ORIGINAL RESEARCH PAPER

Nursing

KEY WORDS: Knowledge, Vitamin A supplementation, Planned teaching Programme, Mothers of under five children

# EFFECTIVENESS OF THE PLANNED TEACHING PROGRAM ON VITAMIN-A SUPPLEMENTATION KNOWLEDGE AMONG THE MOTHERS OF UNDER 5 CHILDREN IN SELECTED AREAS AT BANGALORE, KARNATAKA.

**Mrs. Sheeliya White** MSC Nursing, MBA

ABSTRACT

**INTRODUCTION:** Blindness owing to Vitamin A deficiency is one amongst the key nutritional issues in India. Hence, the aim of the study is to assess and improve the knowledge of the mothers of under 5 children on Vitamin A Supplementation.
**METHODS:** A quasi - experimental study was conducted on 80 mothers of under 5 children in Karnataka. A face-to-face interview for mothers was done using a semi structured questionnaire.
**RESULTS:** The results of this study showed that the mean improvement of knowledge is 51.98 with a standard deviation of 9.09 in the experimental group and in the control group mean improvement knowledge is 2.39 with a standard deviation of 6.25. There was an association between knowledge level and demographic variables which was significant at $P < 0.05$, $P < 0.001$, $P < 0.01$ level.
**CONCLUSION:** Education given to the mothers of under 5 children was very effective in improving knowledge when compared to pretest. The community health department can take measures for the hindrance of vitamin A deficiency.

## INTRODUCTION

The high prevalence of vitamin A deficiency has been reported from developing countries of southeast Asia. According to WHO in May 2006 more than140 million children under the age of 5 years may be living with dangerously low Vitamin A Stores. More than 4 million children worldwide exhibit signs of severe deficiency, which is expected to double in the future.

Nearly 44-50% preschool children in the South Asian regions were affected by severe VAD. Other estimates showed 1.02 billion people to be severely affected by micronutrient deficiencies globally, with vitamin A to be the most deficient nutrient in the body. A significant increase in the magnitude of VAD among Indian women from 2001 (5.9%) to 2011 (30.3%) was observed.

India has the highest prevalence of clinical and subclinical VAD among South Asian countries; 62% of preschool children were reported to be deficient in vitamin A. These dramatic results suggested high mortality rate, leading to an annual 330,000 child deaths. Estimates confirmed 31% to 57% preschool children to be the victims of subclinical VAD.

A study was carried out to evaluate the impact on Vitamin-A status of Vitamin A Supplementation integrated with an immunization campaign. The study found the coverage of Vitamin A supplementation was 97%. There was a significant decline in the prevalence of Bitot's spots from 2.9% to 1.9% at 4 weeks. The study demonstrates the feasibility of integrated Vitamin A supplementation with immunization compaigns.[8]

The mother ought to have adequate knowledge regarding Vitamin A Supplementation, prevention and management of Vitamin A Deficiency. This is a desire of the researcher to educate the mother regarding Vitamin A Supplementation.

## MATERIALS AND METHODS

The research approach adopted for this study is evaluative approach. Evaluative approach helps to explain the effect of the independent variables on the dependent variables. This approach is considered most suitable for this study.

The study design choose was a quasi – experimental design. In this study there is no randomization. A Quasi-experimental study with two group pre and post-test.

| | | | | | |
|---|---|---|---|---|---|
| O1 | → | X | → | O2 | Experimental group |
| O1 | → | - | → | O2 | Control group |

The **sampling technique** used for this study was non-probability convenient sampling technique. The sample size was 80 mothers of under 5 children.

A pre-tested semi structured questionnaire was used. The information included in the questionnaire was socio-demographic and knowledge based questions on Vitamin A Supplementation. The Planned Teaching Programme was given soon after the pre-test. The post-test was done on the 7th day of the Planned Teaching Program for the mothers. The collected data were conveniently summarized and tabulated by applying descriptive and Inferential statistics.

## RESULTS

The demographic data shows that in the study maximum number of mother's belonged to the age of 20-30yrs around 80%. The majority of samples 75 % were from the Hindu religion. Mothers were equally from nuclear and joint family 50%. Most of the mothers were Literate, 95% of their mothers were unemployed, More than 60% of mother's family income < 2000 /months and 60% mothers were having two children. 60% of the mothers main source of information is friends and family.

The data shows that there was a significant increase in post scores. The gain in knowledge score is significant (t=28.41) calculated value is higher than table value therefore findings revealed that the planned teaching programme on vitamin A supplementation were effective.

