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A Study of Eating Disorders and Their Effects on Adult Mental Health

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Abstract

The study surveys 100 adults and their eating behaviors in relation to their feelings. To assist in the development of this survey a participant profile was developed that included demographics, nutrition, physiology, and mental health via the DASS-10, and a description of eating behaviors via the EDE-Q. Participants were mostly females, 22-26 years old, post grad educated, and of middle SES. 78% of participants were of a normal BMI. Biochemical health of participants was poor, and many participants lacked awareness of important health behaviors. Mental health was assessed and indicated that 35% of participants reported moderate distress, and 28% reported severe distress. The survey of eating behavior revealed many participants reported a strong emotional component to eating “including craving consumed in a negative mood, and concern regarding the desire to lose weight, and shape of the body. Extreme self-judgment was reported based on weight. This study concludes that a greater understanding of health behavior is necessary to integrate physical and mental health and address eating disorders.

Keywords: Depression, Mental Health, Well Being, Binge Eating Disorders, Psychiatric Disorders

Introduction

Eating disorders are complex psychiatric conditions involving consistent maladaptive patterns of eating that negatively impact physical and mental health. Anorexia nervosa, bulimia nervosa, and binge eating disorder subcategories, extend beyond eating and are intimately related to emotional control and cognitive and psychosocial self-evaluation posing a significant challenge to public health. Disordered eating stems from a complex interplay of biological, psychological, and sociocultural factors that shape individuals including genetic and neurobiological factors, insecurity, a drive for perfection, poor coping mechanisms, dissatisfaction with one's body, and the social pressure to conform. These factors also include social influences including the media and social constructs of body image to cope with or conceal diminished satisfaction with one's body giving rise to disordered eating. Eating disorders are comorbid with mental health conditions, including but not limited to, depression, anxiety, obsessive-compulsive disorder, and attention-deficit hyperactivity disorder (ADHD). This comorbidity suggests a bidirectional effect of mental stress that contributes to the onset of disordered eating patterns and the effect of disordered eating on emotional stress and mental health. Stressors in the environment and difficult life situations exacerbate the relationships between disordered eating and mental health patterns. For instance, studies done during the COVID-19 pandemic have shown that increased levels of stress, anxiety, and depression have been correlated with increased disordered eating. Most of the research focuses on the behavior of adolescents or young adults; however, adults are also vulnerable to the negative longer-term psychological effects of unhealthy eating behaviors. This is particularly true when these behaviors are chronic. The co-occurrence of eating and psychiatric disorders is associated with poor outcomes, including low remission rates and an increased risk of death, particularly when the eating disorder is anorexia nervosa. The evidence stresses the necessity of initiating prompt, holistic treatment that incorporates multidisciplinary teams to address both the psychological and the nutritional aspects of the problem.

Recognizing the relationship between disordered eating and mental health is key to understanding and improving the psychological effects that disordered eating has on individuals.

Methods

Participants for this study were young adults aged 18-30 years, and included individuals of all genders and religions to allow for diversity within the sample population. A total of 100 participants from Babasaheb Bhimrao Ambedkar University (BBAU), Lucknow were included, with representation from different academic and social backgrounds, eating and dietary patterns, and from different mental health statuses, including eating disorders and depression. Participant selection was based on a set of inclusion criteria, which required individuals to voluntarily participate in the study after providing informed consent and those who were able to read, comprehend, and respond to the questionnaire in English or Hindi. Participants also had to meet the required criteria of not having a diagnosed mental health condition other than depression. Participants also were required to not be undergoing any type of psychiatric treatment, nor be taking any type of supplementation within the previous three months due to the potential of these factors to affect psychological and emotional responses and related behaviors to eating. Individuals were also excluded from the study if they had a chronic health condition that was associated with a change of lifestyle and eating patterns. Participants tended to have altered dietary and mental health requirements if they were substance dependent (i.e. alcohol or drugs), and were pregnant or lactating. To meet eligibility requirements, only individuals who were able to comprehensively communicate their responses to all questions and who met inclusion criteria were selected for the study. This was done to ensure that the data collected was reliable and valid.

Collection

Baseline data was derived from a pre-tested survey with a section of general demographic and medical history data on diabetes, hypertension, cardiovascular disorders, thyroid disorders, and obesity. Standardized methods were used to determine anthropometric data and Biochemical data was collected by laboratory methods. During the physical examination, clinical signs of the conditions were assessed. Data on the type of diet, meal frequency, and the consumption of food prepared outside the home was collected using a food frequency questionnaire.

