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Prevalence and risk factors of eating disorders among adolescents of Mirpur AJK

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ABSTRACT

Development of Eating Disorders (ED) is a common and considerable challenge, which may result in seeking life-long medical and psychosocial assistance. ED has high prevalence especially in females, but the studies are scanty in Asia, but epidemiologic data shows high prevalence rate and increasing incidence. ED increased from 3.4%-7.8% globally. At-least 1 person dies every 62 minutes as a direct consequence of an ED. The aim of the study was to introduce ED to the community, investigate the prevalence and associated risk factors. 384 Adolescent respondents of both genders were selected from high schools and colleges of Mirpur (AJK) in August 2023, sample size calculated by using Raosoft calculator. The Cross-Sectional survey with convenience sampling technique for data collection was done by using self-administered Questionnaire, SCOFF (Sick, Control, One, Fat, Food) and EDE-Q (Eating Disorder Examination Questionnaire). Students aged 12-18 years and those who weren't previously diagnosed with an ED were allowed to participate. The obtained data was then coded and analyzed using SPSS version 22 by applying Pearson's Chi-square, Kruskal-Wallis and Wald test. The results of present study reported that the majority of participants were females 277 (72%), 55.5% were unaware of ED and the prevalence is 61.5%. Significant association was found between Gender and ED ($p < 0.05$). Risk of ED is high among adolescent with normal BMI (59.7%), urban resident (69%), illiterate (41.1%) and high-income group (30.5%). It was found that Eating and Weight concerns were high in females with mean rank of 198.24 and 196.63 respectively. In relation of Risk, ED was 0.461 ($p = 0.001$) times higher in females than males and it increased by 0.435 ($p = 0.000$) times in each unit increase of BMI. There is an urgent need to provide awareness regarding ED especially in females. Early detection by healthcare professionals can play a vital role in management of ED and prevention of further psychological complications.

Keywords: Eating Disorders, Adolescents, BMI, Prevalence, Risk Factors, SCOFF, EDE-Q

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INTRODUCTION

ED is non-communicable disorder characterized by abnormal eating behaviors and different type of symptoms and traits (Jamshed Warsi, 2020). Such persons may take insufficient or excessive diet followed by purging, vomiting, use of laxative and excessive exercise. mainly include anorexia nervosa (AN) is defined as low body weight, fear of weight gain, overestimation of body and shape, and lack of knowledge about severity of low BMI (Golden et al.,

2016a) Bulimia nervosa (BN) is characterized by excessive eating and then an attempt to compensate it either by purging, fasting or even exercise persons with BN may have average or slightly more than average body weight (Gibson D, 2019) EDNOS (THE EATING DISORDER NOT OTHERWISE SPECIFIED) is not classified in either of above disorders because criteria of diagnosis of both disorders is not met by conditions of such patients Avoidant/Restrictive Food Intake Disorder (ARFID) people

with such eating disorder either have limited interest in food or like picky eaters there is limited list of food they are interested in due to past negative experiences and then they only select such kind of food which lack in nutrition which cause poor growth and development.

Occurrence of ED is prevalent and a considerable challenge, it may result in seeking lasting medical and psychosocial support (Vale et al., 2014). EDs has high prevalence especially in females. Studies are few in Asian region, but epidemiologic data express that there is high prevalence rate and increasing incidence with instant. ED increased from 3.4%-7.8% globally. 1 person dies every 62 minutes as a direct consequence of an ED (WHO, 2021). Eating disorders are more prone to develop during adolescence, which is a critical psychiatric illness. Anorexia nervosa (AN) is defined by low body weight, fear of weight gain, imbalance in the way one's body weight and shape are experienced, overestimation of body and shape, and lack of knowledge about severity of low BMI. Anorexia nervosa is linked with high mortality rates that are on top of any psychiatric disease.

Binge eating disorder is classified as binge eating episode that are not associated with compensatory behavior, but are linked with marked distress. Prevalence rate for binge eating in adolescents is 1.6%. eating disorders have been reported to be the 3rd most usual chronic state in adolescent, behind obesity and asthma. (Jenkins et al., 2014).

