

# Eating Disorders in India: A Systematic Review

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## Abstract

Eating disorders such as anorexia nervosa, bulimia nervosa and binge eating disorder are one of the crucial categories of disorders which can cause life-threatening medical and nutritional consequences. Research has proven that individuals suffering from eating disorders also suffer from mood disorders. However, despite the rapidly changing times, increase in mental health problems, the same has not been covered in the most recent survey- National Mental Health Survey of India. The survey has proven that approximately 40%–90% of adolescents with depression suffer with additional comorbidities such as anxiety disorders, conduct disorders, substance abuse, or personality disorders. Considering the same, the objectives of this study were to examine the prevalence of eating disorders in India, and to understand comorbidities that can occur with eating disorders and to study the various factors that can cause eating disorders. For the present research study, a systematic review was conducted and databases such as Research Gate, Google Scholar, ERIC, Frontiers and PubMed were explored. The selected studies and their findings were discussed in detail the study. This study will help to understand the prevalence of eating disorders in India and associated risk factors which are more appropriate to the Indian culture and hence develop effective measures which be used on a therapeutic front as well as a parenting front.

**Keywords:** Adolescents; Systematic Review; Eating Disorders

## Introduction

According to American Psychiatric Association [1], “eating disorders are behavioural conditions characterized by severe and persistent disturbance in eating behaviors and associated distressing thoughts and emotions.” According to NIMH [2], “Eating disorders (ED) are all those disorders that include irregular or disturbed eating practices. They are characterized by either excessive intake or inadequate intake of food.” In the late 1800s, eating disorders were accepted as psychogenic illnesses. Anorexia nervosa, which was regarded as a psychophysiological reaction, was the first eating disorder listed in the Diagnostic and Statistical Manual of

Mental Disorders (DSM) in its first edition (DSM-I) APA [3]. However, despite the fact that weight phobia, a crucial aspect of eating disorders, was initially explored in the 1930s, the British psychiatrist Gerald Russell first identified Bulimia nervosa in 1979 Castillo M, et al. [4].

Anorexia nervosa, where the person severely fears gaining weight and restricts food or over-exercises to manage this fear, binge eating disorder, where the patient eats a large quantity in a short period of time, bulimia nervosa, where people eat a large quantity (binging), then try to rid themselves of the food (purging); Avoidant/restrictive food intake disorder (ARFID), in which individuals have a

minimized or limited food intake due to some psychological conditions, pica, where the patient eats non-food items, rumination syndrome, where the individuals regurgitates undigested or barely digested food, and a group of other specific feeding or eating disorders APA [5].

A wide range of gender, age, and cultural disparities, as well as differences in the methodologies employed for diagnosis and measurement, can be seen in estimates of the incidence of eating disorders Sweeting H, et al. [6]. Anorexia affects 0.4% and bulimia impacts 1.3% of young females in the developed countries in a given year, respectively APA [5]. In any given year, 0.8% of men and 1.6% of women are affected with binge eating disorder APA [5]. A study by Smink FR, et al. [7] found that up to 4% of women may experience anorexia at some point in their lives, and up to 2% will experience bulimia and binge eating disorders. It seems that less developed nations have lower rates of eating problems. Pike KM, et al. [8]. Females are about ten times as likely as men to suffer from anorexia and bulimia APA [5]. Eating disorders typically first appear in late childhood or early adulthood.

## Key Features

### Anorexia Nervosa

The eating disorder anorexia nervosa makes a person reduce their food intake. They might try to eat infrequently, in very small portions, or by eliminating some items and consuming only a few others. An intense fear about being overweight is a characteristic of anorexia. Even if they are underweight typically, anorexia starts in teens that are 15 years old or younger. Mostly girls and women are affected by the illness Walsh BT [9]. The earliest instances of emaciation without a known medical cause were documented in the late seventeenth century. William Gull used the term “anorexia nervosa” in 1874 describing four instances of teenage girls who lost weight on purpose. Anderson AE, et al. [10] Anorexia, however, can afflict people of any age, sexual orientation, and racial/ethnic backgrounds, just like other eating disorders. Anorexia is thought to affect up to 4% of females and 0.3% of males globally Eeden AE, et al. [11].

One of the most damaging myths regarding anorexia is that all patients are extremely underweight. While some may find this to be the case, many anorexics may appear to be in good health while they are actually undernourished. Anorexia in those who aren't underweight is known as atypical anorexia Dimitropoulos G, et al. [12].

### Bulimia Nervosa

The DSM-5 highlights the following diagnostic criteria for bulimia nervosa:

- Periodic binge eating bouts. Two of the following

characteristics describe an episode of binge eating:

- Consuming more food than the majority of individuals would typically consume in a similar amount of time and under comparable circumstances in a specific amount of time (for example, within a two-hour period).
- Eating without restraint during the episode (e.g., a feeling that you cannot stop eating, or control what or how much you are eating).
- The binge eating and inappropriate compensatory behaviours both occur, on average, at least once a week for three months.
- Recurrent inappropriate compensatory behaviour to prevent weight gain, such as self-induced vomiting; Misuse of laxatives, diuretics, or other medications; Fasting; or Excessive exercise.

