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ORIGINAL RESEARCH ARTICLE

RISK OF EATING DISORDER AND BODY SHAPE CONCERN AMONG UNDERGRADUATE NURSING STUDENTS

Ashmita Shrestha[1,*], Sapana Kumari Maharjan[2], Mamata Mehta[3], Rita Pradhan[1], Sudarshan Dhungana[4], Puspal Joshi[5]

[1]Department of Psychiatric Nursing, Purbanchal university School of Health Sciences (PUSHS), Gothgaun, Morang, Nepal
[2]Department of Medical and Surgical Nursing, Hamro School of Nursing, Biratnagar, Morang, Nepal
[3]Department of Pediatric Nursing, Koshi Health and Science campus (KHSC), Sansarimaisthan, Biratnagar-9, Morang, Nepal
[4]Department of Public Health, Koshi Health and Science campus, Sansarimaisthan, Biratnagar-9, Morang, Nepal
[5]Department of Management, Sunsari Technical campus, Dharan, Sunsari, Nepal

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***Correspondence to:** Ashmita Shrestha, Department of Psychiatric Nursing, Purbanchal University School of Health Sciences (PUSHS), Gothgaun, Morang, Nepal.*
Email: ashmita.shrestha70@gmail.com

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ABSTRACT

Background: Eating disorders (anorexia nervosa, bulimia nervosa and binge eating) are mental illness associated with severe disturbances in people's eating behavior which results in both psychological and social impairments. Body image dissatisfaction might be an important predictor of increased incidence of eating disorder. This study aimed to assess the risk of eating disorder and body shape concern among undergraduate students at selected nursing colleges, Morang.

Methods: A descriptive cross-sectional design was conducted among 288 undergraduate nursing students selected by non-probability convenient sampling technique. Data was collected through self-administered method using EAT-26 and BSQ-34 standard tool. The obtained data were analyzed by descriptive and inferential statistics using SPSS version 16 software.

Results: Among 288 nursing students, majority (83%) of them had no risk while (17%) had risk of eating disorder. Similarly, majority (62.2%) of them had no concern with body shape, (19.8%) had mild concern, (12.2%) had moderate concern and (5.9%) had marked concern. There is a statistically significant association between the risk level and selected socio demographic variables like religion (P= 0.01*), weight (P=0.009*), BMI (P= 0.001*).

Conclusions: Majority of the students had no risk while very few students had risk of eating disorder. Almost half of the nursing students had mild to marked concern about body shape which can entice eating disorder.

INTRODUCTION

Irregular meals, snacking, eating out of homemade and following alternative dietary patterns happened frequently among adolescents and young adult females.[1] Unhealthy weight control behavior such as fasting, vomiting on purpose after eating, taking pills and laxatives may lead to develop a significant eating disorder.[2] Eating disorders are serious and fatal illnesses that are associated with severe disturbances in people's eating behaviors and related thoughts and emotions.[3] Adolescents and young adult females are vulnerable to body image dissatisfaction.[4] Tension and stress are triggering factors of other forms of psychological suffering, altering behaviors, including eating behavior.[4]

These disorders affect both genders, although rates among women are higher than among men.[5] The peak onset of eating disorder is 15-25 years at a developmentally sensitive time.[3] Body image dissatisfaction might be an important predictor of increased incidence of eating disorder.[6] About 1 person dies every hour as a result of eating disorder. One study found that people with anorexia are 56 times more likely to commit suicide than people without an eating disorder.[7]

In the context of Nepal very few studies have been conducted to study the risk of eating disorder and body shape concern. Young nursing students unknowingly indulge in unhealthy eating behavior as they feel the pressure of society to maintain an ideal body type. The problem of binge eating is also prevalent among young females due to psychological distress. So, the study aimed to assess the risk of eating disorder and body shape concern among nursing students.

METHODS

A quantitative approach with non-experimental descriptive cross-sectional study was used from February – April 2022 among undergraduate nursing students. The study was conducted in 3 nursing schools of Purbanchal University and its affiliated college. The samples were 288 undergraduate nursing students which was calculated as follows:

Using Cochran formula
Sample size = z^2 pq/d^2

Where n= sample size
z= standard normal deviation at confidence level 1.96
p = prevalence of risk of developing eating disorder. [4]
z = 1.96
P = 25% = 0.25
q=1-p = 1-0.25 = 0.75
d= marginal error = 5% = 0.05
now, sample size (n) = z^2 pq/d^2 = $(1.96)^2$× (0.25×0.75)/ $(0.05)^2$ = 288

The participants were selected through non- probability convenient sampling technique. Ethical approval (Reference number 039-078/79) was taken from the Institutional Review Committee of PUSH.