Adolescent is a development phase in which body composition go through significant psychological and physical changes. Especially Female adolescents face increased concern about their body image, which stimulate them to compare themselves to other regarding their looks and body function. Adolescent teasing about body weight is frequent .when we address body dissatisfaction and weight control behaviors, body shape teasing, harassment comments constitute specific form of bullying. (Philippi and Leme, 2018).

Psychiatric illnesses associated with eating disorders include low self- esteem, depression, personality issue, failure to manage emotions and worthlessness. Eating disorder has impact on people of all ages and genders. Binge eating and BN has high ratio of mortality and morbidity. Women have 3 times more chances to suffer bulimia and anorexia. A prevalence rate of 21.7 % of anorexia found in nursing and medical students in Karachi. Disturbed eating behavior has many risk factors including media , friends , self - esteem and diligence .these disorderly eating attitudes are due to adaptation of western culture and dissatisfied unrealistic body shape perception which leads to depression . (Bibi,

2014).

Depression is related to mental disorders that severely effect individual's functioning capability and due depression society has facing economic costs, because the victim fails to perform social and occupational function due to the result of depression symptoms, which include insomnia, irritability, confusion, depressed mood. When people are depressed, they eat more and more than their requirements, which may be due to overcome these negative thoughts and depression, through which they are suffering. Depression elevates chances and danger of eating disorders and highly linked with obesity. Association of eating disorders and depression has more frequency in females as compared to males. (Saleem et al., 2014).

Athletes has high risk of disordered eating because ideal body condition is required in sports, pressure from coaches, parents and other competent provoke to lose weight, dieting, frequent weight cycling, severe training, injuries have impact on athletes eating disorders. Eating disorders are more prevalent among athletes than in general population. Anorexia nervosa, bulimia nervosa, binge eating disorder, other feeding disorders has 8% chances in global population. eating disorders are chronic, and have high relapse rate. It can be transmitted by genes heritability. Estimation shows a genetic transmission of anorexia nervosa (58 -74%), bulimia nervosa (59% - 83%), binge eating disorder (41 % - 57 %). It shows sizable percentage of trait variance, so called single – nucleotide polymorphism-based heritability. The United Kingdom eating disorders genetics initiative (EDGI) has objective to increase our comprehension of eating disorders by gathering genetic and phenotypic data from at least 10,000 people and linking it with their medical history. Environmental and psychological factors a role in the etiology of eating disorders. Environmental factor: include premature birth, traumatic experiences and social media use. Psychological factor has increased its risk such as body satisfaction and loss of self-esteem. But positive relationship with parents and siblings including regular meals times, not bullying about weight and body appreciation can be a barrier against eating disorders. (Monssen et al., 2024).

After COVID -19 pandemic many changes occur in people life such as isolated behavior, enhanced media exposure, disrupted routine activities, and exaggeration of disordered eating disorders. People were suffering from worsening of symptoms including dietary restraint. Dietary restraint may be maladaptive way to balance negative body related self – conscious emotions which can be embarrassment, like shame and guilt of being overweight. Some people use

unhealthy food in this regard like protein shakes, laxatives, weight loss medicines and drinks which can worsen their condition. (Bourke and Pila, 2023).

MATERIALS AND METHOD

The Cross-sectional study was conducted on 384 adult girls and boys, sample size calculated by using Raosoft calculator, according to the recent census the total population of the Mirpur AJK was 456200. Data was collected by convenience sampling technique from the students of different high schools and colleges in 2023. Participant of age 12-18 years were allowed to participate and those who were not previously diagnosed with an eating disorder. At the start of the research, school teachers were asked to explain forms and study to the students so that they will be able to answer the questions correctly, because no translated version was used. Risk factors of ED were analyzed by SCOFF (Sick, Control, One, Fat, Food) was designed for diagnosis of AN and BN, and EDE-Q (Eating Disorder Examination Questionnaire). EDE-Qs adapted

version for adolescence is EDE-A a 36 items self-report measure focuses on past 14 days, accesses the frequency of eating behaviors and aspects of eating psychopathology by scoring four subscales (eating, weight, shape concerns and restraint). The obtained data was then coded and evaluated by using SPSS version 22. Main aim of the study was to introduce ED to the community, investigate the prevalence and associated risk factors.

