Impact of Structured Teaching Programme on Prevention of Malnutrition among Mothers in Kota, Experimental Study

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

Original Research Article

ABSTRACT

The mother is the sole provider of primary care for her child for the first five years of his or her life. Her ability to provide treatment is primarily dictated by her knowledge and understanding of basic nutrition and health care. The numbers would improve dramatically if mothers were made more aware of infant feeding strategies and other health-care practices. Impact of STP on knowledge and prevention of malnutrition among mothers of children under the age of five in selected areas of Kota (C.G.). The convenient sampling technique and interview schedule was used in the study. The findings are about 58% of mothers of under-five children were less than 20 years of age, 65% of the mothers of under-five children belong to Hindu religion, 52% mothers of under-five children were taking mixed diet, 75% mothers were from the joint family, 62% of the mothers had a family income of 1000-3000 per month, 65% mothers took primary education, 92% mothers had one child in the family, 88% children were partially immunized, 30% mother got the knowledge from the mass media. In pre-test 5 (10%) of mothers had moderately adequate knowledge and 45 (90%) had inadequate knowledge regarding prevention of malnutrition among under five children. In the post-test 36 (78%) mothers had moderately adequate knowledge where as 12 (24%) had inadequate knowledge regarding prevention of malnutrition among under five children. This shows that there is significant increase in post test knowledge score of

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mothers. Hence, STP is proved to be significantly effective in improving the knowledge of mothers of under five children regarding prevention of protein energy malnutrition. Study concluded that H0 was rejected.

Keywords: Assess; impact; structure teaching programme; knowledge; malnutrition; prevention.

1. INTRODUCTION

"To bring up a child in the way he should go, travel that way yourself once in a while"

(Josh billing)

Birth of healthy newborn baby is one of the finest gifts of nature. Development of healthy child is influenced by many factors. Fewer than five children are the most vulnerable groups who are prone to many infective disease and nutritional deficiencies [1].

Children's malnutrition is a major public health issue in India, with increased morbidity and death. Even modest malnutrition raises the risk of child mortality from infectious illnesses. Malnutrition has an impact on children's health and can have a negative impact on their intellectual capacity, educational performance, and economic potential. It increases the susceptibility of youngsters to numerous illnesses. In undernourished youngsters, the illnesses are more severe and deadly. There is strong scientific evidence of a link between malnutrition and child mortality from common childhood morbidities such as diarrhoea, acute respiratory illnesses, malaria, and measles [2-3]. Diarrhoea and pneumonia account for approximately half the under-five deaths in India and malnutrition is believed to contribute to 61% of diarrheal deaths and 53% pneumonia deaths. In severe acute malnutrition, the case fatality rates related to these morbidities are excessively high. Asia carries 70 % of global burden of wasted children.

Children are the future pillars of a nation. Nutrition of these children would determine the strength of tomorrow's nation. Inadequate nutrition of these children leads to retarded growth and development and may cripple the child the child for life long. In a developing country, like India there are many constraints to better living and adequate nutrition, lack of awareness about the dietary requirements and nutritive value of different food is the main cause for prevailing malnutrition among preschool children [4-6].

The danger of malnutrition and micronutrient insufficiency is greatest during the first two years of life. The illness is most common among children from households with inadequate access to nutritional meals, who do not use recommended practises for baby and early child feeding, who are often exposed to infectious disease, and who live in emergency situations [7]. Children born prematurely (more prevalent in richer countries), with low birth weight, and with intrauterine development retardation (more common in poorer countries) are at a higher risk of morbidity and death, as well as various kinds of malnutrition, than healthy newborns. They are also more likely to acquire noncommunicable illnesses such as diabetes, hypertension, and heart disease [8].

Children under the age of five years are the hardest on a global scale the five principles nutritional deficiency diseases that are being accorded the highest priority action are kwashiorkor, marasmus, xeropthalmia, nutritional anemia and endemic goiter. Malnutrition is preventable well in advance; Improving mother's educational levels and providing mothers with information they need on children care also important components of a strategy to improve nutrition. So investigator felt that the study to assess the knowledge of mothers of under five children regarding Nutrition. Investigator felt a structured teaching programme can guide the mothers to improve their knowledge [9].

1.1 Need of the Study

Infants and children under five are the most vulnerable group. They are seriously affected by deficiency of protein. Proteins are very important for growth and development, wear and tear of tissue repair and maintenance, formation of immune bodies, enzymes and hormones. Proteins also act as sources of energy when consumed in excess of body need. Protein sources are basically classified as animal source (eg: Cheese, Milk, liver, Fish, meat and eggs) Plant sources (eg: pulses, nuts, beans and soya beans). Conventional sources (eg: oil seeds, cakes, sea weeds).

