Assessment of the Psycho Social Problems Related with Obese Juveniles in Actual Government School at Chennai

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

Original Research Article

ABSTRACT

To evaluate the level of obesity, associated psychosocial problems and comparison with demographic variables in a selected government school at Chennai. Stock (1974) health belief Theory, a non-experimental study design, was used as the conceptual frame work in the present study. The students were randomly selected for the study Semi structured interview questions and questionnaire were used to assess the psychosocial problems of adolescents and demographic data of the students, respectively. The results revealed that psycho social problems were found among 50 obese adolescents, majority of them are 15-18 years of age, females, nuclear family, Hindus and non-vegetarian. It was also exclusively observed that obese adolescents had high level of psycho social problems.

Keywords: Obesity; stress; mental; adolescence awareness.

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1. INTRODUCTION

Overconsumption of food coupled with sedentary lifestyle and genetic factors leads to obesity. Around the world, in spite of the differences, obesity is steadily increasing [1]. Obesity has grown to epidemic proportions with 4 million people deaths per year. Not just the absence of disease but a state of complete physical, mental, and social well-being is termed as healthy by World Health Organization (WHO). Prevention is always better than cure. In regard to obesity, eating right, exercise and sleep together helps a person to stay fit. WHO states that a Body Mass Index (BMI) above 30 is considered obese? Apart from food, exercise and sleep self-confidence, support from friends or family and an urge to follow a healthy lifestyle is important overall wellbeing. Obesity seems to psychologically affect the young more than the other age groups. Adolescence, puberty to adulthood, is marked by characteristic changes, sexual feelings, identity construction, and formation of life-affecting views/thoughts. Obese adolescents are more likely than their peers to have high blood pressure and type2 diabetes.

In addition to Genetics, obesity usually is a result of improper diet and minimal physical activity. Obesity was twice as common among adolescents as it was 30 years ago. Most of the youngsters who are obese in their early ages remain the same in adulthood too.

According to WHO the Worldwide 65% of the worlds population lives in countries where the mortality rate due to obesity and related disorders is high. Nearly 43 million adolescents under the age of twenty were overweight in 2010. In India too, obesity seems to pose a major threat to public health. Its prevalence continues to increase in many segments of the Indian population, including children and adolescents. Apart from the psychological damage it does, it also leads to many complications in adulthood. Obese individuals, particularly youth, are often stigmatized in their own societies [2]. As a result of this bias and prejudice, it has been hypothesized that obese children and adolescents are at increased risk for poor body image, low self-esteem, and psychological disorders, especially depression. Hitchcock et al. (1986) found that children of lower social rank and those with a southern European background made most of the overweight category (greater than the 90th percentile for BMI), particularly in adolescence [2]. Another study states that the distribution of BMI was more in the children of US (12-14 years) when compared to Australians [3]. The results of studies among adolescents from parts of Punjab, Maharashtra, Delhi, and South India revealed that the prevalence of overweight and obesity was high (11% to 29%) [4].

The overweight and the obesity is are of two important problems of current modernized life style and their impacts are spanning from the socio, familial to psychological roots. Many of the obese persons have deepened psycho disturbances related to their mood, self-esteem, quality of life, and body image. A kind of emotional distress is existing between them and seeking for alternatives in case of treatment and cure against the obesity. The psychological harmony is remained to be a hard challenge for those individuals until achieving the adequate weight loss and increase the risk of unwanted psychological issues [1-4].

Although many studies have been made in this light, findings have been inconsistent, and associations seen cross-sectionals cannot distinguish whether obesity is a consequence of, a contributor to, or a correlate of psychological disorders. For youth, the most immediate consequences are thought to be psychosocial, but whether adolescent overweight increases the risk for psychological disorders remains poorly understood. Hence the present study is framed to assess the association between obesity and psychosocial problems among adolescents.

2. METHODOLOGY

The research approach used for the study is qualitative and quantitative research to assess the level of psycho social problems of obese adolescents in selected government higher secondary schools in Chennai.

2.1 Research Design

Non-experimental descriptive design helps assess, describe and document the aspect of psycho social problems.

Setting is the physical location and conditions in which data collection takes place in a study (Polite and Beck, 2004). The selection of the Centre for the present study is on the Availability of subjects, Feasibility of conducting the study and Economy of time and money.
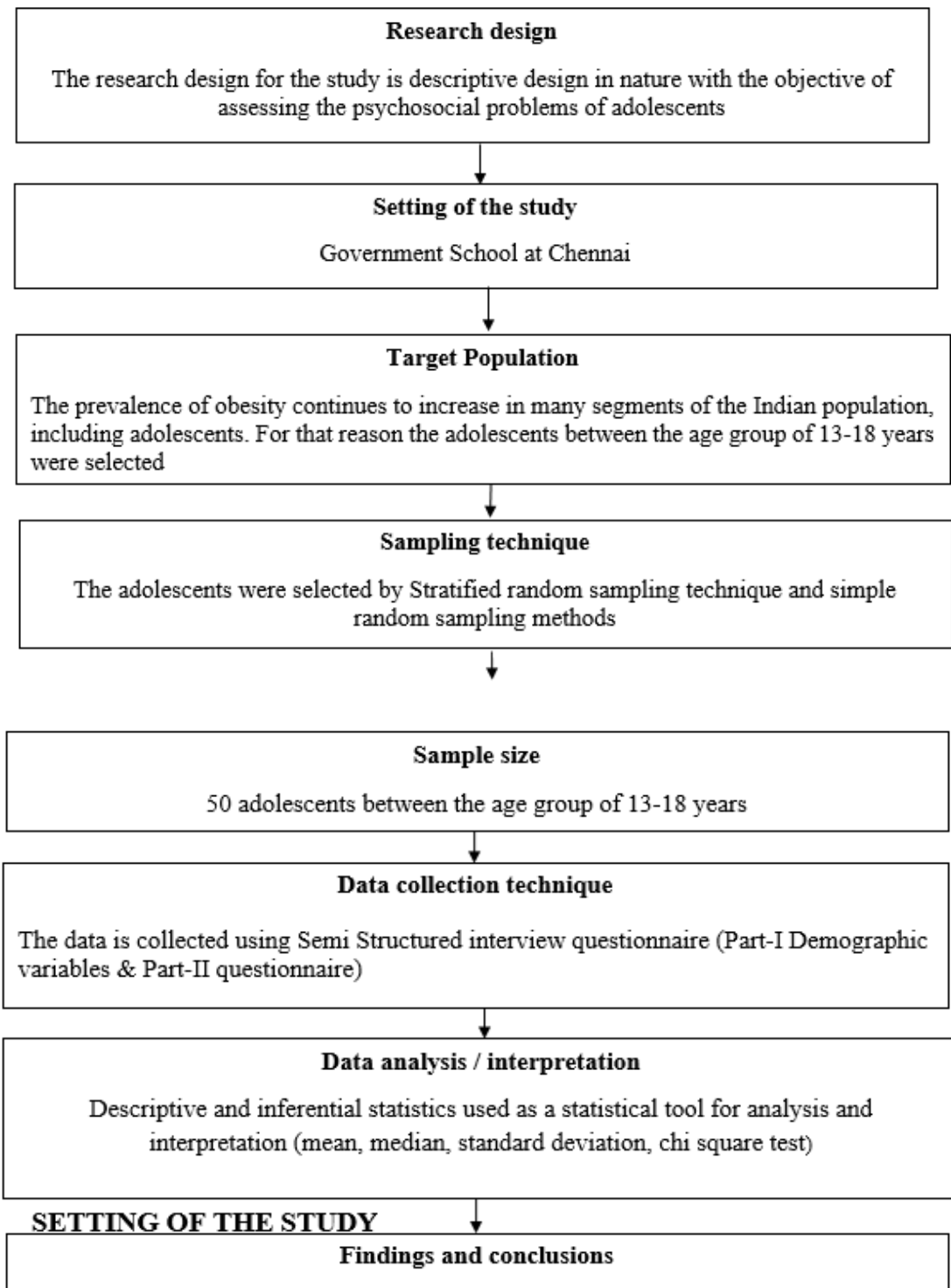
Research design

The research design for the study is descriptive design in nature with the objective of assessing the psychosocial problems of adolescents

Setting of the study

Government School at Chennai

Target Population

The prevalence of obesity continues to increase in many segments of the Indian population, including adolescents. For that reason the adolescents between the age group of 13-18 years were selected

Sampling technique

The adolescents were selected by Stratified random sampling technique and simple random sampling methods

Sample size

50 adolescents between the age group of 13-18 years

Data collection technique

The data is collected using Semi Structured interview questionnaire (Part-I Demographic variables & Part-II questionnaire)

Data analysis / interpretation

Descriptive and inferential statistics used as a statistical tool for analysis and interpretation (mean, median, standard deviation, chi square test)

SETTING OF THE STUDY

Findings and conclusions

Fig. 1. Schematic representation of research design

2.2 Sample and Sampling Technique

The sample size for the present study is 50. The samples are selected by simple stratified random sampling method in selected schools at Chennai.