### Binge-Eating Disorder

Binge eating disorder (BED) is an eating disorder that was added to the Diagnostic and Statistical Manual of Mental Disorders' fifth edition in 2013. Even though it is a relatively new diagnosis, it is more prevalent than anorexia nervosa and bulimia nervosa. Nearly ten thousand people participated in a nationwide face-to-face household survey in the US, and the results showed that 0.8% of men and 2.3% of women will acquire binge eating disorder Swanson SA, et al. [13]. A person must engage in binge eating episodes at least once per week for three months in order to receive a diagnosis of binge eating disorder. The person will experience these episodes as having no control over their eating Grilo CM, et al. [14].

### Objectives

The objectives of this study were to examine the prevalence of eating disorders in India, and to understand comorbidities that can occur with eating disorders and to study the various factors that can cause eating disorders.

### Prevalence - Globally

In Ontario, Canada, bulimia nervosa prevalence rates were found to be 1.1% for females and 0.1% amongst men in 1995 by Garfinkel PE, et al. [15] According to Gard MC, et al. [16], people from lower socioeconomic position are just as susceptible to eating disorders including anorexia nervosa, bulimia nervosa, and binge eating disorder as people from upper-class societies or westernized communities. Anorexia and bulimia had prevalence rates of 0.7% and 0.5%, respectively, according to the research carried out by Steinhausen H, et al. [17] on the people of Zurich. They were followed by Szabo C, et al. [18], who conducted a research in South Africa and found that deviant eating attitudes indeed exist. According to Hay's research from 1998 [19], 0.3%

of South Austrians had bulimia nervosa and 1% had binge eating disorder.

In a 2005 study by Tareen A, et al. [20], low-weight girls who visited psychiatric clinics in the UK were observed, and the symptoms of girls of Indian, Pakistani, and Bangladeshi ancestry were contrasted with those of their Caucasian counterparts. They discovered that these South Asian women displayed increased appetite reduction but less fat phobia, weight preoccupation, and exercising to regulate weight. Similar to their Caucasian counterparts, South Asians also struggled with perfectionism, body image issues, and depressive symptoms. They came to the conclusion that the absence of “fat phobia” might indicate that South Asians do not strongly associate “fat” with being unpleasant. In 2009, Preti A, et al. [21] carried out an additional investigation in six different European nations. According to research, the prevalence rates for binge-eating disorder, bulimia nervosa, and anorexia nervosa are 0.48%, 0.51%, and 1.12%, respectively.

### Prevalence Studies - India

Even though they are very frequent, eating disorders are not well understood in India. 14.8% of the sample group had the syndrome of eating distress, according to Srinivasan TN, et al. [22] research of 210 medical students in Chennai utilising the eating attitudes test (EAT) and BITE self-report questionnaires. The following study, conducted by Bhugra D, et al. [23], found that 0.4% of North Indians have bulimia nervosa. According to the findings of Abraham SF, et al. [24], Indian females tend to externalize their problems and explain their eating disorder-related feelings and behaviours in medical and physical terms. They also accept the physical effects of their eating disorders on their health more readily than the psychological ones. Silawat R [25] did a study in India to compare the incidence of eating anxiety among several zonal female basketball players in India.

According to the findings, India's east zone had the highest prevalence, followed closely by the north zone. The incidence of eating distress was low in the west and south zones, with the south zone scoring the lowest. Ramaiah R [26] did a study to ascertain the incidence of eating disorders and perceptions of body shape among medical students and to evaluate any relationships between those two variables. Obesity prevalence was estimated to be 6.4% overall and overweight prevalence to be 17.4%. In our study, the prevalence of eating disorder symptoms, as well as disordered eating attitudes and behaviors, was 16.9%, and we discovered a statistically significant relationship between age and body shape dissatisfaction and distorted eating attitudes. However, there is a paucity of research from India in this area, and topics like eating habits and body dissatisfaction are not studied in the

Indian context.

### Risk Factors

A number of risk factors can result in eating disorders. According to Grilo CM, et al. [27], BED may be linked to avoidant and apprehensive personality disorders, bulimia nervosa to impulsive and unstable personality disorders, and anorexia nervosa to obsessional and perfectionistic personality disturbances. Histrionic personality traits and self-directedness have been shown to predict a more favourable course and/or outcome, whereas Cluster B and obsessive-compulsive personality disorders have been shown to predict a worse course and/or outcome. Vulnerable personality features may be elevated into what seem to be primary personality disorders but are actually secondary personality disturbances in the context of an eating disorder.

According to Keel PK, et al. [28], bulimia nervosa appears to be a syndrome that is culture-bound, whereas anorexia nervosa appears to have a pathoplastic effect on culture with regard to weight concern. Numerous patients from non-Western nations have been discovered to not have weight issues. In addition, Moriarty CM, et al. [29] found that exposure to oversold fitness body ideals on televisions or other mass media networks typically triggers the idea of disordered eating in the minds of adolescents. Similar to this, a report by Sarkar S [30] claimed that the concern with maintaining a perfect appearance and keeping up with current trends all contribute to the toxic atmosphere that young people experience. Apps like Facetune and readily available Instagram filters, which instantly offer users a smaller nose or fuller set of lips, make it simple for well-known influencers to deceive youthful audiences into aspiring to an unattainable ideal. Additionally, a lot of people, especially young people, are unaware that eating disorders can have long-term negative effects in addition to making people feel weak or hungry.

