision of in-

formed consent. There were no exclusion criteria for age or gender within the undergraduate population.

### 2.3. Data Collection and Assessment

The SCOFF questionnaire<sup>13</sup> evaluates several dimensions of eating disorders using five yes/no questions. A positive screen for ED risk is defined as a score of 2 or higher.<sup>14</sup> Participants who scored positively were offered an individual EDE interview for further assessment.

### 2.4. Data Management and Statistical Analysis

All collected data were entered into Microsoft Excel 365. Descriptive statistics, including frequencies and percentages for categorical variables, were computed to summarize demographic information and SCOFF responses. Inferential analyses were performed using IBM SPSS Statistics 26. Chi-square goodness-of-fit tests compared observed proportions of "Yes" and "No" responses for each SCOFF question against expected distributions. A p-value less than 0.05 was considered statistically significant.

## 3. Results

Table 1 presents the demographic and baseline characteristics of the study sample (N = 114). The mean age of the participants was  $21.42 \pm 1.8$  years. Of the total sample, 60 (52.6%) participants were aged 18–21 years, while 54 (47.4%) were aged 22–25 years. Females constituted 71 (62.4%) of the study population, whereas males accounted for 43 (37.7%).

Regarding body mass index (BMI) categories, 17 (14.9%) participants were underweight, 75 (65.8%) had a normal BMI, 13 (11.4%) were overweight, and 9 (7.9%) were classified as obese class I. In terms of academic programs, 73 (64.0%) students were enrolled in the Doctor of Physical Therapy (DPT) program, 16 (14.0%) in the Bachelor of Science in Nursing (BSN) program, and 25 (21.9%) in the BSN Generic program.

The distribution across years of study revealed that 24 (21.1%) participants were in the first year, 37 (32.5%) in the second year, 18 (15.8%) in the third year, 18 (15.8%) in the fourth year, and 17 (14.9%) in the fifth year. Socioeconomic status indicated that 12 (10.5%) participants belonged to the upper class, 84 (73.7%) to the middle class, and 18 (15.8%) to the lower class.

According to the SCOFF questionnaire, 72 out of 114 respondents (63.2%) were identified as being at risk for an eating disorder, based on affirmative responses to two or more of the five SCOFF items. The proportions of participants providing affirmative responses to the indi-

**Table 1:** Demographic characteristics of the study population

Variable	Total (N = 114), n (%)
<b>Mean age (years)</b>	21.42 ± 1.8
<b>Age group (years)</b>	
18–21	60 (52.6%)
22–25	54 (47.4%)
<b>Sex</b>	
Male	43 (37.7%)
Female	71 (62.4%)
<b>BMI</b>	
Underweight	17 (14.9%)
Normal	75 (65.8%)
Obese	13 (11.4%)
Obese class I	9 (7.9%)
<b>Program</b>	
DPT	73 (64.0%)
BSN	16 (14.0%)
BSN Generic	25 (21.9%)
<b>Study year</b>	
1st	24 (21.1%)
2nd	37 (32.5%)
3rd	18 (15.8%)
4th	18 (15.8%)
5th	17 (14.9%)
<b>Socio-economic status</b>	
Upper class	12 (10.5%)
Middle class	84 (73.7%)
Lower class	18 (15.8%)

vidual items were 35 (30.7%), 25 (21.9%), 6 (5.3%), and 4 (5.0%). Females were significantly more likely to be at risk for an eating disorder compared with males, as indicated by the SCOFF score ( $p < 0.01$ ).

Table 2 presents the distribution of responses to the SCOFF questionnaire items. For the item, “Do you make yourself sick because you feel uncomfortably full?”, 42 participants (36.8%) responded “Yes”, whereas 72 (63.2%) responded “No”, with the difference reaching statistical significance ( $p = 0.005$ ). Similarly, for the question, “Do you believe yourself to be fat when others say you are too thin?”, 42 participants (36.8%) answered “Yes” and 72 (63.2%) answered “No”, also demonstrating a statistically significant difference ( $p = 0.005$ ).

For the item, “Have you recently lost more than one stone (14 lb) in 3 months?”, only 18 participants (15.8%) responded “Yes”, while 96 (84.2%) responded “No”, indicating a highly significant difference ( $p < 0.0001$ ). In contrast, for the items “Do you worry that you have lost control over how much you eat?” and “Would you say that food dominates your life?”, 48 (42.1%) and 66 (57.9%) participants, respectively, responded “Yes”, with corresponding “No” responses of 66 (57.9%) and 48 (42.1%). These dif-

ferences were not statistically significant ( $p = 0.092$  for both items).