Tools

The Depression Anxiety Stress Scale-10 (DASS-10) measures symptoms of depression, anxiety and stress. It was developed as a self-report screening DASS-10 was designed to survey these symptoms more efficiently. It contains 10 selected items from the longer DASS-42 and DASS-21 and their adaptations. A 4-point Likert scale was used by participants to indicate how much the statement in the screening tool applied to them in the past week. The scoring ranged from 0 (did not apply at all) to 3 (applied most of the time). The total score was interpreted to range from no symptoms (0) to extreme symptoms of depression, anxiety and/or stress (30). While an overall score of distress can be

interpreted, depression, anxiety and stress can be interpreted in a more limited sense with some of the scoring methods. The Eating Disorder Examination Questionnaire (EDE-Q) measures attitudes and behaviors associated with eating disorders and assesses their severity and frequency across four subscales (Restraint; Eating Concern; Shape Concern; and Weight Concern) as well as a global score. Higher scores indicate greater severity. There are multiple versions of the EDE-Q for use with specific populations (e.g., adolescents, youth, parents) and a short version (EDE-QS).

Result

To understand the personal characteristics of the study subjects. The demographic data for respondents indicated that 65% were in the age range 22-26 years, 24% were in the 18-22 years age range, and 11% were in the 26-30 years age range. There were more females (56%) than males (44%) in the study. The religion data of the respondents showed that the majority (93%) were Hindus, followed by Muslims (5%) and Christians (2%). The education data showed that 71% had a post-graduate degree, 19% had a graduate degree, and 10% were PhD scholars. Of those surveyed, 45% were living in PG accommodations, 34% in hostels, 13% at home, and 8% in other accommodations. The majority (83%) of the study subjects were from the middle class, followed by 13% lower and 4% upper class.

Table 1: Personal characteristics of study subject

Variables	Categories	Frequency (N)	Percentage (%)
Age	18–22 years	24	24
	22–26 years	65	65
	26–30 years	11	11
Gender	Male	44	44
	Female	56	56
Religion	Hindu	93	93
	Muslim	5	5
	Christian	2	2
Education	Graduation	19	19
	Post-Graduation	71	71
	PhD	10	10
Residential Status	Hostel	34	34
	PG	45	45
	Home	13	13
	Others	8	8
Socioeconomic Status	Lower	13	13
	Middle	83	83
	Upper	4	4

Nutritional Status of Participants

The health profile of respondents indicated a distribution of height as follows: 150–160 cm (50%), 160–170 cm (35%), 170–180 cm (13%), and 180–190 cm (2%). The distribution of weight showed that the majority (40%) weighed 50–60 kg, followed by 28% weighing 40–50 kg, 19% weighing 60–70 kg, 11% weighing 70–80 kg, and 1% weighing 80–90 kg and 90–100 kg. The majority (78%) of respondents were in the normal BMI range, followed by overweight (14%) and underweight (8%) respondents. The distribution of blood pressure showed normal levels in 77% of respondents, elevated blood pressure in 5% of respondents, and 18% of respondents did not know their blood pressure status.

Table 2: Nutritional Status of study subject

Variables	Categories	Frequency (N)	Percentage (%)
Height (cm)	150–160	50	50
	160–170	35	35
	170–180	13	13
	180–190	2	2
Weight (kg)	40–50	28	28
	50–60	40	40
	60–70	19	19
	70–80	11	11
	80–90	1	1
	90–100	1	1
BMI Category	Underweight	8	8
	Normal	78	78
	Overweight	14	14
Blood Pressure	Elevated	5	5
	Normal	77	77
	Don't Know	18	18

Mental Health Disorders Using DASS

The distribution of respondents in the DASS categories showed that 37% had mild/subclinical symptoms, 35% had

moderate symptoms, and 28% had severe symptoms. The total sample consisted of 100 respondents.

