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## PREVALENCE OF OVER WEIGHT AND OBESITY AMONG INTELLECTUALLY DISABLED CHILDREN

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### Abstract

There are various chronic diseases. Obesity is one of them. This in turns lead to various type of disease. Overweight and obesity studied based on body mass index (BMI) criteria of world health organization. Intellectually disabled Children had significant limitation both in cognitive capacity and in adaptive that leads to various comorbid condition. An exploratory study conducted to study and analyze the overweight and obesity among intellectually disabled Children. Result of this study indicate that majority of lower age group of intellectually disabled Children exhibit overweight and obesity as compare to higher age group. Study also indicate female sample exhibit more overweight and obesity as compare to male. Study indicate that severe sample are more overweight and obese as compare to mild and moderate sample.

**Key words:** Intellectual Disability, Obesity, Overweight, Prevalence, Children.

### Introduction

Obesity is a chronic complex disease defined by excessive fat deposition that can impair individuals' health. It leads to various type of diseases such as diabetes and heart disease. It also increases health risk and affect quality of living.

The diagnosis of overweight and obesity can be find out by measuring weight and height and by calculating Body Mass Index (BMI):  $\text{weight(kg)/height}^2(\text{m}^2)$ . As per world health organization (WHO) criteria for overweight and obesity is as under:

Sl. No.	Standard Weight	BMI
1.	Underweight	Below 18.5
2.	Healthy Weight	18.5-24.9
3.	Over Weight	25.0-29.9
4.	Obese	30 and above

(BMI) vary by age such as infants, children & adolescent and gender.

There are number of factors that lead to overweight and obesity. Among all these factors important factors are hereditary, psychological, environmental factors, diet, physical activities and preference of exercises. In addition to these behavioural, hormonal, unhealthy diet and metabolic causes also lead to overweight and obesity. Among all these above factors some of the factors that exhibited by intellectually disabled Children because of their limited cognitive capacity.

According to American Association on Intellectual and Developmental Disability (AAIDD) 2021, 'Intellectual disability is a condition characterized by significant limitation both in intellectual functioning and in adaptive behavior as expressed in conceptual, social and practical adaptive skills. This disability originates during the developmental period, which is defined operationally as before the individual attains age 22.' Intellectually disabled Children have very limited cognitive capacity. Thus they are not aware of various health conditions. Hence they did not take care of their health which leads to overweight and obesity among them.



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## Need and significance of the study

Obesity is a chronic complex disease defined by excessive fat deposition that can impair individuals' health. There are number of cause of overweight and obesity such as heredity, hormonal. environmental factors, psychological, combined with diet, physical activity, exercises choices, behavioural, unhealthy diet and metabolic causes lead to overweight and obesity. Since sample have limited cognitive capacity, thus they are unable to make right decision on the above factors. Present study will help to study and analyse the prevalence of overweight and obesity among intellectually disabled Children. Present study is helpful for the parents, teachers and other professional to study and analyse the medical condition of intellectually disabled children. It is also helpful for them to plan and provide intervention appropriately to overcome the condition.

## Objectives

1. To study the prevalence of overweight and obesity among intellectually disabled Children.
2. To analyse the prevalence of overweight and obesity with respect to age, gender and severity of disability among children with intellectual disability.

