ASSESSMENT OF NUTRITIONAL CONDITION OF INTELLECTUALLY DISABLED CHILDREN AND ITS CORRELATES

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ABSTRACT

The primary objective of the study was to evaluate the nutritional condition based on BMI for children with special needs (aged 6 to 15 years) living in the urban area of Surat. 400 children who were screened belong to special schools of Surat. Data on anthropometric measurements including height and weight were recorded using standard equipment and techniques. Body mass index was calculated. Information on socio- economic condition was gathered from the school records. Dietary preferences and consumption of various foods was collected through interview method. Results of the study show that 64% of the children were obese and 18% were underweight. The dietary preference reflected that children preferred foods which were calorie dense. They used food as a medium to comfort themselves. The dietary intake had direct co relation with the nutritional condition.

Keywords: *Body mass index, Nutritional condition, Special children, intellectually disabled*

1. INTRODUCTION

Children with Special Needs are children who have a disability or a combination of disabilities hat makes learning or other activities difficult. Special-needs children include those who have: Mental Retardation, which causes them to develop more slowly than other children.

Obesity in children is a significant health concern, with the prevalence of childhood obesity having tripled over the last two decades in the United States (U.S.) and increased considerably worldwide. Evidence from clinic-based studies and nationally representative surveys suggests that children with intellectual disabilities also known as Special children have a prevalence of obesity higher than their typically developing peers. The population of special children is heterogeneous including the presence of cognitive, behavioral, physical, and/or sensory impairments. Regardless of their intellectual ability, special children experience difficulties with social interaction and communication.
Overweight and obesity are classifications that are generally based on body mass index (BMI) in kg/m2. Children aged 2 to 20 are considered to be overweight/ Obesity when their BMI-for-age is greater than or equal to the 85th percentile. Data from the 2003 U.S. National Survey of Children's Health, the prevalence of obesity was 23% in children with disabilities (Chen AY, 2009)

Many of the risk factors for special children are likely the same as for typically developing children, especially within the context of an obesogenic or obesity-promoting environment. However, these children may also

experience additional challenges that increase their susceptibility to typical risk factors not shared by children in the general population.

Obesity arises when energy intake exceeds energy expenditure over time. Major dietary contributors to energy imbalance among the general pediatric population include sub-optimal preference and intakes of fruits and vegetables (Conrey EJ, et al, 2004); excessive consumption of sugar-sweetened beverages (Ludwig DS, 2001) and overconsumption of energy-dense, nutrient-poor sweets and snack foods (Piernas C, 2010). Special children are more often described as "picky eaters" than typically developing children (Schreck KA, 2004). An estimated 50–90% of special children have feeding problems, which includes unusual eating patterns, rituals, and food selectivity (Ledford JR, 2004)]. For special children, the major contributor to sedentary behavior outside of time spent in school is screen time, i.e., time spent watching television, viewing videos, playing video games (on large and small screens), and using a computer. (Yazdani S, 2013)

2. OBJECTIVES OF THE STUDY

1) To evaluate the nutritional condition of children with special needs in Surat city.
2) To find out the relationship between dietary intakes and nutritional condition.

3. MATERIALS AND METHODS

The present study was undertaken in the urban area of Surat city. These schools belong to 4 different wards of Surat Municipal Corporation. 400 special children aged 6 to 15 years going to special schools were evaluated. 50 students from each school were selected using stratified random sampling.

An interview schedule was used to gather information. Demographic indicators such as age, income group and education of parents were obtained from school records. Nutritional condition of the children was assessed by Body Mass Index (BMI). Weight and Height were measured using standardized spring balance and height meters, respectively.

Weight was measured to the nearest 0.1 kg and height to the nearest 0.1 cm. The BMI was compared using standards. A child whose BMI is between the 5th percentile to 85th percentile is in the healthy weight range. A child with a BMI below the 5th percentile is considered underweight. Overweight and Obesity is defined as a BMI at or above the 85th percentile for children and teens of the same age and sex.

4. RESULTS AND DISCUSSION

Table 1 Nutritional condition of children according to Body Mass Index (BMI) by age group

Age	Underweight BMI < 5th Percentile	Normal BMI between 5th to 85th percentile		Overweight/ Obesity BMI > 85th Percentile		Total
	No.	%	No.	%	No.	%
6-8	12	12.2	25	61	62.2	98
9-11	16	14.5	21	73	66.3	110
12-14	28	22.0	20	79	62.2	127
15-16	16	24.6	6	43	66.1	65
Total	72	18	72	256	64	400

It was observed from Table 1 that Children out of total 400 children studied, 18% were underweight, 64% were Overweight / Obese and only 18% had normal BMI, the prevalence increasing as the age increases. Children with special needs can be underweight because of various problems, including difficulties with swallowing. Reasons of overweight include higher energy intake and lower physical activity. The children were reported to use food as a source to comfort themselves.

Table 2 Relation of Nutritional condition on Preference of food (N= 400)

Preference (Would like to consume everyday, if available)	Underweight BMI < 5th Percentile		Normal BMI between 5th to 85th percentile		Obesity BMI > 85th Percentile	
	No.	%	No.	%	No.	%
Fried foods	54	13.5	160	40	186	46.5
Sweets	40	10	210	52.5	150	37.5
Fast foods	49	12.2	111	27.7	240	60
Aerated Beverages	37	9.25	188	47	175	43.75

Table 2 denotes the nutritional status when co related with the food preference. It has been noted that often a child with special needs may face specific barriers to having a healthy relationship with food. For instance, a child with intellectual disability may have an intensely negative reaction to particular textures, tastes or colours. Few children may prefer softer foods because of difficulties encountered when chewing or swallowing.

Table 3 Relation of Nutritional condition on Dietary intake (N= 400)

Daily consumption	Underweight BMI < 5th Percentile		Normal BMI between 5th to 85th percentile		Obesity BMI > 85th Percentile	
	No.	%	No.	%	No.	%
Breakfast	48	12	251	62.7	101	25.2
Green Leafy Veg	65	16.2	246	61.5	89	22.2
Milk	33	8.2	287	71.7	80	20
Outside food	69	2.0	144	36	187	46.7

Table 3 denotes the relationship between nutritional condition and dietary consumption. It is vital to establish good eating habits from the start, limiting children's experiences with sugary, salty and processed foods so that they can develop a taste for fresh, seasonal foods.

5. CONCLUSION

Children with intellectual disabilities live in the same obesogenic environments as typically developing children but may be at elevated obesity risk due to additional factors that arise from their specific limitations and social circumstances. The many gaps in our understanding must be filled to develop meaningful preventive interventions and advance policy approaches to address these factors at the individual, family, community, and societal levels. The heterogeneity of the population will require interdisciplinary research efforts. Children should also be encouraged to find an activity they love and feel confident doing; there are hosts of fun, engaging adaptive sports they can sign up for, which will ensure they have a good time while performing a classic cardiovascular workout. The 'winner-loser' mentality should be thrown out the window, as long as kids are having fun in a safe environment.

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