Malnutrition if not taken care has life threatening complications like hypoglycaemia, hypothermia, severe dehydration, shock, sepsis which requires urgent treatment. Treatments of these complications are different in severely malnourished children than in well-nourished children. It is recommended to refer these children to hospital for emergency treatment and stabilization. Many children with severe acute malnutrition can be identified in their communities before medical complication arise. Children above the age of 6 months of age who are severely malnourished without any medical complications and have good appetite could be treated at community level with therapeutic foods. Until recently, these children were treated in hospital or nutrition rehabilitative centers to receive therapeutic diets along with medical care. Providing sound and sincere advice regarding the measures to take adequate protein will provide health promotion positively. Hence the investigator found need to assess the knowledge of giving protein diet to the under five children among mothers [10-11].

1.2 Objectives of the Study

- To assess the pre test and post test knowledge score of mothers.
- To assess the effectiveness of STP on knowledge regarding malnutrition and its prevention.
- To find out the association between the pre test and post test knowledge score regarding malnutrition and its prevention among the mothers of under five children in selected area of Kota (C.G.).

1.3 Hypothesis

1. HO. There will be no significant association between knowledge score and selected demographic variable.
2. H1. There will be a significant difference between pre test and post test knowledge score of mothers of under five children.
3. H2. There will be significant association between knowledge score and selected demographic variable.

1.4 Assumptions

1. The mothers will have less knowledge on malnutrition and its prevention before the administration of Structured Teaching Program.
2. Structured Teaching Program will enhance the knowledge of mothers of under five children regarding malnutrition and its prevention.
3. The difference in the knowledge will show the effectiveness of structured teaching programme.
4. Demographic factors will have influence on knowledge score.

2. MATERIAL AND METHODS

2.1 Research Approach

Quantitative research approach.

2.2 Research Design

Pre- experimental research design.

The design opted for this study is pre-experimental in nature. One group pre test, post design.

2.3 Setting

The study was conducted in selected area of Kota (C.G.).

2.4 Population

- **Accessible population:** All fewer than five mothers who meet the inclusion criteria and are staying in selected area of Kota (C.G.).
- **Target population:** Under five mothers staying in selected area of Kota (C.G.).

2.5 Criteria for Sample Selection

2.5.1 Inclusion criteria

This study will include only:

1. Mothers who have under five children.
2. Mothers who are willing to participate in the study.
3. Mothers who are present at the time of study.

2.5.2 Exclusion criteria

1. Mothers who do not have fewer than five children.

2. Mothers who have already undergone any interventional program for prevention of malnutrition.

2.6 Sample Selection

2.6.1 Sample size

The sample size of the study was 50 mothers of under five children.

2.6.2 Sample technique

The research study was conducted by Non – probability purposive sampling technique.

2.7 Variables

2.7.1 Independent variables

Informant's Age, Religion, Diet pattern, Type of family, Family income, Educational status of mothers, Number of children, Immunization status of under five children and Source of information.

2.7.2 Dependent variables

Knowledge of mothers of fewer than five children.

2.7.3 Data analysis and interpretation

The collected data was analyzed using both descriptive and inferential statistics.

2.8 Procedure for Data Collection

Before collection of data formal written consent was obtained from under five mothers. Data collection is done by using structured questionnaire.

2.9 Development and Description of Tool

A Structured Knowledge Questionnaire was used to assess the knowledge of mothers of fewer than five years children regarding malnutrition The structured questionnaire consisted of:

Part A: Demographic variables
Part B: Structured questionnaire on knowledge regarding malnutrition and its prevention.

3. RESULT AND DISCUSSION

3.1 Section A

Demographic data was analyzed using frequency and percentage which is as follows:

Percentage distribution based on age of mothers of under five children

- Below 20 yrs
- 21 - 25 yrs
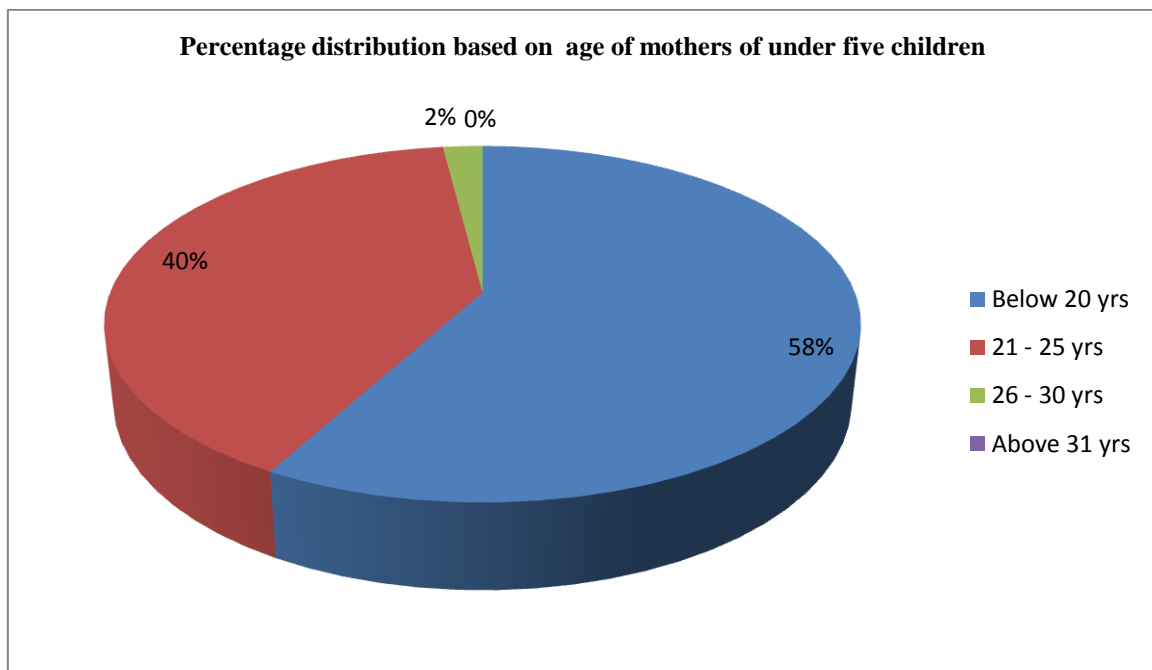- 26 - 30 yrs
- Above 31 yrs

2% 0%
40%
58%

Fig. 1. Percentage distribution based on age of mothers of fewer than five children
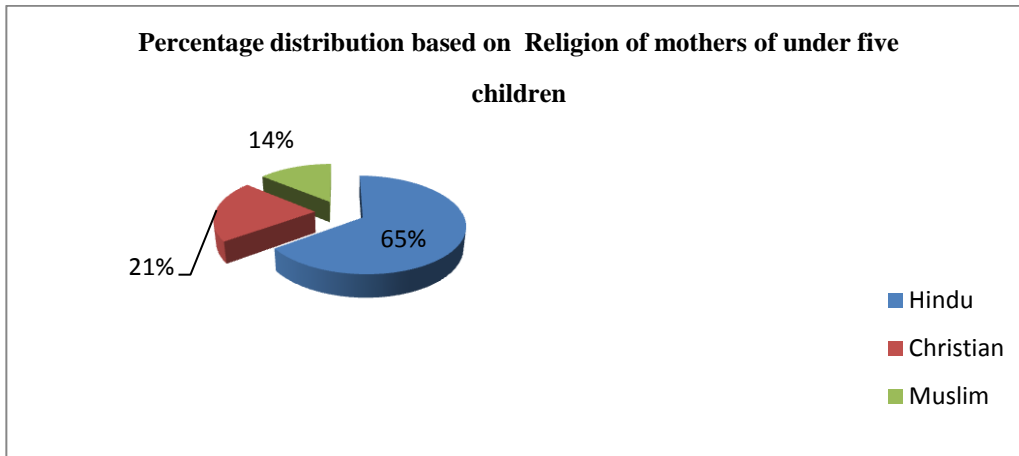
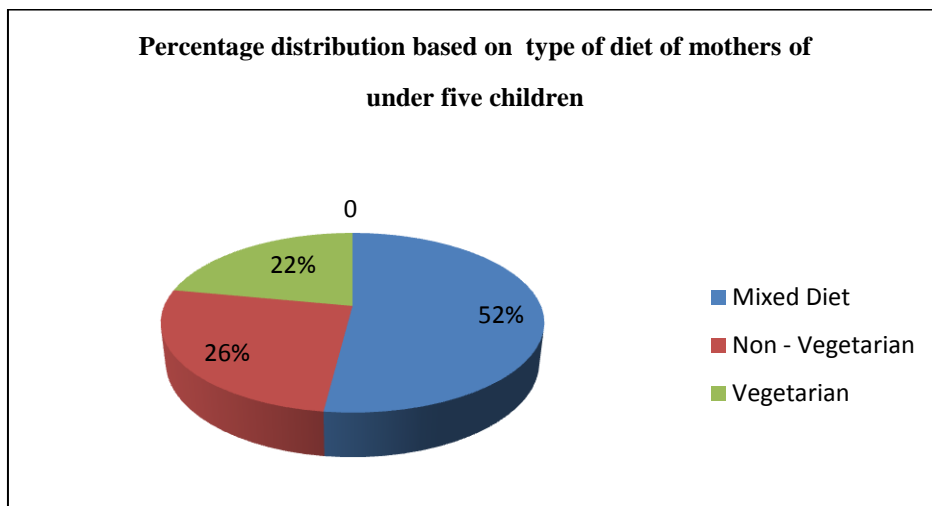**Fig. 2. Percentage distribution based on Religion of mothers of fewer than five children**

