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Assessment of disordered eating attitude and associated factor among Harar Health Science college second Year female students in Harar town eastern Ethiopia

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ABSTRACT: *Eating disorders are very complex, frequently developed and have a public health impact on adolescents. Different studies revealed that eating disorders is a pressing public health problem among adolescents To assess disordered of eating attitude and associated factor among college female students in Harar town Ethiopia, from May 21-23/2019.A cross sectional study by multistage sampling technique was under taken to gather information from a total of 350 Harar Health Science colleges' female students. Three hundred fifty students were selected randomly and pretested anonymous self-administered structured questionnaire was used to collect the data. Bivariate analysis was carried out to identify factors that were significantly associated with disordered of eating attitudes. Multiple logistic regression analysis was performed for those factors that showed a statistically significant association in bivariate analysis and investigate independent predictors by controlling for possible confounders. Data was entered and cleaned using SPSS version 21 for description and analysis of the selected variables.The prevalence of Disorder of Eating attitude in Harar health Science college female students were 337(96.2%) have poor attitude and 13(96.2%) have good attitude. In bivariate analysis height of the respondent, other people belief of my thinness, others attitude towards my feeding and other people think I ate more were found with a p value of less than 0.2. However, the result of multivariate analysis showed that People belief that I am too thin and Others attitude towards my feeling were independently and significantly associated with disordered eating attitude.This study showed a high prevalence of Eating disorder against college senior female students of Harar town in Ethiopia. Therefore , Provision of early screening and timely treatment of female adolescents with eating attitude disorders is highly recommended.*

KEY-WORDS: - Disordered eating attitude, disordered eating behavior, eating attitude test, eating disorder

INTRODUCTION

Eating disorders are among the most common psychiatric problems that affect young women and these conditions impose a high burden of morbidity and mortality. Eating Disorder are real complex and divesting condition that can have serious consequences for health, productivity and relationships. They are not a fad, phase or lifestyle choice. They have serious potentially life threatening condition that affects a person's emotional and physical health. Unfortunately, the diagnosis of eating disorders can be elusive, and more than one half of all cases go undetected. Eating disorders occur most commonly in adolescents and young adults \and are 10 times more common in females than in males[1]. The principal eating disorders are anorexia nervosa, bulimia nervosa, and non-specified eating disorder [2]. Anorexia has two subtypes—restricting type and binge-eating/purging type. Bulimia also has two subtypes—purging and no purging. It is estimated that 1.0% to 4.2% of women have suffered from anorexia in their lifetime and up to 4% of females will have bulimia during lifetime [3].

Generally, young people tend to be influenced by the perception of their body shape and size[4-6]. While this may be a normal part of development, morbid situations exist in which individuals have abnormal perceptions of their body image, accompanied by abnormality in their weight and eating behaviors. Such conditions are referred to as eating disorders and can result in a multitude of life-threatening conditions. According to the 10th edition of the International Classification of Diseases (ICD10) and the 5th edition of the Diagnostic and Statistical Manual of mental disorders (DSM-V), eating disorders include but are not limited to anorexia nervosa (AN), and bulimia nervosa (BN) [7, 8]. The above listed disorders constitute more severe clinical forms of a group of disorders that are believed to occur along a spectrum with milder variants which typically do not meet specific criteria for the more severe forms[9, 10] . Disordered eating attitudes are abnormal beliefs, thoughts, feelings and behaviours regarding food which may occur along the continuum with eating disorders and can therefore be considered milder variants of eating disorders [11]. They are likely precursor or indicator to the presence of eating disorders [12].

Adolescence is an intense anabolic period when requirements for all nutrients increase noticeably [13]. Adolescents frequently develop eating disorders and have major public health impact [14]. Eating disorders refer to a variety of psychological illnesses associated with significant disturbances in eating attitudes and behaviours, such as eating extremely small or large amounts of food [15]. Adolescents with eating disorder have high risk to develop consequences, such as anxiety disorder, cardiovascular symptoms, chronic fatigue and pain, depressive disorder, limitation in activity related to poor health, infectious diseases, insomnia, neurological symptoms, and suicidal attempts in their early adulthood [16]. Moreover, 20% of people with an eating disorder diagnosis die from their physiological squeal [17]. Accordingly, early diagnosis and

primary prevention of eating disorders, by improving self-esteem, body image and empowerment of eating attitudes can be an important solution [18].

