

Eating Disorder in India: A Review Paper

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ABSTRACT: *In India, there has been intermittent study on eating disorders, but no attempt has been made to compile and analyse the literary landscape. As a result, the current narrative review attempts to synthesise Indian work on eating disorders, identify current trends, and identify research needs that will guide future work in the field. In October 2018, an electronic search was conducted using the Medline, Google Scholar, and PsycINFO databases to find relevant peer-reviewed English language articles using combinations of the following medical subject headings or free text terms: "eating disorders", "anorexia nervosa", "bulimia", "treatment", "epidemiology", "co-morbidity", "management", "medications", "behavioural intervention", Author names, year, the state in India the work originated in, kind of intervention (for interventional studies), comparator (if any), and key outcomes were among the details retrieved from research. Over the recent decade, there has been an increase in research focusing on eating disorders from India, although it remains an under-researched subject, as demonstrated by the scarcity of original studies. The cultural distinctions between east and west have contributed to disparities in presentation and diagnostic difficulties. As a result, there is a need for culturally appropriate diagnostic tools as well as the collection of regionally relevant epidemiological data on eating disorders from community and hospital settings.*

KEYWORDS: *Anorexia Nervosa, Bulimia Nervosa, Eating Disorder, India.*

1. INTRODUCTION

The first account of an eating disorder (ED)-like condition may be found in Morton's treatise "Nervous Consumption," where the author discusses two teens who came with loss of appetite, severe fasting, and weight loss, as well as their treatment and result. Historical records show that ED, sometimes known as "holy anorexia," existed in the 17th century. However, William Gull, who is credited with coining the name anorexia nervosa, published one of the earliest scientific papers on the illness in the late 1800s (AN). The prevalence of ED in India was not recorded till the late twentieth century. Perhaps the media's promotion of the "size zero" body type, as well as a culturally sanctioned drive for thinness, body shaming, and unhappiness, have played a role in the current increase in ED cases. These factors have traditionally been less of a concern in India than in other nations. Another cause for the recent rise in the occurrence of eating disorders such as bulimia nervosa (BN) and binge eating disorder (BED) is easier access to media channels that promote unhealthy body types and individuals with greater socioeconomic position. Despite rising incidence rates, ED remains an under-reported and under-researched condition [1].

In today's environment, there are numerous reasons why ED should be given more attention in health care research and policy development. Among mental health illnesses, AN, a prototypical ED, has the greatest death rate. In 2012, the economic and social impact of ED was assessed to be in the range of \$15 billion (INR 1057.8 billion), which is comparable to the productivity

impact of anxiety and depression, which was estimated to be in the range of \$17.9 billion (INR 1262.3 billion) in 2010. Although ED is relatively uncommon in the general population, its individual effects may be extremely severe, and long-term therapies can be quite costly. Psychiatric and medical co-morbidity are common in emergency rooms. Despite the fact that there has been occasional study on ED in India, no attempt has been made to compile and review the literature landscape. We conducted this narrative review with the goals of reviewing Indian work on ED, identifying current trends, and identifying research needs that would guide future study in the field. These might perhaps provide answers to important concerns about the clinical presentation and trajectories of ED patients in our environment. (Figure 1) shows the relationship graph of people living in delhi of various age and their eating habits [2].

