

dieting, binge eating, vomiting, and the misuse of diuretics, laxatives, and diet pills, may serve as early indicators of more severe eating disorders [2, 3]. EDs are serious mental health conditions that significantly impact physical health and psychosocial well-being, and their prevalence has increased over the last 50 years [4]. The global burden of anorexia nervosa and bulimia nervosa among young females has been estimated to account for 1.9 million disability-adjusted life years [5].

Initially, the prevalence of EDs in Western countries was higher compared to non-Western countries [6]. However, this trend has shifted, as recent systematic analyses suggest a reversal [7]. The economic impact of EDs is substantial, with the annual treatment costs for adult and adolescents was estimated between 1,288\$ and 8,042\$ per patient [8, 9] where females received more treatment and had longer duration of treatment than males [10]. Alarming, many college students exhibiting signs of eating disorders have not been diagnosed or treated, underscoring the importance of early detection [11]. Thus, timely identification of disordered eating behaviors in college students appears to be a momentous necessity. Individuals with eating disorders are at risk for a range of health issues, including anxiety, cardiovascular symptoms, depression, chronic pain, insomnia, neurological problems, and even suicide attempts [12]. Moreover, 3.4% to 20% of people with eating disorders have high mortality rates, of which the highest was recorded among individuals with anorexia nervosa due to suicide attempts or physiological complications such as heart failure [13, 14].

In the second half of the 20th century, the Western media introduced the "thin ideal" body standard, which significantly contributed to the development of EDs among women [15]. Before the development of clinical eating disorders such as anorexia nervosa and bulimia nervosa, many individuals exhibit disordered eating attitudes which is unhealthy behaviors and attitudes related to body image, weight, and food. These attitudes can serve as precursors to more severe eating disorders [16].

The prevalence of disordered eating attitudes among female college students varies regionally. In the United States, 10%–20% of college women reported disordered eating attitude [17] while in Saudi Arabia and China the prevalence was 36.8% [18] and 4% [19] respectively. In Africa, the prevalence also varies, with 21.9% in Nigeria [20], South Africa 21.2% [21], 8.7% at Harar, Ethiopia [22], and 9.7% in Gondar, Ethiopia [23].

Factors influencing disordered eating attitudes include peer influence [24], frequently reading magazines (reading at least weekly); and listening to radio programs (listening more than 1 h per day) [24, 25], severe media usage [23] and a high body mass index or excess weight

[26–28]. Additionally, parental socio-demographic factors including marital status of parents [29] and mothers' education levels [30] have been found to contribute to these attitudes.

The transition to adulthood (ages 18–25) is a critical period for the onset of weight-related health behaviors and attitudes [31]. Since many body and weight related situations and activates emerge, puberty, adolescence and young adulthood are key periods for identifying associated factors for disordered eating attitude [32]. Therefore, addressing these behaviors early can prevent negative outcomes in later life. Conducting research at the university level provides an important opportunity to identify students with disordered eating attitudes for early detection and intervention.

To the best of the authors' knowledge, there is limited evidence on disordered eating attitudes among university female students. Thus, this study was aimed to determine the prevalence of s 0 Tw (20)Tj 0 0 0 rg /GS0 gs .Jgs .138 Twur

eating attitudes, a 95% confidence level, a 5% margin of error, a design effect of 1.5, and a 10% non-response rate, yielding a final sample size of 633 participants. To select the study subjects, a two-step sampling strategy was employed: stratified sampling followed by simple random sampling. Of the six campuses (Main Campus, Abaya Campus, Nech Sar Campus, Chamo Campus, Kulfo Campus, and Saula Campus), two were randomly chosen for inclusion: Nech Sar and Chamo campuses. Proportional allocation was applied to each selected campus. Within each campus, stratification was based on department and academic year. Participants were then randomly selected from the departmental lists using their identification numbers as the sampling frame.

Operational definitions

Disordered eating attitude is typically defined by Eating Attitude Test with item 26 (EAT-26) of 20 or above which implies unfavorable eating attitude. In contrary, a score of below 20 indicate favorable eating attitude which suggests healthier relationship with food [34]. Underweight is defined as Body Mass Index (BMI) of less than 18.5 kg/m^2 , normal weight falls within the range of 18.5 kg/m^2 to 24.99 kg/m^2 and overweight is considered when BMI is 25 kg/m^2 or higher [35]. Media exposure was considered if students watched television (listened to radio) for more than one hour per day [24].

Data collection tool and procedure

Data collection was carried out using a self-administered questionnaire and direct measurements of weight and height by the investigators. The questionnaire was structured into two sections. The first section gathered socio-demographic information, including age, height, weight, maternal and paternal educational levels, religious affiliation, maternal and paternal occupations, academic department, and year of study. The second section comprised the validated Eating Attitude Test (EAT-26), which was adapted from previous studies [20, 22, 35, 36] to assess disordered eating attitudes. The EAT-26 consists of 26 items addressing various eating behaviors and attitudes. Each item was rated on a six-point Likert scale, ranging from 'always' to 'never'. Scores were assigned as follows: 3 for 'always', 2 for 'usually', 1 for 'often', and 0 for 'sometimes', 'rarely', and 'never'. However, for item 26, the scoring was reversed: 0 was given for responses of 'always', 'usually', and 'often', while 1, 2, and 3 were assigned for 'sometimes', 'rarely', and 'never', respectively.

The total score was obtained by summing the responses to all 26 items.

