Prevalence Of Problematic Eating Attitudes & Associated Factors Among Adolescent Girls In Selected Government And Private Schools, Bhubaneswar, Odisha

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Abstract: Objectives: To determine the prevalence of problematic eating attitudes and associate factors of problematic eating among adolescent girls in selected government & private schools. Methods and material: A total of 300 adolescent girls were selected by cluster sampling technique, 150 from three government schools and 150 from three private schools of Bhubaneswar, Odisha. "EAT- 26" was used for screening of problematic eating attitudes. Self-structured socio-demographic Performa and Modified McKnight risk factor survey scale was used to collect socio-demographic data and associated factors of problematic eating attitude respectively. Result: The prevalence of problematic eating attitude was more among the private school adolescent girls than the government school adolescent girls. The result of unpaired t= 1.206 (p= 0.229) test shown that there was no statistically significant difference between problematic eating attitudes of government and private school adolescent girls.The result of regression analysis identified that emotional eating is less both in government (β=0.26, P=0.02) and in private school (β=0.21, P= 0.05), parent concern with thinness (β=-0.177, P= 0.059) and school performance (β= -.214, P= 0.017) have a close association with problematic eating attitude in government school girls. The mother and father's educational status and occupation have a strong association with problematic eating attitudes both in government and private schools. Conclusion: - Problematic eating attitude was higher among private school adolescent girls than the government school adolescent girls. It was found that parent's education and occupation were an important cause of increasing problematic eating attitudes among adolescent girls.
Keywords: Problematic eating attitude, associated factors, adolescent girls, government and private schools.

Introduction

Adolescence is a cloudy area in the series of life falling among youth and middle age. It is a period of advancement at what time an individual encounters quick development, both bodily and mental changes occur from a teenager to a grown-up.[1] In India, there is an expected 190 million youths including more than one-fifth of the whole population. Puberty is the time of development for both personality and physique. The youngster grows progressively the capacity for reasoning, critical thinking abilities, also achieves emotional maturity. Throughout this period the emotional, physical and intellectual development is likewise quick. So that adolescence is a basic time of dietary consideration. Therefore, to reduce dynamic ailments in adulthood it is significant that incorrect nutritional practices are checked in this age with the goal that these undesirable practices don't go into adulthood. There is gathering proof that dynamic way of life created in youth and youthfulness proceeds into adulthood.[2]Adolescence is a basic stage in the lifespan, when females' health is affected by, the start of menstruation, reduced consumption

of iron due to poor dietary practices and gender predisposition. In India 60% of adolescent girls are affected by iron deficiency anemia.[3]So most of the adolescent girls are at higher risk for developing eating disorders. Data shows that 95% of adolescent girls with eating complaints are between the ages of 12 and 25 years (SAMHSA). There are many factors like parental modeling, the impact of peers, preferences of food, mass media, and body shape, which affects eating behavior among the adolescent girls.[4]

Materials and methods

A survey research approach and descriptive comparative research design was chosen for this study. This study was conducted among adolescent girls of 13-15 years with problematic eating attitudes and 150 adolescent girls selected from three government schools and 150 from three private schools of Bhubaneswar by using a screening method. The cluster sampling technique was used for this study. The EAT-26 scale was used to assess the problematic eating attitude among the adolescent girls. The EAT-26 was recognized by Garner and Garfunkel in the year 1982 is used to measure "eating disorder risk". It contains 26 items and it is a self-report multidimensionalscale deliberate to examine behaviors and attitudes related to disordered eating signs. The EAT-26 contains three subscales (i.e. Dieting, Bulimia and Food Preoccupation and Oral Control).Individuals who score 20 or more on the test were considered as problematic eating attitudes and were selected as study samples by the researcher and they were assessed for factors affecting problematic eating attitude and socio-demographic data. The factors affecting the problematic eating attitude was assessed by using the Modified McKnight risk factor survey scale. This tool consists of 50 questions that can assess different 20 factors affecting problematic eating attitudes among adolescent girls. The reliability of the tool was tested by using Cronbach co-efficient formula and it is found to be reliable at 0.89. The socio-demographic data was collected by a self-structured feedback form. This tool includes the general information about adolescent girls i.e. Class, age, religion, family income, type of family, family members living with the child, mother & father educational status and occupation, place of residence, number of siblings, order with sibling, history of major illness, age at 1st menstruation.The study was approved by the Hospital Research Ethics Committee. The tool was validated by various experts. The tool was tested with 15 participants to check the reliability.Then by cluster sampling method three government and three private schools were selected from Bhubaneswar. Formal written permission was taken from the principal of those selected schools. The researcher introduced herself to the students and said the purpose of the study. The researcher administered “EAT- 26” to all adolescent girls studying in 8th, 9th, and 10th in those selected six schools to identify problematic eating attitudes. Those adolescent girls having problematic eating attitudes will be considered as participants. Informed consent was taken from the adolescent girls. Then those adolescent girls were having problems eating attitudes they were given socio-demographic and “modified Mcknight risk factor survey questionnaires”. The collected data was analyzed by using MS Excel and SPSS.The demographic data were analyzed by frequency and percentage.The Comparison of problematic eating attitudes among adolescent girls in selected government and private schools will be analyzed by “t-test”. The associated factors of problematic eating will be determined by regression analysis. The association between the socio-demographic Performa and problematic eating attitude will be done by using the chi-square test.