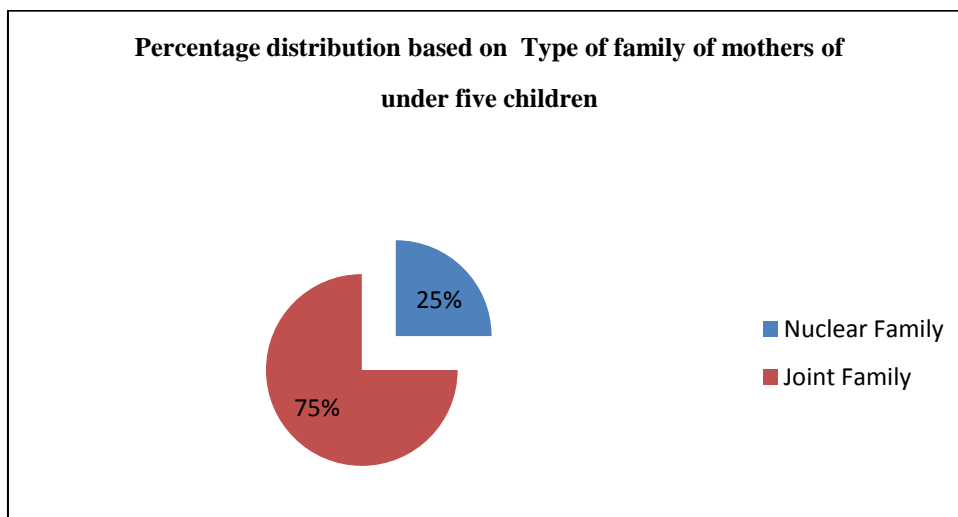**Fig. 3. Percentage distribution based on Type of diet of mothers of fewer than five children**

Fig. 4. Percentage distribution based on Type of family of mothers of fewer than five children
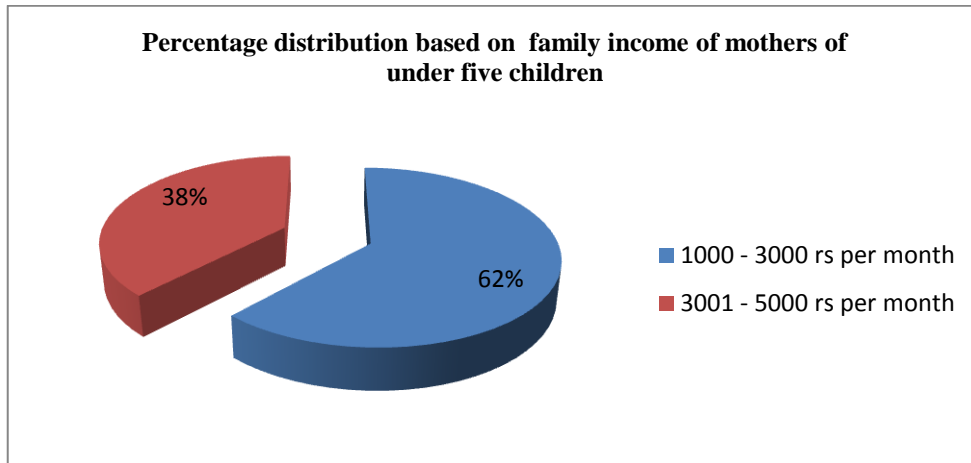
Percentage distribution based on family income of mothers of under five children

38%

62%

■ 1000 - 3000 rs per month

■ 3001 - 5000 rs per month

Fig. 5. Percentage distribution based on family income of mothers of under five children

Percentage distribution based on Educational Qualification of mothers of under five children