Also Adolescent people tend to be influenced by the perception of their body shape and size. While this may be a normal part of development, morbid situations exist in which individuals have abnormal perceptions of their body image, accompanied by abnormality in their weight and eating behaviours. Such conditions are referred to as eating disorders and can result in a multitude of life-threatening conditions.

The enormity of the consequences of eating disorders as well as disordered eating attitudes is such that it has been linked with increased suffering. For example, persons with eating disorders experience higher rates of other mental illnesses, medical/physical complications, impairments in the fulfilment of roles, suicidality, poor quality of life and overall high levels of mortality[19]. However, it is not uncommon to find reports about the rarity of eating disorders in non-Western societies, including Africa and Asia . One of the arguments raised in support of this is that being overweight is not a common source of concern in most developing nations[20]. Studies however show considerable prevalence of disordered eating attitudes in both developed and developing countries including those in Africa [21] the Middle East[22], Europe and Asia.

Increasing evidence supports the link between having disordered eating attitudes and the likelihood of developing eating disorders which makes studying the former a predictor of the latter. Extreme dieting behaviours such as restricted food intake and compulsive physical activity have been associated with abnormal eating attitudes. It is important to note that studying these attitudes is preferred using a multi-dimensional perspective, since a number of interpersonal, psychological and social risk factors have been linked to its development. For example, the history of abuse and disturbed personal relationships, having low self-esteem, stress, depression, lack of control and being from a culture where “thinness” is glorified were found to increase the likelihood of eating disorder development.

Moreover, problematic eating behavior increases in girls with age, up to involving around a quarter of the female at 18-19 years [23]. Diets are commonly used by teenagers to obtain and maintain the physical condition of “normal” weight; the behavior of dieting does not seem to decrease with age but tends rather than increase.

The cultural idea of thinness in western countries, which is below the average weight of women in that culture, is a direct cause of body dissatisfaction to a higher degree among women. To be thin is thought to be attractive, healthy and self-disciplined. To be overweight is perceived as being unattractive, lazy and probably incompetent [24]. Given these premises and the ensuing body

dissatisfaction, it is not peculiar that dieting – considered to be a major `contributing factor for the development of EDA has become a highly prevalent practice among women in Western societies.

Therefore , this study help to provide insightful information about their attitude of eating to the subjects under investigation which are HHSC students. It is help sounding community be informed about the characteristics and pattern of their students disordered eating attitude. It is helpful in providing information to the health professionals in understanding about common eating disorder prevalence. The primary beneficial is females, because females are more common affected by EDA than males.

It is relevant to look into the problem so as to have more information which will help for policy makers and organizations working with nutrition to design intervention measures. By considering these background information there is a need of filling the gap regarding of EDA in the study area, which prompt the conduct of this study. Therefore, this study determined the prevalence and associated factors of EDA among senior college female students of non-governmental colleges in Harar town, Ethiopia.

METHODS

Study Area and setting

The Harari People's National State is one of the nine regional states of Ethiopia. Formerly, during the reign of transitional government of Ethiopia it was named region 13. The capital of the region is Harar City. It has the smallest land area of the Ethiopian Regional states, about 510 Km away from Addis Ababa, 20Km from Haramaya, 48 km from Dire Dawa.

The study was conduct in Harari town, Eastern Ethiopia. Harar is one of the oldest and most historical cities of Ethiopia. It is one of the nine Regional states of Ethiopia and is located 515km east of Addis Ababa. The total area of the region is about 343.21 km2. It is located between 42.03 – 42.16 north of latitude and 9.110-9.240 last of longitude. The region shares common boundaries with Easter Zone of OromiaWoredas [25].

The population was projected to be 246,000 as of 2017. In the previous census, conducted in 1994, the region's population was reported to be 131,139 of whom 65,550 were men and 65,589 women. At the time of that census, 76,378 or 58.24% of the population lived in the urban areas within an estimated area of 311.25 square km. administratively; the region is divided in six urban and three rural administrative woredas (main kebeles). These administrative kebeles were further divided into 19 sub-kebeles (in urban) and 17 sub-kebeles (in rural)[26].

