Open Access Journal

Indian Journal of Medical Research and Pharmaceutical Sciences

January 2024; 11(1) ISSN: ISSN: 2349-5340

Impact Factor: 4.054

EATING DISORDERS: KNOWLEDGE, ATTITUDE AND PRACTICES AMONG INDIAN YOUTH

Aarohi Kadam, Dr. Shilpa Deoke

Keywords:
Eating Disorders, Anorexia Nervosa, Bulimia Nervosa

Abstract

Background: Eating disorders (ED) are a group of psychological conditions which are associated with abnormal or disturbed eating habits. Once a rarity, it has now become a frequent anomaly among the youth with very little research on the nature and extent of these disorders, withholding us from understanding the determinants of these disorders.

Aim: This research aimed to find out the (a) knowledge, attitudes, and practices of young adults regarding ED and (b) the rate of occurrence of major EDs like Anorexia Nervosa (AN) and Bulimia Nervosa (BN).

Methods: This was a cross-sectional, descriptive study that was conducted by using a pre-validated questionnaire. Participants were recruited based on the inclusion and exclusion criteria. The responses were analyzed according to the diagnostic criteria of AN and BN mentioned in the Diagnostic and Statistical Manual of Mental Disorders - Fifth Edition (DSM-5).

Results: Out of the total 318 students surveyed from various urban cities in Maharashtra, approximately 14.47% students demonstrated eating discrepancies. Only one female participant scored high enough to be considered as diagnostic of Bulimia while none scored high enough to be diagnostic of Anorexia.

Conclusion: EDs are not present in major forms like AN and BN but are seen manifesting in milder forms which are nowadays recognized as Eating Distress Syndrome (EDS). It is also found that there is a lack of knowledge and a sense of ignorance towards EDs among adolescents in India.

Introduction

Eating Disorders (EDs) are severe mental health ailments that are associated with a significant amount of social and economic burdens.[1] Despite the severity of these disorders, they are found to be frequent among the youth these days.[2] Even though the frequency of ED is increasing, there is a lack of research and data on the nature and extent of these disorders, especially among the developing, withholding us from understanding the determinants of these disorders.[3]

Major eating disorders seen among adolescents include Anorexia Nervosa (AN) and Bulimia Nervosa (BN). Of the 306 physical and mental disorders, AN and BN combined ranked 12th leading cause of disability-adjusted life years (DALYs) in females aged 15-19 years in high-income countries.[4] According to Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (DSM-5), AN is characterized by persistent energy intake restriction and intense fear of gaining weight while BN shows typical features of recurrent episodes of binge eating followed by inappropriate compensatory behaviour (e.g. vomiting) to prevent weight gain. AN is also referred to as a peculiar form of disease occurring mostly among young women and characterized by extreme medication.[5] Although both the disorders vary in their course, outcome, and treatment needs, the root cause remains the same i.e. disturbed body image.

Open Access Journal

Indian Journal of Medical Research and Pharmaceutical Sciences

January 2024; 11(1) ISSN: ISSN: 2349-5340

Impact Factor: 4.054

Among psychiatric disorders, ED stands out by being related to various social and cultural phenomena. For this reason, to study about EDs without a discussion of culture is futile.

AN and BN are considered to be predominantly Western malady and outcomes of industrialization and socioeconomic changes in a population. It was believed that these disorders were limited to the Caucasian population and not much prevalent among the developing countries like India, China, Malaysia, etc.[3] But according to *Our World in Data*, there has been an increase in the cases of AN and BN in these developing countries over the past two decades (1990-2017). Recent studies conducted in Wuhan showed that the incidence in cases of EDs in female university students of China which were similar to that of their Western counterparts.[6] Similar results were seen in a study conducted in Japan.[7] Also an earlier study showed an upsurge in cases of BN among Asian girls (3.4%) than the Caucasian girls (0.6%) residing in Bradford.[8]

In India, though there isn't enough knowledge about the exact incidence of AN and BN, some reports from various hospital and clinics show a rise in the cases in the last decade.[3] Indian females exposed to Western beauty standards have described a fear of fatness and body image disturbance. There is a lack of pathological studies on the nature and extent of EDs in non-developing countries as compared to the western world.[9]

With the above background, this research was conducted with the objectives of finding out the knowledge, attitudes and practices of young adults regarding eating disorders as well as the prevalence of major EDs like AN and BN among them.

Methodology

This cross-sectional, descriptive study was conducted via an online questionnaire circulated on various social media platforms like Whatsapp, Instagram etc. The data was collected from various students studying in urban areas like Mumbai, Nagpur and Pune. The participants for the study were recruited based on inclusion criteria that (1) the participants were in the age group of 18-25 years, (2) they are residing or are exposed to urban areas at least for a period of one year and (3) their willingness to participate in the study. Out of a total of 338 students who submitted their responses, 318 students were recruited as the participants of this study based on the inclusion criteria mentioned above.

The sample size for the study was calculated by using the formula $4pq/e^2$ where p is the prevalence rates of a previous study[10], q is 100-p and e is the error which is was considered as ±5%. After doing the required calculations it came out to be 308 and so questionnaire was sent to around 338 students as per convenience. The questionnaire contained questions regarding the socio-demographic information of the participants, their knowledge as well as their practices and attitude towards EDs which was approved by the Institutional Ethics Committee (Ethical clearance no.: ECR/88/Inst/MH/2013/RR-19) of N.K.P Salve Institute of Medical Sciences, Nagpur. The questionnaire which was sent via a Google form, also described the purpose of the study and participants were also asked for their consent regarding the same.