1%

34%

65%
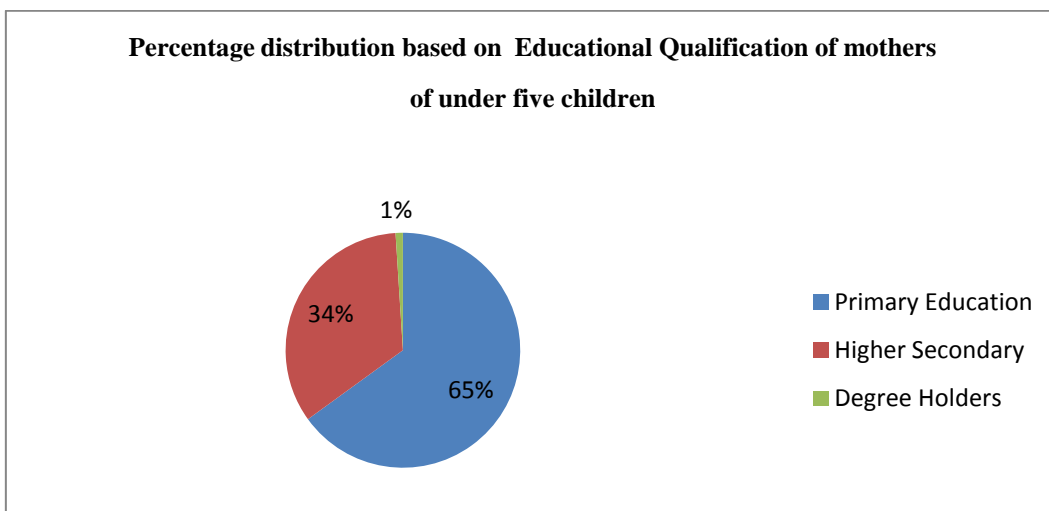
■ Primary Education

■ Higher Secondary

■ Degree Holders

Fig. 6. Percentage distribution based on Educational Qualification of mothers of under five children

Percentage distribution based on Number of children of mothers of under five children