The sample size was calculated by the formula, formula [n = {Z_a^2 × P (1 − P)/d²}]. Considering an expected population parameter [12] (p = 5.9%) with 95% confidence level, 2% absolute error (d), a non-response rate of 10% and a design effect

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of 2 due to cluster sampling, the sample size was calculated to be 50. The list of schools was prepared and a student was selected using the simple random sampling; students from each stratum were selected using a proportionate allocation technique based on the number of students in each stratum. A complete enumeration of students from classes 10–12 was considered for the study.

2.3 Criteria for Sample Selection

2.3.1 Inclusion criteria

- Individual of between 13-18 years of age
- Both boys and girls between the age group of 13-18 years
- Students who are studying 8th to 12th standard.

2.4 Development of the Instrument

The research instrument was developed after extensive review of literature and expert opinion. A semi structural questionnaire was prepared to assess the level of psychosocial problems of the adolescents. The tool consists of 2 parts -1: demographic variables (age, religion, sex, and marital status, and educational status, occupational status socio economic status type of family and area of residence), 2: psychosocial problem questionnaires (true or false type with response pattern: sometimes/always/never questionnaires to assess the level of psychosocial problems).

Chart 1. Scoring key for response pattern

S. no	Item/response	Score
1.	Sometimes	1
2	Always	2
3.	Never	0

Chart 2. Scoring for level of psychosocial problems

S. no	Score	Level of psychosocial problems
1.	0 - 20	Mild
2.	21 - 40	Moderate
3.	41 - 60	Severe

2.5 Content Validity

The tool was submitted to experts of the department of mental health Nursing. Based on experts opinion tool was modified. The 30 items of questions are used to assess the level of psychosocial problems of obese adolescents these are all the modifications and suggestions about the content of the tool. Modifications were made as per the experts incorporated in the final preparation of the tool [3-4].

2.6 Reliability

Test and retest method was used to find out the reliability of tool and found that the tool was reliable.

2.7 Pilot Study

We conducted a pilot study at Chennai. The duration for pilot study the investigators selected total of 10 participants who were randomly assigned the study purpose was explained to the sample when analysed the result gave evidence that the tools were found reliable and feasible No further changes were made in the tool after the pilot study. The investigators proceeded for the main study.

2.8 Data Collection Procedure

The permission obtained from concerned higher authority. The data collection was done for the period 1 month   the investigators introduced themselves the confidentiality of the subjects was assured and the purpose of the interview was explained to all the participants and informed consent was obtained from the participants the sample was randomly assigned. Appropriate explanation was given to all the participants about the aim of the study and nature of the tool. The data was collected from each sample as follows the investigators personally visited each student for data collection. Nearly 20 to 25 minutes were spent for each participant the investigators visited (10 samples) 5 – 6 hours daily.

2.9 Statistical Analysis

The data related to demographic variable were analysed by using descriptive measures (Frequency and percentage). The level of psychosocial problems of obese adolescents were analysed by using descriptive statics (Mean, standard derivation). The association between selected demographic variables was analysed by using inferential statistics (chi square test).

3. RESULTS

Section: I Frequency and percentage distribution of demographic variables of obese adolescents

Table 1. Shows that frequency distribution of demographic variables of obese adolescents

S. no	Demographic variables	Frequency(n)	Percentage (%)
1.	Age in years		
	a)12-14years	25	50
	b)15-17 years	25	50
	c)18-20 years	-	-
2.	Gender		
	a)Male	17	34
	b)Female	33	66
3.	Family type		
	a)Nuclear family	22	44
	b)Joint family	28	56
4.	Total family members		
	a)3members	7	14
	b)4members	7	14
	c)5members	2	4
	d)6 and above	34	68
5.	Religion		
	1)Hindu	37	74
	2)Muslim	13	26
	3)Christian	-	-
	4)Others	-	-
6.	Educational status of student		
	1)8th stud	13	26
	2)9th std	20	40
	3)10th std	17	34
7.	Educational status of father		
	a)primary education	33	66
	b)middle school	6	12
	c)secondary level	11	22
	d)graduate	-	-
8.	Educational status of mother		
	a) illiterate	8	16
	b)primary education	22	44
	c)middle school	1	2
	d)secondary education	7	14
	e)graduate	12	24
9.	Father occupational status		
	a)self-employee	5	10
	b)government employee	4	8
	c)private employee	6	12
	d)other	35	70
10)	Mother occupational status		
	a)working	22	44
	b)house maker	28	56
11)	Income		
	a) Below Rs 1000-3000/-	16	32
	b) Rs 3001-7000/-	30	60
	c) Rs7001-9000/-	4	8
	d) Rs9001 and above	-	-

S. no	Demographic variables	Frequency(n)	Percentage (%)
12)	Food habits		
	a)vegetarian	7	14
	b)non-vegetarian	43	86
13)	Living area		
	a)urban	19	38
	b)rural	31	62

The frequency and distribution of obese adolescents age shows that the majority of the mentally challenged children were belongs to the age group of 12-14 years 25(50%) and equally distributed 25(50%) by 15-17 years. Regarding gender of obese adolescents highly from females 33(66%) comparatively by males 17(34%). Next category is type of family 22(44%) were attached with joint family and remaining living with nuclear family 28(56%).

The above table reveals that how many of them are living in the family. Normally 3-4 members were show the percentage by 7(14%) from 5 members shows 2(4%) & >6 members respectively shows high percentage by 34(68%). The frequency of religion measured that majority of the obese adolescents comes under the Hindu 37(74%), remaining 13(26%), belongs to Muslim category. Christians and other categories are not having the psychosocial problem. The analysis of educational status of student, assessed that high level of 20(40%) obese adolescents belongs to 10th standard and 17(34%) belongs to 9th standard and 13(26%) belongs to 8th standard.

Educational status of father shows high level of 33(66%) belongs to illiterate and 11(22%) belongs to middle school and 6(12%) belongs to secondary level of education. In graduate nobody is having the particular problems. Regarding the Educational status of mother shows that high level belongs to 22(44%) belongs to primary education and 12(24%) belongs to graduate and 8(16%) belongs to illiterate and 1(2%) belongs to graduate. The father occupational status shows that highly occupied by 35(70%) other category

6(12%) were occupied to private employee, 5(10%) self-employed and government employee were 4(8%). The mother occupational status highly shows house makers 28(56%) and 22(44%) belongs to working category.

The analysis of income highly shows that 30(60%) earned Rs 3000-7000/- and 16(32%) were comes under below Rs 1000-3000/- and 4(8%) were earning Rs 7000-9000. The food habits highly shows that 43(86%) highly taking non-vegetarian and 7(14%) were taking vegetarian food items. The analysis of living area highly shows that 31(62%) highly occupied rural area and 10(38%) comes under urban area.

The frequency and distribution of obese adolescents age shows that the majority of the mentally challenged children were belongs to the age group of 12-14 years 25(50%) and equally distributed 25(50%) by 15-17 years and nobody in 18-20 years.

Regarding gender of obese adolescents highly from females 33(66%) comparatively by males 17(34%).

In type of family 22(44%) were attached with joint family and remaining living with nuclear family 28(56%).

The Table 2.4 reveals that how many of them are living in the family. Normally 3-4 members were show the percentage by 7(14%) from 5 members shows 2(4%) & >6 members respectively shows high percentage by 34(68%).

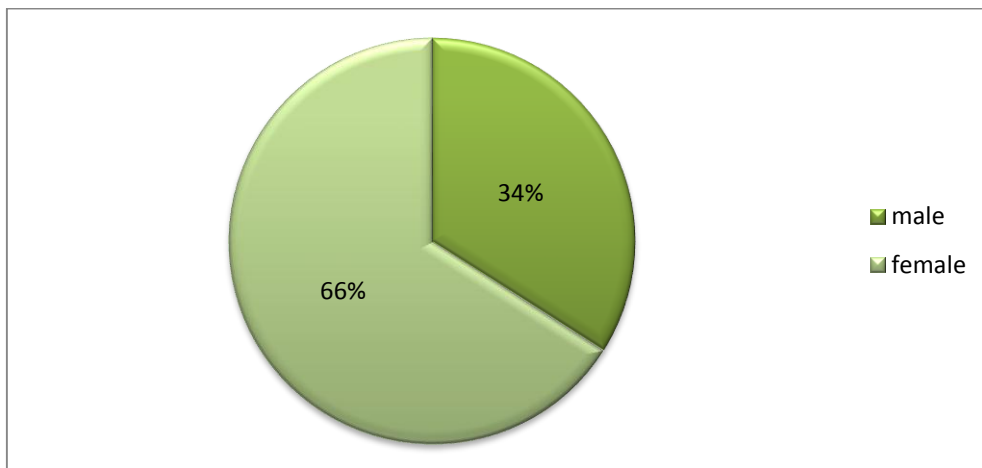**Table 2.1. Distributions of respondents according to their age**