## 4. Discussion

The prevalence of potential eating disorder risk, defined as a SCOFF score of two or more positive responses, in the present study (63.2%) was substantially higher than the rates reported in three comparison studies. The current study identified 63.2% of participants (72 out of 114) as being at risk for an eating disorder. Tavoracci et al. reported a prevalence of 20.5% for a positive SCOFF screen among university students in France.<sup>15</sup> Similarly, Laghari et al. documented that 24.6% of Pakistani students were at high risk of eating disorders.<sup>16</sup> Eisenberg et al. observed a markedly lower prevalence, reporting eating disorder risk in 13.5% of women and 3.6% of men in a large university-based sample in the United States.<sup>17</sup>

The significantly higher prevalence observed in the present study may be attributable to differences in demographic characteristics, sociocultural influences, or methodological variations in data collection, although the SCOFF cutoff threshold ( $\geq 2$  positive responses) was consistently applied across all four studies. These factors may collectively contribute to the elevated risk observed in the present sample and warrant further investigation.

Consistent with previous literature, all four studies demonstrated a significant association between female gender and an increased risk of eating disorders. In the present study, women were significantly more likely to be at risk for an eating disorder ( $p < 0.01$ ). Similar associations between female gender and positive SCOFF screening have been reported by Tavoracci et al.<sup>15</sup> and Laghari et al.<sup>16</sup>, both of whom found significantly higher risk among female students. Eisenberg et al. further corroborated this gender disparity, reporting substantially higher prevalence rates among women compared with men.<sup>17</sup>

The proportion of participants in the present study who reported making themselves sick (36.8%) was more than double the rate reported by Laghari et al. (16.4%)<sup>16</sup>, and this difference was statistically significant ( $p = 0.005$ ). Likewise, the SCOFF item assessing body image distortion (“Do you believe yourself to be fat when others say you are too thin?”) yielded a higher affirmative response rate in the present study (36.8%) compared with previously reported findings (25.4%)<sup>16</sup>, with the observed difference reaching statistical significance ( $p = 0.005$ ).

The most pronounced discrepancy was observed for the item “Would you say that food dominates your life?”. In the present study, more than half of the participants (57.9%) responded affirmatively, which is more than double the prevalence reported by Laghari et al. (24.7%).<sup>16</sup>

**Table 2:** Responses to the SCOFF questionnaire items among participants (N = 114)

Questions	Yes, n (%)	No, n (%)	P-value
Do you make yourself sick because you feel uncomfortably full?	42 (36.8%)	72 (63.2%)	0.005
Do you worry that you have lost control over how much you eat?	48 (42.1%)	66 (57.9%)	0.092
Have you recently lost more than one stone (14 lb) in a 3-month period?	18 (15.8%)	96 (84.2%)	<0.0001
Do you believe yourself to be fat when others say you are too thin?	42 (36.8%)	72 (63.2%)	0.005
Would you say that food dominates your life?	66 (57.9%)	48 (42.1%)	0.092

In contrast, the prevalence of significant recent weight loss was relatively comparable between studies, with 15.8% reported in the present study and 18.5% documented previously.<sup>16</sup>

Overall, the present study reports a markedly higher prevalence of eating disorder risk compared with international findings.<sup>15-17</sup> The high affirmative response rates for the “Sick,” “Fat,” and “Food” items of the SCOFF questionnaire suggest that the elevated risk observed in this sample may be driven by pronounced body image distortion, food preoccupation, and compensatory behaviors. The observed gender disparity in eating disorder risk is consistent with existing literature and reinforces the need for targeted screening and early intervention strategies.<sup>15-17</sup>

## 5. Conclusions

The study revealed that a substantial proportion of participants exhibited behaviors and attitudes indicative of eating disorder risk, particularly self-induced vomiting, perceived fatness, and significant recent weight loss. Overall, females showed a higher vulnerability, highlighting the need for early screening and preventive interventions.

## 6. List of abbreviations

<b>AN</b>	Anorexia nervosa
<b>BN</b>	Bulimia nervosa
<b>BED</b>	Binge eating disorder
<b>ED</b>	Eating disorder
<b>BMI</b>	Body mass index
<b>EDE</b>	Eating Disorder Examination

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## 8. Authorship

All named authors meet the International Committee of Medical Journal Editors (ICMJE) criteria for authorship for this article, take responsibility for the integrity of the work, and have given their approval for this version to be published.

## 9. Authors' Contributions:

M.A.C. conceptualized and designed the study; collected and analyzed the data; contributed to methodology; and performed writing—review and editing.

K.C. drafted the manuscript; performed writing—original draft; conducted data curation and formal analysis. All authors reviewed and approved the final manuscript.

## 10. Conflicts of interest

None

## 11. Funding

None

## 12. Consent for publication

Not Applicable

## 13. AI Use Disclosure

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