Result

In the government school, 48.6% and private school 37.3% adolescent girls were studying in 8thclass.Maximum 47.3% of adolescent girls in government and 40% in private schools were 14 years old.Most of the adolescent girlsi.e. 74.6% in government and 67.3% in private schools were Hindu.In government school maximum girls 69.3% belong from nuclear family and 69.3% girl’s family income was below 10,000. In private most of the girls 59.3% family income was 10,000-30,000 and a maximum

of 70% girls belongs from nuclear family.Higher number of adolescent girls'i.e. 91.3% in government and 93.3% in private schools were living with their parents.In a government school 32% of mothers' educational status was 5^{th}-8^{th} standard, in private school 38.6% of mothers educational status was 9^{th}-12^{th} standard.In a government school,42% father'squalified 9^{th}-12^{th} standard and in private more than half i.e. 51.3% father's qualification was a degree/diploma.Both in government and private school maximum number of mothers' i.e. 74.6% in government and 72% in private were housewives.A higher number of adolescent girls both in government school 79.3% and private school 92.6% belonged from urban areas.In government school more than half i.e. 51.3% girls age at 1^{st} menstruation was 12year-13year and in private school 51.3% girls age at 1^{st} menstruation was 10 year-11 year. The majority of the adolescent girls both in government school 60.6% and private school 64.6% BMI was under 18.5-25.In private schools from the total number of adolescent girls i.e. 265, 56.6 were having a problematic eating attitude. In government school from the total number of adolescent girls i.e. 315, 47.6 were having a problematic eating attitude.The "t" value obtained from the problematic eating attitude among the adolescent girls in private school and government school is 1.206 and p= 0.229 which is >0.05.There was no significant difference between the problematic eating attitude among adolescent girls in selected private and government schools.Multivariate regression analysis was done, and it was observed that the factor emotional eating less both in government (β=0.26, P=0.02) and in private school (β=0.21, P= 0.05) is a statistically significant relationship with problematic eating attitude. Parent concern with thinness (β=-0.177, P= 0.059) and school performance (β= -.214, P= 0.017) are shown to have close associations with problematic eating attitudes in government school girls. But in private school mother Stunkard (β=0.07, P=0.04), over-concern with weight & shape (β= 0.107, P= 0.05) and school performance (β=-0.171, P= 0.04) are shown to have close associations with problematic eating attitude.in government educational status of mothers and fathers are statistically significant with problematic eating attitude as the calculated chi-square values were 9.764, 11.90 respectively and P value were 0.045, 0.036 respectively. Similarly,In private school mothers, educational status and father's educational status are statistically significant association with problematic eating attitude as the calculated chi-square values are 9.322, 10.502 and P-value are 0.025, 0.015 respectively. In government school, mother's occupation, father's occupation, your order with your sibling, history of major illness as it presents that the chi-square association with problematic eating attitude is statistically significant as the calculated chi-square values were 10.694, 9.670, 8.786, 10.642 respectively and P value were 0.013, 0.046, 0.032, 0.025 respectively. Similarly,In private school mothers occupation and father's occupation, place of residence, age at your 1st menstruation, BMI are statistically significant association with problematic eating attitude as the calculated chi-square values are 8.543,11.75, 8.93, 15.33, 8.71 and P-value are 0.036, 0.019, 0.011, 0.004, 0.013 respectively.

Discussion

In the current study, it shows that in government school from a total number of adolescent girls i.e. 315, 0.47 were having problematic eating attitude and in private school from the total number of an adolescent girl's i.e. 265, 0.56 were having problematic eating attitude. So the present study indicates that the prevalence of problematic eating attitude is more among the private school adolescent girls than the government school adolescent girls. Eating disorders are multifaceted and influence all classes of people. Factors affecting all eating complaints involve a collection of "biological, psychological, and sociocultural issues". In the current study, it shows that bothered by body changes and father Stunkard have close association with problematic eating attitude among the adolescent girls in private schools. The factor emotional eating less is associated with problematic eating attitudes both in government and private schools. Parent concerns with thinness and school performance are shown to have close associations with problematic eating attitudes in government school girls. But in private school mother Stunkard, over-concern with weight & shape and school performance are shown to have close associations with problematic eating attitude.