S. no	Demographic variables	Frequency(n)	Percentage (%)
1.	Age in years		
	a)12-14 years	25	50
	b)15-17 years	25	50
	c)18-20 years	-	-
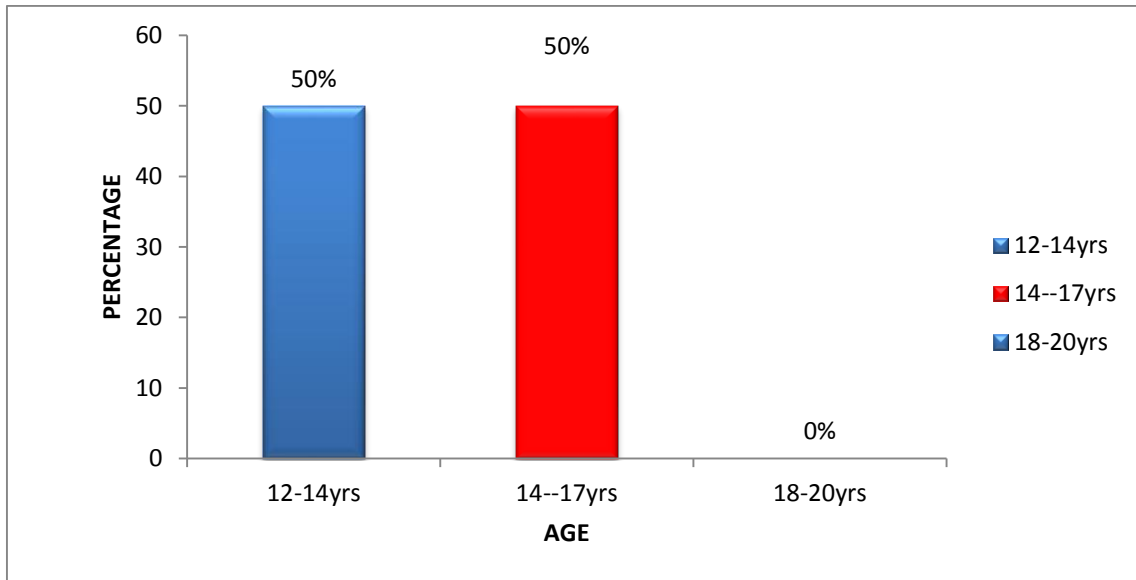
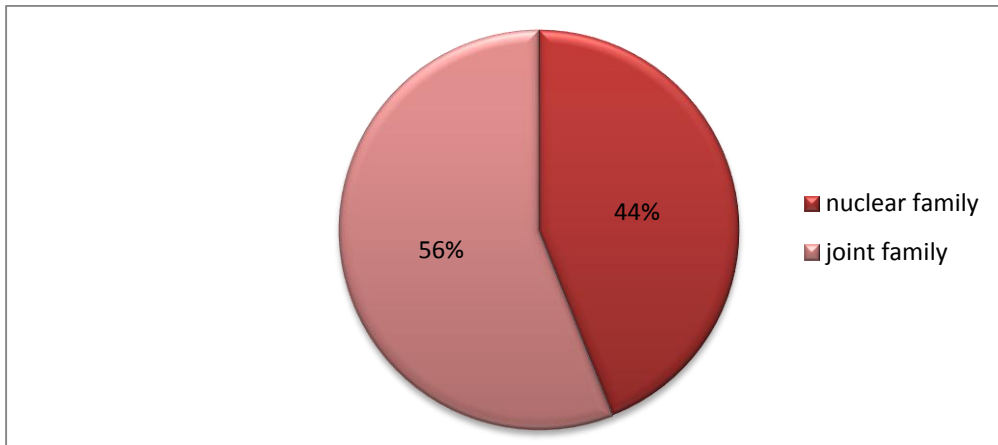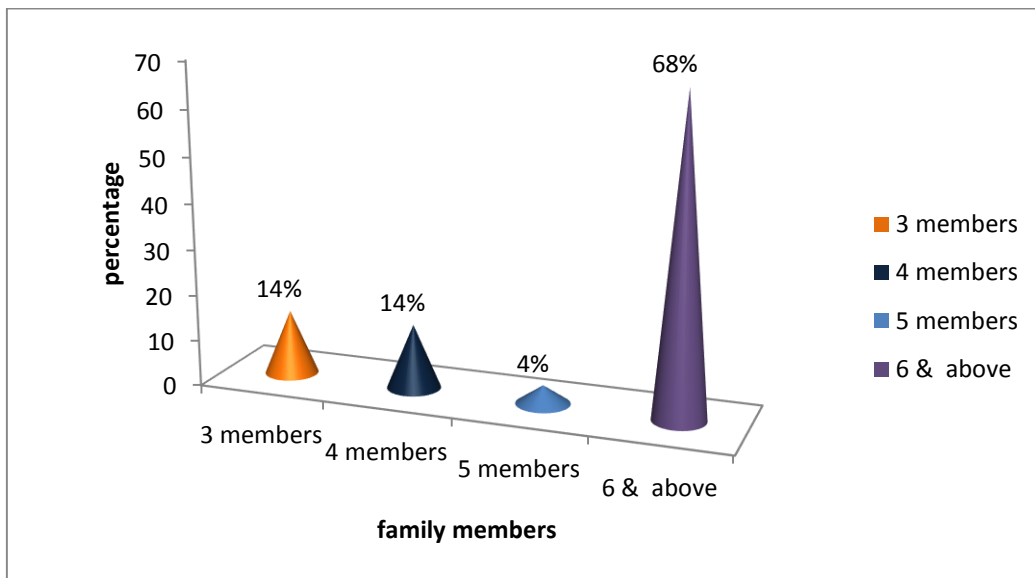**Fig. 2.1. Distribution of respondents according to their age**

Table 2.2. Distributions of respondents according to their gender

S. no	Demographic variables		Frequency(n)	Percentage (%)
2.	**Gender**			
	a)	male	17	34
	b)	female	33	66

Fig. 2.2. Distribution of respondents according to their gender

Table 2.3. Distributions of respondents according to their family type

S. no	Demographic variables		Frequency(n)	Percentage (%)
3.	**Family Type**			
	a)	Nuclear family	22	48
	b)	Joint family	28	56

Fig. 2.3. Distribution respondents according to their family type

Table 2.4. Distributions of respondents according to their family members

S. no	Demographic variables	Frequency(n)	Percentage (%)
4.	Total family members		
	a) 3members	7	14
	b) 4members	7	14
	c) 5members	2	4
	d) 6and above	34	68

Fig. 2.4. Distribution of respondents according to their family members

Table 2.5. Distributions of respondents according to their religion

S. no	Demographic variables	Frequency(n)	Percentage (%)
1.	**Religion**		
	a) Hindu	25	50
	b) Muslim	25	50
	c) Christian	-	-

The frequency of religion measured that majority of the obese adolescents comes under the Hindu 37(74%), remaining 13(26%), belongs to Muslim category. Christians and other categories are not having the psychosocial problem.

The analysis of educational status of student, assessed that high level of 20(40%) obese adolescents belongs to 10th standard and 17(34%) belongs to 9th standard and 13(26%) belongs to 8th standard and nobody in 11th and 12th standard.
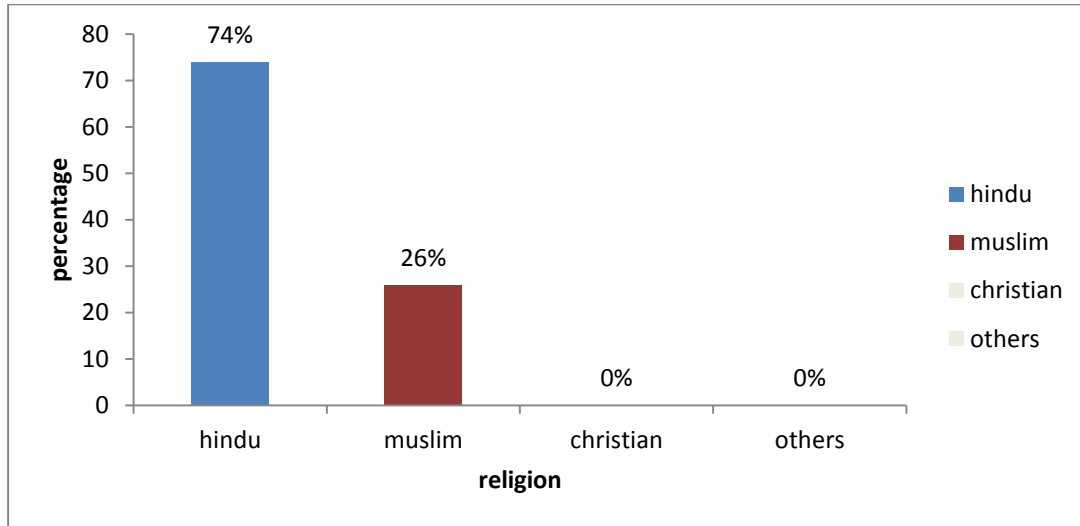

Fig. 2.5. Distribution of respondents according to their religion

Table 2.6. Distribution of respondents according to their educational status of the student