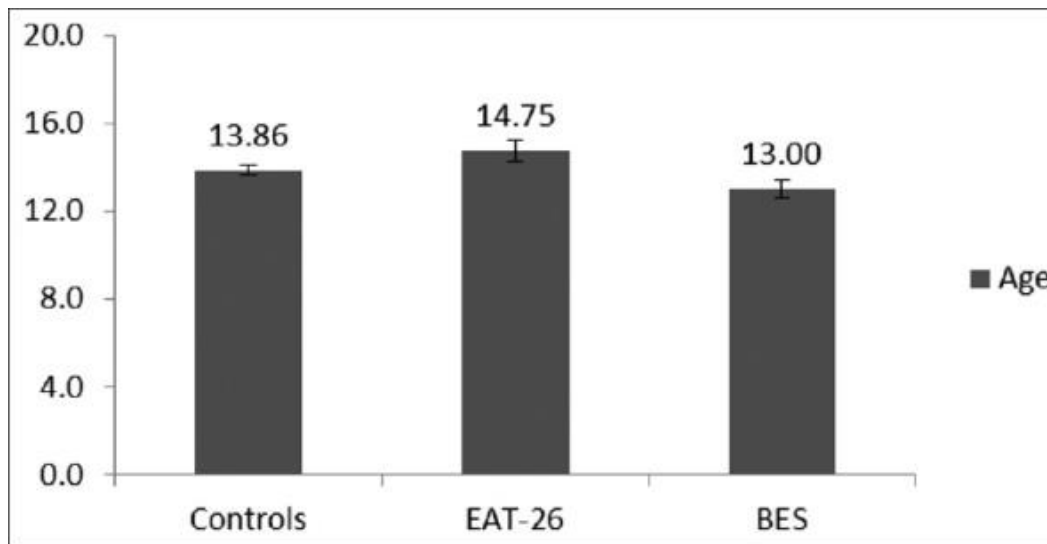


Figure 1: Relationship graph between the age and eating habit of people in Delhi [2].

2. LITERATURE REVIEW

J M S Pearce in his study discloses about self-starvation that was documented throughout the Hellenistic period. Holy anorexics mistreated their bodies, refused to marry, and sought refuge in religious institutions, where many died and became saints. Until the 19th century, the condition faded into obscurity. In 1859, Louis-Victor Marce (1828-1864) reported such a case, but it was Richard Morton who defined anorexia nervosa for the first time in 1689. Anorexia nervosa was first reported by two neurologists in 1873. A student buddy of Claude Bernard's and a favorite disciple of Trousseau, Ernest Charles Lasegue, spoke about a food refusal that might last forever. The historical precedent is examined, and citations are provided [3].

Preeti Srinivasa in her study focuses on anorexia nervosa which is an eating disorder characterized by severe dietary restriction and an unreasonable fear of gaining weight, which is often accompanied by a distorted body image. Females are diagnosed more often, with the kind and severity of each case changing. The current case is that of a 25-year-old woman, married for 5 years, educated to 10th grade, a homemaker, from an upper social class Hindu (Marvadi)

family, living with her husband's family in Urban Bangalore; she presented to our tertiary care center with complaints of gradual weight loss, recurrent episodes of vomiting, and menstrual irregularities for 1 year. The body mass index (BMI) was 15.6 when the diagnosis of atypical anorexia nervosa was established. To aid in remission, a multimodal treatment strategy was used. The authors of this case study urge general practitioners and other medical practitioners to be aware of the symptomatology of eating disorders since most patients would openly exhibit somatic symptoms similar to those described in the case report, allowing for early mental intervention [4].

Ruchika Chugh in her study discusses about a significant rise in research on eating disorders, there are still gaps in our knowledge of the variables that contribute to the development and maintenance of weight and eating disorders in teenagers. In order to examine eating and weight concerns among underweight, normal-weight, and obese wealthy teenage girls in New Delhi, a research was performed. Fifty underweight, fifty normal-weight, and thirty obese 16–18-year-old females were included in the study. A well-structured questionnaire was used to gather information on their body image perception, weight worries, and eating attitudes. A 24-hour recall and a food-frequency questionnaire were used to estimate dietary consumption. Weight, height, waist, hip, and mid upper arm circumferences were all measured, and the BMI and waist-to-hip ratio were calculated. 99.2 percent of the participants exhibited a gynoid fat distribution pattern. Even among those who were normal weight or underweight, teenage females expressed concerns about their weight. With increasing weight, people's happiness with their body size declined. Obese (76.6%) girls were more likely than normal-weight (38%) and underweight (14%) girls to engage in dieting behavior. Obese females were shown to have a 433 percent higher chance of having anorexia in the future ($P=0.00109$). Adolescent dietary characteristics such as missing meals, snacking, and dining out were noted. While majority of the participants' diets were sufficient in calcium, thiamin, riboflavin, and vitamin C, they were lacking in calories, protein, iron, niacin, vitamin A, and fiber. As a result, it's critical to understand that weight worries and body size dissatisfaction may jeopardize a good nutritional condition and serve as precursors to a later eating disorder [5].

