



**ISSN : 2347 - 2243**

*Indo - American Journal of  
Life Sciences and Biotechnology*



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## A Study to Assess the Effectiveness of Planned Teaching Programme Regarding Childhood Obesity Among the Mothers of School Going Children in Urban Area

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Received: 06.04.2026, Accepted: 06.07.2026, Published: 06.10.2026

DOI: <https://doi.org/10.62644/iajlb.2026.v23.i3.pp1-8>

### ABSTRACT

**Introduction:** Obesity is a growing problem that is expected to persist and to have long-term negative effects on the health of individuals and populations unless action is taken to reverse the trend. Obesity is a problem that is becoming increasingly severe. It has been hypothesized that the development of obesity is caused by a variety of different environmental factors.

**Material & Methods:** It was a pre-experimental design with one group that included a pre-test and a post-test. The current research was carried out on mothers of children who were between the ages of 8 and 10 years old and who lived in various parts of the Coimbatore district. In accordance with the purposive sampling method, sixty mothers were chosen for data collection.

**Result:** In the post-test, the majority of the subjects, 35 (58%), had a score that indicated moderate knowledge, whereas in the pre-test only 11 (18%) of the samples had a score that indicated moderate knowledge. Given that the mean score on the post-test knowledge test (12) was higher than the mean score on the pre-test knowledge test (7.8), it may be inferred that the PTP was successful in enhancing the mothers' knowledge regarding obesity. At the 0.05 level of significance, it was discovered that there was a highly significant difference in the mean scores of mothers' knowledge of obesity based on their pre-test and post-test scores.

**Conclusion:** After analyzing the results of the study, the researchers came to the conclusion that the planned teaching programme about obesity was extremely effective ( $t = 9.6$ ) in terms of increasing mothers' knowledge.

**Keywords:** Effectiveness, planned teaching programme, obesity, mothers, school children.



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## INTRODUCTION

Even though India is a rapidly developing nation, we are still having a lot of trouble with nutrition. A significant number of youngsters are still suffering from both under-nutrition and over-nutrition. Due to the significant number of children in this age range, children between the ages of 8 and 12 are considered a priority group. They make up approximately thirteen percent of the overall population in India. A phase of balanced growth occurs between the ages of 8 and 10, and ensuring enough nourishment is of the utmost importance at this time. Children need to be aware that the food they consume has an impact on how they develop, how they feel, and how they behave. Food skills have become so much more significant in our culture that they need to be incorporated into the fundamental education of a child in order to ensure the child's best possible health and survival. Some health problems can be traced back to the way of life that was followed during childhood, which is why lifestyle is considered to be such an important indicator of health. They face a big challenge in the form of obesity. This serious health problem emerged together with the rise of modern society. If we take measures to manage childhood obesity at an early stage, we will be able to control and prevent a majority of health-related issues.

When it comes to the onset of obesity and the morbidity that is associated with it, childhood is a vital time. Children's obesity has reached epidemic levels in both developed and developing countries. Obesity and overweight in children have been shown to have a detrimental impact on both the physical and mental health of the child. For children who are overweight, the risk of developing non-

communicable diseases such as diabetes and cardiovascular disease at a younger age is significantly increased. Consumption of food, lack of physical activity, and sedentary behaviour are all factors that contribute to the development of obesity in children. Variables such as age and gender have the ability to mitigate the impact of risk variables like these. The manner in which the parents raise their children, in addition to the family, plays a crucial role.

## MATERIALS AND METHODS

A pre-experimental design with a single group that included a pre-test and a post-test was utilized. Mothers of children aged between 8 and 10 years old who resided in areas of the Bangalore district were the subjects of the current study. There was an explanation given to the participants about the nature of the study, and they gave their signed agreement. Based on the inclusion criteria, the participants were chosen using a method that was not based on probability but rather on purposive sampling. A structured questionnaire was utilized in the process of data gathering. In the first part of the instrument, there are questions designed to collect socio-demographic data, and in the second part, there are 25 items designed to evaluate the level of knowledge regarding obesity in children. Validation of the tool was performed by specialists in the field. The pre-test was carried out by means of the structured questionnaire, and the structured teaching programme was administered on the same day. The seventh day after the pre-test was the day that the post-test was administered. Through the utilization of descriptive and inferential statistics, the data that was gathered was meticulously structured and analyzed in accordance with the objectives.