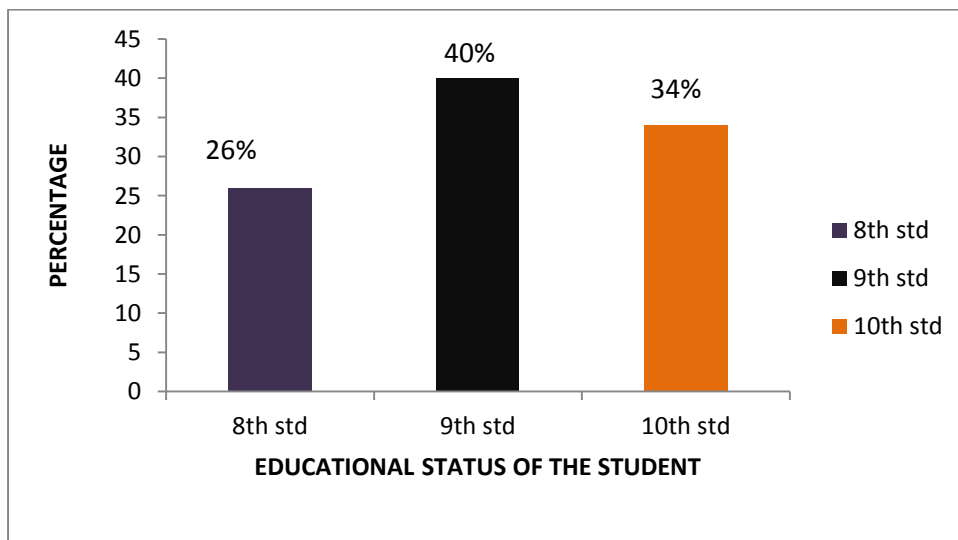| S. no	Demographic variables		Frequency(n)	Percentage (%)
1.	**Educational status of the student**			
	a)	8th std	13	26
	b)	9th std	20	40
	c)	10th std	17	34
	d)	11th std	0	0
	e)	12th std	0	0

Fig. 2.6. Distribution of respondents according to their educational status of the student

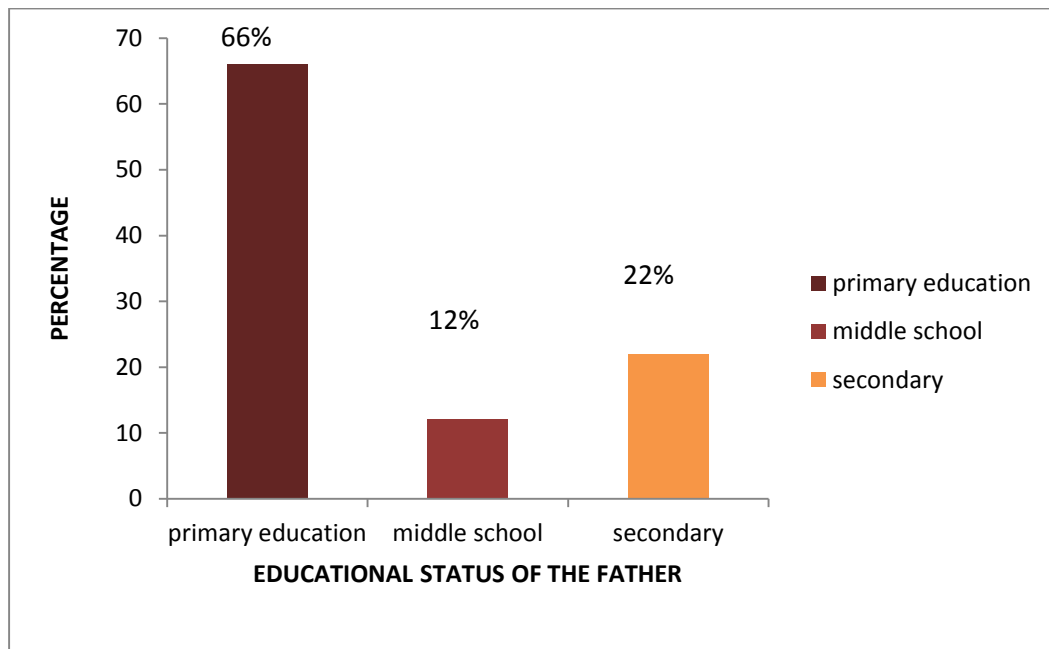**Table 2.7. Distribution of respondents according to their fathers educational status**

S. no	Demographic variables	Frequency(n)	Percentage (%)
1.	**Educational status of father**		
	a)primary education	33	66
	b)middle school	6	12
	c)secondary level	11	22
	d)graduate	-	-

Educational status of father shows high level of 33(66%) belongs to illiterate and 11(22%) belongs to middle school and 6(12%) belongs to secondary level of education. In graduate nobody was present.

Regarding the Educational status of mother shows that high level belongs to 22(44%) belongs to primary education 12(24%) belongs to graduate and 8(16%) belongs to illiterate and 12(24%) belongs to graduate 1(2%) belongs to middle school.

The father occupational status shows that highly occupied by 35(70%) other category 6(12%) were occupied to private employee and 5(10%) working as self-employee and government employee were 4(8%).

The mother occupational status highly shows house makers 28(56%) and 22(44%) belongs to working category.

Fig. 2.7. Distribution of respondents according to their fathers educational status

Table 2.8. Distribution of respondents according to their mothers educational status

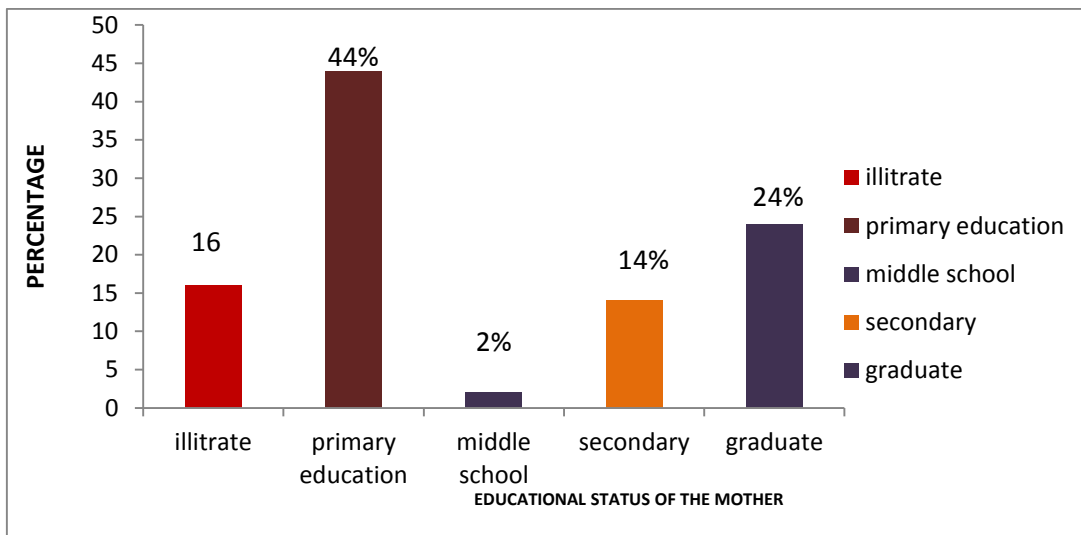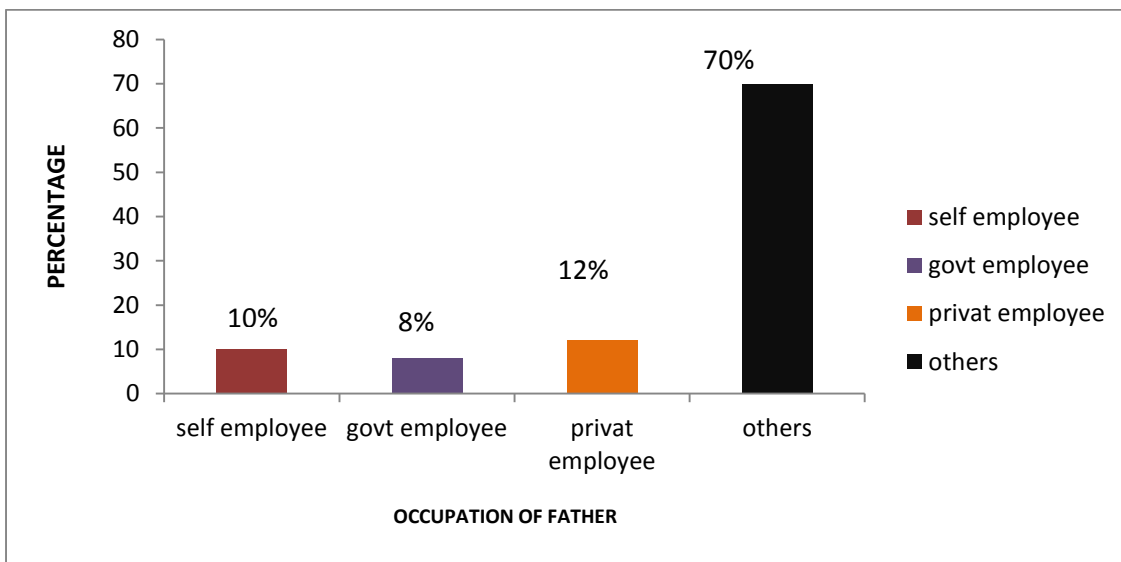| s. no	Demographic variables	Frequency(n)	Percentage (%)
1.	**Educational status of mother**		
	a) illiterate	8	16
	b)primary education	22	44
	c)middle school	1	2
	d)secondary education	7	14
	e)graduate	12	24

Fig. 2.8. Distribution of respondents according to their mothers educational status

Table 2.9. Distribution of respondents according to their fathers occupational status