3. DISCUSSION

An electronic search was conducted using MEDLINE, Google Scholar, and PsycINFO to find relevant peer-reviewed English language papers published between April 1967 and October 2018. “Eating disorders,” “anorexia nervosa,” “bulimia,” “treatment,” “epidemiology,” “co-morbidity,” “management,” “medications,” “behavioural intervention,” and “psychosocial intervention” were utilised as random combinations of medical subject titles or free text phrases. Because this is a narrative review and because there is little research on ED in India, we included various sorts of research papers, including case reports, to provide a complete perspective of the research environment. There were 84 items found in the first search. 39 articles were found to be relevant during the first search and were consequently chosen for inclusion in the review. The complete text of these articles was electronically obtained. In addition, every articles' reference sections were carefully searched for possibly related articles. Only publications detailing research in India were chosen. There was no time limit on when the book had to be published.

The current review does not include citation indexing services or grey literature such as conference proceedings [6].

Author names, year, the state in India the work originated in, kind of intervention (for interventional studies), comparator (if any), and key outcomes were among the details retrieved from research. Case reports and case series ($n = 24$) make up a large portion of the ED literature from India. Table 1 summarises the findings of 15 original research in comparison. The first mentions of ED come from 1966. A 42-year-old woman was diagnosed with AN after two years of obsessive fasting episodes. The patient was given 100 mg chlorpromazine, 100 ml of 25% glucose with 500 mg vitamin C intravenously, 10 injections of liver extract 2 ml intramuscularly monthly, and 9 electroconvulsive treatments. She exhibited signs of recovery after 46 days of rigorous medication and supportive psychotherapy, and she was closely monitored. Following this, in the following two decades, there has been an increase in reports of ED cases. The majority of the cases were of the AN subtype, particularly the restricted subtype. The common profile of cases documented from India is that of teenage females who are Hindus and come from upper- or middle-class backgrounds. Male AN, on the other hand, has only been recorded in four cases. A single incidence of AN in a pair of monozygotic twins has also been reported. An outbreak of AN has been reported in Indian teenagers of the Sikh faith residing in the United Kingdom. In the majority of instances, the symptoms of AN flared up after being taunted about weight by peers, which was followed by concerns about weight increase. There was also an AN instance with unusual characteristics, such as denial of weight increase concerns. One case of disordered eating depicted a young woman for whom "not eating" was interpreted as a form of resistance to the patriarchal system, highlighting the importance of Indian sociocultural elements in the development of an ED. At the time of presentation to a psychiatrist, bradycardia, hypotension, anaemia, and dyselectrolytemia were all noted [7].

Co-morbidities have been observed for obsessive symmetry and order, obsessive compulsive disorder (OCD), and major depressive illness. In the majority of instances, menstrual irregularities and poorly developed secondary sexual characteristics have been seen. So yet, only five instances of BN have been documented. Two of the instances were females: one was a 22-year-old medical student who began experiencing symptoms at the age of 13 and binged and purged with isabgol husk and orlistat. In the other three cases, a 37-year-old male, a 15-year-old female, and a 24-year-old female, there were no concerns about body weight or body image, and no contemporaneous use of diuretics or laxatives. Cases of ED have been reported as co-morbid with physical diseases such as systemic lupus erythematosus, subsequent to traumatic brain damage, or as a nocturnal sleep-related ED due to an adverse medication reaction to zolpidem intake. Furthermore, it has been discovered that AN can conceal medical diseases such as cancer. Comprehensive therapy including mental health specialists and dieticians was documented in these situations. The vast majority of cases were handled in a hospital environment. In the case of AN, a high-calorie, high-protein diet is recommended, along with close monitoring for re-feeding syndrome.