RESULTS

The study was carried out in 384 Adolescent students aged between 12-18 years, in them 277 (72%) were females and 107 (28%) were males.

Majority of participants are of age 16 and 12 years 104 (27%) and 95 (25%) respectively. 359 (93.5%) were not suffering from any disease, while only 25 (6.5%) have disease. 171 (44.5%) claims that they know about eating disorders and their risk factors, while 213 (55.5%) have no idea and they were unaware of eating disorders.

Table 1: Gender participation.

			Gender		Total
			Male	Female	
Residency	Urban	Count	66	199	265
		% within Gender	61.7%	71.8%	69.0%
	Rural	Count	41	78	119
		% within Gender	38.3%	28.2%	31.0%
Total		Count	107	277	384
		% within Gender	100.0%	100.0%	100.0%

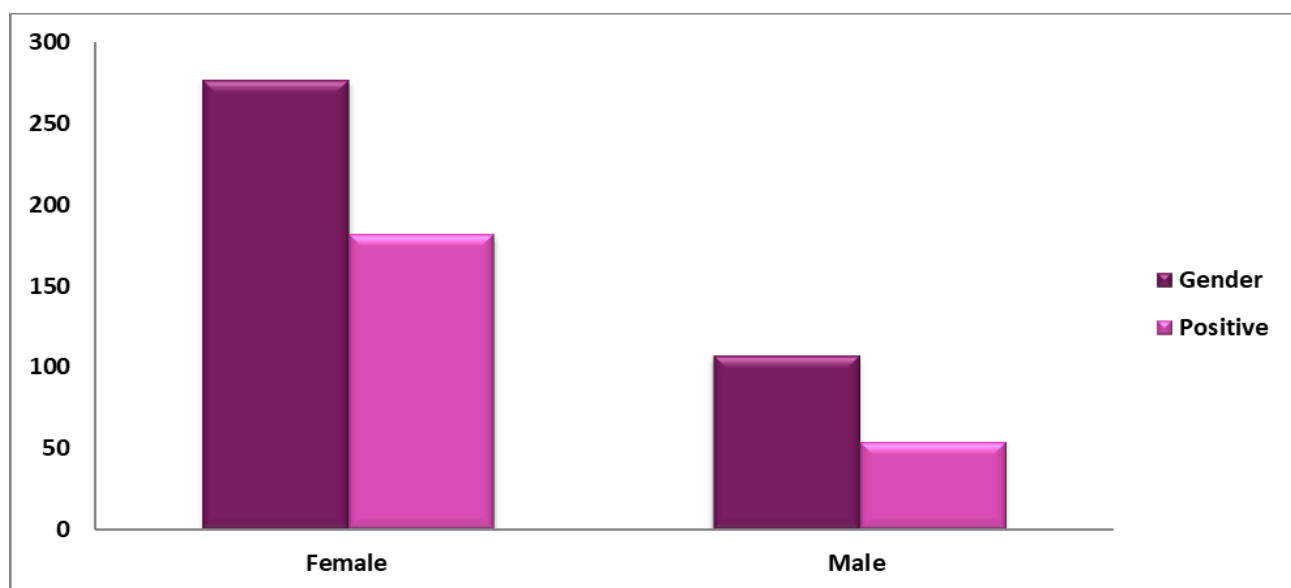


Figure 1. Prevalence of eating disorder by Gender.

Table 2: Knowledge about eating disorders.