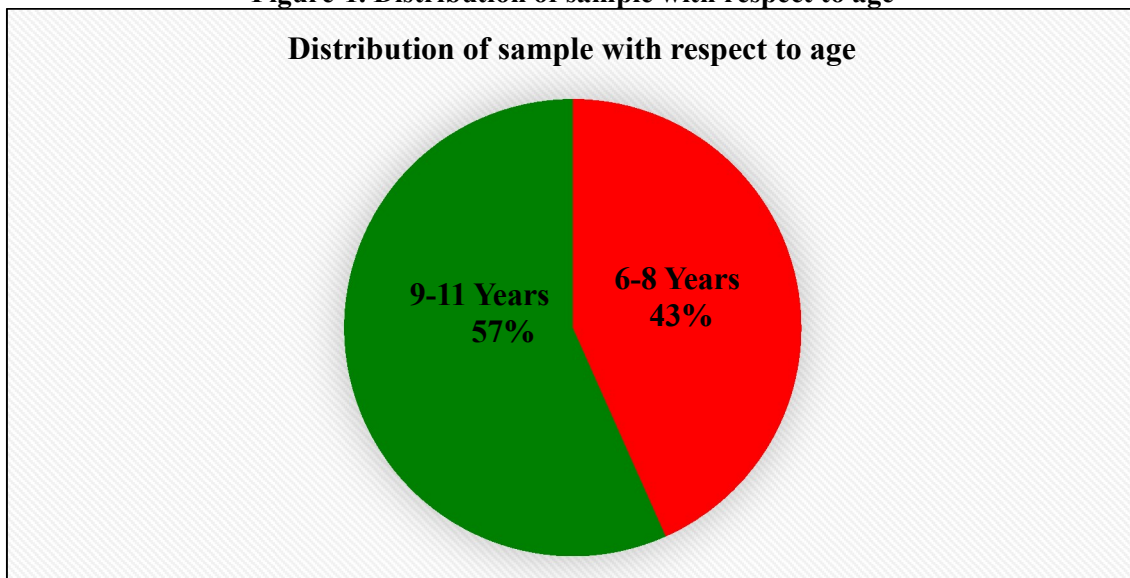
## Methodology

In this present study an exploratory method was applied to study and analyse the overweight and obesity among intellectually disabled Children.

## Sample and sampling technique

In this study purposive sampling technique applied to select the sample. Total hundred and twenty sample selected for present study from various special school of Lucknow. Out of this hundred ninety-two were male and twenty-eight were female. Sample distribution with respect to age, gender and severity of disability presented below in figure-1, figure-2 and figure-3 respectively.

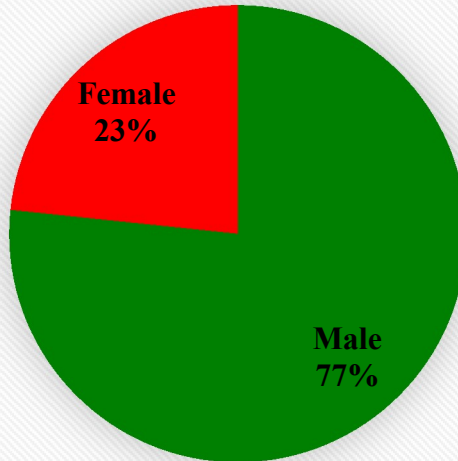
**Figure-1. Distribution of sample with respect to age**



**Figure-2. Distribution of sample with respect to gender**

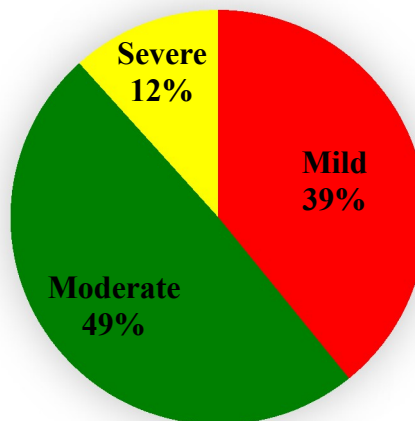


**Distribution of sample with respect to gender**



**Figure-3. Distribution of sample with respect to severity level of disability**

**Distribution of sample with respect to severity level of disability**



## Tool

Tool consist of two parts. Part-I consist of informants' profile that include name, age, gender, educational qualification and income. Part-II consist of children details that include name, age, gender, severity level of retardation, locality and associated condition, height and weight of child.



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## Data collection

Researcher took consent from the head of the institute for the data collection. Researcher met with each sample individually and develop rapport with informant before administering the tool. Data were collected using the tool developed for the purpose. Height and weight of child were also measured during data collection.

## Body Mass Index (BMI)

As per need of the study weight and height as well as body mass index of each child calculated and further analyse with respect to age, gender and severity level of disability.

**Table-1. Analysis of body mass index with regards to age**

N=120

Sl. No.	Age	Condition	BMI	No.	%	Total n	%
1.	6-8 years	Underweight	Below 18.5	2	3.9	52	43
		Healthy Weight	18.5-24.9	22	42.3		
		Overweight	25.0-29.9	19	36.5		
		Obese	30 and above	9	17.3		
2.	9-11 years	Underweight	Below 18.5	1	1.5	68	57
		Healthy Weight	18.5-24.9	33	48.5		
		Overweight	25.0-29.9	22	32.4		
		Obese	30 and above	12	17.6		
Over all						120	100

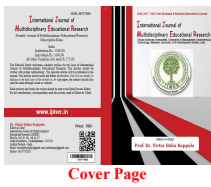
Table-1 reveals analysis of data with regard to age and body mass index. Table reflects overweight and obesity among intellectually disabled Children. It indicates that total hundred and twenty sample included in this study. Out of these 52(43%) belongs to age group 6-8 years and 68(57%) belongs to 9-11 years of age group. In 6-8 years of age group 2(3.9%) were under weight, 22(42.3%) having healthy weight, 19(36.5%) were overweight and 9(17.3%) were suffering from obesity. At the same time, 9-11 years of age group 1(1.5%) were underweight, 33(48.5%) were having healthy weight, 22(32.4%) were overweight and 12(17.6%) were suffering from obesity.