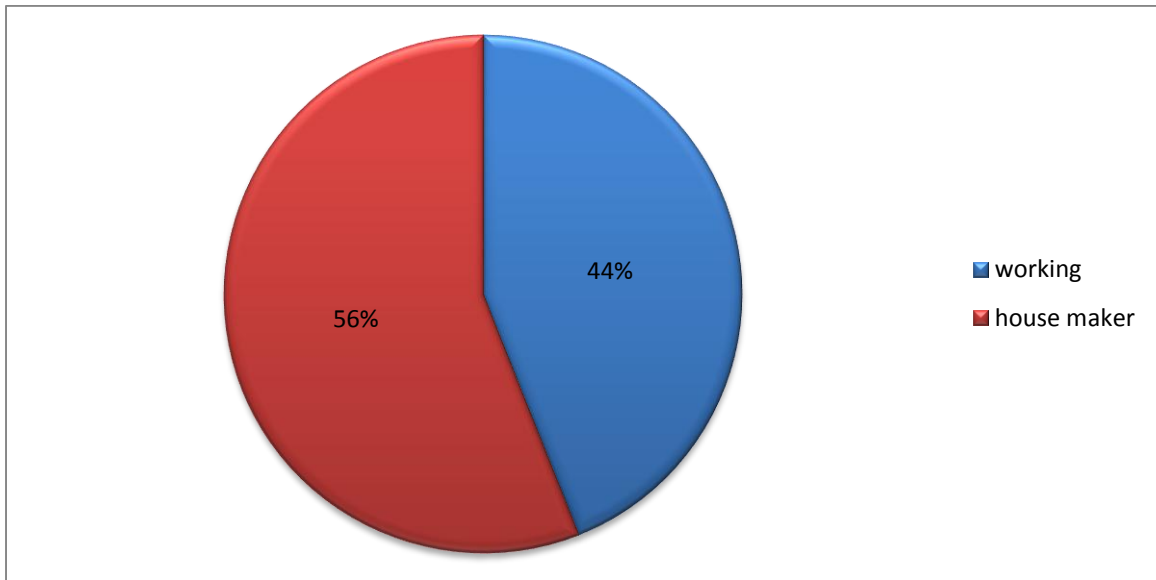| S. no	Demographic variables	Frequency(n)	Percentage (%)
9.	**Father occupational status**		
	a)self-employee	5	10
	b)government employee	4	8
	c)private employee	6	12
	d)other	35	70

Fig. 2.9. Distribution of respondents according to their fathers occupational status

Table 2.10. Distribution of respondents according to their mothers occupational status

S. no	Demographic variables	Frequency(n)	Percentage (%)
1)	**Mother occupational status**		
	a)working	22	44
	b)house maker	28	56

Fig. 2.10. Distribution of respondents according to their mothers occupational status

Table 2.11. Distribution of respondents according to their family income

s. no	Demographic variables	Frequency (n)	Percentage (%)
1)	**Income**		
	a) Below Rs 1000-3000/-	16	32
	b) Rs 3001-7000/-	30	60
	c) Rs7001-9000/-	4	8
	d) Rs9001 and above	-	-

The analysis of income highly shows that 30(60%) earned Rs 3000-7000/- and 16(32%) were comes under below Rs 1000-3000/- and 4(8%) were earning Rs 7000-9000.
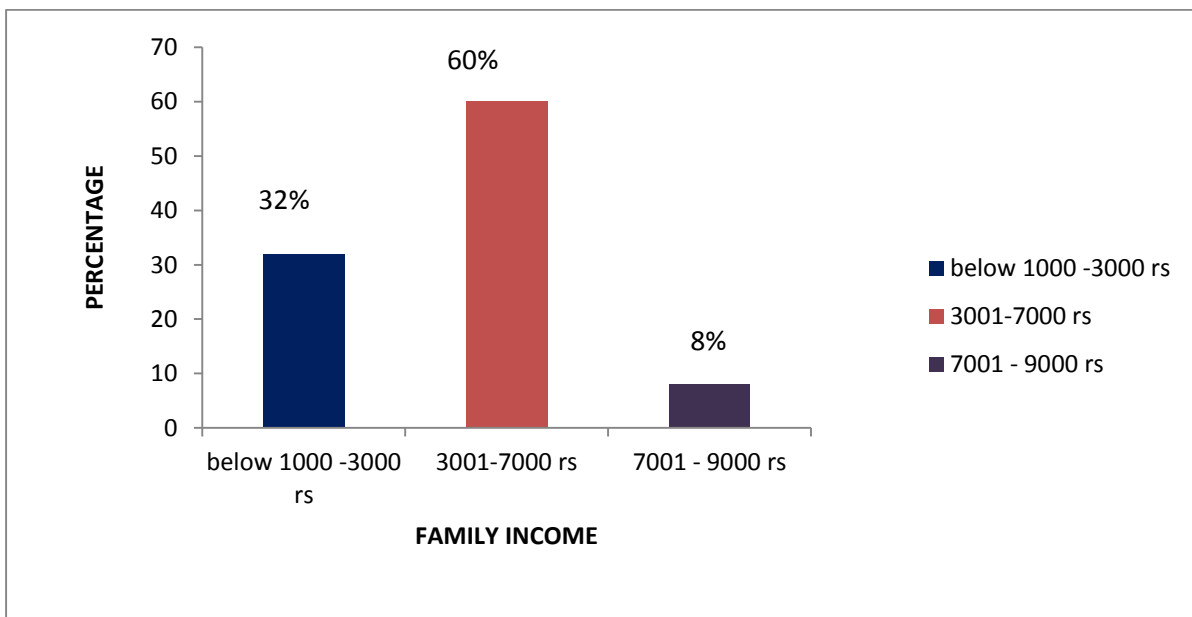

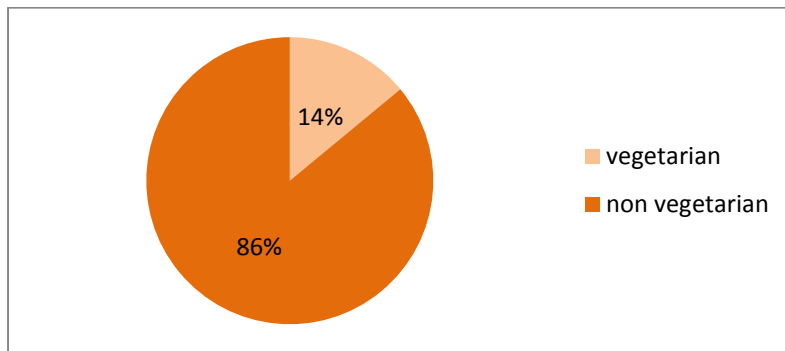**Fig. 2.11. Distribution of respondents according to their family income**

Table 2.12. Distribution of respondents according to their food habits

S. no	Demographic variables	Frequency (n)	Percentage (%)
1)	Food habits		
	a)vegetarian	7	14
	b)non-vegetarian	43	86

The food habits highly shows that 43(86%) highly taking non-vegetarian and 7(14%) were taking vegetarian food items.

The analysis of living area highly shows that 31(62%) highly occupied rural area and 10(38%) comes under urban area.

The Table 3 shows that 34(68%) of adolescents having high level of psychosocial problems and 16(32%) of people had moderate level psychosocial problems.
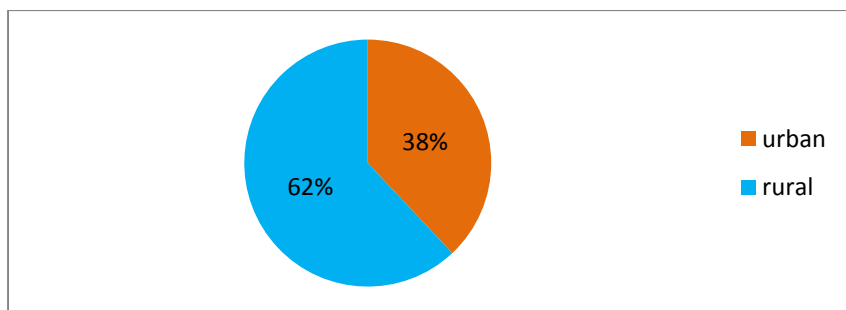

Fig. 2.12. Distribution of respondents according to their food habits

Table 2.13. Distribution of respondents according to their living area

S. no	Demographic variables	Frequency (n)	Percentage (%)
13)	Living area		
	a)urban	19	38
	b)rural	31	62

Fig. 2.13. Distribution of respondents according to their living area

Table 3. Frequency and percentage distribution of psycho social problems of obese adolescents