Microsoft Excel was used as Statistical software for analysing the responses of the participants according to the Diagnostic criteria mentioned in DSM-5[11]

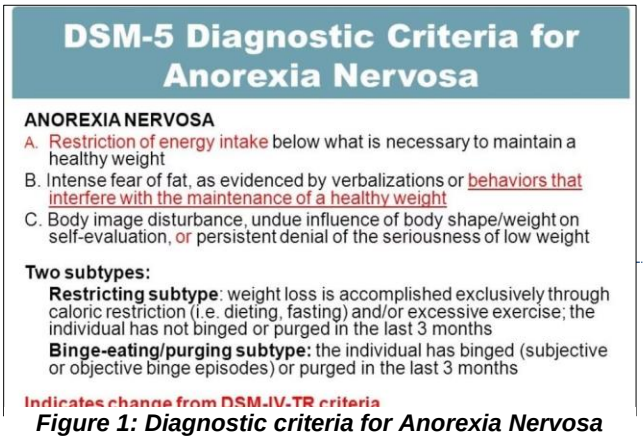

Figure 1: Diagnostic criteria for Anorexia Nervosa

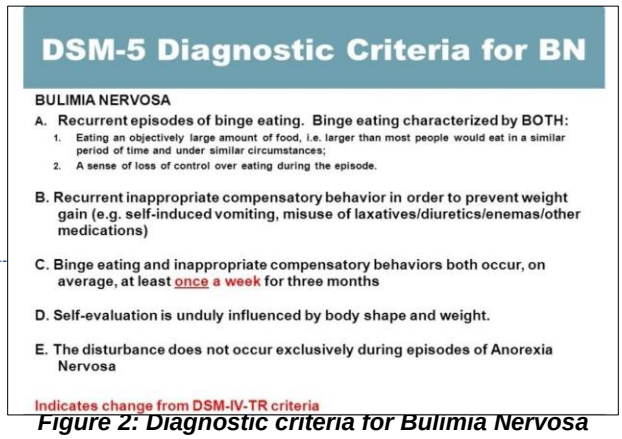

Figure 2: Diagnostic criteria for Bulimia Nervosa

Indian Journal of Medical Research and Pharmaceutical Sciences
January 2024; 11(1) ISSN: ISSN: 2349-5340
Impact Factor: 4.054

Results

A total of 338 responses were received out of which 13 belonged to rural area, 6 did not wish to participate and 1 didn't fit in the age group mentioned in the inclusion criteria. So, 318 respondents were recruited as the participants of the study, out of which 62.26% (198) were female and remaining 37.74% (120) were male participants. Majority of them i.e. 52.20% (166) students belonged to age group of 20-21 years.

Out of the total 318 participants assessed, approximately 14.47% demonstrated eating discrepancies. It was seen that among the female respondents, 11.1% of them scored high in AN based questions while 4% of them scored high in BN based questions. One female respondent scored high enough to be considered as diagnostic of Bulimia.

Among the male respondents, 7.5% of them scored high in AN based questions while 5.8% of them scored high in BN based questions.

Knowledge

When asked the question, "Do you know what Eating Disorders are?" 249 students replied by marking "yes" while the remaining 69 marked "no".

The knowledge of 249 participants who marked "yes" was further assessed by their responses to knowledge based questions as shown in the figure below.

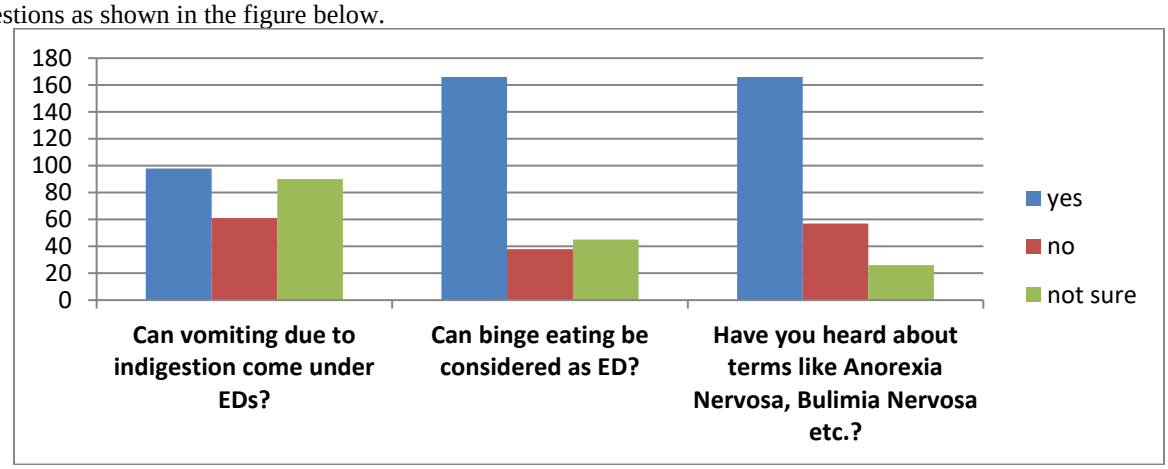

Figure 5: Further assessment of knowledge of participants who marked 'yes'

Even though participants had an affirmative response towards their attitude regarding EDs, some of them have little or no knowledge about it as seen in the above figure. To gain clarity on the knowledge of the participants, a multiple choice question, "According to you what comes under Eating Disorders?" was asked, the responses of which are shown in figure 6.

