INTERNATIONAL JOURNAL OF PHARMACEUTICAL SCIENCES AND RESEARCH

EFFECTIVENESS OF PLANNED TEACHING PROGRAM ON KNOWLEDGE REGARDING CHILDHOOD OBESITY AMONG THE PARENTS OF SCHOOL AGE CHILDREN IN URBAN COMMUNITY, LUCKNOW, U. P. - PRE-EXPERIMENTAL STUDY

A. Merlin Cheema [*], K. Radha, Bhoopendra Yadav, Prerna Chandan, K. R. Prabhat, Pragya Singh, Ragini Pandey and Pratibha Kushwaha

College of Nursing, S. G. P. G. I. M. S, Lucknow - 226014, Uttar Pradesh, India.

ABSTRACT: Introduction: Obesity is condition wherein a person starts to gain unnecessary body fat." Obesity in children has reached epidemic levels in developed & its prevalence is increasing in developing countries as well. The identification of parental health knowledge related to obesity and overweight status in children is an important area. Its importance relates to understanding gaps in knowledge that can be used to create targeted intervention and prevention strategies to improve the management of child's health. **Methodology:** Quantitative research approach & Pre experimental one group pre & post-test design was used to conduct the present study. Non Probability Purposive Convenient sampling was used to collect data among 60 parents of school going children of Kendriya Vidyalaya, SGPGIMS, Lucknow. **Result:** The overall knowledge level of parents of school age children regarding childhood obesity, it shows that (1.66%) parents had good knowledge, (35%) had average knowledge and (63.3%) had poor knowledge. The mean and standard deviation of Pre-test knowledge score is 4.91, 2.59. The overall score of post-test knowledge regarding childhood obesity among parents of school going children were out of 60 samples (60%) parents had good knowledge and, (30%) had average knowledge score and (10%) had poor knowledge regarding childhood obesity. The mean value is and standard deviation of post test knowledge score was 5.5, & 3.35. The t test value was 0.025 significant hence it was proven that planned teaching program enhanced the knowledge of mothers. **Conclusion:** The study concluded that planned teaching program was effective and helped in helping and exploring and improving the knowledge of the parents regarding childhood obesity and its complications.

INTRODUCTION: Childhood obesity has reached epidemic levels in developed as well as in developing countries. Overweight and obesity in childhood are known to have significant impact on both physical and psychological health [1].

Overweight and obese children are likely to stay obese into adulthood and more likely to development of non-communicable diseases like diabetes and cardiovascular diseases at a younger age [2].

It is emerging convincingly that the genesis of Type 2 Diabetes and Coronary Heart Disease begins in childhood, with childhood obesity serving as an important factor [3]. An Indian research study has defined overweight and obesity as overweight (between ≥85th and <95th percentile) and obesity (≥95th percentile) [4].

Another study has followed World Health Organization 2007 growth reference for defining overweight and obesity [5].

Childhood obesity is one of the most serious public health challenges of the 21st century. The problem is global and is steadily affecting many low and middle income countries, particularly in urban settings [6].

Research conducted in 2012 shows approximately 16% of preschool-aged and 25% of school-aged children were obese. According to the NFHS report, the prevalence of overweight children under five years of age has increased from 2.1% (2015–2016) to 3.4% (2019–2021). More than 14.4 million children are obese in India, the second-highest rate globally behind China [7].

Prevalence data from 52 studies conducted in 16 of the 28 States in India were included in analysis. The median value for the combined prevalence of childhood and adolescent obesity showed that it was higher in north, compared to south India. The pooled data after 2010estimated a combined prevalence of 19.3 percent of childhood overweight and obesity which was a significant increase from the earlier prevalence of 16.3 percent reported in 2001-2005 [8].

The prevalence has increased at an alarming rate. Globally in 2010, the number of overweight children under the age of five is estimated to be over 42 million. Close to 35 million of these are living in developing countries [1].