The tools used in this study consist of 3 parts. First part includes socio-demographic profile such as age, religion, ethnicity, family history of eating disorder, source of information of eating disorder, Body Mass Index (BMI) height and weight. Height in cm and weight in kg of the respondents was assessed. Again the height of the respondents was converted to meter. And BMI was calculated using the formula Weight in kg/ height in meter square.

Second part of the tool include Eating Attitude Test (EAT-26).[3] This tool consists of 26 items in a 6-points likert scale. The score interpretation for EAT-26 is <20 no risk and if ≥20 risk of eating disorder. The third part of the tool consists of Body Shape Questionnaire (BSQ-34). [8] This instrument consists of 34 items in a 6-points likert scale respectively. The score interpreted for BSQ-34 was, if <80 no concern, 80-110 mild concern, 111-140 moderate concern and if >140 they are with severe concern. EAT-26 and BSQ-34 are standard tool and the reliability for EAT-26 ranges from 0.84 to 0.89.[3] The BSQ showed high test- retest reliability ranging from 0.94 to 0.97.[8]

Formal permission was obtained from the concerned authorities of the nursing schools and the investigator explained about the purpose of the study and took informed verbal and written consent from them and accessed the samples according to the investigator convenient from different classes and collected the data through self-administered method from 288 undergraduate nursing students. The confidentiality and anonymity of the information was maintained.

Collected data were checked, reviewed and verified for accuracy and completeness. Data were coded and entered into SPSS version 16. Descriptive statistics (frequency, percentage, mean, standard deviation) and inferential statistics (chi square test, Pearson correlation at 0.05% significant level) was used for statistical analysis.

RESULTS

The result showed that majority (91.3%) of the respondents were Hindu, more than half (58.3%) of the respondents were Brahmin/ Chhetri. Majority of the respondents (66.3%) had others types of stressful life event, (23.6%) had faced death of family members, (8.0%) had chronic illness, (1.4%) had single parent and (0.7%) had divorce of parents. More than half (53.1%) of the nursing students belongs to ≤22 years of age group. Majority (61.1%) of the nursing students falls within ≤ 158 cm height. Majority of the nursing students (51.7%) belong to ≤53 kg. After calculating the BMI, the result showed that majority of the respondents (66.7%) were normal BMI, (16.7%) of them were underweight, (12.8%) were overweight and (3.8%) were obese Similarly, most of the respondents (95.5%) did not have the family history of eating disorder (Table 1)

Table 1: Socio-demographic characteristics of the respondents
n = 288

Variables	Categories	n (%)
Median age of the respondents is 22	≤ 22 years	153(53.1%)
	> 22 years	135(46.9%)
Height in cm Median is 158	≤158 cm	176(61.1%)
	>158 cm	112(38.9%)
Weight in kg Median 53 kg	≤ 53 kg	149(51.7%)
	>53 kg	139(48.3%)
Religion	Hindu	263(91.3%)
	Ishlam	5(1.7%)
	Christian	2(0.7%)
	Others	18(6.3%)
Ethnicity	Brahmin/ chettri	168(58.3%)
	Janajati	82(28.5%)
	Dalit	7(2.4%)
	Terai /Madhesi	31(10.8%)
Stressful life event	Death of family members	68(23.6%)
	Chronic illness of family members	23(8.0%)
	Single parent	4(1.4%)
	Divorce of parents	2(0.7%)
	Others	191(66.3%)
Family history of eating disorder	Yes	13(4.5%)
	No	275(95.5%)
Heard about eating disorder	Yes	226(78.5%)
	No	62(21.5%)

Table 2: Respondent's risk level of eating disorder and body shape concern **n=288**

Variables	Category	n (%)
Risk level	No risk (<20)	239(83%)
	Risk (≥20)	49(17%)
mean±SD of score		11.94±10.66
Concern with body shape	No concern (<80)	179(62.2%)
	Mild concern (80-110)	57(19.8%)
	Moderate Concern (111-140)	35(12.2%)
	Marked Concern (>140)	17(5.9%)
mean±SD of score		75.9±35.04

Table 3: Correlation between body mass index (BMI), Eating Attitude Test (EAT-26) and Body Shape Questionnaire (BSQ-34) **n=288**

Variable correlation	EAT-26		BSQ-34	
	Pearson correlation	p- value	Pearson correlation	p- value
BMI	+0.142*	0.016	+0.181*	0.002

**Significant at 5% level*

Table 4: Association between demographic variables and risk level on developing eating disorder **n=288**