Chlorpromazine and modified insulin therapy were the treatments of choice in the 1960s. For the treatment of AN, cyproheptadine in combination with chlorpromazine, cyproheptadine and

olanzapine, mirtazapine, risperidone, trazodone, citalopram, and fluoxetine at 20 mg/day have been utilised. In instances with AN with obsessive characteristics and OCD, combinations of olanzapine and fluvoxamine or olanzapine and fluoxetine have been utilised. Sertraline and fluoxetine have been used to treat BN at low doses of 20 mg/day and at high doses of 80 mg/day, with satisfactory results. Family therapy, cognitive behavioural therapy (CBT), supportive psychotherapy, contingency management, hypnosis, and play therapy were among the non-pharmacological treatments for ED. In a 23-year-old woman who had only a partial response to antidepressants, atypical antipsychotics, and CBT, high-frequency repetitive transcranial magnetic stimulation (rTMS) across the left dorsolateral prefrontal cortex was used as an augmentation approach. rTMS was proven to enhance attitudes regarding body weight and shape, as well as weight loss [8].

This review tried to compile a summary of Indian ED research. As mentioned in earlier assessments, case reports make up the majority of the literature. Over the previous 5–6 years, however, the number of published original research publications has increased. There have been no studies that have examined the prevalence of ED in the population. The prevalence of ED was found to be 1.25 percent in a single hospital-based retrospective analysis. Nearly 85% of them experienced psychogenic vomiting, and around 15% of them developed AN. This is in contrast to the worldwide research, which indicates that BN and BED occur more frequently than AN. According to a meta-analysis of 15 research from diverse contexts, the lifetime prevalence of any ED is 1.01 percent, while the lifetime prevalence of AN, BN, and BED is 0.21 percent, 0.81 percent, and 2.22 percent, respectively. Among young girls in China, Japan, Africa, and Latin America, BED had the greatest point incidence of ED, followed by BN and AN. In comparison, no instances of BED have been recorded in India, and just five cases of BN have been reported. Furthermore, the two-step assessment method (first screening with a self-reported questionnaire, followed by evaluation with a semi-structured or diagnostic interview) is the industry standard. However, just one research that used the two-step approach identified no instances. The screening, self-rated evaluation was utilised in the majority of Indian research. The percentage of those who had disordered eating/possible ED varied from 4 to 45.4 percent. It's likely that a self-rated evaluation will miss cases of subsyndromal ED.

Eating distress syndrome (EDS) was shown to be prevalent in 11 percent and 14.8 percent of people in two investigations. EDS is a subsyndromal type of anorexia nervosa or bulimia nervosa, in which patients have unpleasant and contradictory thoughts regarding their body shape and eating behaviours. EDS is characterised by rigorous dieting and, in some cases, bingeing, with no substantial weight reduction or behaviours such as using extreme weight loss methods such as diet pills, starving, purging, or vomiting. However, in the previous 20 years, there has been virtually little Indian study on EDS. In Indian studies, there are a number of methodological difficulties that must be addressed. To begin with, several of the research used convenient sampling methods on medical and nursing students. This might lead to selection bias, and such samples could not be genuinely representative of the entire population. However, studying medical students is a common practise all around the world. The argument offered to

support this is that medical training is “stressful,” which might be a risk factor for ED. However, this might indicate that the prevalence rates found in these studies are exaggerated [9].

Second, when the frequency of disordered eating was measured using the Sick, Control, One-stone, Fat, Food questionnaire (SCOFF), it was shown to be greater than when using the Eating Attitudes Test-26 item (EAT-26) questionnaire. The prevalence of SCOFF was 17.2 percent in women and 45.4 percent in males, whereas the prevalence of EAT-26 was 4 percent to 31 percent. Finally, in a country with such linguistic variety as India, there are limits in the translation and execution of surveys. Despite the fact that the EAT-26 questionnaire has been translated into Hindi, the Hindi version's cut-off score has yet to be determined. Also, the justification for adopting the English version's cut-off in the Kannada version is unclear. As a result of the cultural differences between western and Indian contexts, there is a clear need for culturally appropriate scales for ED screening.