According to Indian academy of Paediatrics children between 5-19 years, the prevalence of overweight and obesity rose from just 4% in1975 to over 18% in 2016. These increased rates were similar in both boys and girls. In 2019, an estimated 38.2 million children under the age of 5 years were overweight or obese, and almost half of them lived in Asia [9].

In 2024, the NCD Risk Factor Collaboration (NCD-RisC) published that estimate that more than one billion people in the world are now living with obesity, nearly 880 million adults and 159 million children and adolescents aged 5-19 years. The World Obesity Federation's analysis of this data finds that nearly 3 billion people are living with either overweight or obesity. This evidence suggests that most of the world's population lives in countries where overweight and obesity are a bigger risk to health than underweight [10].

METHODOLOGY: The researcher adopted Pre experimental research design to assess the Effectiveness of planned teaching program on the knowledge regarding childhood obesity among the parents of school age children in Urban Community, Lucknow, U.P. "The setting of present study was parents of school going children of rural area, Mohanlalganj, Lucknow, U.P. A total of 60 samples were selected by purposive sampling technique who fulfilled inclusion criteria.

The data was collected after obtaining concern from each samples and also permission from IEC (IEC code: 2023-3-IP-B.Sc Nu-4 PGI/BE/185/2023), other higher authorities. Based on the study objectives and target population, structured, validated questionnaire was used to assess the knowledge on Childhood obesity. The structured schedule has 2 sections.

Section A – Socio Demographic Data
in Context of Mother: Demographic variables like Gender, Age, Religion, Type of family, Education, Occupation, Monthly income, Dietary preference, Source of information.

In Context of Children: Calculation of BMI of children of the participating parents on the basis of collected demographic data including data Age, Gender, Height and Weight of Children.

Section B - Structured Questionnaire: On day one we conducted structured Pretest questionnaires consisting of 15 questions on knowledge regarding childhood Obesity. Then we had delivered planned teaching program. Then after seven days of planned teaching programme we assessed the post-test knowledge score consisting of 20 questions on the knowledge regarding childhood obesity. Descriptive and Inferential statistics were used to compute the data which collected from respondents. (n=60).

RESULT & DISCUSSION: The collected data were tabulated and analysed in various types of tables and charts. After analysis of the data, it was calculated by descriptive and inferential statistics.

Chi square was used for finding association between knowledge score with demographic variables. The objectives of the study was evaluated as follows,

Finding Related to Distribution of Demographic Characteristics: According to the data collected on 60 samples, it is observed that majority of samples 21 (35%) samples belong to the age group of 36-45 years and 51 (85%) belongs to Hindu and married (n =60), it was found that nearly (n=60) 35% were primarily educated.

According to type of family, 38 or 63.3% women belongs to nuclear family and Out of 60, (n=32) 52% were vegetarian. Out of 60 sample, (n=28) 57% women were having previous knowledge from internet.

TABLE 1: DISTRIBUTION OF DEMOGRAPHIC DATA OF SAMPLE SUBJECTS N=60

Sr. no.	Demographic Variable	Category	Subject Group	
			Frequency	Percentage
1	Age in years	18-25	15	25
		26-35	20	33.3
		36-45	21	35
		Above 45	4	6.7
2	Gender	Male	29	48.3
		Female	31	51.7
3	Religion	Hindu	51	85
		Muslim	5	8.3
		Sikh	1	1.7
		Christian	3	5
		Other	0	0
4	Type of Family	Nuclear	38	63.3
		Joint	22	36.7
5	Education	Matrix	13	21.7
		Intermediate	17	28.3
		Graduate	21	35
		Postgraduate	9	15
6	Occupation	Daily Wage	0	0
		Business	7	11.7
		Private Job	29	48.3
		Government Job	18	30
		Others	6	10
7	Income	Less Than 10,000	8	13.4
		10,000-30,000	23	38.3
		30,000-60,000	21	35
		Above 60,000	8	13.3
8	Diet	Vegetarian	32	53.3
		Non-Vegetarian	28	46.7
9	Source of Information	T.V. & Radio	18	30
		Newspaper	12	20
		Internet	28	46.7
		Others	2	3.3
10	Age of Child	6-8	24	40
		8-10	18	30
		10-12	18	30