Study period; The study was conducted from May 21-23/2019.

Study design; An institution based cross-sectional study design was used

Population;

Source population; All HHSC female students attended their class during the study period.

Study population; All randomly selected department's female students of HHSC and who meet the eligibility criteria within the study period

Eligibility criteria

Inclusion criteria; Randomly selected female students who were learned at HHSC.

Exclusion criteria; Those who are HHSC students refuse to participate in the study and not available during the data collections period .

Sample size determination

The sample size for this study was calculated using single population proportion formula using

Z-The standardazid normal Distribution

P-Proportion of disordered eating attitude

n-The required sampel size

CI-Confidence Interval

d-Margin of error

Z α/2 = 95 %(1.96)

q = 1 - p

P = 0.314 d=0.05 q = 0.686

P= value taking from Haleama Al Sabbah and ShathaMuhsinehDisordered Eating Attitudes and Exercise Behaviour among Female Emirates College Students in the United Arab Emirates:2017 [27].

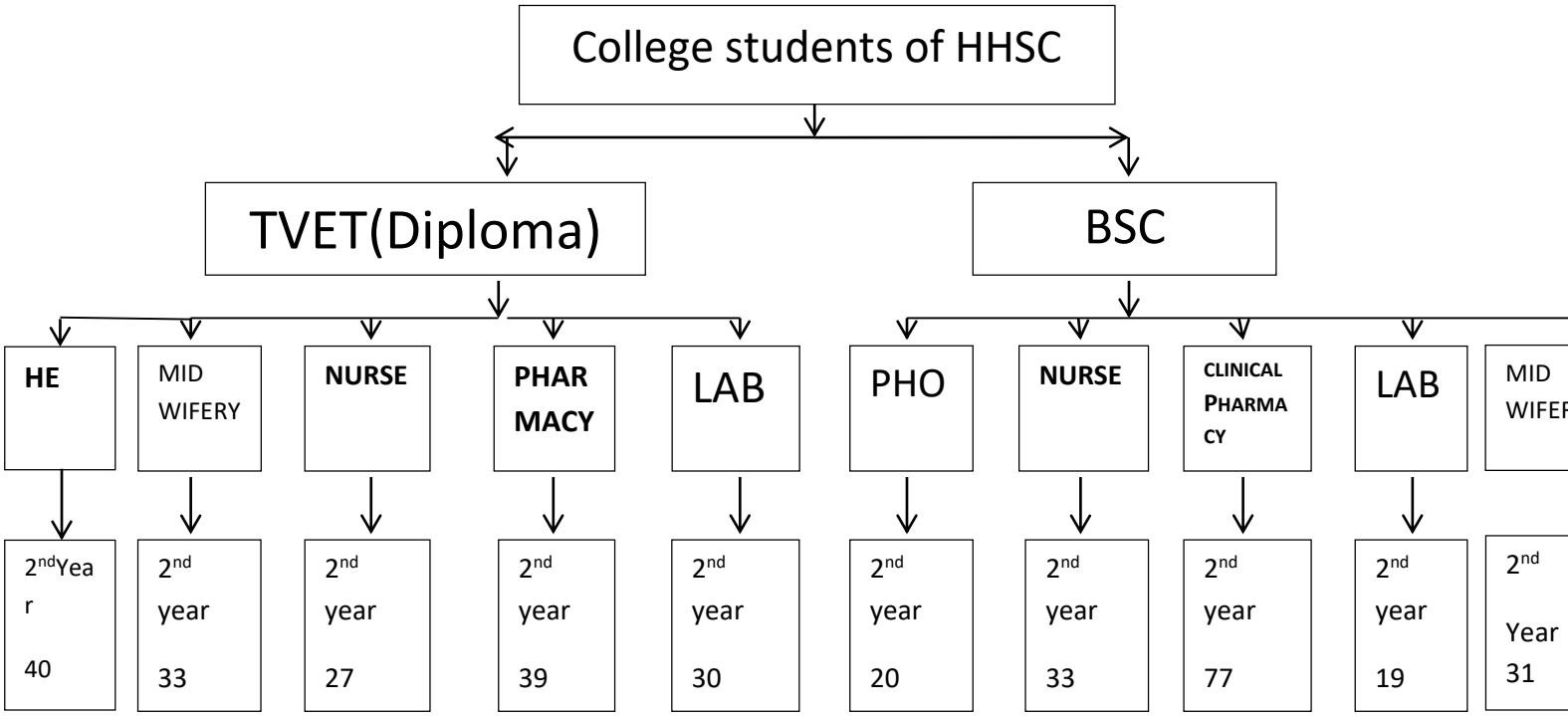
$$n = \frac{(Z\alpha/2)^2 x\ p(q)}{d^2}$$