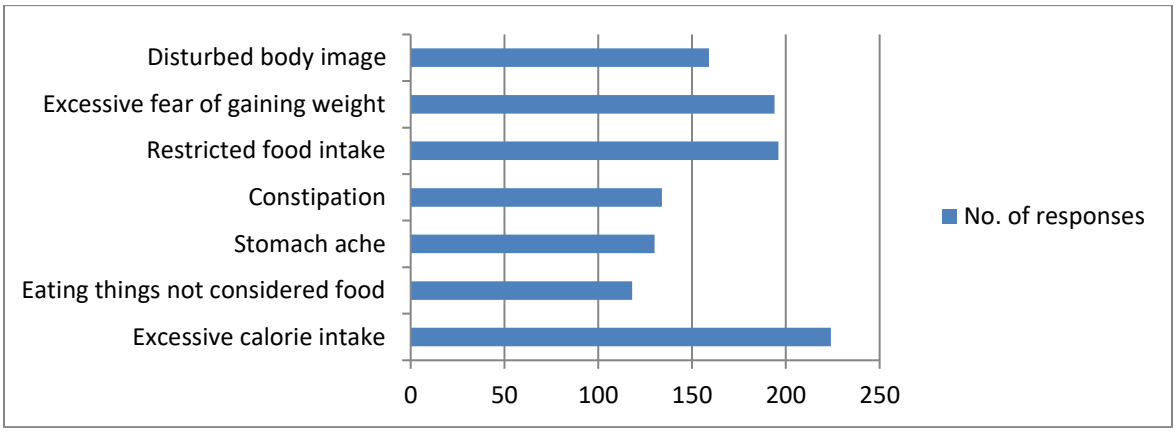

Figure 6: Frequency of responses to each knowledge based question

Attitude And Practices

The participants were asked questions regarding their attitude and practices, to which they responded accordingly.

Figure 7: Responses to attitudes and practices based questions

The response shows that even though most of the participants never or rarely indulge in activities indicating EDs, there are some individuals who frequently or occasionally do so.

Indian Journal of Medical Research and Pharmaceutical Sciences
January 2024; 11(1) ISSN: ISSN: 2349-5340
Impact Factor: 4.054

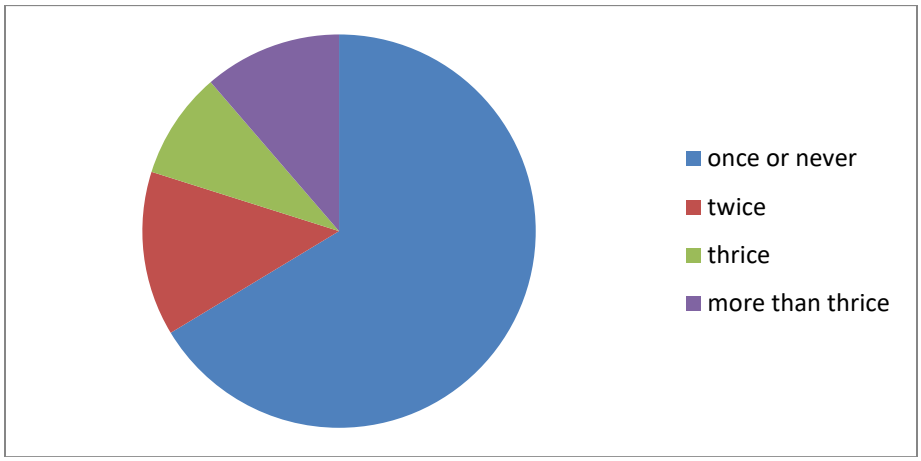

Figure 8: Responses regarding frequency of skipping meals

To assess the frequency of skipping meals, the participants were asked, "How many times in the past week have you skipped a meal?"(Q7). 11.32% of the respondents skipped meals more than thrice a week.

