Study to Assess the Prevalence of Obesity among Rural and Urban School Children in Selected Schools, Uttarakhand

Thamarai Selvi P.*, Gunjan Sambhal**, Deepa Mehta**, Garima Dev**, Gayatri Chamyal**, Dolly**

Abstract

A study was conducted to assess the prevalence of obesity among rural and urban Children of selected schools .The sample of this study comprise of 50 Children from rural and 50 Children from urban . Collected data was analyzed by using Descriptive and inferential statistics. The findings revealed that, in rural mean & SD value for Height, Weight & BMI was 142.28 & 7.21, 36.82 & 7.98, 18.35 & 3.18 respectively. In Urban mean & SD value for Height, Weight & BMI was 128.68 & 9.52, 44.08 & 6.50, 25.80 & 3.82 respectively. The result revealed that, the prevalence of obesity is higher in urban school children than the rural school children. The study also shows that there is association with selected variables. So it shows that hypothesis H_2 was accepted.

Keywords: Obesity; Prevalence; Rural; Urban & B.M.I.

Introduction

"Children are the most valuable resources in the world and let's hope for their bright future"

Obesity in children is a complex disorder. Its prevalence is increasing in recent years so as to consider it a major health concern both in the developed and developing world. The ill effects of obesity on health are not fully reversible so focus on preventing obesity is needed. Since overweight and obesity in adults life are predicated by childhood weight, prevention of obesity should start early in life [1].

Obesity is defined as a complex, multifactorial chronic disease which involves the interaction of both genotype and environment. Integrating factors of behavioral, social, cultural, physiological and metabolic are involved. (National heart, lung and blood institute [NHLBI], 2006). Over weight and obesity is determined by measuring body mass index (BMI), a calculation of weight in relation to height.

$$T\ e\ formula = \frac{weig\ t\ in\ kilograms}{eig\ t\ in\ meter2}$$

In adults, healthy weight is 18-25 BMI, overweight is 25-29 BMI, obese is a BMI of 30 or greater and morbidity obese is a BMI of >40 [1]. The W.H.O (2011) has declared obesity as one of the top 10 health risk in the world and one of the top 5 in developed nations. Totally 5% of the Indian population has been affected by obesity [2]. Childhood obesity however can also lead to life threatening conditions including diabetes, high blood pressure including heart diseases, sleep problems, cancer and other disorders. Some of other disorders would include liver disease early puberty or menarche, eating disorders such as anorexia and bulimia, skin infection and asthma.

The control of obesity can be achieved by dietary changes increased physical activity and a combination of both. Health educations has an important role to play in teaching people the hazards of overweight and to prevent obesity [3].

Problem Statement

A comparative study to assess the prevalence of

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obesity among rural and urban school children in selected schools, Uttarakhand.

Objectives of the Study

1. Assess the obesity prevalence among rural school children in selected schools

2. Assess the obesity prevalence among urban school children in selected schools.

3. Compare the obesity prevalence among selected rural and urban school children in selected schools.

4. Find out association of obesity prevalence among rural and urban school children with their selected demographic variables.

Hypothesis

H_1: There will be a significant difference in the obesity prevalence between rural and urban school children.

H_2: There will be a significant association between obesity prevalence among urban school children with their selected demographic variables.

Methodology

The investigator has selected quantitative descriptive evaluative approach and descriptive design to assess the prevalence of obesity among rural and urban school children. The setting of the study is in rural and urban schools, Uttarakhand & comprised of 50 children in rural school and 50 children in urban school. The sample of the present study was school going children. Simple random sampling is the type of probable sampling was found appropriate for the study.

In the present study the tool consists of two parts:

PART 1: Consist of socio-demographic variable including age, sex, residence, religion, economic status, education of parents, occupation of Parents, Income of family, & Type of family.

PART 2: Comprise of questionnaire regarding prevalence of obesity which includes type of school, Play time of children, Hours of playing, Types games, Food Habit, Frequently consumption of food, & Types of snacks.

The investigator had collected the data after getting formal permission from the authority of selected rural and urban schools of Uttarakhand and approval was obtained from ethical committee of college to conduct the study. On an average each participants took 30 minutes to complete the questionnaire/tool. The investigator did not face any significant problem and the tool was found reliable.

Results & Findings

Table 1 reveals the distribution of categories on prevalence of obesity. In rural normal weight 45(90%), overweight 2(4%), pre obese 3(6%) and obese class-1 0(0) %.And in urban normal weight 26(52%), overweight 0(0%), pre obese 16(32%) and obese class -1 8(16%).