$$n = \frac{(1.96)^2 x\ 0.314(0.686)}{(0.05)^2}$$

n = 330

By adding non respondent rate of 10% , the total number of sample size was 350.

SAMPLING TECHNIQUES



By using probability cluster random sampling techniques from TVET and BSC students described by multistage sampling techniques. Form the total number TVET and BSC students. TVET students were selected from four departments and from the BSC students five departments were selected randomly to make properly distribute the sample students.

Data collection methods

The data was collected using closed ended questions. The Questionnaire is developed after reviewing the available literatures we have and firstly prepared by English language then translated to local language oromifa and Amharic language by local translator. Instruments like pen, pencil, ruler, binders, Eraser, and paper was used during data collection. by assessing their disordered eating attitude , psychosocial and socio-cultural factor.

A pre – test was done in HHSC in 10 health informatics TVET students to ensure the reliability and validity of the instruments and it can predict time needed to administer questionnaires, logical order of questions and space for answer is sufficient.10 respondents was taken and interviewed before the actual progression of data collection at public health department students to see the internal consistency of the questionnaires. Then based on the pre- test necessary modification was made.

Variables

Dependent Variables : Disordered eating attitude

Independent Variables: Age of student, Family income ,Occupation of the family ,Number of family members ,Medical and mental illness ,Nutritional status ,Peer influence ,media.

Data processing and Analysis

The data was handled confidentially and entered in to computer software SPSS version 21 statistical program for analysis, frequency tabels and proportion to assess association between dependent and in-dependent variable of the study . Bivariate and multivariate analysis was used for check the association.

Data Quality Control

Prior to data collection the data collectors was trained for one day by the principal investigators on how to go for data collection. Supervision was made by principal investigators. The data quality was controlled before collection through pre-testing; during collection through direct observation.

Ethical consideration

Ethical clearance was obtained before the beginning of data collection from all departmental research committee of Harar Health Science College. Informed consult were provided to the selected departments for proceeding data collection. Age, weight, height, current weight and ideal weight of the interviewee was recorded in the questionnaire. After that participants was oriented about the purpose and procedure of data collection and that confidentiality and privacy was ensured.

OPERATIONAL DEFINITION

Disordered eating: is used to describe a range of irregular eating behaviourthat may or may not diagnosis of specific eating disorder .

Anorexia nervosa: is a refusal to maintain a minimally normal body weight.

Bulimia nervosa: is characterized by recurrent episodes of binge eatingfollowed by abnormal compensatory behaviours, such as self-induced vomiting .

EAT: EAT is used to evaluate weight control and eating attitude. The EAT-26 scores of 20 or higher defined as disordered eating attitude (unfavourable eating attitude) and below 20 perceived as favourable eating attitude.

Never = they have no any awareness about DEA

Always = they know what DEA means

Sometimes = they know partially what DEA means

Results

RESPONSE RATE OF DISORDERED EATING ATTITUDE

The Mean (±SD) score of EAT-26 was10.1± 17.49. Besides, the Mean (±SD) score of EAT-28 subgroups, i.e., cutting foods, terrified of overweight and exercise more than 2 hour per day were 0.77 ± 1.108, 0.91 ± 1.142 and 0.14 ± 0.564, respectively. The results of the study revealed that 8.6% [95% CI 4.9, 12.3] of the students had disordered eating attitude. About 8.7% and 4.2% of adolescents was for “I Am terrified about being overweight” always and very often, respectively. Only 14% and 1.1% of adolescents was for “Have the urge to vomit after meals” always and very often, respectively. Besides, 4% and 13.7% of adolescents was for “I am preoccupied with the thought with of having fat on my body” always and very often, respectively besides 9.1% and 10.9% (Table 1).