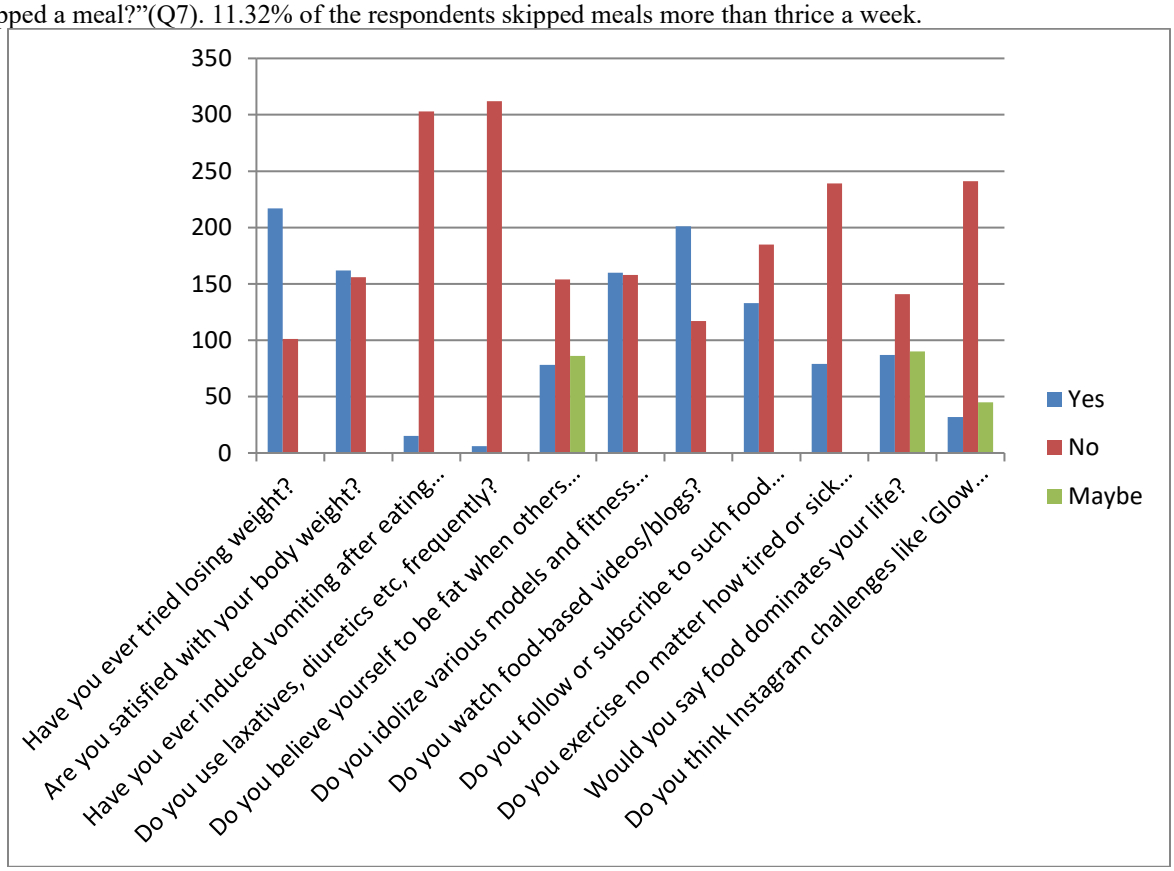

Figure 9: Responses to close ended questions regarding attitudes and practices

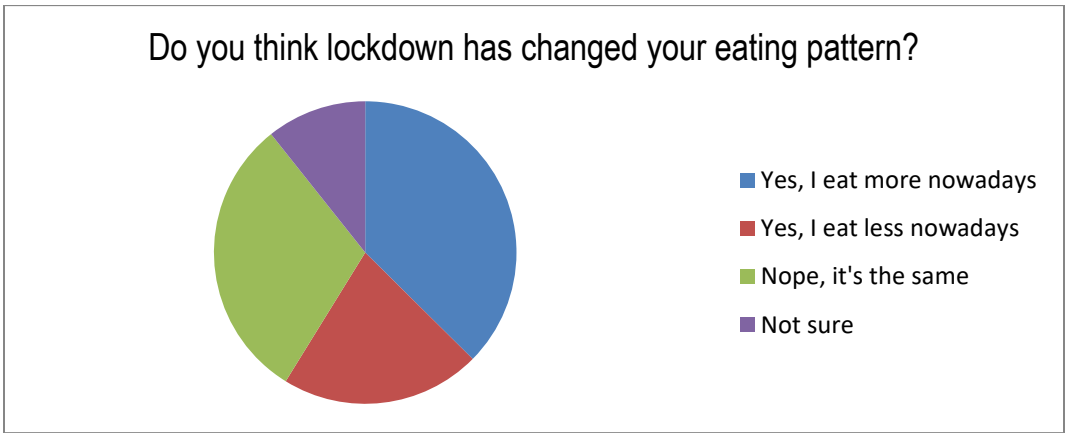

Figure 10: Impact of lockdown on eating behaviour

Around 58.8% of the participants agreed on having an impact of lockdown on their eating behaviour out of which 21.38% showed a decrease in appetite.

Table 1: Ideal responses indicating Anorexic behaviour:

Questions	Diagnostic response
Q1. Do you often isolate yourself?	Always, Often
Q2. Do you take medication instead of `eating food?	Always, Often
Q3. Do you resort to skipping meals?	Always, Often
Q4. Do you avoid fast food?	Always, Often
Q5. How many times in the past week have you skipped a meal?	Thrice, ≥Thrice
Q6. Are you satisfied with your body weight?	No
Q7. Do you use laxatives, diuretics, etc frequently?	Yes
Q8. Do you believe yourself to be fat when others say that you are thin?	Yes
Q9. Do you idolize various models and fitness profiles?	Yes
Q10. Do you exercise no matter how tired or sick you feel?	Yes
Q11. Would you say food dominates your life?	Yes
Q12. Do you think Instagram challenges like the glow up challenge have somehow affected you?	Yes
Q13. Do you think lockdown has changed your eating pattern?	Yes, I eat less nowadays

The above table represents the questions and their respective responses of a person suffering from Anorexia (According to Diagnostic criteria mentioned in DSM-5). For this study, it was considered that an individual scoring a minimum of 10/13 confirms Anorexic behaviour. The participants lying in the score range of 6-9 were considered to be the fraction of population at the risk of developing Anorexia in future.