The findings of the current study supported by another study conducted by Ganguly N et al. in Kolkata in 2018 which establish significant associations among eating behaviors and numerous socio-cultural aspects. Multivariate logistic examination discovered that the father's educational status and participants birth order, body weightinessfear and peers' impact were the important factors ofthe problematic eating behavior of participants. So different socio-cultural factors are the important cause of problematic eating among the participants.[5]

Another similar study done by Fortesa K and Ajete K. in Kosovo in 2015 in which 393 participants participated in screening. The study result identified different factors like family modeling;father burdenhas a significant impact on eating complaints. Also the another factor i.e mother pressure and eating complaints are significantly associated.[6]The data analysis using the chi-square test revealed that mothers and fathers educational status, occupation of mothers and fathers have a significant association with problematic eating attitudesboth in government and private schools.

The present study findings are supported by another study done by Yu J et al.(2015) in china among 1328 students 469 were male and 859 were female. The percentage of problematic eating attitudes betweenboys, girls, and total schoolchildren was 5.3%, 4.0% and 4.5%, correspondingly. This study also identified, most probably girls have problematic eating if the education and income of their parent is high .[7]In the current study, it shows that age at 1st menstruation has a strong association with problematic eating attitudes among private schools adolescent girls.

Julia L. Zehr et al. directed a study to assess the impact of puberty timing on eating complaints and anxiety in the young generation. 750 female 750 male undergraduate students at Midwestern University were taken as their initial sample. The study outcomes recommend that may be due to the essential effect of different pubertal hormones the puberty is associated with disordered eating and fear. Despite important alterations in fat alignment, both in girls and boys going throughquick puberty had an increased chance of eating disorder.[8]

In the current study it shows that in private school place of residence, BMI are statistically significant association with problematic eating attitude.The current study result is supported by a study carried out by Bilali A et al. in Patras, Southern Greece in 2008 showed that the prevalence of abnormal eating attitudes among the participants was 16.7%. By univariate logistic regression analysis, it was revealed that females more frequently than males, place of residence, BMI were statistically significant association with problematic eating attitude.[9]

Conclusion

According to the study findings it can be concluded that the prevalence of problematic eating attitude was higher among private schools than the government school adolescent girls. It was found that parent's education and occupation were an important cause of increasing problematic eating attitudes and different socio-cultural factors also influence problematic eating attitudesamong adolescent girls. The study findings concluded that there was a significant association between problematic eating attitudes with selected socio-demographic variables. The establishment of early screening and suitable treatment of adolescent girls with problematic eating attitudes is extremelysuggested.

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Ethical Statement: This study was approved by the institutional ethical committee and prior consent was taken from participants.

Conflict Of Interest: The authors announce that there is no conflict of interest.

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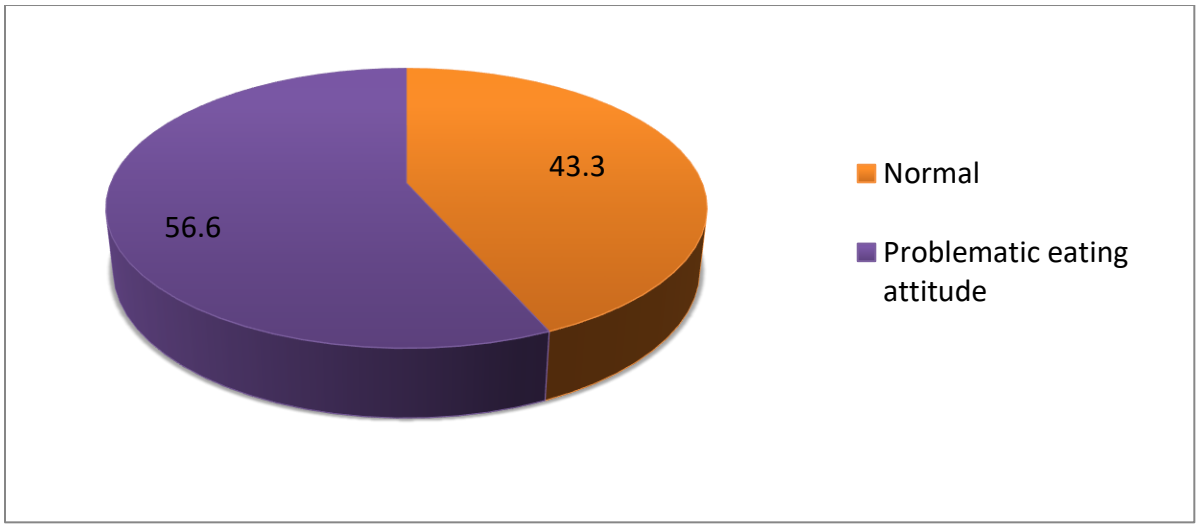

Figure 1. Pie chart showing the prevalence of problematic eating attitudes among adolescent girls in selected private schools.