Table 3 In mean, & SD value of height of urban was128.68, & 9.52 and weight 44.08, & 6.504 and for B.M.I 18.35, & 25, 3.82 respectively. In rural the mean and SD for height was 142.28, & 7.211 weight 36.82, & 7.98 for B.M.I 18.35, & 3.18 respectively. When

Table 1: Distribution of categories on prevalence of obesity. N=50+50

S. No	Category	Frequency		Percentage	
		Rural	Urban	Rural	Urban
1	Normal weight	45	26	90%	52%
2	Overweight	02	-	04%	-
3	Pre-obese	03	16	06%	32%
4	Obese class-1	-	08	-	16%

Table 2: Overall comparison of mean difference between rural & urban school children.   N=50+50

S. N	Categories	Mean		SD		t-test		Level of significance
		Rural	Urban	Rural	Urban	cal	tab	
1	Height	142.28	128.68	7.211	9.52	5.73		
2	Weight	36.82	44.08	7.9898	6.504	3.31	1.98	0.05 level
3	BMI	18.35	25.80	3.18	3.82	10.06		

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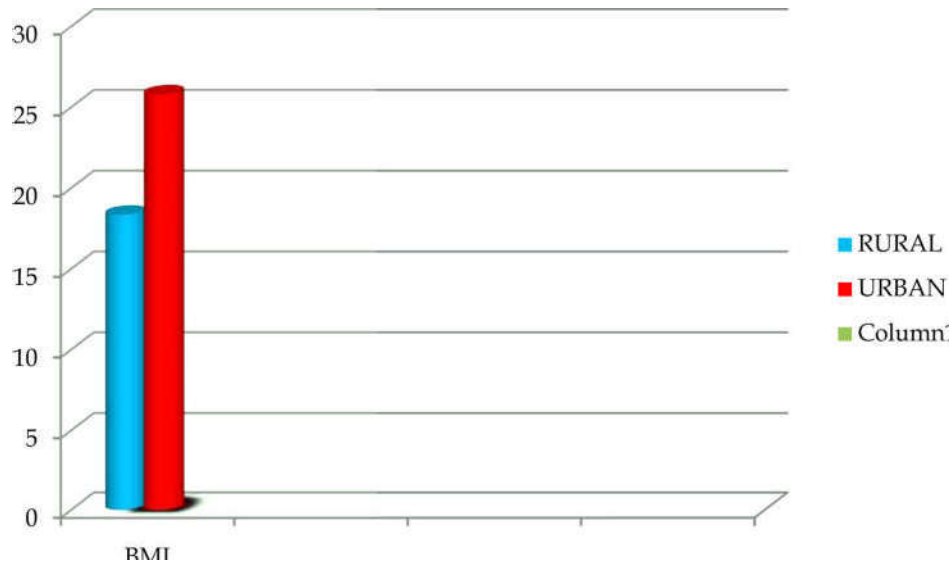
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Fig. 1: Overall comparison of mean difference of bmi among rural and urban children

compared the mean difference for height, weight, and BMI was 5.73, 3.31 & 10.06 at 0.05 level respectively, hence it shows that urban children are more obese than rural school children, H_1 was statistically accepted.

Discussion

1. Assess the obesity prevalence among rural school children in selected schools.

The present study reveals that the mean and SD value for prevalence of obesity for rural children Height 142.28, & 7.211 respectively & Weight 36.82, & 7.9898 respectively, & B.M.I 18.35, & 3.18 respectively.

2. Assess the obesity prevalence among urban school children in selected schools.

The present study that the mean and SD value for prevalence of obesity for urban children height 128.68, & 9.52 respectively, Weight 44.08, & 6.504 respectively and B.M.I 25.80, & 3.82 respectively.

3. Compare the obesity prevalence among selected rural and urban school children in selected schools.

The results revealed that, in rural mean & SD value for Height, Weight & BMI was 142.28 & 7.21, 36.82 & 7.98, 18.35 & 3.18 respectively. In Urban mean & SD value for Height, Weight & BMI was 128.68 & 9.52, 44.08 & 6.50, 25.80 & 3.82 respectively. The study result shows that, the prevalence of obesity is higher in urban school children than the rural school children.

4. Find out association of obesity prevalence among rural and urban school children with their selected demographic variables.

The findings revealed that, selected variables of Religion & Father's Education and play time are found to be non significant & remaining variables are found to be Significant among Rural children. In Urban Age, Father's Education, & Income of family found Non significant and remaining variables re found to be significant. Hence it shows significant association between obesity prevalence among urban school children with their selected demographic variables, H_2 was statistically accepted.

Conclusion

The study was conducted to compare the prevalence obesity among rural and urban children. When compared the mean difference for height, weight, and BMI was 5.73, 3.31 & 10.06 at 0.05 level respectively, hence it shows that urban children are more obese than rural school children. It is concluded that obesity prevalence was more in urban due to lack of exercises, availability of fast foods.

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