Findings Related to Pre Test Knowledge Regarding Childhood Obesity:

TABLE 2: ANALYSIS OF PRETEST KNOWLEDGE SCORE ON CHILDHOOD OBESITY AMONG PARENTS OF SCHOOL GOING CHILDREN

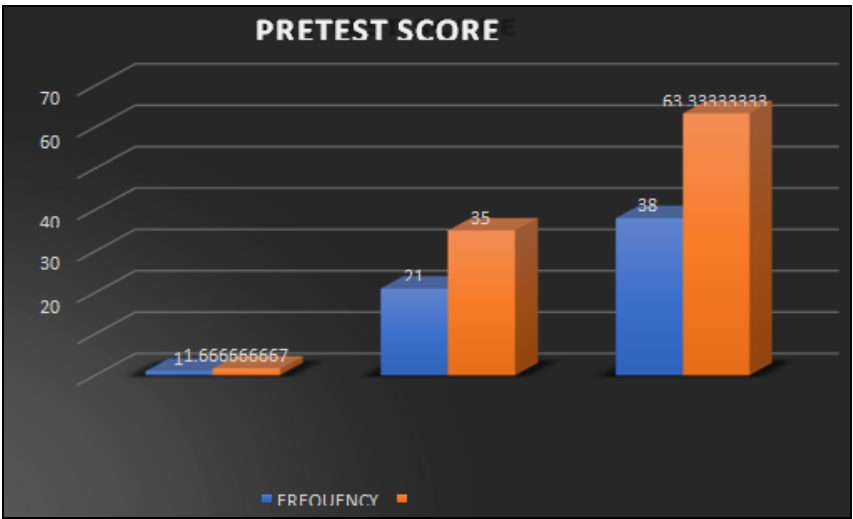| S. no.	Knowledge level	Score	Frequency	Percentage	Mean	SD
1	Good	11-15	1	1.67	4.91	2.59
2	Average	6-10	21	35		
3	Poor	0-5	38	63.3		
	Total		60	100		

FIG. 1: REVEALS THAT OVERALL PRETEST KNOWLEDGE SCORE OF PARENTS, IT SHOWED ONLY 1 (1.66%) HAD GOOD KNOWLEDGE SCORE, 21 (35%) HAD AVERAGE KNOWLEDGE SCORE AND 38 (63.33%) HAD POOR KNOWLEDGE SCORE. MEAN & STANDARD DEVIATION IS 4.91 & 2.59 RESPECTIVELY.

Findings Related to Pre Test & Post Test Knowledge Regarding Childhood Obesity:

TABLE 3: COMPARISON BETWEEN PRETEST AND POST TEST SCORE

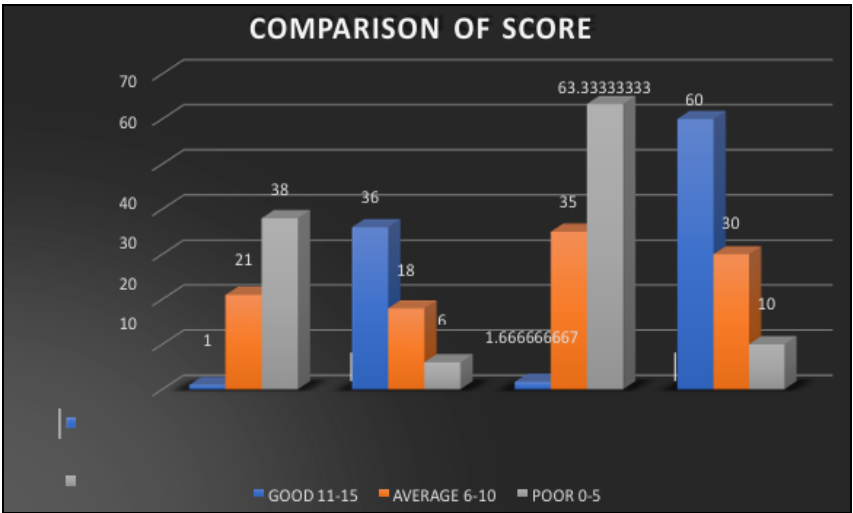| S. no.	Knowledge level	Score	Frequency		Percentage	
			Pre-Test	Posttest	Pre-Test	Posttest
1	Good	11-15	1	36	2	60
2	Average	6-10	21	18	35	30
3	Poor	0-5	38	6	63	10