## RESULTS

### Section I: Frequency and percentage distribution of the sample in terms of demographic variables

**Table 1. Frequency and percentage distribution of the demographic characteristics of the sample by age in years, educational qualification, religion, type of family, number of children, dietary habits and occupation (N = 60)**

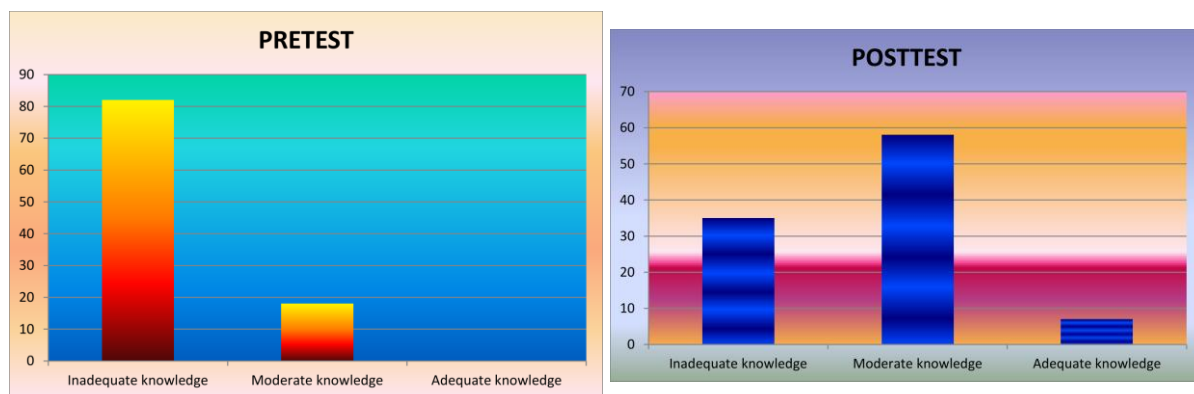
| S. No. | Demographic variables            | Frequency | Percentage (%) |
|--------|----------------------------------|-----------|----------------|
| 1.     | <b>Age in years</b>              |           |                |
|        | a) 27-30                         | 8         | 13.33          |
|        | b) 31-34                         | 12        | 20             |
|        | c) 35-38                         | 14        | 23.33          |
|        | d) 39 and above                  | 26        | 43.33          |
| 2.     | <b>Educational qualification</b> |           |                |
|        | a) Illiterate                    | 2         | 3.33           |
|        | b) Primary                       | 3         | 5              |
|        | c) Secondary                     | 6         | 10             |
|        | d) Sr. secondary                 | 9         | 15             |
|        | e) Graduate or above             | 40        | 68.33          |
| 3.     | <b>Religion</b>                  |           |                |
|        | a) Hindu                         | 38        | 63.33          |
|        | b) Muslim                        | 9         | 15             |
|        | c) Christian                     | 11        | 18.33          |
|        | d) Others                        | 2         | 3.33           |
| 4.     | <b>Type of family</b>            |           |                |
|        | a) Nuclear                       | 54        | 90             |
|        | b) Joint                         | 6         | 10             |
| 5.     | <b>Number of children</b>        |           |                |
|        | a) 01                            | 38        | 63.33          |
|        | b) 02                            | 19        | 31.66          |
|        | c) 03 or above                   | 3         | 5              |
| 6.     | <b>Dietary habits</b>            |           |                |
|        | a) Vegetarian                    | 24        | 40             |
|        | b) Non-vegetarian                | 36        | 60             |
| 7.     | <b>Occupation of mother</b>      |           |                |
|        | a) Employed                      | 19        | 31.6           |
|        | b) House wife                    | 38        | 63.3           |
|        | c) Any other                     | 3         | 5              |