8%

92%
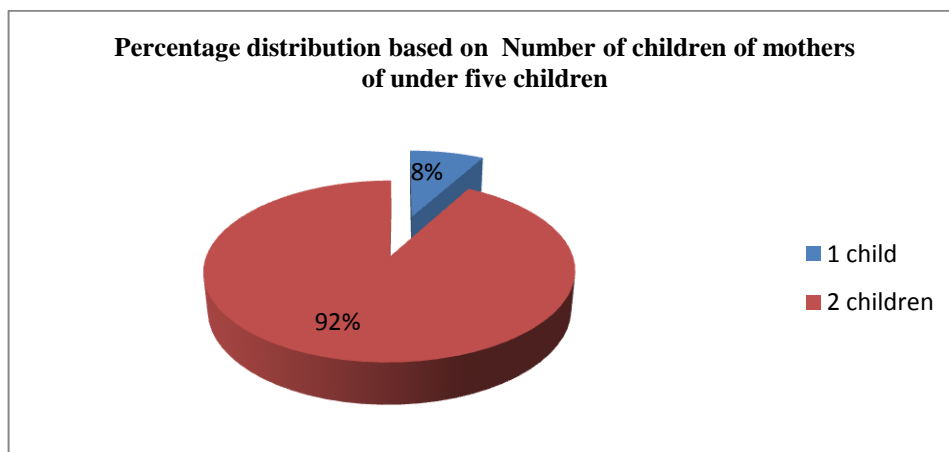
■ 1 child

■ 2 children

Fig. 7. Percentage distribution based on Number of children of mothers of fewer than five children
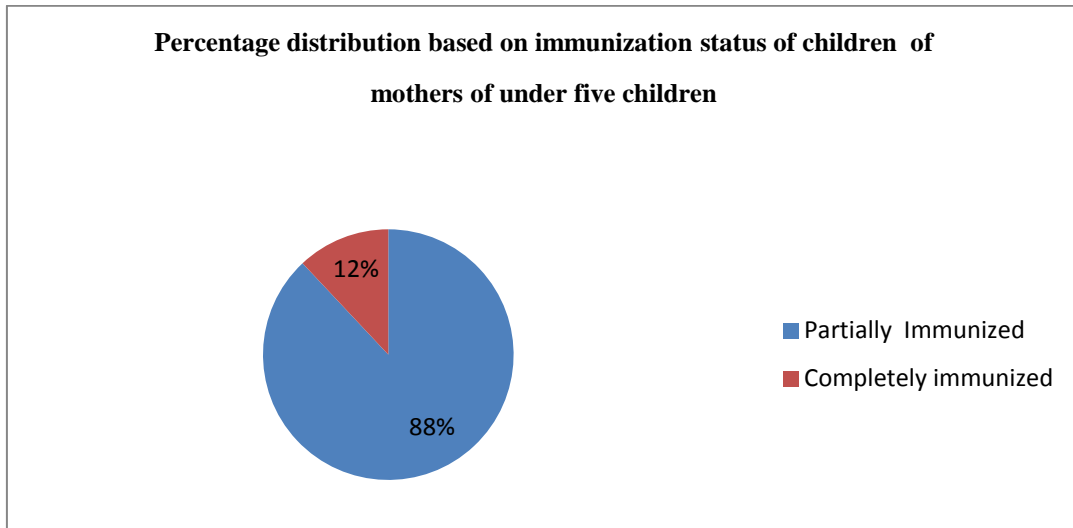
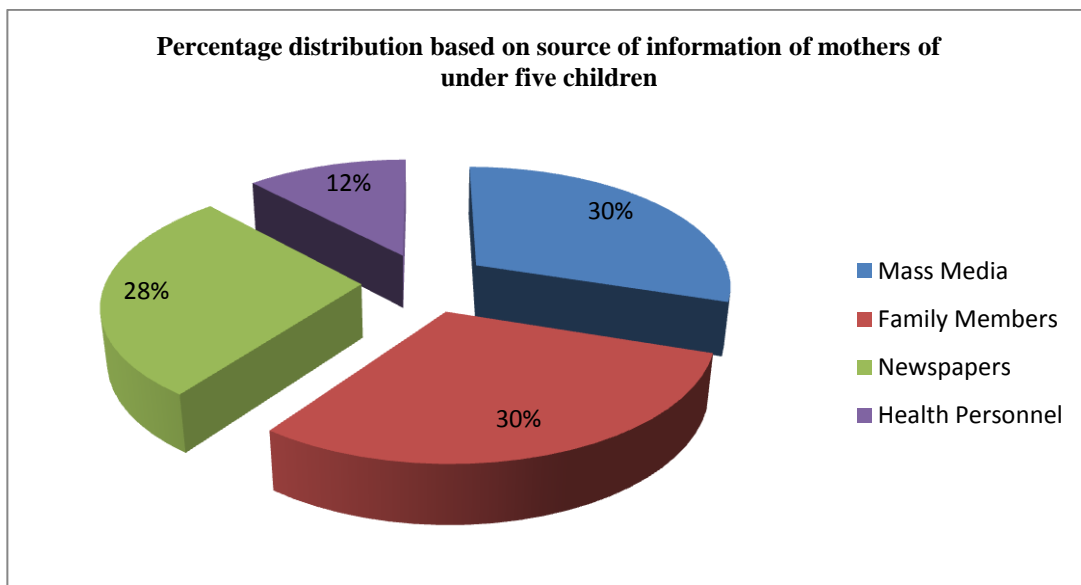**Fig. 8. Percentage distribution based on immunization status of children of mothers of under five children**

Fig. 9. Percentage distribution based on source of information of mothers of under five children

3.2 Section B

Table 1. Deals with Criteria wise analysis of Pre – test and Post – test knowledge score of prevention of protein energy malnutrition among mothers of under five children

