

# A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge Regarding Vitamin A (Sources, Requirement & Prevention of Deficiency) among the Axillary Nurse Midwife Inselected Areas, Jhapa, Nepal

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**Abstract:** *Background:* Nutrition is the basic component of human health. It plays a vital role in the physical, mental and emotional development of a human body. Eyes are endangered commonly in deficiency of vitamin A and Refractive Errors. Deficiency of vitamin A is a leading cause of blindness among school children. *Methodology:* The research design used for this study was one group pre-test post- test design. Data collection using non probability convenient sampling. The data collection was analyzed and interpreted by using descriptive and inferential statistics. *Conclusion:* Study revealed that in response to knowledge questionnaires in pre-test 66.67% ANM had inadequate knowledge; 33.33% had moderate knowledge and none of the ANM had adequate knowledge. Before the implementation of the structured teaching program. But after implementation of the structured teaching program in post-test 25 (83.33%) ANM had adequate knowledge; 05 (16.67%) ANM had moderate knowledge and none of the ANM had inadequate knowledge in post-test. The structured teaching program was effective, which is statistically significant at ( $p < 0.05$ ).

**Keywords:** Vitamin A, Knowledge, Structured Teaching Programme

## 1. Introduction

Vitamin A is a fat-soluble micronutrient. It is essential for embryogenesis up to adulthood. It can be sourced from both animal-based (preformed vitamin A) and plant-based (pro-vitamin A) foods. Vitamin A deficiency or toxicity state arises under conditions where the dietary intake does not comply with recommended levels. It is crucial to note that both conditions could lead to various health complications with VAD leading to mainly xerophthalmia, increased infection risk and anemia, while toxicity could result in chronic hypervitaminosis and hypercarotenemia. In line with this, prevention efforts that could improve vitamin A status are widely explored. Dietary diversification, fortification and supplementation are the three main approaches that are widely applied for this purpose.

### 1.1 Objective

- To assess the pre-test knowledge regarding vitamin A (sources, requirement & prevention of deficiency) among the ANM.
- To administer the structure teaching program regarding vitamin A (sources, requirement & prevention of deficiency) among the ANM.
- To evaluate the effectiveness of structure teaching program on knowledge regarding vitamin A (sources, requirement & prevention of deficiency) among the ANM.
- To determine the association between pre-test knowledge score with their demographic variables.

### 1.2 Hypothesis

H1: -There is no significant difference between the mean pre-test and post-test knowledge scores of ANM regarding knowledge of vitamin A (sources, requirement & prevention of deficiency).

H2: -There is no significant association between the mean pre-test knowledge scores on vitamin A (sources, requirement & prevention of deficiency) with selected demographic variables.

## 2. Literature Survey

**Muliyil DE et al. (2019)** A study conducted on Prevalence and risk factors of Vitamin A deficiency in children 1-8 years and women of childbearing age 15-45 years in a Southern Indian Tribal Population. Participants were randomly selected by cluster sampling. A total of 166 children and 211 women participated in this study. The prevalence of VAD among the children (1-8 years) was 10.2% (95% confidence interval [CI] 5.5%–14.9%) and among women of the reproductive age group was 3.8% (95% CI: 1.2%–6.4%). Dietary intake was not associated with serum retinol levels. Low educational status of the head of the household (adjusted odds ratio [aor] = 8.9) and pregnancy (aor = 11.6) was significantly associated with an increased risk of VAD among children and women, respectively. The study concluded that the prevalence of VAD among children is a moderate public health problem.

**KM Mahesh et al (2019)** The researcher conducted this study to determine the prevalence of ocular morbidity in tribal children age 15 years or younger in Jawadhi hills, southern India. A population-based cross-sectional study

was conducted in four tribal villages. Among 260 children examined, the prevalence of ocular morbidity was 10.8% [95% confidence interval (CI): 6.3–13.7]. Vitamin A deficiency (VAD) was the foremost morbidity: 4.6% (95% CI 1.6–6.3) followed by refractive error (2.7%). Three (10.7%) children had more than one ocular morbidity. Nearly 1 in 10 tribal children suffer from ocular morbidity and 1 in 57 had low vision. The researcher concluded that VAD is a public health problem in this tribal region which requires immediate intervention with prophylaxis and treatment.

### 3. Research Method/ Approach

**Research Approach:** A qualitative research approach was used for this study.

**Research Design:** pre experimental (one group pre-test post- test design) was used in this study. **Research Setting:** The study was conducted in Damak, Jhapa, Nepal. **Population:** In this study accessible population are all the ANM residing in selected community area Jhapa.