The data on association shows there was no significance found in age, religion, type of family, occupation, number of children, source of information and dietary pattern. On education calculated ANOVA value is 3.92 and it significant at the level of $P < 0.05$ Regarding family income calculated ANOVA value is 6.31 and its significance at the level of $P < 0.01$

**Percentage Distribution of Level of Knowledge in different aspects of Pre test Score in Experimental and Control Group N=40+40=80**

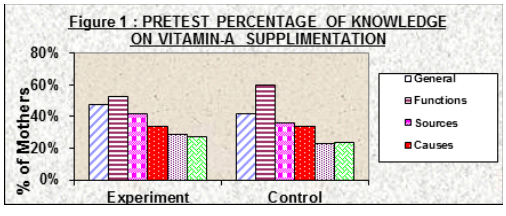


**Figure 1** shows that the pre-test knowledge level of the experimental group were 31 (77.55%) of the mothers having inadequate knowledge in all aspects of vitamin-A supplementation and 9 (22.55%) of them with moderately adequate knowledge and none of them is having adequate knowledge. The pre-test knowledge level of the control group were 36 (90%) of the mothers having inadequate knowledge in all aspects of vitamin-A supplementation and 4 (10%) of them with

moderately adequate knowledge and none of them is having adequate knowledge.

**Percentage Distribution of Level of Knowledge in different aspects of Post test Score in Experimental and Control Group**
**N=40+40=80**

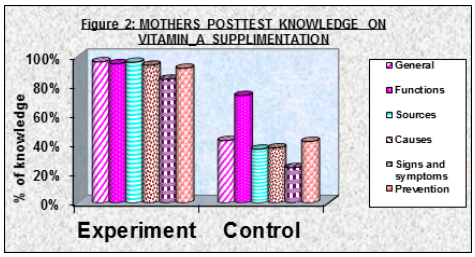


**Figure 2** shows that the post-test knowledge level of the experimental group is 40 (100%) of the mothers were having adequate knowledge in all aspects of vitamin-A supplementation. Figure 2 shows that the post-test knowledge level of control group is33 (82.5%) of the mothers were having inadequate knowledge, 7 (17.5%) of mothers were having moderate knowledge and none of them is having adequate knowledge in all aspects of vitamin-A supplementation.

**Table 1: Comparison of Mean effect Knowledge Score in different aspects between Experimental and Control Group**
**N = 80**

| Aspects of Knowledge | Experimental Group | | Control Group | | Student t– value p - value |
|---|---|---|---|---|---|
| | Mean | S.D | Mean | S.D | |
| **General Information** | 40.00 | 20.25 | 0.62 | 3.95 | t = 12.07, p<0.001 (Significant) |
| **Functions** | 42.50 | 22.63 | 3.33 | 14.71 | t = 9.18, p<0.001 (Significant) |
| **Sources** | 50.00 | 27.22 | 0.83 | 5.27 | t = 11.22, p<0.001 (Significant) |
| **Causes** | 60.00 | 30.38 | 3.75 | 13.34 | t = 10.72, p<0.001 (Significant) |
| **Sign & Symptoms** | 53.50 | 23.26 | 1.00 | 4.41 | t = 14.02, p<0.001 (Significant) |
| **Prevention** | 60.36 | 15.68 | 4.28 | 20.51 | t = 13.73, p<0.001 (Significant) |
| **Overall Knowledge** | 51.98 | 9.09 | 2.39 | 6.25 | t = 28.41, p<0.001 (Significant) |

**Table 1** shows the comparison of knowledge level between experimental and control group. It showed that the overall calculated 't' value was 28.41 and it is also significant at the level of P < 0.001

**Table 2: Association between Overall Pre test Knowledge and Demographic variables (ANOVA Test) for Control Group**
**N = 40**