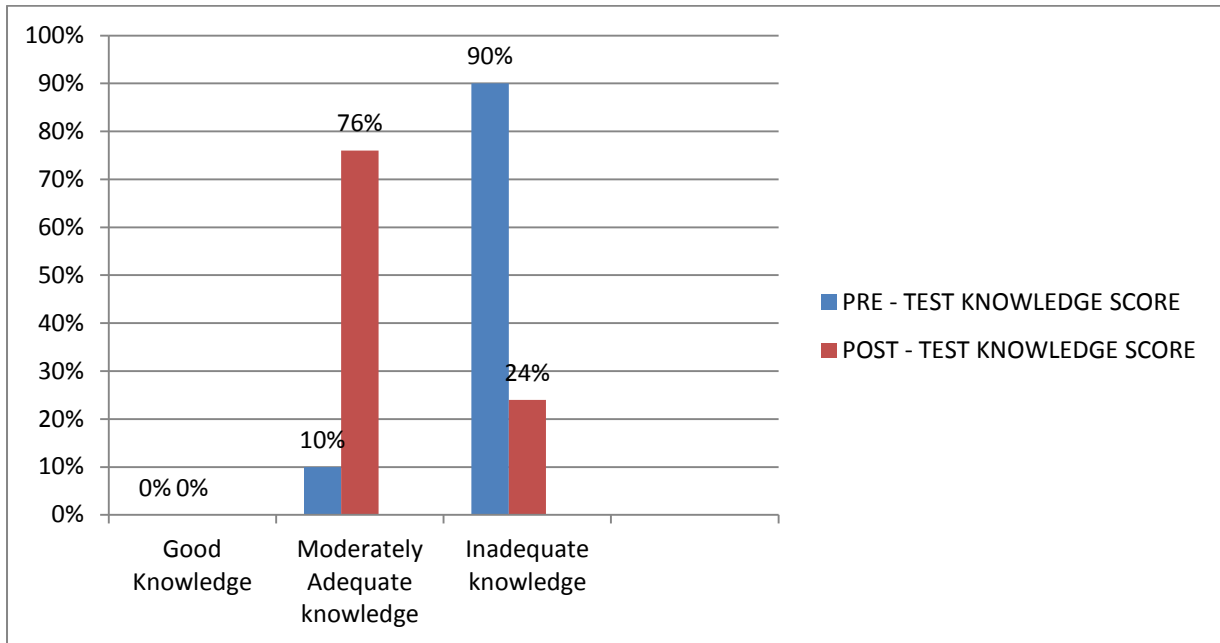| S. No.	Knowledge Score	Pre- Test Score		Post- Test Score	
		Frequency	Percentage	Frequency	Percentage
1.	Good Knowledge	0	0%	0	0%
2.	Moderately Adequate	5	10%	38	76%
3.	Inadequate Knowledge	45	90%	12	24%
	Total	50	100%	50	50%

Fig. 10. Percentage distribution based on Pre – Test and Post – Test knowledge score of mothers of under five children

Criteria wise analysis of pre test and post test knowledge score by frequency and percentage.

3.2.1 Assessment of overall pre test & post test knowledge score

In pre-test 5 (10 %) of mothers had moderately adequate knowledge and 45 (90%) had inadequate knowledge regarding prevention of malnutrition among under five children. In the post-test 36 (78 %) mothers had moderately adequate knowledge where as 12 (24%) had inadequate knowledge regarding prevention of malnutrition among under five children. This shows that there is significant increase in post test knowledge score of mothers.

3.3 Section C

Deals with analysis of data related to the effectiveness of STP on knowledge regarding prevention of malnutrition among mothers of fewer than five children at selected rural community.

To compare the comprehension scores of mothers of children under the age of five and to determine the efficacy of a proposed teaching programme, the researcher used a paired t-test. On the pretest, the average intelligence score was 8.96, with a standard deviation of 1.32, and on the posttest, it was 13.38, with a standard deviation of 1.81. The t-value for this relationship was 15.95, and the p-value was 0.00.

The chi square test was used to see the association between the demographic variables with the pre test knowledge. For all the demographic variables the p value of the association test with knowledge was more than 0.05. That means, the knowledge regarding malnutrition among mothers of fewer than five children is independent of these demographic variables. Concludes that, there was no significant association of these demographic variables with the knowledge.

This work deals with the detailed discussion on the findings of the study interpreted from the analysis. The findings of the study are discussed in relation to the objectives, need for the study and related literature of the study.

3.3.1 Characteristics of selected demographic variables of the sample

1. 58 % of mothers of under-five children were less than 20 years.
2. 65 % of the mothers of under-five children were belongs to Hindu religion.
3. 52 % mothers of under-five children were taking mixed diet.
4. 75 % mothers were from the joint family.

5. 62 % of the mothers had a family income of 1000-3000 per month.
6. 65 % mothers took primary education.
7. 92 % mothers had one child in the family.
8. 88 % children were partially immunized.
9. 30 % mother got the knowledge from the mass media.

3.3.2 Assessment of overall pre-test knowledge score of mothers of under five children

According to the assessment of overall pre-test knowledge level of mothers of under five children about prevention of protein energy malnutrition, the majority of 45 (90 %) mothers had inadequate knowledge, 5 (10 %) had poor knowledge, and 0 (0 %) had good knowledge.

3.3.3 Assessment of overall post-test knowledge score of mothers of under five children

The majority of 38 (76%) mothers had average knowledge, 12 (24%) had inadequate knowledge, and 0(0%) had good knowledge, according to the assessment of overall post-test knowledge level of mothers of under five children regarding prevention of protein energy malnutrition.

3.3.4 Association of pre-test and post-test knowledge score

The researcher applied paired t-test for assessment of effectiveness of planned teaching programme and for comparison of pretest and posttest knowledge score of mothers of under five children. Average knowledge score in pretest were 8.96 with standard deviation of 1.32 which increased to 13.38 with standard deviation of 1.81 in posttest. t- Value for this comparison was 15.95 and p value for this comparison was 0.00, which was less than 0.05, concludes that H0 is rejected.