FIG. 2: INPRE-TEST 1.66% PEOPLE WERE HAVING GOOD SCORE WHILE IN POST-TEST 60% WERE HAVING GOOD SCORE. IN PRE-TEST 35% WERE HAVING AVERAGE SCORE WHILE IT WAS REDUCED TO 30% IN POST-TEST

Findings Related to Effectiveness of Structured Teaching Program:

TABLE 4&5: T TEST VALUE

Paired samples statistics					
		Mean	N	STD. Deviation	STD. Error Mean
Pair 1	Score	5.12	60	2.344	.303
	VAR00001	9.9833	60	2.80128	.36164
Paired samples correlations					
		N	Correlation		SIG.
Pair 1	Score & Var00001	60	.289		.025

Table 4 & 5 Shows that t -test value is significant at 0.025 hence it was proven that planned teaching program enhanced the knowledge of the mothers.

TABLE 5: (I) FINDINGS RELATED TO ASSOCIATION ON KNOWLEDGE AND PRACTICE WITH THE SELECTED DEMOGRAPHIC VARIABLES

S. no.	Demographic variable	Category	Knowledge score			Chi-square	df	P value
			Good	Average	Poor			
1	Age	18-25	0	3	12	0.026	6	0.046
		26-35	1	8	11			
		36-45	0	8	13			
		Above45	0	2	2			
2	Gender	Male	1	12	16	0.014	2	0.032
		Female	0	9	22			
3	Religion	Hindu	0	18	33	0.03	6	0.055
		Muslim	0	1	4			
		Sikh	0	1	0			
		Christain	1	1	1			
		Other	0	0	0			
4	Type of Family	Nuclear	0	15	23	0.311	2	0.198
		Joint	1	6	15			
5	Eucation	Matrix	0	2	11	0.687	6	0.088
		Intermediate	0	2	11			
		Graduate	0	9	12			
		Post graduate	1	4	4			
6	Occupation	Daily wage	0	0	0	0.789	6	0.104
		Bussiness	0	2	5			
		Private job	0	11	18			
		Govt .Job	0	8	10			
		Other	1	0	5			
7	Income	Less Than10,000	1	2	5	0.795	6	0.107
		10,000-30,000	0	11	12			
		30,000-60,000	0	6	15			
		Above60,000	0	2	6			
8	Diet	Vegetarian	0	15	17	0.786	2	0.161
		Non-vegetarian	1	6	21			
9	Source of Information	T.V. & Radio	0	7	11	0.088	6	0.039
		Newspaper	0	2	10			
		Internet	1	12	15			
		Other	0	0	2			
10	Age of child	6-8	0	7	17	0.654	6	0.076
		8-10	0	7	11			
		10-12	1	7	10			

On referring the Chi square table at different level of degree of freedom Depicts that all the values were considered significant when the P value is equal or less than 0.005. There was a significant association between Age, Gender, Religion, Type of family, Source of information with the knowledge score of the mothers of school going children.

Supportive Study: A cross-sectional study, conducted regarding Overweight and obesity in affluent school children of Punjab. In the present an attempt has been made to report the prevalence of overweight and obesity in school-going children of the affluent families of Punjab. A total of 1000 children (490 boys and 510 girls) were measured for height and weight. Overweight and obesity were assessed using age and sex-specific body mass index (BMI) cut-off points. In the present study, 12.24% boys and 14.31% girls were overweight, and 5.92% boys and 6.27% girls were obese. The prevalence of overweight and obesity among the affluent school children of Punjab was as high or higher as in some developed countries [11]. A study conducted in urban India regarding Prevalence of overweight among adolescent school children.