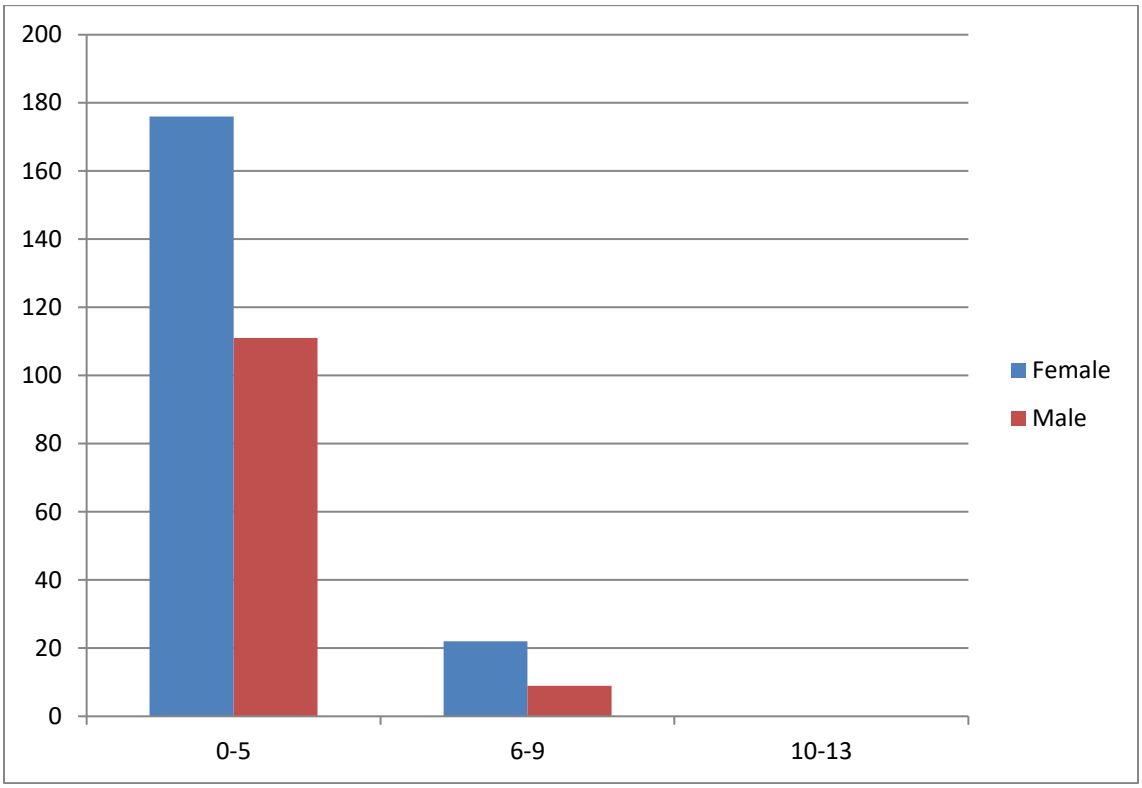

Figure 11: Distribution according to score range in AN based questions

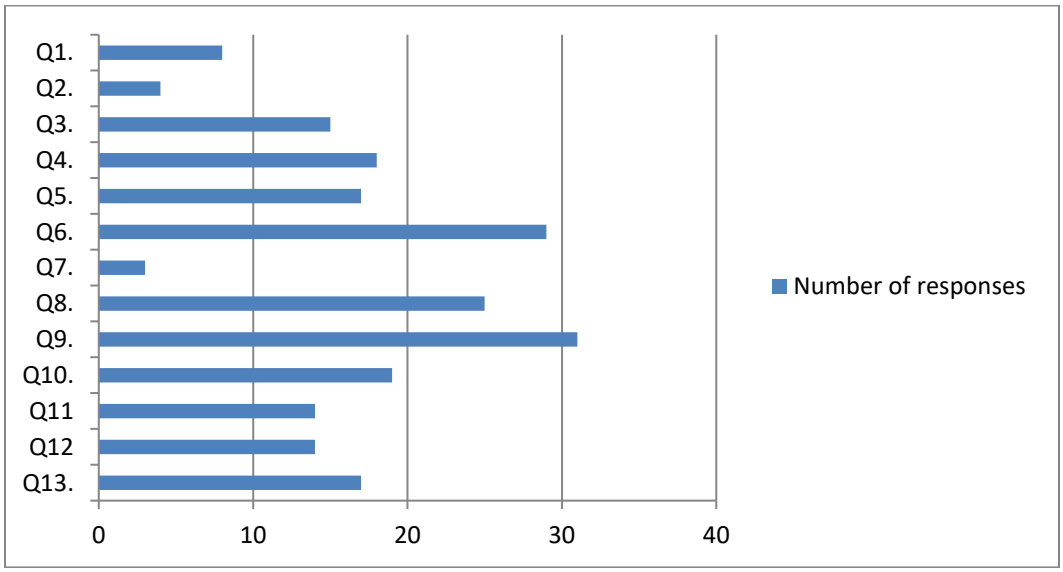

Figure 12: Number of responses of participants with high scores (6-9) to each AN based question

To find out the factor contributing more to the development of eating distress, the frequency of responses to all the Anorexia based questions were assessed. It was seen that all participants idolized various models and fitness profiles while a significant number of them weren't satisfied with their body weight and considered themselves to be fat.