The chi square test was used to see the association between the demographic variables with the pre test knowledge. For all the demographic variables the p value of the association test with knowledge was more than 0.05. That means, the knowledge regarding malnutrition among mothers of under five children is independent of these demographic variables. Concludes that, there was no significant association of these demographic variables with the knowledge.

4. CONCLUSION

Mothers must understand the importance of nutrition for children under the age of five and how it affects their growth and development. The findings suggest that regular health education programmes delivered by nurses are required. Nurses in universities may recognise counselling centres as a place where mothers can get nutrition advice and counselling. Nurses can also identify family members who lack nutrition expertise and help them comprehend the necessity and impacts of nutrition on a child's growth and development, as well as adjust to the reasons for why they should begin providing correct nourishment. The study sheds light on the areas where mothers lack nutrition knowledge, which will aid nursing practise in identifying the gaps in mothers' nutrition knowledge, both rural and urban. Nurses can help to remedy these gaps by contributing to the development of learning resource materials and spreading them through the media and other means. Nurses should also be involved in counselling moms to help them improve their knowledge of nutrition for children under the age of five. The main conclusion through this study showed that majority of mothers had inadequate knowledge in pre-test and they improved to moderate level of knowledge in the post-test. Hence, STP is proved to be significantly effective in improving the knowledge of mothers of fewer than five children regarding prevention of malnutrition.

5. LIMITATIONS OF THE STUDY

1. Study is limited only to mothers of under five children.
2. Study period limited to 4-6 wks of duration
3. Sample size is limited to 50
4. Study design is limited to Pre – experimental study.

6. RECOMMENDATIONS

On the basis of the finding of the study following recommendations have been made:

1. An experimental study can be conducted with the control group for effective comparison.
2. A similar study can be replicated on a large sample to generalize the findings.
3. A study can be conducted by including additional socio demographic variables.

4. A comparative study can be conducted between rural and urban settings.
5. A similar type of studies can be conducted for other types of nutritional disorders.
6. A similar study can be conducted by using other educational methods like demonstration, role play, self-instructional module, information booklet etc.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Pramod Singh GC, Nair M, Grubesic RB, Connell FA. Factors associated with underweight and stunting among children in rural Terai of eastern Nepal. Asia Pac J Public Health. 2009;21(2): 144-152.
2. Ruel MT, Habicht JP. Growth charts only marginally improved maternal learning from nutrition education and growth monitoring in Lesotho. Institute of Nutrition of Central America and Panama, Pan American Health Organization, Guatemala. 1992;122(9): 1772-1780.
3. Sule SS, Onayade AA, Abiona TC. Impact of nutritional education on nutritional status of under-five children in two rural communities of south-west Nigeria. Nigeria Niger Postgrad Med J. 2009;16(2):115-125.
4. Roy SK, Fuchs GJ, Mahmud Z, Ara G, Islam S, et al. Intensive nutrition education with or without supplementary feeding improves the nutritional status of moderately-malnourished children in Bangladesh. J Health Popul Nutr. 2005;23(4):320-330.
5. Ahmed I, Farooq N, Jadoon H, Khalid Khan, N Seema. Lactation, breast-feeding supplementation and nutrition. Department of Community Medicine, Ayub Medical College, Abbottabad. 2001;13(2): 34-37.
6. Ghosh S, Kilaru A, Ganapathy S. Nutrition education and infant growth in rural Indian infants: narrowing the gender gap?. J Indian Med Assoc. 2002;100(8):483-490.
7. Faruque AS, Ahmed AM, Ahmed T, Islam MM, Hossain MI, et al. Nutrition: basis for healthy children and mothers in Bangladesh. J Health Popul Nutr. 2008; 26(3): 325-339.
8. Ngare DK, Muttunga JN Prevalence of malnutrition in Kenya. East Afr Med J. 1999;76(7):376-380.
9. Gupta MC, Mehrotra M, Arora S, Saran M. Relation of childhood malnutrition to parental education and mothers' nutrition related KAP. Indian J Pediatr. 1991; 58(2): 269-274.
10. Odunayo SI, Oyewole AO. Risk factors for malnutrition among rural Nigerian children. Asia Pac J Clin Nutr. 2006;15(4): 491-495.
11. Cui Y, Yang L, Zhao YX, Wu Q, Tian XB. Study on status of nutrition in children under three years old in rural area in China. 2008; 29(3): 230-234.

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