

## ASSESS THE PSYCHOLOGICAL GENERAL WELL-BEING AMONG ADOLESCENT WITH OBESITY IN SELECTED SCHOOLS AT POKHARA: A DESCRIPTIVE STUDY

Nitu Kumari Singh,<sup>1</sup> Indu Sah,<sup>1</sup> Harikala Soti<sup>1</sup>

### ABSTRACT

#### INTRODUCTION

Childhood Obesity, is a serious medical condition that affects children and adolescents whose BMI at or above the 95th percentile for children and teens of the same age and sex. It is particularly troubling because the extra pounds often start children on the path to health problems. Childhood obesity associated with psychological problems such as anxiety and depression. Low self-esteem and lower self-reported quality of life. Social problems such as bullying and stigma. The aim of the study was to assess the level of psychological general well-being of adolescent with obesity and to find out the association between the level of psychological general well-being and selected socio-demographic variables of adolescent with obesity.

#### MATERIAL AND METHODS

A cross-sectional descriptive study was conducted in the Shishu Niketan and Triveni public schools of Pokhara, Nepal from 28/02/2023 to 27/03/2023 adolescents with BMI of 95th or more than 95th percentile was enrolled in the study from 10-19 age in years group after obtaining assent and consent from parents, child, and school authority.

#### RESULTS

Out of 65 sample, 20% had moderate, 75% had good and only 4.6% had high level of psychological general well-being. Place of residence is significant  $P=0.001$ .

#### CONCLUSION

Childhood obesity is a condition where excess body fat negatively affects a child's health or well-being which affects psychological well-being of children, leads to anxiety, low self-esteem. Schools play a large role in preventing childhood obesity by providing a safe and supporting environment with policies and practices that support healthy behaviors as well as parents.

#### KEYWORDS

Psychological general well-being, Adolescent obesity, Selected school

1. Department of Child Health Nursing, Gandaki Medical College, Pokhara, Nepal

<https://doi.org/10.3126/jucms.v11i03.61602>

---

Ms. Nitu Kumari Singh  
Department of Child Health Nursing  
Gandaki Medical College,  
College of Nursing Science  
Pokhara Nepal  
Email: nitusingh3418@gmail.com

## INTRODUCTION

Adolescence is the phases, usually between 10 to 20 years. According to UNICEF definition adolescence begins with the onset of puberty and divided into three phases: Early adolescence refers to age 10 to 13 years, middle adolescence to 14 to 16 years and late adolescence to 17 to 20.<sup>1</sup>

Childhood obesity is a condition where excess body fat negatively affects the health or wellbeing of child or teen. The obesity is diagnosed frequently based on BMI. Due to the rising prevalence of obesity and its many adverse health effects it is being recognized as a serious public health concern.<sup>2</sup> It occurs when a child is above the normal weight for his or her age and height and face an increased risk of compromised physical and mental well-being.<sup>3</sup> BMI is defined as a person's weight in kilograms divided by the square of his height in meters ( $\text{kg}/\text{m}^2$ ).<sup>4</sup> The WHO definition is: a) BMI greater than or equal to 25 is overweight, b) BMI greater than or equal to 30 is obese.<sup>5</sup>

Adolescence is an important developmental period in which to study the psychological general well-being is important because it represents a life stage during which concerns about appearance and peer approval are central. Obese adolescents are more likely to be teased, have higher levels of body dissatisfaction and to diet; negative self-appraisal and depressive symptoms. Due to stigmatized obese adolescents are at increased risk for poor body image, low self-esteem, and psychological disorders, especially depression.<sup>6</sup> Globally, 41 million children under the age of 5 were overweight or obese in 2016 and Over 340 million children and adolescents aged 5-19 were overweight or obese in 2016.<sup>5</sup> In the context of Nepal, among total population nearly one quarter population i.e 24% are adolescents. Critical phase for development of overweight and obesity is during adolescent's period. Till now risk factors associated with overweight and obesity are not well understood in Nepal. A cross-sectional descriptive study was carried out on higher secondary school students in the Lalitpur sub-metropolitan city, Nepal in 2016 showed that prevalence of overweight among adolescent students was 12.2%.<sup>7</sup> Also, cross-sectional survey was done from May to October 2017 in 10 private schools of Lalitpur district in Nepal using two stage cluster random sample. The study stated that out of 575 students, 107 (18.6%) were overweight and 41 (7.1%) were obese. More than one-quarter of the children in urban Lalitpur were found to be overweight/obese.<sup>8</sup>

Adolescents who are psychologically well-being positively correlates to satisfied life, it boosts up the self-esteem, maintains internal control and acts negative to depression so, the healthy level of psychological well-being is useful to the adolescents to maintain personal growth and achieve purpose in life. Knowing the impact of psychological well-being can be useful for protective factor to serve against physical or psychological problem faced because of influences in development. As the obesity negatively affects the children physical and mental wellbeing and globally the rate of obesity and overweight is also high. So, investigator felt that assessment of psychological well-being is important among adolescent with obesity.