Table 1 :EAT-26 score among adolescents aged 18-23 years in Harar town eastern Ethiopia May 2019

No	Factor	Sometimes, rarely and never	Often	Usually	Always
1	Avoid eating when I am hungry	241(68.9%)	25(7.1%)	22(6.3%)	62(17.7%)
2	Find myself preoccupied with food.	212 (60.6%)	45(12.9%)	62(17.7%)	31(8.9%)
3	Have gone on eating binges where I feel that I may not be able to stop.	240(68.6%)	38(10.9%)	45(12.9%)	27(7.7%)
4	Cut my food into small pieces	216(61.9%)	47(13.4%)	39(11.1%)	48(13.9%)
5	Aware of the calorie content of foods that I eat.	211(60.3%)	45(12.9%)	58(16.6%)	36(10.3%)
6	Particularly avoid food with a high carbohydrate content (i.e. bread, rice, potatoes, etc	201(57.4%)	51(14.6%)	55(15.7%)	43(12.3%)
7	Am terrified about being overweight	196(56%)	39(11.1%)	66(18.9%)	49(14%)
8	Vomit after I have eaten	261(74.6%)	48(13.7%)	27(7.7%)	14(4%)
9	Feel extremely guilty after eating	260(74.3%)	30(8.6%)	31(8.9%)	29(8.3%)
10	Am preoccupied with a desire to be thinner	218(62.3%)	51(14.6%)	37(10.6%)	44(12.6%)
11	Think about burning up calories when I exercise	182(52%)	39(11.1%)	77(22%)	52(14.9%)
12	Am preoccupied with the thought of having fat on my body	223(63.7%)	38(10.9%)	57(16.3%)	32(9.1%)
13	Take longer than others to eat my meals	218(62.3%)	46(13.1%)	48(13.7%)	38(10.9%)
14	Avoid foods with sugar in them.	224(64%)	32(9.1%)	51(14.6%)	43(12.3%)
15	Eat diet foods.	183(52.3%)	58(16.6%)	51(14.6%)	58(16.6%)
16	Feel that food controls my life	189(54%)	50(14.3%)	62(17.7%)	49(14%)
17	Display self-control around food.	194(55.4%)	46(13.1%)	62(17.7%)	48(13.7%)
18	Give too much time and thought to food	239(68.3%)	41(11.7%)	42(12%)	28(8%)
19	Feel uncomfortable after eating sweets	240(68.6%)	51(14.6%)	35(10%)	24(6.9%)
20	Engage in dieting behaviour	220(62.9%)	43(12.3%)	53(15.1%)	34(9.7%)
21	Like my stomach to be empty.	237(67.7%)	46(13.1%)	40(11.4%)	27(7.7%)

22	Have the impulse to vomit after meals	232(66.3%)	33(9.4%)	53(15.1%)	32(9.1%)
23	Enjoy trying new rich foods	176(50.9%)	26(7.4%)	53(15.1%)	93(26.6%)
24	Gone on eating binges where you feel that you may not be able to stop?	274(78.3%)	27(7.7%)	8(2.3%)	41(11.7%)
25	Ever made yourself sick (vomited) to control your weight or shape?	327(93.4%)	11(3.1%)	4(1.1%)	8(2.3%)
26	Ever used laxatives, diet pills or diuretics (water pills) to control your weight or shape?	350(100%)	0(0%)	0(0%)	0(%)
27	Exercised more than 60 minutes a day to lose or to control your weight?	325(92.9%)	9(2.6%)	7(2%)	9(2.6%)
28	Lost 14.4KG or more in the past 6 months	YES =32(9.1%)	NO=317(90.6%)		

FACTOR ASSOCIATED WITH DISORDERED EATING ATTITUDE

In bivariate analysis height of the respondent, other people belief of my thinness, others attitude towards my feeding and other people think I ate more were found with a p value of less than 0.2. However, the result of multivariate analysis showed that People belief that I am too thin and others attitude towards my feeling were independently and significantly associated with disordered eating attitude. There was a significant negative association between People belief that I am too thin and the adolescents' disordered eating attitude (Table 2).