Demographic Variables	Category	Sample	Risk Level		χ^2 Value	p-Value
			No risk	Risk		
			N(%)	N(%)		
Age group	≤22	153	124(81%)	29 (19%)	0.870 NS	P>0.05 (0.351)
	>22	135	115(85.2%)	20(14.8%)		
Religion	Hindu	263	214(81.4%)	49(18.6%)	5.6	P<0.05* (0.01)
	Others	25	25(100%)	0(0.0%)		
Ethnicity	Brahmin/ Chhetri	168	137(81.5%)	31(18.5%)	0.61 NS	P>0.05 (0.146)
	Janajati	82	70(85.4%)	12(14.6%)		
	Others	38	32(84.2%)	6(15.8%)		
Stressful life event	Death of family members	68	53(77.9%)	15(22.1%)	3.849 NS	P>0.05 (0.146)
	Chronic illness	23	22(95.7%)	1(4.3%)		
	Others	197	164(83.2%)	33 (16.8%)		
Family history	Yes	13	9(69.2%)	4(30.8%)	1.824 NS	P>0.05 (0.177)
	No	275	230(83.6%)	45(16.4%)		
Weight	≤53kg	149	132(88.6%)	17(11.4%)	6.868	P<0.05* (0.009)
	>53kg	139	107(77%)	32(23%)		
Height	≤158cm	176	143(81.3%)	33(18.8%)	0.966 NS	P>0.05 (0.326)
	>158cm	112	96(85.7%)	16(14.3%)		
BMI	Under weight	48	41(85.4%)	7(14.6%)	22.49	P<0.05* (0.001)
	Normal	192	169(88.0%)	23(12%)		
	Over weight	37	21(56.8%)	16(43.2%)		
	Obese	11	8(72.7%)	3(27.3%)		
Information about eating disorder	Yes	226	189(83.6%)	37(16.4%)	0.30 NS	P>0.05 (0.58)
	No	62	50(80.6%)	12(19.4%)		
	Others	166	137(82.5%)	29(17.5%)		

**significant at 5% level NS: Non – significant*

The findings show that majority (83%) of the respondents had no risk of eating disorder while (17%) had risk of developing eating disorder. The overall mean score and SD for 288 participants is 11.94±10.66.

With regard to body shape concern, majority 62.2% of them had no concern with body shape, 19.8% had mild concern, 12.2% had moderate concern and 5.9% had marked concern with body shape. The overall mean score and SD on body shape concern for 288 participants is 75.9 ±35.04.

Table 3 depicts that there was a significant weak positive correlation between BMI and EAT-26 score (r = +0.142, P=0.016), BMI and BSQ-34 score (r = +0.181, p = 0.002). The correlation was significant at 0.05 level.

Table 4 represents the association between risk level and selected demographic variables. Out of which religion (P= 0.01*), weight (P=0.009*), BMI (P= 0.001*) were found to be significantly associated with risk level at 5% level and the rest of demographic variables were not significant.

DISCUSSION

In the current study, the total EAT-26 score was found to be 11.94±10.66 with the range of score 0-78. Most of the respondents 239 (83.0%) had no risk of developing eating disorder whereas only 49 (17.0%) had risk of developing eating disorder. A study conducted on eating disorders among medical students of Khartoum, identified the risk of developing eating disorder was 12.4%.[9] This was in accordance with a study which identified the prevalence of risk of eating disorder was 13.0%.[10] This might be due to young adult females have more vulnerable to eating disorder risk than older students as well as due to their behavioral transition from living with family to living with peers on campus or living alone. However, the prevalence of eating disorder was found to vary worldwide. Similarly, the study of eating disorders among nursing students of Lalitpur, identified the risk of developing eating disorder was 27.2%.[4] A study done among medical students in Kerala supported the current study where the prevalence of risk of eating disorder was 19.1%.[11] The result of the current study

also varies with a study conducted in India which identified the risk of eating disorder was 33.0%.[12] The result obtained by the above study was slightly higher than the current study. This may be different due to economic, cultural background, eating habit which may play a role in the prevalence.

In the current study, the total BSQ-34 score was found to be 75.9 ±35.04 with the range of score 34-204. Among 288 nursing students, majority (62.2%) of them had no concern with body shape, 19.8% had mild concern with body shape, 12.2% had moderate concern with body shape and 5.9% had marked concern with body 28 shape. The study was well supported by a study which examined the body shape concern among nursing students. The findings indicate 81% were not worried about their body shape, 10% were slightly worried and 10% were moderately worried about their body shape.[8] This might be because the study was conducted on students of similar background (nursing students)

In the current study, BMI calculation shows that 66.7% had normal BMI, 16.7% were underweight, 12.8% were overweight and 3.8% were obese for height. A study conducted in Lalitpur calculated the BMI among nursing students and the result was 54.4% had normal weight, 28% were underweight, 16% were overweight and 1.6% were obese for height.[4] Similarly, the study conducted in Chinese students showed that the result was 52.2% normal weight, 20% were underweight, 11.1% were overweight and 16.7% were obese for height.[13] This indicates that the pattern of BMI is similar in both countries it may be due to country's economic structure, as both are developing countries.