According to Chandra PS, et al. [31], psychosocial stressors connected to family or achievement, such as feelings of failure in relation to parental expectations, appear to be a prevalent risk factor for the development of an eating disorder in Indians. This finding is comparable to that of Moriarty CM, et al. [29]. The body dissatisfaction and eating habits of students from Indian (who lived in Muscat, Oman), Omani, Filipino, Japanese, and Euro-American backgrounds were compared by Kayano M, et al. [32]. However, the desire for being thin was not as high. Respondents from India, Oman, and the Philippines displayed eating attitudes that were comparable to or worse than those of respondents from Western nations and Japan. The study demonstrated that while disordered eating behaviour exists in non-Western cultures, it may be driven by factors other than body dissatisfaction. In 2011,

Chandra PS, et al. [33] carried out research to determine whether cultural shifts like urbanization and westernisation can result in rising rates of eating disorders (EDs). In order to determine whether they had seen an increase in ED cases in the previous year, a survey of psychiatrists in Bangalore, India was undertaken. In the study, 66 psychiatrists were included. In the previous year, 67% of respondents said they had seen patients with eating disorders.

There were 74 cases in all that were seen. Of them, 32 had anorexia nervosa diagnoses, 12 had bulimia nervosa diagnoses, and 30 had eating disorders with no additional diagnoses. In Bangalore, 23.5% of respondents believed that the number of EDs was rising, 26.5% believed that the rates were steady, and 42% were unsure. Indications that EDs are frequent in urban India include the two-thirds of psychiatrists who said they had seen at least one case of the disorder. Lal M, et al. [34] compared eating disorder patients in Australia and India. They came to the conclusion that there are relatively few studies on eating disorders and the risk factors that go along with them in the Indian community. Indians were more prone than Australians to admit to bingeing and overeating. None of the Indian patients reported having comorbid illnesses or taking medication. In comparison to the Australian group, the Indian sample reported a lower quality of life in terms of acute medical conditions and overeating sentiments sub scores.

Iyer S, et al. [35] conducted one of the most recent research to identify the rate of and markers for eating disorders amongst 332 students at a college of medicine in South India. 13% of students had a high risk of developing eating problems. It affected males and females nearly equally. Significant levels of stress and serious body image problems were linked to a significant risk for eating disorders. A history of therapy, peer pressure, excessive exercise, and any behavioural indicators such the use of laxatives and diet medications were additional contributing factors.

### Comorbidities with Eating Disorders

According to Kaye W, et al. [36], individuals with anorexia and bulimia nervosa are substantially more likely to have anxiety disorders in general and obsessive compulsive disorder in particular. It is likely that anxiety problems are a risk parameter for the development of anorexia or bulimia as they frequently manifest in childhood before eating disorders do. According to McElroy SL, et al. [37], recent research has demonstrated a significant degree of comorbidity between eating disorders and bipolar affective disorders, particularly between bulimia nervosa and bipolar II disorders, supporting the same.

Mammen P, et al. [38] pointed out that there are no studies

on the prevalence or co-morbidity of eating disorders in India. The identification and analysis of 41 cases having ICD 10 diagnoses of eating disorders. Anorexia nervosa was the rising eating disorder, while psychogenic vomiting was the eating disorder with the highest prevalence, at 1.25%. Depression, intellectual disability, and dissociative disorder were the most typical co-morbidities. Research on bipolar disorder and eating problems was conducted by Craba A, et al. [39] in 2021. There are several areas of symptomatological overlap between bipolar disorders (BDs) and eating disorders (EDs), both of which are severe and common mental illnesses. Binge eating disorder (BED), which has a prevalence that ranges from 8.8% to 28.8% in BDs, is the most prevalent eating disorder, whereas BN and AN have prevalences that range from 4.8% to 10% and 1% to 7.4%, respectively. Rather, the frequency of bipolar illnesses among ED patients ranges from 11.5% to 68.1%. Due to a lack of research, the association between EDs and BDs is still not fully understood. While bipolar illness does not appear to have a significant impact on the age of onset of ED symptoms and their intensity in patients with EDs, the occurrence of EDs has been regarded a predictor of clinical severity in people with bipolar disorders [40].

### Evident Gap in Literature

The research mentioned above were conducted over a significant period of time. They have numerous drawbacks, particularly in the context of India, where it is necessary to better examine the impact of psychosocial elements and the shifting cultural norms. Additionally, there is a need to spread knowledge about eating disorders. Furthermore, more research is required to develop screening tools for early diagnosis and to delve deeper into aspects of this comorbidity that are still unknown, particularly with regard to pharmaceutical therapy and bio psychological aspects that may be helpful in identifying the aetiopathology.

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