Table 2: factors Associated with disordered eating attitude among HHSC 2nd year female students in Harar town, Eastern Ethiopian, May 2019

Characteristics	Altitude level		COR (95%)	AOR (95%)	P-value
	Good	Poor			
Height I M/CM					
≤1.59	10(76.9%)	171(50.7%)	0.309(0.084-1.143)	0.439(0.110-1.753)	0.244
≥1.60	3(23.1%)	166(49.3)	0.058	1.00	1.00
People belief that I am too thin					

Agree	11(84.6%)	93(27.6%)	1.00	1.00	1.00
Disagree	2(15.4%)	244(72.4%)	14.430(3.139-66.338)	9.145(1.878-44.524)	0.006
Others attitude towards my feeling					
Agree	9(69.2%)	60(17.8%)	1.00	1.00	1.00
Disagree	4(30.8%)	227(82.2%)	10.387(3.096-34.849)	6.779(1.928-23.838)	0.003
Other people pressure me to eat					
Agree	6(46.2%)	83(24.6%)	0.028	1.00	1.00
Disagree	7(53.8%)	254(75.4%)	2.623(0.857-8.025)	1..258(1.258-4.29)	0.714

DISCUSSIONS

The aim of this study was to assess the prevalence of eating disorder attitudes among 2nd year HHSC female's students using 31 question where asked to evaluate DEA and computed by using EAT-26 scale. The prevalence of DEA in HHSC among female students have good attitude 13(3.7%) and 337(96.2%) have poor attitude In other study Eating attitude among adolescents in India the prevalence of good eating attitude have 84.4%, very good attitude 6.9% and poor eating attitude have 0%[28].
Also the study revealed that abnormal eating attitudes was prevalent among young people in their environment. They found that 16.0% of Nigerian adolescents and young people in two public tertiary institutions had abnormal eating attitudes[22].

According to our study gone on eating beings where you feel you may not able to stop from those have negative attitudes about their eating behaviour the research done in Addis Abeba high schools 697(83.4%) and our results show of HHSC female students 274(78.3%) have negative attitude 38(4.5%) have positive attitude it is low because of the sample size difference and study population. study conduct in Addis Abeba high schools From those who take much time to their meal was 740(88.5%) have negative attitude about their eating attitude and 27(3.2%) have positive attitudes. our results show 239(68.3%) have negative attitude and 28(8%) have positive attitudes. the positive attitudes of both studies are in lie also having awareness about calories from study conduct in Addis Abeba and HHSC positive attitudes are in lie respectively 50(6%) and 48(13.9%)[29].

From our respondent feeling of extremity guilty after eating 260(74.3%) have negative attitude and 29(8.3%) have positive attitudes and in Addis Abeba 785(93.9%) have negative attitude and 15(1.8%) have positive attitudes. our result was high because of cultural difference [30].

CONCLUSION and RECOMMENDATION

As only one study conducted in the country, the prevalence of our study publicized to be more adolescents was susceptible to eating disorders. high Socio-economic status, media, peer influence and sex of adolescents were found to be important predictor of developing disorder eating attitude among female collage adolescents. Therefore ,Provision of early screening and timely treatment of female adolescents with eating attitude disorders is highly recommended. Further research is needed to develop intervention programs to control eating disorders among high school students and college. Finally we recommended that scale up by large sample size.

Strength of the study

Using primary data is its strength.

Limitation of the study

-The study may not be generalizable and the study design by itself is a limitation

Authors' Contribution

ML and AM conceived the study, participated in the design, data analysis and interpretation of the result. ML and AM involved in data acquisition, writing the draft manuscript as well as making all the changes as suggested by the coauthors. ML and AM critically reviewed and give suggested feedback for the paper. All authors read and approved the manuscript.

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Competing Interests

We declare that we have no competing interests.

Declaration

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