**Table-2. Analysis of BMI with respect to gender**

N=120

Sl. No.	Gender	Condition	BMI	No.	%	Total n	%
1.	Male	Underweight	Below 18.5	3	3.2	92	77
		Healthy Weight	18.5-24.9	42	45.7		
		Overweight	25.0-29.9	31	33.7		
		Obese	30 and above	16	17.4		
2.	Female	Underweight	Below 18.5	0	0	28	23
		Healthy Weight	18.5-24.9	13	46.4		
		Overweight	25.0-29.9	10	35.7		
		Obese	30 and above	5	17.9		
Over all						120	100

Analysis of sample with respect BMI & gender also done and presented in table-2. Table reflects that among hundred and twenty 92(77%) were male and 28(23%) were female. Out of total male 3(3.2%) were under weight, 42(45.7%)



were having healthy weight, 31(33.7%) were overweight and 16(17.4%) were suffering from obesity. At the same time out of total female no females were under weight, 13(46.4) were having healthy weight. 10(35.7%) were overweight and 5(17.9%) were suffering from obesity.

**Table-3. Analysis of BMI and severity of disability**

N=120							
Sl. No.	Severity	Condition	BMI	No.	%	Total n	%
1.	Mild	Underweight	Below 18.5	1	2.1	47	39
		Healthy Weight	18.5-24.9	22	46.8		
		Overweight	25.0-29.9	17	36.2		
		Obese	30 and above	7	14.9		
2.	Moderate	Underweight	Below 18.5	2	3.4	59	49
		Healthy Weight	18.5-24.9	28	47.4		
		Overweight	Below 18.5	20	33.9		
		Obese	18.5-24.9	9	15.3		
3.	Severe	Underweight	Below 18.5	0	0	14	12
		Healthy Weight	18.5-24.9	5	35.7		
		Overweight	Below 18.5	4	28.6		
		Obese	18.5-24.9	5	35.7		
Over all						120	100

Table-3 reveals the analysis of sample with regard to BMI and their severity level. Table indicate that among hundred and twenty participants 47(39%) were mild intellectually disabled, 59(49%) were moderate intellectually disabled and 14(12%) were severe intellectually disabled. Out of total mild intellectually disabled, 1(2,1%) were under weight, 22(46.8%) were having healthy weight, 17(36.3%) were overweight and 7(14.9%) were obese. In moderate intellectually disabled, 2(3.4%) were underweight, 28(47.4%) were having healthy weight, 20(33.9) were overweight and 9(15.3%) were suffering from obesity. In severe intellectual disability, none of the sample were under weight. Among all severe sample 5(35.7%) having healthy weight, 4(28.6%) were overweight and 5(35.7%) were suffering from obesity.

## Results

In this present study data were analyse with respect to age, gender and severity of disability of the participant. Findings of this study indicate that in age group 6-8 years (36.5%) were overweight and (17.3%) were suffering from obesity.at the same time in age group of 9-11 years, (32.4%) were overweight and (17.6%) were obese. This also indicates that percentage overweight is more in 6-8 years of age group but the percentage of obesity is slightly higher in age group of 9-11 years as compare to age group of 6-8 years.

In gender (33.7%) male was overweight and (17.4%) were suffering from obesity. In case of female sample, (35.7%) female was overweight and (17.9%) were suffering from obesity. Findings reveals that more percentage of female is overweight and suffering from obesity as compare to male.

In severity, total (36.3%) mild intellectually disabled was overweight and (14.9%) was obese. In moderate intellectually disabled (33.9%) were overweight and (15.3%) were obese. In severe intellectually disabled (28.6%) overweight and (35.7%) were suffering from obesity. Present study reveals that in all the three group percentage of overweight is highest in mild group and percentage of obesity is highest in sever group.





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## Discussion

In this study age, gender and severity wise analysis was done. Findings revealed that percentage of overweight and obesity is higher in age group of 6-8 years as compare to 9-11 years of age group. The reason may active involvement in physical and other activities of the children as they grow older. Gender wise analysis indicate that females are more over weight and obese as compare to male. That may be due to more involvement of male in physical and other activities as compare to female. In severity wise analysis result indicate that severe sample are more over weight and obese as compare to moderate and mild. The reasons behind may be due to active involvement of mild and moderate sample as compare to severe sample.

## Conclusion

Present indicates that lower age group of intellectually disabled children particularly females and severely intellectually disabled children are overweight and obese as compare to higher age group of children, males and mild & moderate group of children with intellectual disability. This study facilitates better planning for involvement of children with intellectual disability in physical activities in order to reduce overweight and obesity.

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