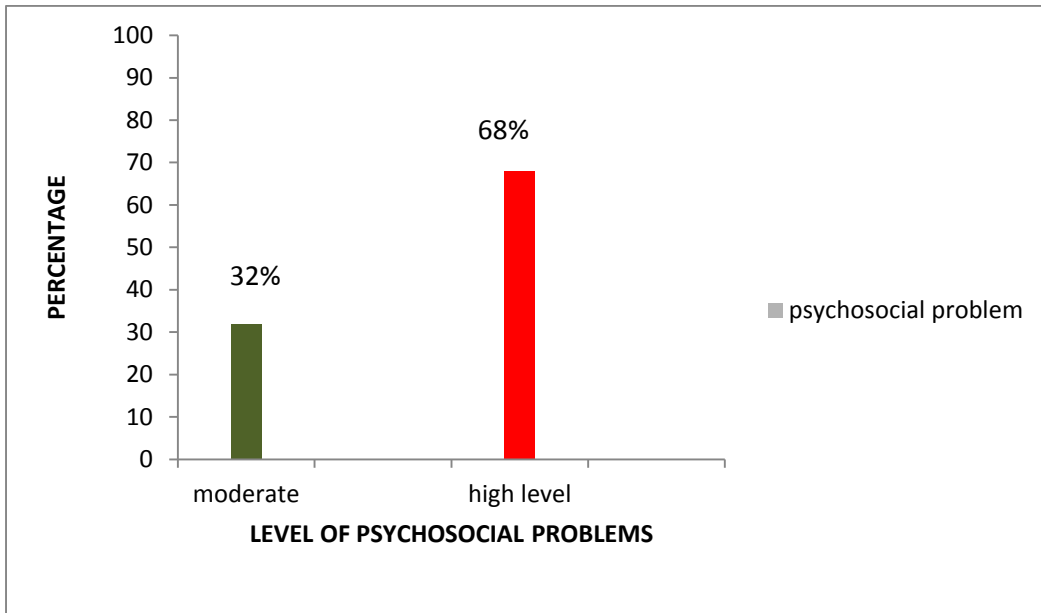| S. no	Level of psychosocial problems	Frequency(n)	Percentage (%)
	Moderate	16	32
	High	34	68

Fig. 3. Frequency and percentage distribution of psycho social problems of obese adolescents

Table 4. Correlation between height and weight of obese adolescents

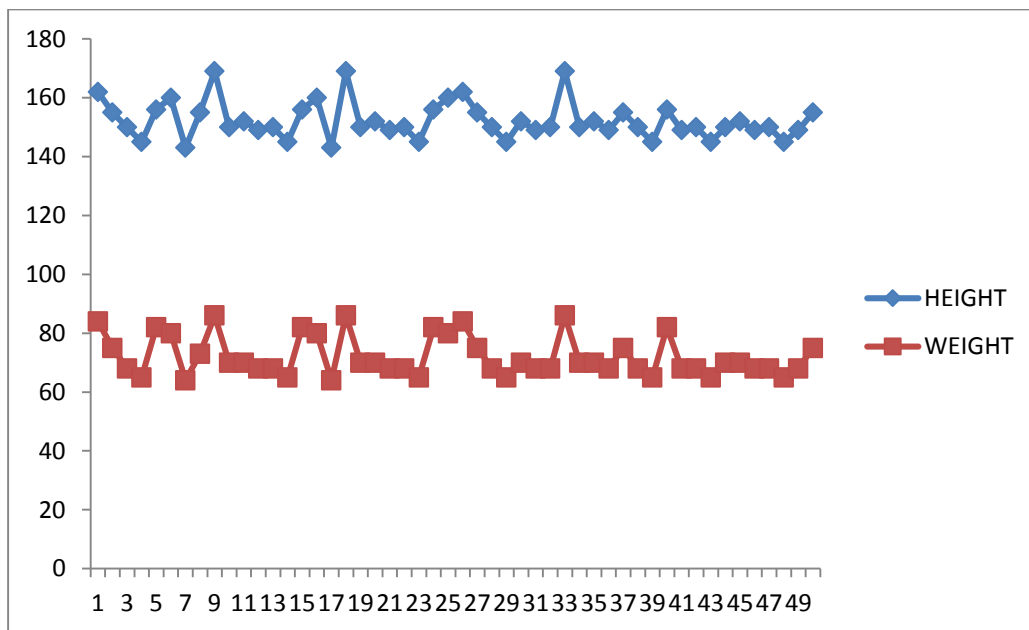| Category	Mean	Standard deviation	N
Height	152.8	6.357	50
Weight	72.00	6.779	50

Fig. 4. Correlation between height and weight of obese adolescents

The above figure shows that the correlation between height and weight of the adolescents it shows that the correlation value is significant. The P value is 0.01. The height and weight of the adolescents shows they are comes under the obese category II.

Association between the level of psycho social problems among obese adolescents and their demographic variables:

Table 5. Chi-square test level of psycho social problems among obese adolescents and their selected demographic variables (n=50)

No	Demographic variables	Level of psychosocial problem				df	X^2	Table value
		Moderate		High				
		n	%	n	%			
1.	Age in years	16	32	9	18			
	A12-14					1	23.529	0.000*
	b) 15-17	0	0	25	50			
2.	sex	15	30	2	4			
	a) male					1	37.434	
	b) female	1	2	32	64			0.000*
3.	family	8	16	14	28			
	a) nuclear family						0.344	0.558
	b) joint family	8	16	20	40	1		
4.	Number of family members							
	a)3	3	6	4	8			
	b) 4	0	0	7	14			
	c) 5	0	0	2	4			
	d 6 and above	13	26	21	42			
5.	Religion							
	a) Hindu	16	32	21	42	1		0.004*
	b) Muslim	0	0	13	26		8.267l	
6.	Educational status of student							
	a) 8th standard	8	16	5	10	2	16.396	0.000*
	b) 9th standard	0	0	20	40			
	c)10th standard	8	16	9	18			
7.	Educational status of father							
	a) Illiterate	8	16	25	50			
	b) primary	0	0	6	12		12.121	0.002*
	c) middle	8	16	3	6	2		
8.	Educational status of mother							
	a) illiterate	8	16	0	0		22.067	
	b) primary	7	14	15	30			0.000*
	c) middle	1	2	0	0	4		
	d) secondary	0	0	7	14			
	e) graduate	0	0	12	24			
9.	Father occupational status							
	a) self-employee	1	2	4	8		6.933	0.074
	b) government employee	0	0	4	8	3		
	c) private employee	0	0	6	12			
	d)others	15	30	20	40			
10.	Mother occupational status							
	a) working	7	14	15	30			
	b) house maker	9	18	19	38	1	.001	0.981

No	Demographic variables	Level of psychosocial problem				df	X^2	Table value
		Moderate		High				
		n	%	n	%			
	If yes, specify	0	0	0	0			
11.	Income							
	a) Below Rs1000-3000/-	7	14	9	18	2	2.953	
	b) Rs3001-7000/-	9	18	21	42			0.228
	c) Rs 7001-9000/-	0	0	4	8			
12.	Food habits							
	a) Vegetarian	7	14	0	0		17.297	0.000*
	b) Non-vegetarian	9	18	34	68	1		
13.	Living area							
	a) Urban	9	18	10	20	1	3.326	0.068
	b) rural	7	14	24	48			
14	Favourite Food items							
	a) biriyani	5	10	9	18	2	1.187	5.99
	b) ice cream	7	14	20	40			
	c) lays	4	8	5	10			
15.	Hobby							
	a) TV	13	26	29	58			
								5.99
	b) Writing	1	2	3	6	2	0.707	
	c) games	2	4	2	4			

Table 5.1. Association of level of psychosocial problems of obese adolescents with their age group

No	Demographic variables	Level of psychosocial problem		df	X^2	Table value
		Moderate	High			
1.	Age in years					
	A)12-14 yrs	32	18	1	23.529	
	b)15-17yrs	0	50			0.000 ***