In the current study, the findings show that there was a significant weak positive correlation between BMI and EAT-26 score (r = +0.142, P=0.016). Similarly, there was also a significant weak positive correlation between BMI and BSQ-34 score (r = +0.181, p = 0.002). Similar study was conducted in UAE and India which shows the result that a positive correlation was found between the risk of eating disorder, body shape concern and BMI. The findings are consistent with the current study. (11, 12)

In the current study, the findings showed that there was a significant association of EAT-26 score with religion (P= 0.01*), weight (P=0.009*), BMI (P= 0.001*). The study done on female nursing students in India showed that BMI was associated with EAT-26 score.[13] This agrees with the study done among 3544 adolescents in China and reported that higher BMI was significantly associated with increased eating disorders which was in accordance with the current study. [5]

The population of this study cannot be generalized to whole population of Nepal. The study used non- probability convenience sampling technique which can lead to possible sampling bias. The study was conducted only among undergraduate female nursing students which might notice the absence of diploma level nursing students as well as male nursing students.

CONCLUSION

Majority of the students had no risk of eating disorder while very few students had risk of eating disorder. Almost half of the nursing students had marked to mild concern about body shape. There was a significant weak positive correlation between BMI, eating disorder and body shape concern. The result showed that religion, weight and BMI were found to be significantly associated with risk of eating disorder. This study also concluded that as the concern with body shape increase the risk of eating disorder also increases significantly. The goal is now to maintain progress by identifying the risk of developing eating disorder and body shape concern by introducing these components as an integral part of education.

Health promotion approaches, timely administration of preventive measures on building self- esteem, positive body image and balanced approach to nutrition and physical activity will help in reducing health problems. Strengthening school health nurses and easy accessible to counseling services will help in early identification of these problems.

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CONFLICT OF INTEREST: None

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REFERENCES:

1. Afolabi W, Towobola SK, Ogintona CRB, Olayiwola IO. Pattern of fast food consumption and nutrient intake of Nigerian University students. Journal of Education and Research. May 2013; 1(5). [LINK]
2. Fallatah A, Al-Hemairy M, Al-Ghamidi H. Eating disorders among female adolescents in Jeddah. C COOP. 2015;138:138-47.National institute of mental health eating disorder. Article on National library of Medicine, 2016. Online available from URL: [LINK]
3. Subedi S, Shah SK, Thapa M, Maharjan PL, Shrestha PD. Knowledge and prevalence of eating disorder among nursing students of Lalitpur, Nepal. International Journal of Research-Granthaalayah. 2018 Apr;6(4):179-87. [DOI]
4. Mazzaia MC, Santos RM. Risk factors for eating disorders among

undergraduate nursing students. Acta Paulista de Enfermagem. 2018;31:456-62. [DOI]

5. Eating Disorder. Abnormal Psychology Textbook PSY142. Hostos Community College Library. 2016. Available from URL: [LINK]
6. Thapa S, Thapa DK. Gender differences in body image dissatisfaction and eating disorder among Nepalese adolescents: A paradigm shift from fatness to thinness. Clinical Psychiatry. 2015;1(2):1-5. [DOI]
7. Magzoub YA, Altamih RA. The risk of developing eating disorder among medical students in university of Khartoum, Sudan, 2021. [DOI]
8. Kapoor A, Upadhyay MK, Saini NK. Prevalence, patterns, and determinants of body image dissatisfaction among female undergraduate students of University of Delhi. Journal of Family Medicine and Primary Care. 2022 May 1;11(5):2002-7.[DOI]
9. Iyer S, Shriraam V. Prevalence of eating disorders and its associated risk factors in students of a medical college hospital in South India. Cureus. 2021 Jan 26;13(1). [DOI]
10. Tomy C, Mathew KA, Jith A. Risk of eating disorders and its association with body image concerns, depression, anxiety and stress among medical students in a college in Kerala. Kerala Journal of Psychiatry. 2021 Sep 18;34(2):105-11.[DOI]
11. Hasan HA, Najm L, Zaurub S, Jami F, Javadi F, Deeb LA, et al. Eating disorders and body image concerns as influenced by family and media among university students in Sharjah, UAE. Asia Pacific journal of clinical nutrition. 2018 May;27(3):695-700.
12. Balhara YP, Mathur S, Kataria DK. Body shape and eating attitudes among female nursing students in India. East Asian Archives of Psychiatry. 2012 Jan 1;22(2):70-4. [PMID]
13. Fan Y, Li Y, Liu A, Hu X, Ma G, Xu G. Associations between body mass index, weight control concerns and behaviors, and eating disorder symptoms among non-clinical Chinese adolescents. BMC Public Health. 2010 Dec;10(1):314.[DOI]