The prevalence of diabetes mellitus (DM) and cardiovascular disease (CVD) is increasing in urban India. Overweight in adolescence is a marker of overweight in adult age, and it shows an association with the above disease's [12].

Conducted a study regarding Obesity in early childhood was associated with nontrivial medical problems. The data imply that prevention of persistent, severe childhood obesity will require a family-oriented approach aimed at preschool children and suggest specific testable hypotheses related to early childhood obesity.

Nursing Implications: The implications drawn from the study are of vital concern to the field of Nursing education, Nursing Administration, Nursing Practice and Nursing Research. Present study emphasizes on the assessment of knowledge regarding Childhood obesity among women. It can assist in reducing the incidents of complications of Childhood obesity s. Therefore, the nurses must have knowledge about general and specific aspects of Childhood obesity its prevention by teaching to the Parents. The nurses should take active part in Health programmes, hospital education and community health programmes. Therefore, nursing education is important for improving the knowledge regarding Childhood obesity among women.

CONCLUSION: The study concluded that many parents were lacking in knowledge regarding life style modifications in preventing childhood obesity based on our pre-test scores so we conducted a planned teaching program in campus of Kendriya Vidyalaya SGPGIMS Lucknow to educate parents of school going children regarding lifestyle modifications.

So, all over carrying out the study was really a wonderful experience to us. It also helped in exploring and improving the knowledge and will help in future for our further studies. Throughout the study there was encouragement and support from our guide. Co-guide and all teachers.

CONFLICT OF INTEREST: The authors declare no conflict of interest

REFERENCES:

1. Davison KK, Falbe J, Taveras EM, Gortmaker S, Kulldorff M, Perkins M, Blaine RE, Franckle RL, Ganter C, Baidal JW, Kwass JA, Buszkiewicz J, Smith L, L and TM
2. Sahoo K, Sahoo B, Choudhury AK, Sofi NY, Kumar R and Bhadoria AS: Childhood obesity: causes and consequences. J Family Med Prim Care 2015; 4(2): 187-92. doi: 10.4103/2249-4863.154628. PMID: 25949965; PMCID: PMC4408699.
3. Bhave S, Bavdekar A and Otiv M: IAP National Task Force for Childhood, Prevention of Adult Diseases: Childhood Obesity. IAP National Task Force for Childhood Prevention of Adult Diseases: Childhood Obesity. Indian Pediatr. 2004; 41: 559–75.
4. Nawab T, Khan Z, Khan IM and Ansari MA: Influence of behavioral determinants on the prevalence of overweight and obesity among school going adolescents of Aligarh. Indian J Public Health 2014; 58: 121–4. doi: 10.4103/0019-557X.132289.
5. Flodmark CE, Lissau I, Moreno LA, Pietrobelli A and Widhalm K: New insights into the field of children and adolescents' obesity: The European perspective. Int J Obes Relat Metab Disord 2004; 28: 1189–96. doi: 10.1038/sj.ijo.0802787.
6. https://www.who.int/news-room/questions-and-answers/item/noncommunicable-diseases-childhood-overweight.
7. GBD Obesity Collaborators Health Effects of Overweight and Obesity in 195 Countries over 25 Years. N. Engl. J. Med 2017; 377: 13–27. doi: 10.1056/NEJMoa1614362.
8. Ranjani H, Mehreen TS, Pradeepa R, Anjana RM, Garg R, Anand K and Mohan V: Epidemiology of childhood overweight & obesity in India: A systematic review. Indian J Med Res 2016; 143(2): 160-74. doi: 10.4103/0971-5916.180203. PMID: 27121514; PMCID: PMC4859125.
9. https://www.worldobesity.org/about/about-obesity/prevalence-of-obesity.
10. Indian Academy of Pediatrics, Child Obesity, E Newsletter 2022; 13-14.
11. Sharda Sidhu, Coll. Antropol, Prevalence of Overweight and Obesity among the Affluent Adolescent School Children of Amritsar, Punjab 2005; 29(1): 53–55 UDC 613.25-053.5(540).