## MATERIAL AND METHODS

A cross-sectional descriptive study was conducted in the Shishu Niketan secondary English school and Triveni public schools at Pokhara, Nepal from 28/02/2023 to 27/03/2023. The study was approved by Institutional review committee of Gandaki Medical College (IRC-GMC). A total of 65 obese children with BMI at 95th or more than 95th percentile was enrolled in the study after calculating the sample size at 95% of confidence interval with estimated prevalence of 17% and allowable error of 5%. The present study included all adolescent of age in years group 10-19 and fall at 95th and >95th percentile only after obtaining informed and written consent from parents and school authority and assent from children. Those children whose parents refused to give consent, those who were not present in school at the time of study were excluded from the study.

The data was collected through non-probability purposive sampling technique with 65 sample size by interviewing obese children in school with standardized Dupuy's psychological general well-being questionnaire (PGWI) and taking height, weight and calculating BMI for checking who fall between 95th to >95th percentile following WHO (World health organization) guideline. All data were entered in SPSS version 20 software was used for analysis. Mean, Percentage, standard deviation and Chi-square was calculated using descriptive and inferential analysis.

## RESULTS

Out of total 65 obese adolescent, most of them were belongs to 13-15 yrs. age group 60% (n=39), 83.1%(n=54) were Hindu and 61.5%(n=40) were 1st child. The socio-demographic characteristics of respondent are given in Table 1. Majority of the adolescent were belonging to Urban 52.3%(n=34) and 73.8%(n=46) were preferred homemade food.

**Table 1. Socio-demographic characteristics of respondent**

Variables	Frequency	Percentage
<b>Age in years</b>		
10-12	17	26.2
13-15	39	60.0
16-18	9	1
<b>Religion</b>		
Hindu	54	83.1
Christian	4	6.2
Muslim	1	1.5
Any other	6	9.2
<b>Grade</b>		
5-6	14	21.5
7-8	27	41.5
9-10	24	36.9
<b>Place of residence</b>		
Rural	19	29.2
Urban	34	52.3
Semi urban	12	18.5
<b>Birth order</b>		
I child	40	61.5
II child	25	38.5
<b>Type of family</b>		
Nuclear family	33	50.8
Joint family	30	46.2
Single parent	2	3.0
<b>Educational status of father</b>		
No formal education	8	12.3
Primary school	16	24.6
High school	16	24.6
Graduate	15	23.1
Post graduate	10	15.4
<b>Educational status of mother</b>		
No formal education	5	7.7
Primary school	20	30.8
High school	22	33.8
Graduate	14	21.5
Post graduate	4	6.2
<b>Occupational status of father</b>		
Private employee	10	15.4
Govt-employee	10	15.4
Business	27	41.5
Others (specify)	18	27.7
<b>Occupational status of mother</b>		
Private employee	10	15.4
Govt-employee	2	3.1
Business	21	32.3
Others (specify)	32	49.2
<b>Monthly family income</b>		
Below 5000	-	-
5001-10,000	48	73.8
10,001-15,000	5	7.7
15,001-20,000	5	7.7
Above 20,000	7	10.8
<b>Dietary pattern of the family</b>		
Vegetarian	6	9.2
Non-Vegetarian	59	90.8
<b>Food preferred more</b>		
Homemade foods	46	73.8
Foods from outside	17	26.2
<b>Types of play preferred</b>		
Indoor	25	38.5
Outdoor	40	61.5
<b>Sources of recreation preferred</b>		
Music	36	55.4
Dance	8	12.3
Meditation	8	12.3
Yoga	3	4.6
Exercise	10	15.4

Table 2 shows level of psychological well-being reported in the present study with high psychological well-being 4.6%. there were 20.0% moderate and 75% were good psychological well-being. However, no report of poor and mild psychological well-being.