***Highly significant P< 0.01

The above table shows that there was a significant association between the levels of psychosocial problems of obese adolescents with their age group. **The p value is 0.000**. Here the age group of 12-14 years adolescents was having **32%** moderate level of psychosocial problems and **18%** having high level of psychosocial problems. In 15-17 years of adolescents **50%** having the high level of psychosocial problems and nobody having moderate level of psychosocial problem. The above table shows that there was a highly significance between the levels of psychosocial problems of obese adolescents with their age group. So the respective age group peoples are had the psychosocial problems.
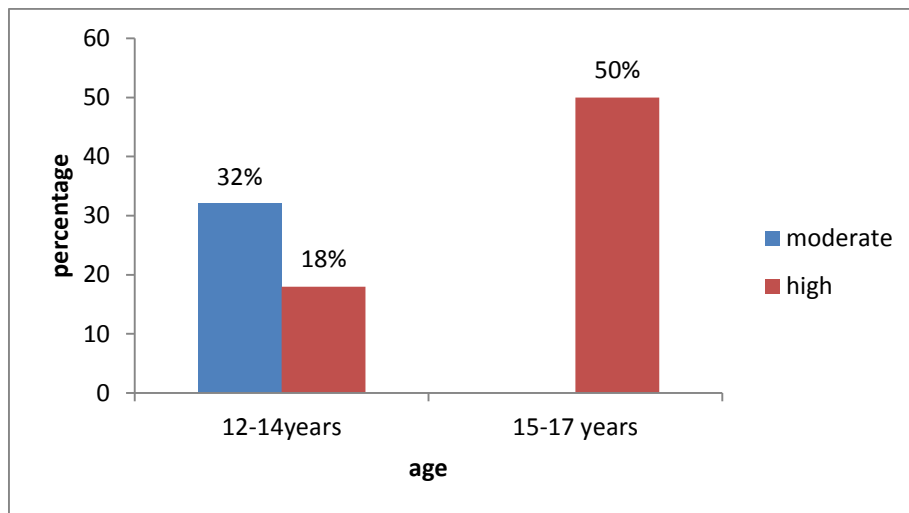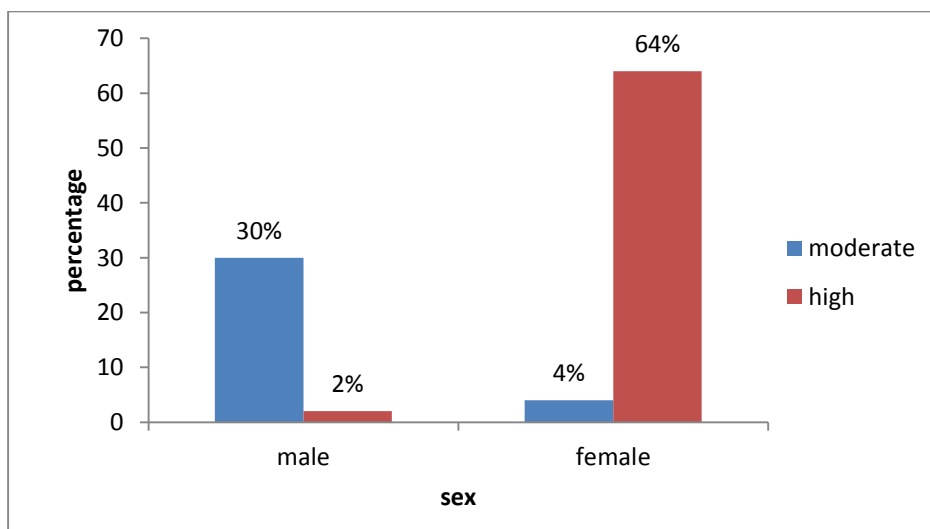
Fig. 5.1. Distribution percentage of level of psychosocial problems of obese adolescents with their age group

Table 5.2. Association of level of psychosocial problems of obese adolescents with their sex

No	Demographic variables	Level of psychosocial problem		df	X^2	Table value
		Moderate	**High**			
1.	sex a)male b)female	30 2	4 64	1	37.434	0.000 ***

*** *Highly significant P< 0.01*

The above table represent that there is an association between the sex and psychosocial problems of the obese adolescents. The chi-square value is **37.434**. So **the p value is 0.000.** Here **30%** of adolescents having moderate level of psychosocial problems and **2%** of female having the moderate psychosocial problems. Only **4%** male having high level of psychosocial problems but 64% females has high level of psychosocial problems.

Fig. 5.2. Distribution percentage of level of psychosocial problems of obese adolescents with their sex

Table 5.3. Association of level of psychosocial problems of obese adolescents with their religion
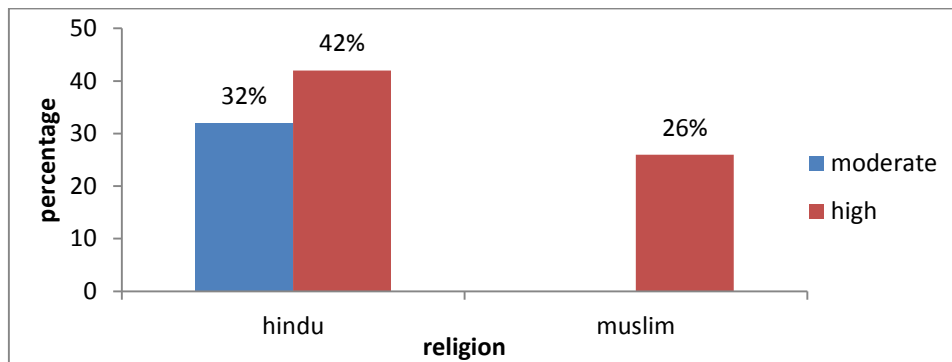
No	Demographic variables	Level of psychosocial problem		do	X²	Table value
		Moderate	**High**			
1.	Religion					
	A)Hindu	32	42	1	8.267	0.004**
	b)Muslim	0	26			

*** Significant P< 0.01*

The table of religion shows that there is significant association between the religion and the psychosocial problem of the obese adolescents. The chi-square value is **8.267**. So the p value is **0.004**. So the respective religion is associated with psychosocial problem of the obese adolescent. Here **32%** of Hindus is having moderate level of psychosocial problems and **42%** having high level of psychosocial problems. In Muslims **26%** having high level of psychosocial problems.

The educational status of the student shows that there is association between the educational status of the student and the psychosocial problems. The chi-square value is **16.396** and 0. **The p value is 000**. here students of 8th standard **16%** having moderate level of psychosocial problems and 10% having high level of psychosocial problems and **40%** of 9th standard having high level of psychosocial problems and **4%** of adolescents having moderate level of psychosocial problems and **16%** of 10th standard having the moderate level of psychosocial problems **18%** having high level of psychosocial problem.

Fig. 5.3. Distribution percentage of level of psychosocial problems of obese adolescents with their religion

Table 5.4. Association of level of psychudentosocial problems of obese adolescents with their educational status

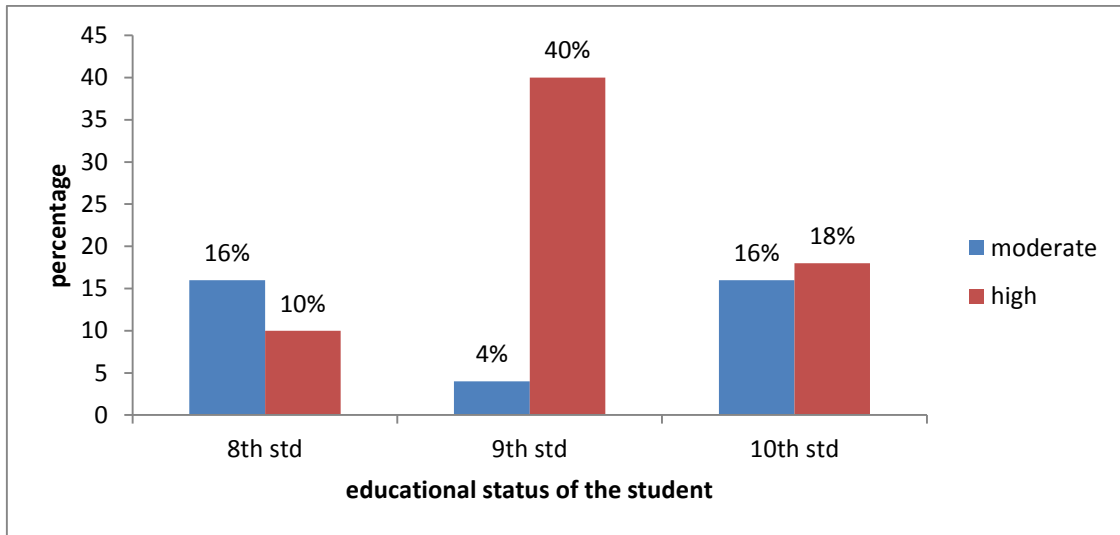| No	Demographic variables	Level of psychosocial problem		do	X²	Table value
		Moderate	**High**			
1.	Educational status of student					
	A)8th standard	16	10	2	16.396	
	b)9th standard	4	40			0.000
	c)10th standard	16	18			***

**** Highly significant P< 0.01*

Fig. 5.4. Distribution percentage of level of psychosocia problems of obese adolescents with their educational status

Table 5.5. Association of level of psychosocial problems of obese adolescents with their educational status of the father

No	Demographic variables	Level of psychosocial problem		do	X²	Table value
		Moderate	**High**			
1.	Educational status of father					
	A)illiterate	16	50	2	12.121	
	b)primary	0	10			0.002
	c)middle	16	6			**

*** Significant P< 0.01*

The educational status of father shows that there is significance link between the psychosocial problems of obese adolescents with their fathers educational status. Here the chi-square value is **12.121** and the **p value is 0.002**. Table show data in respect to the educational status of father in which **16%** were moderately illiterate.**50%** were severely illiterate. Based on 2ⁿᵈcategory primary educated only **10%** had high level psychosocial problems. Lastly in middle education level **16%** had high level of psychosocial problems.
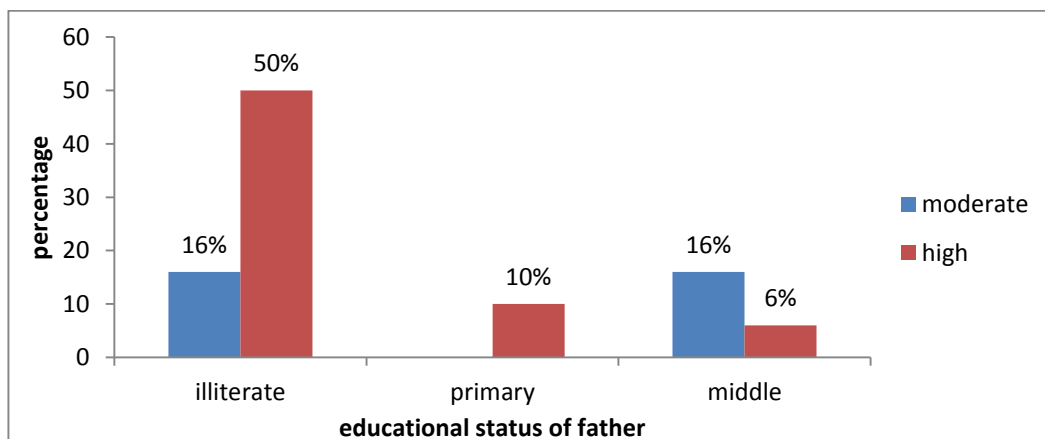