There is a clear need for the creation of culturally sensitive measures for screening ED due to cultural variations between western and Indian settings. In India, culture has a big effect on how ED is presented. One distinguishing feature of Indian ED presentations is the relative absence of concern for body fat/shape. This is known as the "Non-fat phobic" form of AN. This has also been reported in Hong Kong. Food restriction is linked to somatic symptoms such as stomach bloating, discomfort, and a lack of appetite in this type, rather than a worry about body fat. Similar unusual characteristics have been seen in BN instances from India as well. In addition, the EDS idea is in line with this concept. Furthermore, in Indian culture, food restriction is traditionally sanctioned while one is sick for the purpose of "cleaning the intestine." However, numerous recent research have found a link between body shape perception and higher EAT-26 scores. Figure 2 shows the cycles in eating disorders and their effects on human life's [10].

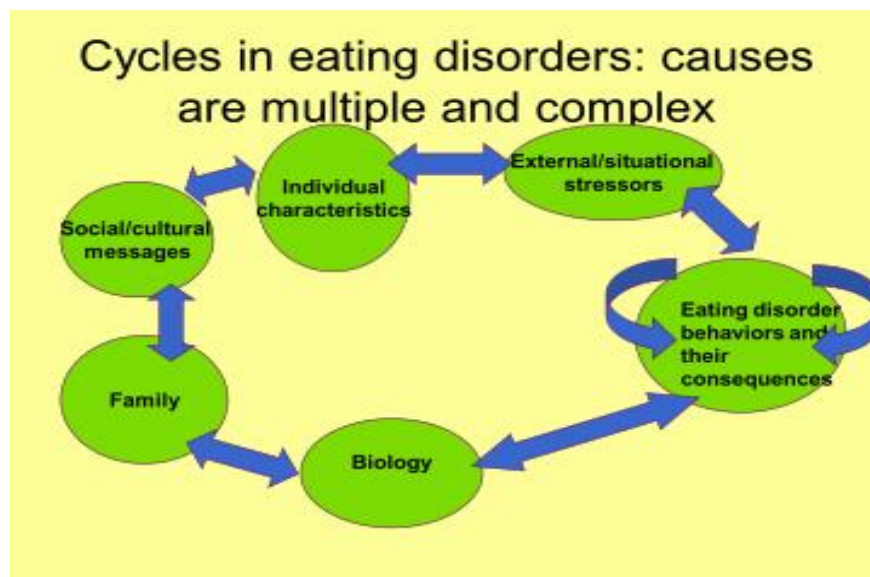


Figure 2: Cycle showing multiple and complex eating disorders[10].

4. CONCLUSION

The continuous fast socioeconomic transformations in India, as well as the growing impact of western ideas, might explain this. At least half of all ED patients are known to have a mental co-morbidity, the most prevalent of which is depression. Only a few instances, on the other hand, exhibited syndromal co-morbidity. The concepts of ED management used in India are similar to those used in the West. In most cases of AN and BN, a combination of medication and psychotherapy is used. SSRIs, second-generation antipsychotics, and cyproheptadine have all been proven to be helpful for AN. In the case studies, patients with BN were given 20–80 mg of fluoxetine per day. In cases of BN, however, a larger dose of SSRIs, particularly fluoxetine, has been proven to be helpful. Psychotherapeutic methods utilised in India, such as family-based treatment and cognitive behavioural therapy (CBT), are consistent with worldwide norms. To summarise, India has increased its research focus on ED during the previous two decades. The relative scarcity of research might be due to the lower frequency of ED. However, as the effect of westernisation on society grows, ED requires additional attention. Cultural distinctions between the east and the west have contributed to variances in presentation as well as diagnostic problems. As a result, there is a need for culturally appropriate diagnostic tools as well as the generation of locally relevant epidemiological data about ED from community and hospital settings.

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