**Table 2. Level of psychological well-being**

Level	Frequency	Percentage
Moderate (45-66)	13	20.0
Good (67-88)	49	75.4
High (89-110)	3	4.6

Table 3 shows 7 dimensions wise mean score and standard deviation. Mean score and standard deviation is 18.10 and 3.54 for anxiety, 11.06 and 2.50 depressed mood, 12.67 and 2.36 positive well-being, 8.96 and 2.56 self-control, 9.63 and 2.10 general health and vitality 12.03 mean score and 2.71 standard deviation.

**Table 3. Aspects wise mean score and standard deviation**

Dimension	No. of items	Cluster of items	Minimum score	Maximum score	Mean score	Standard deviation
Anxiety	5	5,8,17,19,22	11	28	18.10	3.54
Depressed mood	3	3,7,11	4	17	11.06	2.50
Positive well-being	4	1,9,15,20	4	18	12.67	2.36
Self-control	3	4,14,18	4	15	8.96	2.56
General health	3	2,10,13	5	14	9.63	2.10
Vitality	4	6,12,16,21	5	20	12.03	2.71

Table 4 shows association between place of residence and level of psychological general well-being  $P=0.001$

**Table 4. Association between socio-demographic and level of psychological general well-being**

Variables	Level of psychological general well-being			Chi-square	P value	Inference Df
	Moderate	Good	High			
<b>Age in years</b>						
10-12	4	11	2	7.621	0.106	NS
13-15	5	33	1			
16-18	4	5	0			
<b>Religion</b>				0.706	0.703	NS
Hindu	11	40	3			
Others	2	9	0			2
<b>Grade</b>				4.880	0.300	NS
5-6	2	10	2			
7-8	5	22	0			
9-10	6	17	1			4
<b>Place of residence</b>				13.866	0.001	S
Rural	7	9	3			
Urban/Semi-urban	6	40	0			2
<b>Birth order</b>				1.070	0.586	NS
I child	8	31	1			
II child	5	18	2			2
<b>Type of family</b>				1.651	0.438	NS
Nuclear family / Single parent	5	28	2			
Joint family	8	21	1			2
<b>Educational status of father</b>				10.640	0.031	NS
No formal education	5	3	0			
Primary/Highschool	4	26	2			
Graduate/Post graduate	4	20	1			4
<b>Educational status of mother</b>				14.061	0.007	NS
No formal education	4	1	0			
Primary/ High school	7	32	3			
Graduate / Post graduate	2	16	0			4
<b>Occupational status of father</b>				18.042	0.006	NS
Private employee	6	4	0			
Govt-employee	0	9	1			
Business	6	21	0			
Others (specify)	1	15	2			6
<b>Occupational status of mother</b>				2.373	0.882	NS
Private employee	3	7	0			
Govt-employee	0	2	0			
Business	5	15	1			
Others (specify)	5	25	2			6
<b>Monthly family income</b>				3.638	0.726	NS
5001-10,000	9	37	2			
10,001-15,000	1	4	0			
15,001-20,000	1	3	1			
Above20,000	2	5	0			6
<b>Dietary pattern of the family</b>				2.158	0.340	NS
Vegetarian	0	6	0			
Non-Vegetarian	13	43	3			2
<b>Food preferred more</b>				4.103	0.129	NS
Homemade foods	7	38	3			
Foods from outside	6	11	0			2
<b>Types of play preferred</b>				1.733	0.420	NS
Indoor	3	21	1			
Outdoor	10	28	2			2
<b>Sources of recreation preferred</b>				8.757	0.067	NS
Music/ Dance	8	36	0			
Meditation / Yoga	3	7	1			
Exercise	2	6	2			4

S-Significant; NS- Not Significant; Df- Degree of freedom

## DISCUSSION

This study was carried out with an objective to assess the psychological general well-being of children with obesity. Obesity is not only in adults' major health concern but also

in children and adolescents, which implies many negative somatic and psychological consequences and risks. Obesity can have consequences not only for physical health, but also for mental health and quality of life in children and adolescents.<sup>9</sup> In addition to physical diseases, studies have shown that obese children and young people are prone to develop psychosocial distress, including depression, anxiety, and social withdrawal and tend to have a poor quality of life and behavioral problems.<sup>10</sup>