Table 2: Ideal responses indicating bulimic behaviour

Questions	Diagnostic Response
Q1. Do you often isolate yourself?	Always, Often
Q2. Do you take medication instead of eating food?	Always, Often
Q3. Do you feel guilt or remorse after eating food?	Always, Often
Q4. Do you avoid fast food?	Rarely, Never
Q5. Do you eat an excessive amount of food in a short time?	Always, Often
Q6. Are you satisfied with your body weight?	No
Q7. Have you ever induced vomiting after eating to avoid weight gain?	Yes
Q8. Do you use laxatives, diuretics, etc frequently?	Yes
Q9. Do you believe yourself to be fat when others say that you are thin?	Yes
Q10. Do you idolize various models and fitness profiles?	Yes
Q11. Do you exercise no matter how tired or sick you feel?	Yes
Q12. Would you say food dominates your life?	Yes

The above table represents the questions and their respective responses indicating Bulimic behaviour. For this study, it was considered that an individual scoring a minimum of 9/12 confirmed bulimic behaviour. Participants in the score range of 6-8 were assumed to be at the risk of future development of BN.

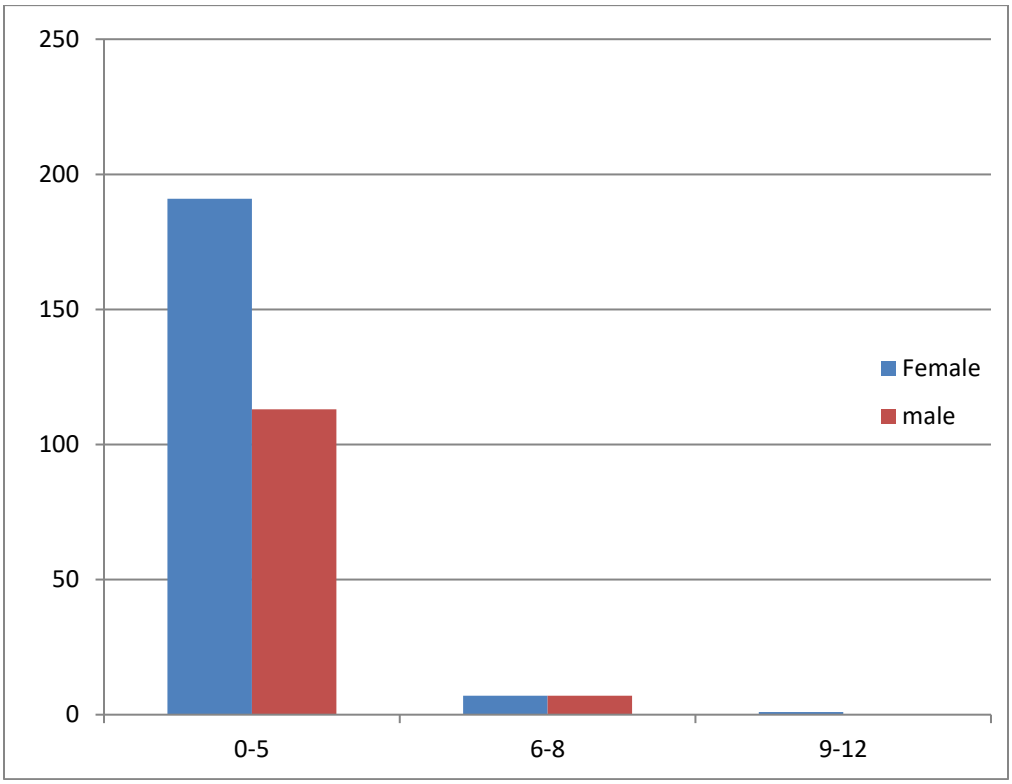

Figure 13: Distribution according to score range in BN based questions

We see that there are some participants who come under the score range of 6-8 while one female participant is seen in the score range of 9-12. Again, to find the main contributing factor, the frequency of responses by the participants in the score range of 9-12 as well as 6-8 for each Bulimia based question was assessed. The results were as follows:

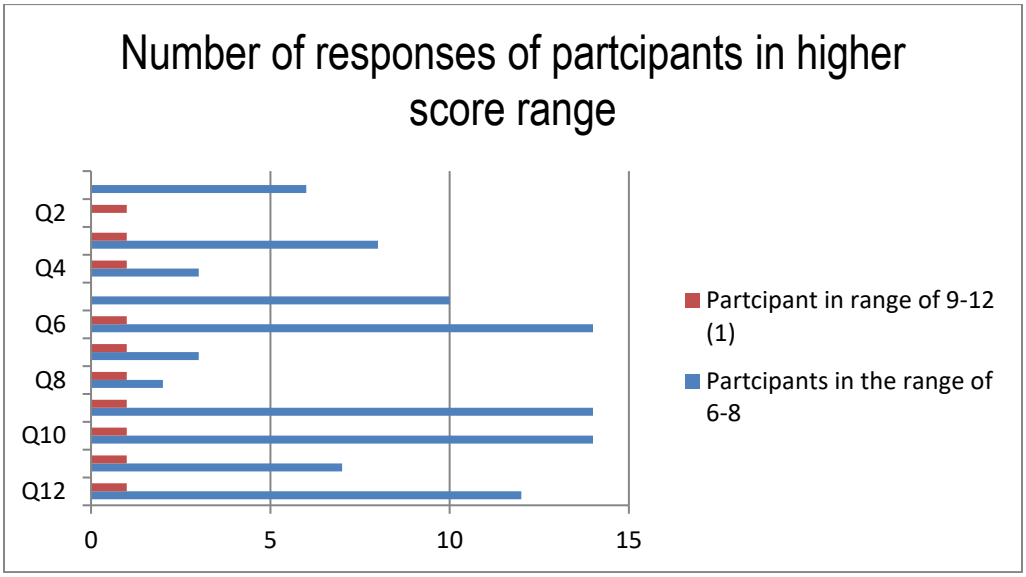

Figure 14: Number of responses of participants with high score to each BN based question

Just as in case of Anorexia, we see that the number of responses to the common question regarding idolization and perceptions regarding body weight were highest. Almost all the participants gave an ideal diagnostic response to these questions.

Association of bmi with an and bn:

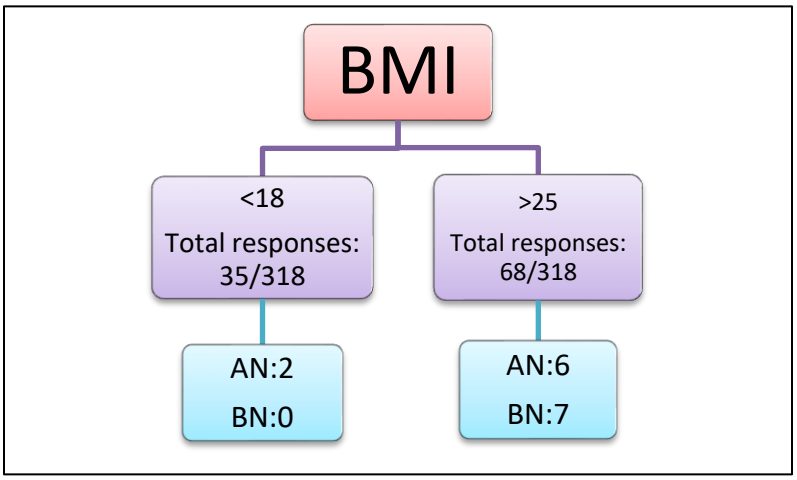

Figure 15: Chart showing BMI findings
It is seen that 2 participants with low BMI fall and 6 with high BMI fall in AN category while 7 participants with high BMI are from BN category.

Discussion-

The major cause of increase in cases of EDs among the developing countries was believed to be the expansion and acceptance of 'western culture' around the world which glorifies a slim and slender body type. For this reason, the inclusion criteria of this study specified 'residence in urban areas' as people are more exposed to western culture in these areas. Over the past few years, spread of this western culture has been mostly through social media, magazines, etc. Media has successfully played its role by idolizing taller and thinner models having at least 20% lesser body fat as compared to women of their age and height.[12][13] Articles on new and exciting diets which are often nutritionally inadequate and occasionally dangerous have appeared at regular intervals in magazines. Fat shaming, cellulite-related embarrassments, etc are harsh realities that play havoc with the self esteem of women and lead to rising concerns and insecurities regarding their body weight ultimately leading them to resort to extremes of eating habits.[14] This issue isn't limited only to the female population. Many men are also struggling with concerns regarding their body image. The media portrays males to be lean, strong, and muscular which affects the minds of young men provoking them to achieve these unrealistic standards at a very young age. This leads to them developing EDs which is often overlooked due to the stereotype that EDs occur only in females.[15] In this study, it is evident that the root cause of AN and BN is mostly generalized dissatisfaction with body weight. It was also seen that participants showed an inclination towards idolizing and following various models and fitness profiles which justifies the role of media as a catalyst.

The young population often refers to the law of sacrifice which states that you can't get what you want without giving up something in return, and start reducing their food intake to achieve lower body weight. Some students involve themselves in purging actions to avoid gaining calories after having eaten food. They tend to isolate themselves while eating and become more reticent which affects their social lives. In our study 8/31 participants who scored high in AN category while 6/14 participants who scored high in BN were found to be isolating themselves. Even though one female participant who scored highest in BN category hasn't given a diagnostic response to questions regarding isolation and purging activities, on analyzing her response, it was found that she has

agreed to have indulged in such activities 'sometimes' (diagnostic response meant marking always or often to the questions).

Excessive physical exercise has been recognized as a paradoxical feature commonly present in AN.[16] In a previous study, a patient reported that prior to attending treatment; she felt the constant need to exercise and would sit down only at time of meals.[17] Similarly, we found that participants in the AN category were more inclined towards vigorous exercise compared to those in the BN category.

EDs are mostly results of psychological factors, personal traits, and environmental factors which include social isolation.[18] While analysing the responses we found that a significant number of participants in AN category have agreed on losing their appetite. During this pandemic, most of us had limited social interaction which might have played a role in changing our eating habits.