Fig. 5.5. Percentage distribution of level of psychudentosocial problems of obese adolescents with their educational status of the father

Table 5.6. Association of level of psychosocial problems of obese adolescents with their educational status of the mother
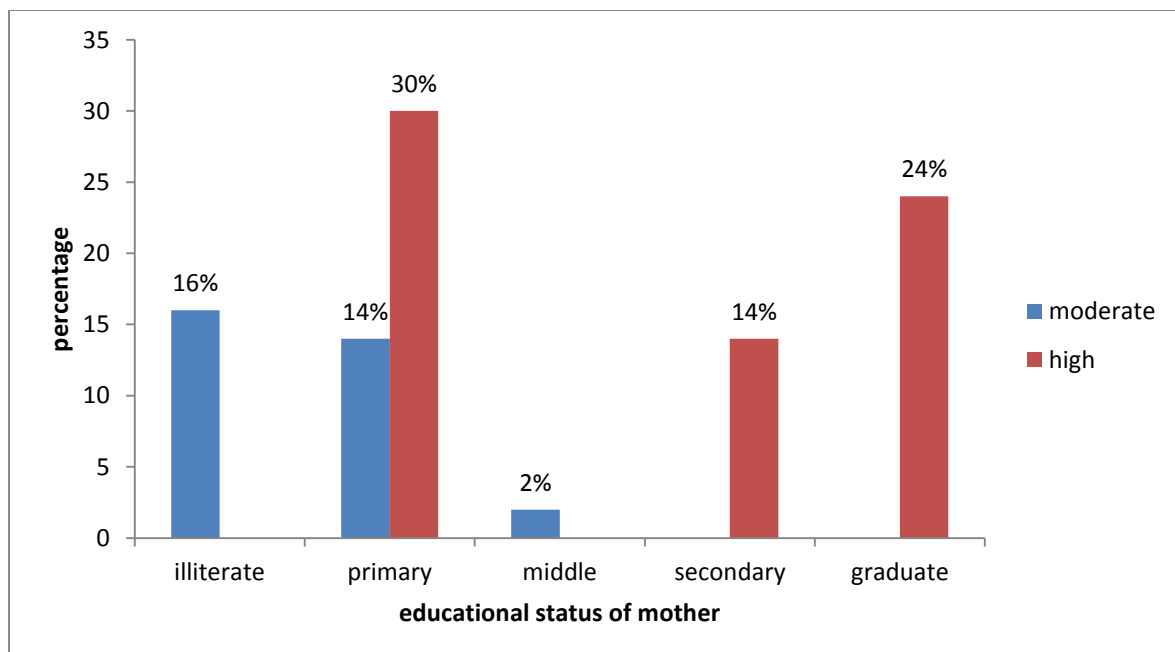
No	Demographic variables	Level of psychosocial problem		do	X^2	Table value
		Moderate	**High**			
1.	Educational status of mother					
	A)illiterate	16	0	4	22.067	
	b)primary	14	30			0.000
	c)middle	2	0			
	d)secondary	0	14			
	e)graduate	0	24			

*** Highly significant P< 0.01

The educational status of mother shows that there is association between the psychosocial problems of obese adolescents with their mothers educational status. Here the chi-square value is **22.067** and the **p value is 0.000**. Table show data in respect to the educational status of mother in which **16%** were moderately illiterate. 0% were severely illiterate. Based on 2nd category primary educated **30%** had high level psychosocial problems and **14%** had moderate psychosocial problems. Based on 3rd category middle level mothers were only **2%** had moderate level of psychosocial problem and nobody had high level problems. In 4th category only **14%** had high level of psychosocial problem

and nobody in moderate level. Lastly in graduate education level **24%** had high level of psychosocial problem and nobody had moderate level.

The Table 5.7 reveals that there is association between the psychosocial problems and food habits of the obese adolescents. Here the chi-square value is **17.297** so the p value is **0.000**. In this the vegetarian adolescents had **14%** moderate level of psychosocial problems and nobody had the high level problems. The non-vegetarian adolescents had **68%** high level psychosocial problems and **18%** had moderate level of psychosocial problems.
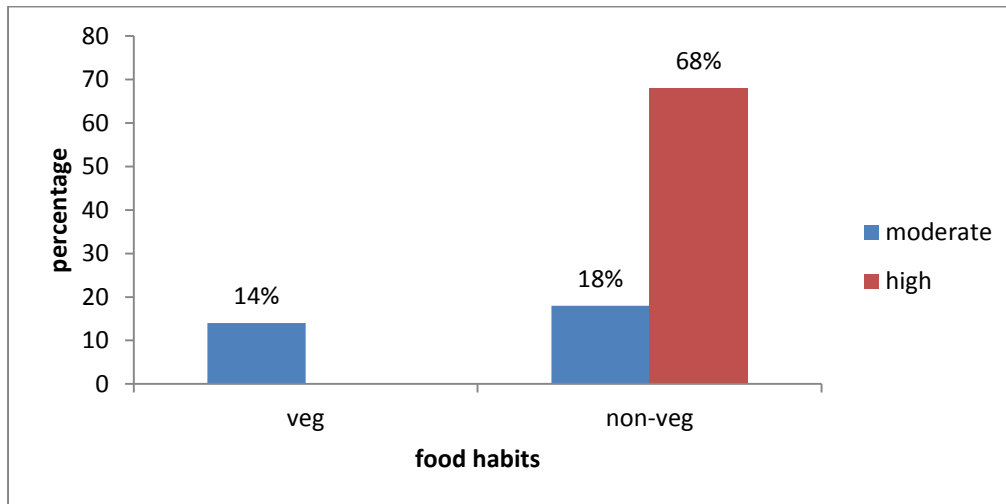

Fig. 5.6. Percentage distribution of level of psychosocial problems of obese adolescents with their educational status of the mother

Table 5.7. Association of level of psychosocial problems of obese adolescents with their food habits

No	Demographic variables	Level of psychosocial problem		df	X^2	Table value
		Moderate	**High**			
1.	Food habits					
	A)vegetarian	14	0	1	17.297	
	b)non-vegetarian	18	68			0.000

***Highly significant p<0.01

Fig. 5.7. Percentage distribution of level of psychosocial problems of obese adolescents with their food habits

4. DISCUSSION

The frequency and distribution of obese adolescents age shows that the majority of the children psychologically affected due to Wight gain in childhood belonged to the age group of 12-14 years 25(50%) and equally distributed 25(50%) from 15-17 years. Obesity related issues were seen predominantly in most of the females -33(66%) when compared to males 17(34%). 44% were from a joint family and 56% were from a nuclear family. 14% had 3-4 members in their family, 4% had a 5 member family and around 68% had >6 family members. Most of the Hindus (74%) were obese, followed by Muslims (26%). In terms of education, high level of 20 (40%) obese adolescents belongs to 10th standard and 17(34%) belongs to 9th standard and 13(26%) belongs to 8th standard. Educational status of father shows high level of 33(66%) belongs to illiterate and 11(22%) belongs to middle school and 6(12%) belongs to secondary level of education. Educational status of mother shows that high level belongs to 22(44%) belongs to primary education and 12(24%) belongs to graduate and 8(16%) belongs to illiterate and 1(2%) belongs to graduate. Most (70%) of the fathers belonged to the others category (unemployed, studying, etc.); 12% worked in private firms, 10% were self-employed and 8% were government employees. The analysis of mother occupational status highly shows that 28(56%) belongs to non-working and 22(44%) belongs to working category. The analysis of income highly shows that 30(60%) belongs to income, Rs 3000-7000/- and 16(32%) belongs comes under below Rs 1000-3000/- and 4(8%) comes under the Rs 7000-9000 category. The analysis of food habits highly shows that 43(86%) comes under non-vegetarian and 7(14%) comes under the vegetarian category. The analysis of living area highly shows that 31(62%) comes under rural area and 10(38%) comes under urban area. This shows that 34(68%) of adolescents having high level of psychosocial problems (36-50) and 16 (38%) of people having moderate level of psychosocial problems (24-36). Most of the adolescents are comes under the obese class 1.

This shows that there was a highly significant association between the level of psychosocial problems of obese adolescents and their selected demographic variables like age, sex, educational status of the family, religion and food habits. Here the p value is <0.01. In accordance with the present study, Eric Robinson (2020) reported similar results [5].

5. CONCLUSION

In conclusion, most of the obese adolescents having the high level of stress. The present study has helped in identifying the psychosocial problems among adolescents. Similar kind of study can be conducted among different populations in different settings and in large group. Awareness about the problems they face will help in better understanding obesity and its management in youngsters.

CONSENT

The purpose of the interview was explained to all the participants and informed consent was obtained from the participants.

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Author has declared that no competing interests exist.

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