### Section II: Assessment of pre-test and post-test level of knowledge

**Table 2. Pre-test and post-test level of knowledge (N = 60)**

| Level of knowledge   | Pre-test  |     | Post-test |     |
|----------------------|-----------|-----|-----------|-----|
|                      | Frequency | %   | Frequency | %   |
| Inadequate knowledge | 49        | 82% | 21        | 35% |
| Moderate knowledge   | 11        | 18% | 35        | 58% |
| Adequate knowledge   | 0         | 0%  | 4         | 7%  |

The data shows the frequency and percentage of the pre-test and post-test level of knowledge. In the pre-test the majority, 49 of the mothers (82%), had inadequate knowledge, the remaining 11 (18%) had moderate knowledge and none of them had adequate knowledge. However, in the post-test the majority, 35 of them (58%), had moderate knowledge, 4 of them (7%) had adequate knowledge and 21 of them (35%) had inadequate knowledge.

**Figure 1. Pre-test and post-test level of knowledge of the mothers regarding childhood obesity**

### Section III: Comparison of pre-test and post-test knowledge scores

**Table 3. Comparison of pre-test and post-test knowledge scores**

| Group              | Test      | Mean  | SD  | Paired "t" value |
|--------------------|-----------|-------|-----|------------------|
| Experimental group | Pre-test  | 7.8   | 2.8 | 9.6*             |
|                    | Post-test | 12.01 | 4.6 |                  |

\*Significant at the 0.05 level (table value 1.99)

According to the information that is shown in Table 3, the mean score of the knowledge test after the post-test (12.01) was higher than the mean score of the pre-test (7.8). The standard deviation of knowledge that was achieved after the post-test was 4.6, while the standard deviation that was obtained before the test was 2.8. It was determined that the t-value that was acquired for the pre-test and post-test scores of knowledge was 9.6\*, which, when compared to the table value of 1.99, was found to be high and significant at the 0.05 level of significance. Therefore, the planned teaching programme had a significant impact on enhancing the mothers' awareness regarding obesity.



#### Section IV: Association between post-test knowledge scores and selected demographic variables

**Table 4. Association between post-test scores of knowledge and selected demographic variables**

| S. N. | Sample characteristics      | Knowledge level |          |          | df | Chi-square value | p-value |
|-------|-----------------------------|-----------------|----------|----------|----|------------------|---------|
|       |                             | Inadequate      | Moderate | Adequate |    |                  |         |
| 1.    | <b>Age (in years)</b>       |                 |          |          | 6  | 3.12             | 0.79    |
|       | 27-30 years                 | 2               | 6        | 0        |    |                  |         |
|       | 31-34 years                 | 5               | 7        | 0        |    |                  |         |
|       | 35-38 years                 | 5               | 8        | 1        |    |                  |         |
|       | 39 years and above          | 9               | 14       | 3        |    |                  |         |
| 2.    | <b>Educational status</b>   |                 |          |          | 8  | 8.58             | 0.378   |
|       | Illiterate                  | 0               | 2        | 0        |    |                  |         |
|       | Primary                     | 1               | 5        | 0        |    |                  |         |
|       | Secondary                   | 2               | 6        | 0        |    |                  |         |
|       | Sr. secondary               | 17              | 21       | 3        |    |                  |         |
|       | Graduate or above           | 1               | 1        | 1        |    |                  |         |
| 3.    | <b>Religion</b>             |                 |          |          | 6  | 10.07            | 0.212   |
|       | Hindu                       | 13              | 21       | 4        |    |                  |         |
|       | Muslim                      | 1               | 8        | 0        |    |                  |         |
|       | Christian                   | 7               | 4        | 0        |    |                  |         |
|       | Others                      | 0               | 2        | 0        |    |                  |         |
| 4.    | <b>Type of family</b>       |                 |          |          | 2  | 3.06             | 0.216   |
|       | Nuclear                     | 17              | 33       | 4        |    |                  |         |
|       | Joint                       | 4               | 2        | 0        |    |                  |         |
| 5.    | <b>Number of children</b>   |                 |          |          | 4  | 5.83             | 0.212   |
|       | 1 child                     | 15              | 22       | 1        |    |                  |         |
|       | 2 children                  | 6               | 10       | 3        |    |                  |         |
|       | More than 3 children        | 0               | 3        | 0        |    |                  |         |
| 6.    | <b>Dietary habits</b>       |                 |          |          | 2  | 2.85             | 0.240   |
|       | Vegetarian                  | 9               | 15       | 0        |    |                  |         |
|       | Non-vegetarian              | 12              | 20       | 4        |    |                  |         |
| 7.    | <b>Occupation of mother</b> |                 |          |          | 4  | 0.93             | 0.919   |
|       | Employed                    | 13              | 23       | 2        |    |                  |         |
|       | Housewife                   | 7               | 10       | 2        |    |                  |         |
|       | Others                      | 1               | 2        | 0        |    |                  |         |