The participants' height was meticulously measured using a stadiometer, with individuals positioned barefoot and ensuring that their heels, buttocks, and shoulders

were in full contact with the wall of the device, and their head aligned with the Frankfurt plane. The measurement was recorded to the nearest 0.1 centimeter, with the procedure repeated as necessary to ensure precision and consistency. Weight was determined using a calibrated weighing scale, with readings taken to the nearest 100 grams. To ensure utmost accuracy, multiple measurements were recorded, and the scale was recalibrated to zero after each participant's measurement. Participants were instructed to refrain from wearing shoes or heavy attire during the process.

Data quality assurance

The consistency of the questionnaire was maintained by translating the English version to Amharic and then back to English. Before the actual data collection date, training was given to the data collectors and supervisors. Pretests were conducted among 31 respondents at the Abaya Campus, and editorial errors were corrected. The accuracy and completeness of the collected data were checked by the investigators. The data were checked by inspecting and crosschecking the entered data with the questionnaire and running frequency.

Data processing and analysis

The data were entered into Epi-Info version 7 and subsequently exported to SPSS version 7 [(code)23(e)-14(c)-6(ting

95% confidence intervals was calculated to measure the strength and presence of associations between disordered

Table 2 EAT_26 scores among undergraduate female students at Arba Minch University, Southern Ethiopia, 2023

N=frequency

environments that prevent disordered eating attitudes [39].

A key finding in this study was the strong focus on body weight and shape. Among the dieting scale items, the most frequently endorsed statement was “I am terrified about being overweight,” a result consistent with findings from Najah University [15]. This suggests that female students are highly concerned with their body image, likely influenced by peer pressure, family dynamics, and societal expectations of an ideal body shape. On the bulimia scale, “Give too much time and thought to food” was the most commonly endorsed statement, while the oral control scale showed that “Display self-control around food” was the most endorsed item. These patterns indicate that participants at higher risk for disordered eating attitudes leaned more toward anorexia nervosa than bulimia nervosa. Such cognitive patterns, where individuals obsessed over food and felt guilt, are often linked to anorexia,

extreme self-discipline is used to restrict food intake and maintain an unnaturally low body weight [39]. Moreover, oral control is manifestation of anorexia nervosa where persons usually attempt to reduce hunger [40].

The study also identified some factors associated with disordered eating attitudes, including body mass index (BMI) and department. A significant association was found between BMI and disordered eating attitudes. The prevalence of disordered eating attitudes among students with a normal body mass index was 97% lower than those who were underweight (AOR=0.03, 95% CI: 0.004–0.040). Additionally, overweight students had 5.83 times more prevalence of disordered eating attitudes than underweight students (AOR=5.83, 95% CI: 2.34–14.52).

This finding is consistent with studies at Najah University [16] and in Saudi Arabia [40]. The desire to conform to the “thin ideal” as a standard of feminine beauty may play a pivotal role in the development of disordered eating

Table 3 Factors associated with disordered eating attitudes among undergraduate female students at Arba Minch University, Southern Ethiopia, 2023

| Variable | Eating attitude Normal disordered | COR(95%CI) | AOR (95%CI) |
|-----------------------|--------------------------------------|-----------------|-----------------|
| Resident | | | |
| Rural | 89 18 | 1 | 1 |
| Urban | 442 51 | 1.75(0.97–3.14) | 0.45(0.17–1.16) |
| Family income | | | |
| <39.08\$ | 92 18 | 1 | 1 |
| 39.08\$ | 439 51 | 1.68(0.94–3.01) | 0.52(0.21–1.28) |
| Parents live together | | | |
| Yes | 463 56 | 0.63(0.32–1.21) | 0.68(0.27–1.67) |
| No | 68 13 | 1 | 1 |
| Age | 92 18356 T60.45(0.17–15T 4Yes | 463 56 | 0.63(0.32–1.21) |

COR crude odds ratio and AOR adjusted odds ratio
* p value <0.05

attitudes, especially among overweight individuals who may have a negative body image and a strong desire to lose weight.

Moreover, departmental affiliation was significantly associated with disordered eating attitudes. Students from non-health departments showed 2.27 times higher prevalence of disordered eating attitudes than their counterparts (AOR = 2.27, 95% CI: 1.06–4.86) even though, further research is needed to determine causality. This could be attributed to varying levels of awareness about the consequences of unhealthy eating behaviors and coping strategies between students from health-related fields and those from other disciplines, placing the latter group to higher chance of developing disordered eating attitudes [41].

Although abnormal eating attitudes do not always lead to eating disorders, they undoubtedly increase the chance of the development of such disorders [42]. Given the severe health consequences of eating disorders, including the risk of cardiovascular diseases and renal failure,

it is essential to implement effective interventions at the institutional level to safeguard the health of students [43].

This study highlighted the need for policies that promote self-confidence and a positive body image. More specifically, university health services should implement routine screening using EAT-26, combined with psychological counseling services to support at-risk students.

Limitations of the study

The study was conducted using a cross-sectional study design, which cannot determine the cause-and-effect relationship between the outcome variable and associated factors. Additionally, the study did not explore the association between social media use and anxiety. Moreover, the study did not control for mental health variables (e.g., stress, depression, anxiety), which are strongly linked to disordered eating attitudes. So, future studies should incorporate psychological assessments. BMI and income were not analyzed as continuous variable.

Therefore, we recommend the next researchers to consider this to preserve statistical power.

Conclusion

This study found that disordered eating attitudes were

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