The findings regarding association of BMI with these disorders shows that AN comes in all sizes and isn't restricted to the underweight category which is similar to the findings of a previous study[19] while BN is mostly seen in obese people.

There is a generalized lack of knowledge regarding EDs among the Indian youth. A lot of people still consider them to be problems associated with gastrointestinal tract as an aggregate of 40.2% participants have marked stomach ache and constipation as elements of EDs. Children should be properly educated from the start about these disorders. Also, while analyzing the data, it was found that not many individuals knew about the proper diet plans that they should undertake if they ever felt like losing weight. This can be detrimental to their health as they might end up being malnourished by following their self-made nutritionally inadequate diet plans.[20] So students should be properly educated in this field too. Even though the emergence of eating disorders in India seems to be under control due to comparatively positive attitudes towards body shape and lack of social pressure to be slim (as compared to western countries), we shouldn't completely ignore its existence and more research should be initiated in this field to understand in depth the determinants and to eliminate them to prevent a further rise in cases in future.

Conclusion

Eating disorders do not seem to be present as AN and BN in India but they are present in milder forms with fewer symptoms. This milder version of EDs is recognized as Eating Distress Syndrome (EDS) which seems to be a prevalent form in India.

Limitations

The study had a small sample size which limited the extent of diagnostic investigations. Also there is a lack of proper diagnostic technique for checking on prevalence rates in developing countries like India which shows a prevalence of EDS.

Conflicts Of Interest-

None

Funding Support-

None

References

1. Le LKD, Hay P, Mihalopoulos C. A systematic review of cost-effectiveness studies of prevention and treatment for eating disorders. Aust N Z J Psychiatry. 2018 Apr;52(4):328–38.
2. Klein KM. Why Don't I Look Like Her? The Impact of Social Media on Female Body Image. :124.
3. Srinivasan TN, Suresh TR, Jayaram V, Fernandez MP. Eating disorders in India. Indian J Psychiatry. 1995 Jan;37(1):26–30.

4. Hoek HW. Review of the worldwide epidemiology of eating disorders. Curr Opin Psychiatry. 2016 Nov;29(6):336–9.
5. Gull WW. V.-Anorexia Nervosa (Apepsia Hysterica, Anorexia Hysterica). Obes Res. 1997;5(5):498–502.
6. Tong J, Miao S, Wang J, Yang F, Lai H, Zhang C, et al. A two-stage epidemiologic study on prevalence of eating disorders in female university students in Wuhan, China. Soc Psychiatry Psychiatr Epidemiol. 2014 Mar;49(3):499–505.
7. Pike KM, Borovoy A. The rise of eating disorders in Japan: issues of culture and limitations of the model of 'westernization'. Cult Med Psychiatry. 2004 Dec;28(4):493–531.
8. Mumford DB. Eating disorders among Asian girls in Britain. Br J Psychiatry J Ment Sci. 1992 May;160:719.
9. Lal M, Abraham S, Parikh S, Chhibber K. A comparison of eating disorder patients in India and Australia. Indian J Psychiatry. 2015 Mar;57(1):37–42.
10. Nivedita N, Sreenivasa G, Sathyanarayana Rao TS, Malini SS. Eating disorders: Prevalence in the student population of Mysore, South India. Indian J Psychiatry. 2018 Dec;60(4):433–7.
11. DSM-5 and Eating Disorders [Internet]. Eating Disorders Catalogue. 2014 [cited 2022 Aug 10]. Available from: https://www.edcatalogue.com/dsm-5-eating-disorders/
12. Vaidyanathan S, Kuppili PP, Menon V. Eating Disorders: An Overview of Indian Research. Indian J Psychol Med. 2019 Aug;41(4):311–7.
13. Spettigue W, Henderson KA. Eating disorders and the role of the media. Can Child Adolesc Psychiatry Rev Rev Can Psychiatr Enfant Adolesc. 2004 Feb;13(1):16–9.
14. Abraham S, Llewellyn-Jones D. Eating Disorders: The Facts. Oxford University Press; 2001. 332 p.
15. Gorrell S, Murray SB. Eating Disorders in Males. Child Adolesc Psychiatr Clin N Am. 2019 Oct;28(4):641–51.
16. Carrera O, Adan RAH, Gutierrez E, Danner UN, Hoek HW, Elburg AA van, et al. Hyperactivity in Anorexia Nervosa: Warming Up Not Just Burning-Off Calories. PLOS ONE. 2012 Jul 27;7(7):e41851.
17. Kolnes LJ. 'Feelings stronger than reason': conflicting experiences of exercise in women with anorexia nervosa. J Eat Disord. 2016 Dec;4(1):6.
18. Jugale PV, Pramila M, Murthy AK, Rangath S. Oral manifestations of suspected eating disorders among women of 20-25 years in Bangalore City, India. J Health Popul Nutr. 2014 Mar;32(1):46–50.
19. Garber AK, Cheng J, Accurso EC, Adams SH, Buckelew SM, Kapphahn CJ, et al. Weight Loss and Illness Severity in Adolescents With Atypical Anorexia Nervosa. Pediatrics. 2019 Dec;144(6):e20192339.
20. Student E, Saikia H, Patel S. A Study on The Eating Habits of The College Students Sarjoo Patel. 2019 Dec 13;