As indicated by the findings presented in Table 4, there is not a single demographic feature that has a statistically significant link with the post-test knowledge score of mothers in regard to their knowledge of obesity in children.



## DISCUSSION

Childhood obesity is a significant issue in developed nations. However, there is a paucity of documented support for developing countries. Extensive research in developing nations focuses on malnutrition among children; yet, childhood obesity has now emerged as a significant health issue in these regions. Research indicates that children with obesity face an elevated chance of developing cardiovascular disorders, experiencing bullying, persisting in weight into adulthood, and encountering social isolation.

Mothers in growing nations possess less education and awareness of the recognition of early signs of childhood obesity and are reluctant to pursue medical assistance for their children's obesity.

The results of the current study indicated that 82% of mothers had inadequate knowledge, whereas 18% of mothers from the sample population exhibited moderate awareness concerning childhood obesity. No mothers from the sample population possessed adequate knowledge concerning childhood obesity. Substantial enhancements in knowledge were observed following the implementation of a systematic teaching programme for mothers concerning childhood obesity. Specifically, 58% of mothers had moderate awareness of childhood obesity following the implementation of the structured teaching programme, while 7% exhibited adequate knowledge on the same topic after the programme's administration (t value 9.6, significant at the 0.05 level).

A comparable study was conducted in Kirumampakkam Village to evaluate mothers' understanding of childhood obesity. A random selection method was employed to pick approximately 30 mothers and daughters. The findings indicated that mothers possessed limited information regarding obesity, with a

mean knowledge score of 24.7 and a mean percentage of 39.83. Consequently, it is reasonable to conclude that the mothers possess limited knowledge regarding obesity and its prevention, and there is an urgent necessity to inform mothers about obesity and its enduring ramifications.

The demographic variables outlined in the study included maternal age, maternal education, maternal religion, family structure, number of children in the family, family eating habits, and maternal occupation. No demographic variable exhibited a statistically significant relationship with maternal knowledge regarding childhood obesity. The chi-square values were as follows: mother's age 3.12 (df = 6), mother's education 8.58 (df = 8), mother's religion

10.07 (df = 6), family type 3.06 (df = 2), number of children in the family 5.83 (df = 4), family dietary habits 2.85 (df = 2), and mother's occupation 0.93 (df = 4).

## CONCLUSION

The study concluded that the majority of the mothers had inadequate knowledge and moderately adequate knowledge. This shows that knowledge regarding childhood obesity was inadequate. As a result, we reaffirmed the importance of educating mothers about child obesity and how to prevent it. More research in a larger population is needed to account for the influence of other factors and reach a definitive conclusion.

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