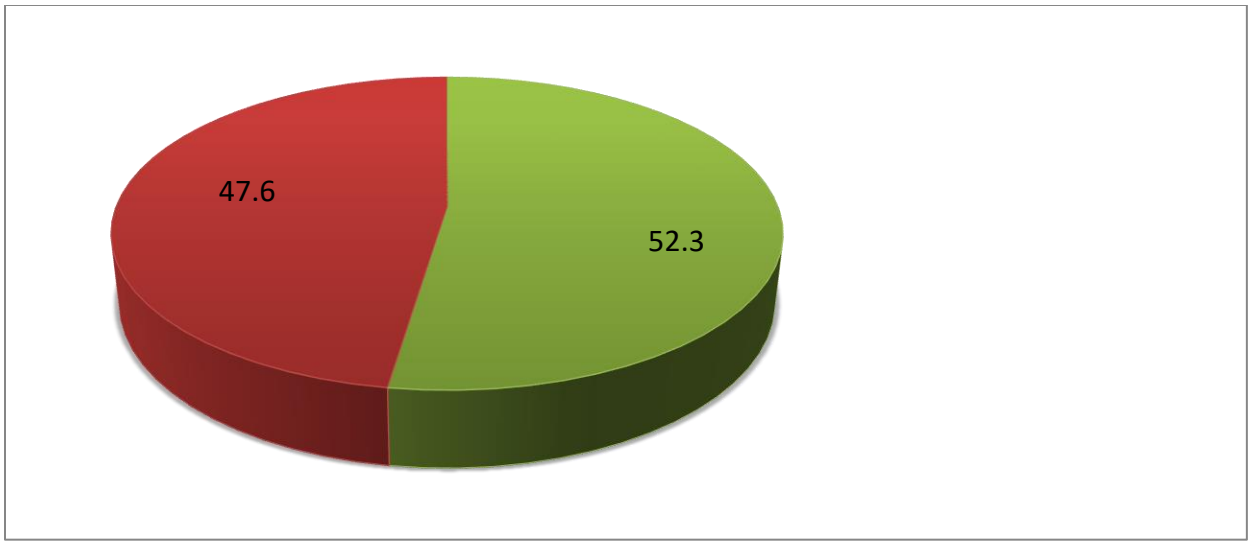

Figure 2. Pie chart showing the prevalence of problematic eating attitude among adolescent girls in selected government schools

Table 1. Unpaired' test analysis to compare the problematic eating attitude among adolescent girls in selected government & private schools.

N=n1+n2= 300

Item	Mean ± SD		T- value	P-value	Inference
	Private school	Government school			
Eating attitude test-26	1.063±0.268	0.028±0.235	1.206	0.229	Statistically not significant
P≤ 0.05 is significant					**Df = 298**

Table 2.Determine the associated factors of problematic eating attitude among adolescent girls in selected government & private schools by using regression analysis

N=n1+n2= 300

Factors	Standardized Coefficients Beta(β)		P value		Inference	
	Government	Private	Government	Private	Government	Private
Bothered by body changes	-.029	.265	.767	.005	Not significant	Significant
emotional eating less	.268	.218	.020	.056	Significant	Significant
father stunkard	-.001	-.244	.994	.003	Not significant	Significant
mother stunkard	.070	.174	.420	.040	Not significant	Significant

Over concern with weight & shape	.107	.197	.401	.053	Not significant	Significant
Parent concern with thinness	-.177	.027	.059	.795	Significant	Not significant
school performance	-.214	-.171	.017	.040	Significant	Significant

Table 3: Chi-square analysis to find the association between demographic variables with problematic eating attitudes among adolescent girls.

N=n1+n2= 30

Socio-demographic Variables	Chi-square Value		DF		P-value		Inference	
	Government	Private	Government	Private	Government	Private	Government	Private
Mother's educational status	9.764	9.322	4	3	0.045	0.025	Significant	Significant
Father's education status	11.90	10.502	5	3	0.036	0.015	Significant	Significant
Mother's occupation	10.69	8.54	3	3	0.013	0.036	Significant	Significant
Father's occupation	9.67	11.75	4	4	0.046	0.019	Significant	Significant
Place of residence	1.15	8.93	3	2	0.764	0.011	Not significant	Significant
How many siblings do you have?	5.22	5.48	4	4	0.265	0.242	Not significant	Not significant
Your order with your sibling	8.78	5.24	3	3	0.032	0.155	Significant	Not significant
History of major illness	10.64	4.91	1	1	0.025	0.084	Significant	Not significant
Age at your 1st menstruation	6.73	15.33	4	4	0.151	0.004	Not significant	Significant
BMI (Body Mass Index)	1.34	8.71	2	2	0.510	0.013	Not significant	Significant