| Demographic Variables | Pre Test Overall Knowledge Score | | | ANOVA value p - value |
|---|---|---|---|---|
| | No. | Mean | S.D | |
| **1. Age (in years)**<br>a. Less than 19<br>b. 20 – 30 | 12<br>28 | 35.76<br>38.69 | 8.61<br>11.44 | F = 0.63,<br>P = 0.433<br>(N.S) |
| **2. Religion**<br>a. Hindu<br>b. Christian<br>c. Muslim | 32<br>2<br>6 | 37.89<br>29.17<br>40.28 | 10.22<br>0.00<br>14.11 | F = 0.81,<br>P = 0.451<br>(N.S) |
| **3. Type of family**<br>a. Nuclear<br>b. Joint | 16<br>24 | 34.64<br>39.93 | 11.05<br>10.05 | F = 2.46,<br>P = 0.125<br>(N.S) |
| **4. Educational status**<br>a. Illiterate<br>b. Literate | 18<br>22 | 34.26<br>40.72 | 10.75<br>9.87 | F = 3.92,<br>P < 0.05<br>(Significant) |
| **5. Occupation**<br>a. Employed<br>b. Unemployed | 2<br>38 | 50.00<br>37.17 | 0.00<br>10.54 | F = 2.89,<br>P = 0.097<br>(N.S) |
| **6. Family Income**<br>a. Less than Rs. 2000<br>b. Rs. 2001 – 3000 | 33<br>7 | 35.98<br>46.42 | 10.14<br>9.14 | F = 6.31,<br>P <0.01<br>(Significant) |
| **7. Number of Children**<br>a. One<br>b. Two | 15<br>25 | 36.67<br>38.50 | 11.15<br>10.50 | F = 0.27,<br>P = 0.605<br>(N.S) |
| **8. Source information**<br>a. Family & friends<br>b. Mass media | 26<br>14 | 35.58<br>41.96 | 10.56<br>9.87 | F = 3.48,<br>P =0.070<br>(N.S) |
| **9. Dietary Pattern**<br>a. Vegetarian<br>b. Non - vegetarian | 12<br>28 | 35.76<br>38.69 | 9.96<br>10.98 | F = 0.93,<br>P = 0.433<br>(N.S) |

**Table 2 shows there was no significance found in age, religion, type of family, occupation, number of children, source of information and dietary pattern. On education calculated ANOVA value is 3.92 and it significant at the level of P < 0.05 Regarding family income calculated ANOVA value is 6.31 and its significance at the level of P < 0.01**

## DISCUSSION:

The finding of the study was discussed based on the objectives and with the result of the other studies in this section. The current study was done to assess the effectiveness of the planned teaching program on knowledge regarding Vitamin A supplementation among the mothers of under five children. The findings revealed that planned teaching program on Vitamin A supplementation were effective.

In the present study the comparison of knowledge scores between experimental and control group showed that the overall improved mean 51.98 with a standard deviation of 9.09 which is greater than the table value. It shows the PTP on Vitamin A supplementation is effective to increase the knowledge of the mothers.

A study by the Centers for Disease Control and Prevention (CDC) on Vitamin A deficiency (VAD) can substantially increase the risk for childhood mortality from infectious and noninfectious causes. This study suggests that vitamin A supplementation is not required only for under five children it also necessary for pregnant women to avoid or prevent vitamin A deficiency. So it is an important public issue concerning Vitamin A deficiency in under five children, most of the studies show that if we sketch properly and improve the nutritional status along with vitamin A supplementation it will facilitate to decrease the vitamin A deficiency in under five children and also lessen the mortality and morbidity.

## CONCLUSION:

The planned teaching program significantly brought out improvement in the knowledge of mothers regarding prevention of vitamin A deficiency among the mothers of under five children. Results showed that there was a significant difference between control and experimental group knowledge score. There is a significant association between few demographic variable and knowledge score.

Nurses are primarily involved in giving comprehensive care to the public. Hence it is required for developing a health education package with regard to different aspects of Vitamin A supplementation, in order to improve the knowledge of mothers and mass health education campaign should be organized regularly by health team to provide education on Vitamin A supplementation.

## ACKNOWLEDGEMENTS:

The author would like to thank all people supported to the success of this study.

## REFERENCES:

1. World Health Organization. Global prevalence of vitamin A deficiency in populations at risk 1995-2010: WHO global database on vitamin A deficiency.

Geneva: World Health Organization; 2011. p. 55.
2. Food and Agriculture Organization. Economic crises: impacts and lessons learned. Rome: Food and Agriculture Organization; 2009. The state of food insecurity in the world; p. 56.
3. Nair H, Arya G, Vidnapathiranad J, Tripathi S, Talukder SH, Srivastava V. Improving neonatal health in South-East Asia. Public Health. 2012;126:223–6. [PubMed]
4. West KP., Jr. Extent of vitamin a deficiency among preschool children and women of reproductive age. J Nutr. 2002;132 (Suppl 9): 2857S–66S. [PubMed]
5. United Nations Children's Fund. Vitamin and mineral deficiency: a global damage assessment report. New York, NY: United Nations Children's Fund.
6. International Institute for Population Sciences. National Family Health Survey (NFHS-3) 2005-06: India. V. I. Mumbai: International Institute for Population Sciences; 2007. p. 540.
7. Polit Denise F. And Bernadette P. Hunger. Nursing research principal and method. 4 th edition. Vol . J. B. Lippincott Company.
8. Christopher P. Howson, Eileen T. Kennedy, and Abraham Horwitz, Prevention of Micronutrient Deficiencies: Tools for Policymakers and Public Health Workers, Editors; Committee on Micronutrient Deficiencies, Institute of Medicine. National academy press Washington, D.C.Page no. 119,134, 144