			Gender		Total
			Male	Female	
Do you know about Eating Disorders?	Yes	Count	35	136	171
		% within Gender	32.7%	49.1%	44.5%
	No	Count	72	141	213
		% within Gender	67.3%	50.9%	55.5%
Total	Count		107	277	384
	% within Gender		100.0%	100.0%	100.0%

According to the SCOFF testing results 236(61.5%) were at risk of developing Eating Disorders out of which 50.5% were male and 65.7% were female. There was a significant association between gender and ED ($p<0.05$).

Risk of Eating disorder was higher among adolescent with normal BMI which is 16-23 for teens. SCOFF results showed that out of 288 participants with normal BMI 141(59.7%) were at risk of eating disorder, urban resident (69%), illiterate (41.1%) and high-income group (30.5%) were at risk of developing eating disorders. Participants who

were underweight were 75 out of which 30 (12.7%) were prone to risk of eating disorder. For the overweight participants out of 29, 25(10.6%) were at risk of developing eating disorder. It was found that Eating and Weight concerns were high in females with mean rank of 198.24 and 196.63 respectively. In relation of Risk, Eating Disorder was 0.461($p=0.001$) times higher in females than males and it increased by 0.435($p=0.000$) times in each unit increase of BMI.

Table 3: Risk of eating disorder among adolescents by gender calculated with SCOFF score.

			Gender		Total
			Male	Female	
Scoff	Positive	Count	54	182	236
		% within Gender	50.5%	65.7%	61.5%
	Negative	Count	53	95	148
		% within Gender	49.5%	34.3%	38.5%
Total	Count		107	277	384
	% within Gender		100.0%	100.0%	100.0%

Table 4: Effect of BMI on the risk of developing eating disorders.

			Scoff		Total
			Positive	Negative	
BMIC	<16.5	Count	30	45	75
		% within Scoff	12.7%	30.4%	19.5%
	16.5-23	Count	141	87	228
		% within Scoff	59.7%	58.8%	59.4%
	24-28	Count	40	12	52
		% within Scoff	16.9%	8.1%	13.5%
	>28	Count	25	4	29
		% within Scoff	10.6%	2.7%	7.6%
Total	Count		236	148	384
	% within Scoff		100.0%	100.0%	100.0%

DISCUSSION

Our study showed that eating disorder is more prevalent in females than in males, and risk of developing of eating disorder is increased per unit increase in BMI and majority of the population have no idea about eating disorders. While similar results were discussed in another study eating disorders are prevalent among adolescents. Body image perception is considered as a precursor of ED (Schuck et al., 2018). Obesity is considered as a risk factor interconnected with ED triage and body image dissatisfaction it increases the chances by Upto 13 times in adolescence to develop an eating disorder (Cecon et al., 2017). Current study disclosed that Females are more prone to EDs because they get influenced of social environment more and are more concerned about maintain normal BMI and body image. While a study conducted previously tells that most of the adolescents had not been suffering from ED previously but develop Eating Disorders in attempt of losing weight (Golden et al., 2016b). Screening results of is study shows that females are more at a risk of developing eating disorders, and more than half of them were unaware of eating disorders. But early detection and family support helps in further physical and psychological complications. Similar findings suggested that screening is important to determine unhealthy eating attitudes. The healthcare workers and policy makers need to focus on nutrition education, risk factors of DEB, mental health and wellbeing and body image concerns (Petisco-Rodríguez et al., 2020). The present study concluded that there is direct link between the BMI and Eating Disorders overweight individuals are at more risk of developing eating disorders because they eagerly want to maintain their normal BMI and body image. Similar study showed that social standards, created by social media or surroundings have direct influence on adolescent especially, girls due to which they adopt various extreme attitudes to attain perfect body (Izydorczyk and Sitnik-Warchulska, 2018).

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1st author have made substantial contributions to the work reported in the manuscript while 2nd and 3rd author help in Writing and data collection.

CONFLICT STATEMENT

Authors state no conflict of interest.

AUTHOR'S CONTRIBUTION

All authors have accepted responsibility for the entire

content of this manuscript and approved its submission.

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