



# Eating Disorder Prevention: Economic Considerations for College Students

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## Commentary

Volume 7 Issue 5

Received Date: September 30, 2024

Published Date: October 10, 2024

DOI: 10.23880/jqhe-16000412

**Keywords:** Eating Disorder Prevention; College Students; Economic

## Abbreviations

EDs: Eating Disorders; AN: Anorexia Nervosa; BN: Bulimia Nervosa; BED: Binge-Eating Disorder; OSFED: Other Specified Feeding or Eating Disorder; STRIPED: Strategic Training Initiative for the Prevention of Eating Disorders.

## Commentary

Eating disorders (EDs) are mental health disorders causing severe disturbances to the eating behaviors of individuals. These disturbances are characterized at varying levels by aberrant eating, dysregulated body weight, and overconcern with shape or weight; they are accompanied by physical and psychosocial morbidities and can have multiple negative effects on an individual's mental and physical health and well-being [1].

Anorexia nervosa (AN), bulimia nervosa (BN), and binge-eating disorder (BED) are prominent EDs defined by the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) [2]. AN is characterized by extreme restrictive eating and is often associated with overexercising behaviors. Those with BN engage in binge eating followed by purging behaviors, including vomiting, excessive exercise, use of laxatives, or other compensatory behaviors. BED is characterized by frequent binge eating. The DSM-5 category Other Specified Feeding or Eating Disorder (OSFED) includes EDs causing clinically significant distress or impairment such as atypical anorexia nervosa, purging disorder, and night eating syndrome. These disorders are often driven by anti-fat attitudes, a fear of gaining weight, and positive

feelings towards the thin ideal or other appearance ideals. EDs are associated with substantial morbidity and mortality, and outcomes worsen as the illness progresses. As such, prevention of EDs is paramount to improve the overall wellbeing of at-risk individuals.

Approximately 9% of the U.S. population will have an ED at some point in their lifetime [3]. Among adolescents aged 13-18 years, lifetime prevalence rates have been reported as follows: 0.16% for AN; 0.63% for BN; 1.53% for BED [4]. As such, EDs are associated with significant excess premature mortality, with standardized mortality ratios being 5.86 times higher in those with AN and 1.93 times higher for those with BN than the general population, with the OSFED category accounting for about one-third of deaths associated with EDs [5]. Additionally, AN has long claimed the highest mortality rate of any psychiatric disorder [6]. EDs also commonly go undetected and undiagnosed, or cause of death is recorded as other factors (i.e. heart failure), indicating that official mortality estimates likely understate the true number of deaths attributed to EDs [3].

A 2020 report by the Strategic Training Initiative for the Prevention of Eating Disorders (STRIPED) estimated that in the 2018-2018 Fiscal Year (FY), there were 23,560 inpatient hospitalizations due to eating disorders, costing approximately \$209.7 million (Deloitte Access Economics). Additionally, there were approximately 53,918 emergency room visits related to EDs, costing about \$29.3 million. The primary and outpatient costs due to EDs were estimated at \$3.4 billion, with residential care costs totaling \$796.3 million in 2019. An estimated \$51.6 million was spent on psychotherapeutic medications for ED treatment, and nutrition therapy expenditures in the US may have been as high as \$570 million in 2020.

A 2021 review by Streatfeild J, et al. provided estimates of social and economic costs of EDs, including costs to the U.S. healthcare system, costs to individuals and families, and lost well-being, among others. The review estimated the total tangible economic costs associated with EDs to be \$64.7 billion, or approximately \$11,808 per affected person. Total health system costs were calculated to be \$4.6 billion, with primary and outpatient consultations making up the largest components of this amount. The largest share of the tangible economic costs and healthcare system costs associated with EDs was accounted for by OSFED diagnoses, and costs were greatest for those in the young adult age group (20-34 years old). Finally, loss of well-being attributed to EDs was valued at \$326.5 billion.

The transition from high school to college presents various academic, social, and/or mental challenges which contribute to the period between ages 18 and 24 representing the highest incidence of mental illness compared to other stages of the life cycle [7,8]. Specifically, EDs and unhealthy weight control behaviors commonly have their onset during this transition to college and/or adulthood [9]. EDs have become increasingly prevalent among U.S. college students, posing a significant risk to physical and mental health as well as academic performance [10]. Recent data shows positive screenings for ED symptoms in 11% to 17% of females and 4% of males on college campuses in the U.S., with 20% to 67% of college students experiencing subthreshold ED symptoms [11]. Subthreshold ED symptoms are behaviors and attitudes associated with disordered eating which are not yet at levels that indicate full syndrome EDs. Even at the low end of this range, those displaying subthreshold symptoms represent a significant portion of the college student population that would be considered high-risk for developing a full syndrome eating disorder [12]. Considering the heightened risk for ED development among this age group and the greater costs associated with EDs in young adulthood, prevention among high school and college students is essential to improved outcomes and greater overall well-being.

In addition to life cycle transitions such as the transfer from high school to college, body image concerns and appearance ideal internalization increase the risk for the onset of an ED [11,13]. Common risk factors associated with body dissatisfaction include low self-esteem, perfectionism, internalization of appearance ideals, body comparison tendencies, and being teased about appearance or weight [14]. Body image may also be impacted by environmental factors such as learning about appearance ideals from parents/family or peers [15]. Internalization of the thin ideal often persists into recovery and causes relapse [16]; however, interventions which seek to address this factor through dissonance have been successful [17].

One such intervention is the Body Project, a peer-led, dissonance-based prevention program for high school and college-aged women which facilitates cognitive conflict between supported ED attitudes and critique of the thin ideal and other appearance ideals [18]. Considering the need for prevention among college student populations and the demonstrated success of dissonance-based programs in reducing significant ED risk factors, programs such as the Body Project could have positive impacts on ED-related outcomes.

Peer education is a promising and cost-effective strategy for health improvement in schools, as it leverages the relatability and credibility of peers to effectively communicate health promotion information. The sensitivity associated with ED often serves as a deterrent for individuals to seek assistance. Peer facilitation of an ED prevention program can play a crucial role in creating an approachable and inclusive health promotion initiative, helping individuals address this sensitive topic effectively. The peer-led structure promotes participant confidence and self-efficacy from role-modeling and positive feedback from peers. A 2020 analysis of the Body Project displayed that participants showed greater reductions in ED risk factors and symptoms compared to control groups through 1- and 2-year follow-up [19]. The study also found that ED onset was significantly lower for Body Project participants than controls at 4-year follow-up.

Furthermore, peer-led ED prevention programs offer many financial incentives for college students. Many colleges offer a variety of healthcare resources such as student health centers and mental health counseling. Despite the availability of counseling services, only one in four students have used on-campus counseling, and even fewer have utilized tele-counseling or other mental health services [20]. Support and encouragement from peers can empower students to utilize services that will improve their health behaviors and have the possibility to significantly reduce the cost associated with future healthcare expenses. Moreover, implementation of a peer-led, dissonance-based ED prevention program, such as the Body Project, on college campuses offers an accessible and effective method for addressing ED behaviors for a high-risk population.

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