Table 3: Mental Health Disorders Using DASS

DASS Category	Frequency (N)	Percentage (%)
Mild/Subclinical	37	37
Moderate	35	35
Severe	28	28
Total	100	100

Dietary Pattern and Eating Disorders

The dietary pattern showed that 45% of respondents consumed fruits and vegetables daily, 42% consumed them weekly, and 13% did so occasionally. 57% reported whole grain consumption daily, 23% weekly, and 19% did so occasionally. 1% reported never consuming whole grains. 27% of respondents reported daily protein consumption,

20% did so occasionally, and 8% reported never consuming protein. 46% of respondents reported an occasional consumption of processed food, while 34% consumed it weekly, 14% daily, and 6% never consumed processed food. In terms of mood after the consumption of food, 37% reported experiencing changes occasionally, 23% did so weekly, 18% daily, and 22% never reported changes.

Table 4: Dietary Pattern and Eating Disorders of study subjects

Variables	Categories	Frequency (N)	Percentage (%)
Fruit & Vegetable Intake	Daily	45	45
	Weekly	42	42
	Occasionally	13	13
Whole Grain Consumption	Daily	57	57
	Weekly	23	23
	Occasionally	19	19
	Never	1	1
Protein Intake	Daily	27	27
	Weekly	45	45
	Occasionally	20	20
	Never	8	8
Processed Food Intake	Daily	14	14
	Weekly	34	34
	Occasionally	46	46
	Never	6	6
Mood Changes After Food	Daily	18	18
	Weekly	23	23
	Occasionally	37	37
	Never	22	22

Association between Mental Health and Eating Disorders: Analysis indicated strong relationships between variables and various eating behaviors. Rule-driven eating was significantly related ($F = 3.367$, $p = 0.039$). On the other hand, relationships were significant for variables

related to concentration and food thoughts ($F = 5.333$, $p = 0.006$) and concentration, worries about thoughts of shape and weight ($F = 5.538$, $p = 0.005$), losing control of eating ($F = 3.349$, $p = 0.039$), and judgment of oneself in relation to one's weight ($F = 4.172$, $p = 0.018$).

Table 5: Association between Mental Health and Eating Disorders

Variables Showing Significant Association	F-value	p-value	Significance
Following eating rules	3.367	0.039	Significant
Concentration affected by food thoughts	5.333	0.006	Significant
Concentration affected by shape/weight concerns	5.538	0.005	Significant
Fear of losing control over eating	3.349	0.039	Significant
Weight affecting self-judgment	4.172	0.018	Significant

Discussion

This study investigated the impact of eating disorders on the mental health of adults and found an association between unhealthy eating attitudes and psychological distress. Most of the participants were in the 22-26 age group and were females, postgraduates, and of middle economic class. The majority of participants had normal BMI and normal biochemical parameters of health; however, low health awareness was reflected by most participants' lack of knowledge regarding cholesterol, triglycerides, and blood glucose. Many participants clinically reported low energy, mood changes, anxiety, excessive worrying, poor concentration and the presence of disturbed sleep and change in appetite. All of these symptoms are a reflection of the poor mental health of young adults and the growing phenomenon of mental health issues among young adults. The DASS scale results showed that most participants experienced psychological distress and that the participants in this study reported a frequent emotional state of concern. A review of the participants' diets showed that there was a regular intake of healthy foods; however, the intake of processed foods and emotional eating were also found. Many participants reported mood changes due to cravings after eating, which suggests dietary habits may impact one's emotional state. The EDE-Q suggested that concerns over body weight and shape exceeded concerns over eating restraint. This implies that dissatisfaction with one's body image is essential to the development of disordered eating. Mental health, in this case, interacted with maintaining strict eating rules, thinking about food, worrying about shape and weight, fearing a loss of control over eating, and self-judgment based on weight. This suggests that the cognitive and emotional symptoms of an eating disorder are more damaging to mental health when compared to the behavioral symptoms. This study also aims to show the impact of disordered eating on a person's overall psychological state and the importance of early therapeutic, nutritional, and mental health interventions targeted at this population to reduce disordered eating symptoms.

Conclusion

The present study suggests that although participants were mostly educated, middle-class youth with almost healthy physical and BMI, there were worrying features of eating behavior and mental health. A large number of participants showed symptoms of moderate to severe anxiety and stress and depressed mood. Participants demonstrated good eating habits with a high frequency of healthy eating, but there was serious concern about and preoccupation with emotional eating and shape and weight control. There was little

knowledge and a lack of concern about biochemical health control. From the statistical analysis, it was clear that the cognitive and emotional factors that concerned eating and body image had a greater impact than the behaviors themselves. The study findings highlight the necessity and importance of focusing on physical and mental health.

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