However current study showed that overall psychological general well-being of obese children 13(20.0%) are found to had moderate, 49(75.4%) had good and only 3(4.6%) had high psychological general well-being. A study done by Chung, K.-H. et al. showed that, childhood obesity had greater psychological distress (lower self-concept and more anxiety or depression).<sup>10</sup>

Likewise, study done by Foster et al. found that, worsening scores in physical wellbeing and psychological wellbeing with increasing BMI.<sup>9</sup> And study done by Meixner et al. suggest lower levels of psychological ( $\beta = -.10$ , SE = .04,  $p = .002$ ) and parent-related well-being ( $\beta = -.08$ , SE = .04,  $p = .036$ ) of boys with obesity as compared to normal-weight peers.<sup>11</sup>

A study done in Puducherry; India by Mahajan, et al. showed that female children from private schools and urban areas were at greater risk of being overweight and obese. Area of residence contributors towards overweight and obesity in this study population.<sup>12</sup> Current study revealed that there was statistically significant association between level of psychological well-being and place of residence ( $P=0.0010$ ).

The study was conducted only among school going obese children age from 10-19 years old at Pokhara. Secondly, in this study only 2 school were selected for 65 sample and the findings may not represent to whole population. There is not much relevant literature regarding psychological general well-being among adolescent with obesity.

## CONCLUSION

As findings showed that more obese child had moderate level of psychological general well-being. There is a need of further research on psychological well-being in obese children, as these problems may be exacerbated over time. A deeper understanding and early effective intervention should be emphasized in younger children for combatting obesity and there is a need to consider the components to be included such as the nutrition and psychological aspect especially the wellbeing of the students. However, studies should focus on the psychosocial aspects of childhood obesity in older children or adolescents. The findings highlight the importance of psychological general well-being in children and adolescents with higher BMI and, consequently, the relevance of including psychological interventions in the treatment of overweight and obesity. School and parents play a large role in preventing childhood obesity.

## CONFLICT OF INTEREST

None

## REFERENCES

1. Gupte Suraj, The short text book of pediatrics. 11th edition. New Delhi: Jaypee Brothers; 2009, 60-65
2. Kopelman, Peter G (2005). Clinical obesity in adults and children: In Adults and Children. Blackwell Publishing. p. 493. ISBN 978-1-4051-1672-5.
3. Ghosh N, Das A, Sen CK. Childhood obesity: Factors, consequences and intervention. In Global Perspectives on Childhood Obesity 2019 Jan 1 (pp. 271-276). Academic Press.
4. Dawkins RD. Testing Accuracy of Body Size Estimation Among Boys. Auburn University; 2012.
5. World Health Organization. News-Room Fact-Sheets Detail Obesity and Overweight. Online, URL: <https://www.who.int/newsroom/fact-sheets/detail/obesity-and-overweight>. 2020.
6. Sarah e. Anderson, Patricia Cohen, Elena N. Adolescent Obesity and Risk for Subsequent Major Depressive Disorder and Anxiety Disorder: Prospective Evidence, Article of American Psychosomatic Society Medicine.2007;69;740-7.
7. Piryani Suneel, Baral Kedar Prasad, Pradhan Bandana. Overweight and its associated risk factors among urban school adolescents in Nepal: a cross-sectional study. BMJ Open Journal 2016;6(5).
8. Karki Ashmita, Shrestha Archana and Subedi Narayan. Prevalence and associated factors of childhood overweight/obesity among primary school children in urban Nepal. BMC Public health.2019; 9.
9. Förster LJ, Vogel M, Stein R, Hilbert A, Breinker JL, Böttcher M, Kiess W, Poulain T. Mental health in children and adolescents with overweight or obesity. BMC Public Health. 2023 Jan 19;23(1).
10. Chung KH, Chiou HY, Chen YH. Psychological and physiological correlates of childhood obesity in Taiwan. Scientific reports. 2015 Nov 27;5(1).
11. Meixner L, Cohrdes C, Schienkiewitz A, Mensink G. Health-related quality of life in children and adolescents with overweight and obesity: results from the German KIGGS survey. BMC Public Health. 2020 Dec;20(1).
12. Mahajan PB, Purty AJ, Singh Z, Cherian J, Natesan M, Arepally S, Senthilvel V. Study of childhood obesity among school children aged 6 to 12 years in union territory of Puducherry. Indian Journal of Community Medicine: Official publication of Indian Association of Preventive & Social Medicine. 2011 Jan;36(1):45-50.