**Sample size:** Sample size was 30 ANM living in selected community area Jhapa.

**Sampling technique:** Sample in this study were selected by using convenience Non-Probability sampling technique.

**Description of the tool:** The tool used in the present study consist of following

#### Section – A: Demographic Data

It comprised of seven items seeking information on demographic characteristics of the such as, Age, ANM, Religion, education status, types of family, worked experience, income, previous source of information.

#### Section –B: Structured Questionnaires

This part of the tool consists of twenty-five items from all the aspects of Vitamin A.

The items were closed ended statements of multiple-choice types. The total score was twenty-five. Each correct response carried 'one score'. The tool was prepared in English.

#### Plan for data analysis:

The data obtained was planned to be analyzed based on objectives and hypothesis of the study using descriptive and inferential statistics.

#### Descriptive statistics:

- Frequency and percentage were used to analyze the demographic variable.
- Mean, median and standard deviation were used to assess the effectiveness of structure teaching program.

#### Inferential statistics:

- Paired t-test would be used to assess the effectiveness of structured teaching program (STP) regarding vitamin A on knowledge of ANM.

- Chi-square would be used to find association between the knowledge with their selected demographic variables.

### 4. Result/ Discussion

The major findings of the study were as follows:

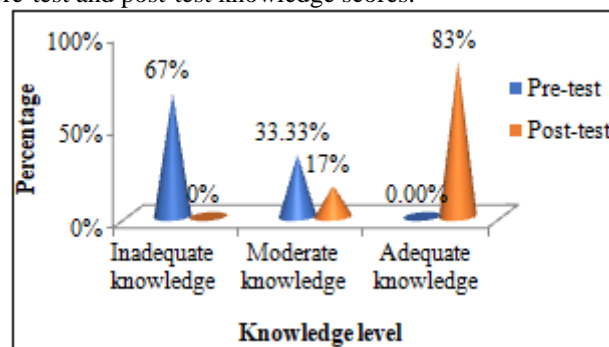
#### Table 1: Frequency and percentage distribution of sample according to their selected demographic variables.

Table no.1 depicted that the demographic data details according to their Age in years depicts that the majority of the respondent 66.7% (20) were in the age group between 20-30 years. Majority of the respondent 76.7% (23) were Hindu. Majority of respondents 80% (24) has higher secondary education, 20% (06) has done graduation, 0% (0) had secondary education. Majority of respondents 63.33% (19) were have nuclear family. Majority of the respondents 63.33% (19) had work experience between 1-5 years. Majority of the respondents 40% (12) had family income of above 15001. Majority of the respondents 20(66.6%) have source of information from mass-media.

#### Table (2): - Frequency and percentage distribution of ANM knowledge level on vitamin

Data in table 2 shows that the knowledge of ANM regarding vitamin A. In the pre-test 66.67% ANM had inadequate knowledge; 33.33% had moderate knowledge and none of the ANM had adequate knowledge. In post-test 25 (83.33%) ANM had adequate knowledge; 05 (16.67%) ANM had moderate knowledge and none of the ANM had inadequate knowledge in post-test.

#### Table 3: Mean, Standard Deviation, and Paired t value of pre-test and post-test knowledge scores.



\* Significant at 5% level of 29 df (i.e.,  $P < 0.05$ )

The above table 4 represents the mean pre- test and post- test knowledge score regarding vitamin A. The paired t- test value for vitamin A knowledge value is 12.693. It was found to be significant at  $P < 0.05$  level, hence research hypothesis ( $H_1$ ) is accepted and null hypothesis was rejected. Its evidence that the structured teaching program (STP) is significantly effective on improving the knowledge of ANM regarding vitamin A.

**Table 4:** Association between pre-test knowledge scores with their demographic variables of Age, Religion, Educational qualification, worked experience, Type of family, Family income and Source of information

S. N	Components	Pretest		Posttest		Paired 't' value	P-value
		Mean	SD	Mean	SD		
1	Questionnaire on Vitamin A	8.97	4.56	20.80	1.67	12.693	P<0.05

The results of chi square analysis presented in table 4 indicates that the demographic variable such as Age and source of information shows statistically significant association with the pre-test level of knowledge and there was no significant association between other demographic variables with their pre-test level of knowledge. The obtained chi square value of the variables such as Age ( $\chi^2 = 6.600, P < 0.05$ ), Religion ( $\chi^2 = 0.437, P > 0.05$ ), Educational status ( $\chi^2 = 0.938, P > 0.05$ ), Type of family ( $\chi^2 = 3.517, P > 0.05$ ), Worked experience ( $\chi^2 = 3.539, P > 0.05$ ) Family income ( $\chi^2 = 0.450, P > 0.05$ ), and Source Of Information ( $\chi^2 = 6.600, P > 0.05$ ). Hence research hypothesis ( $H_2$ ) was accepted and null hypothesis was rejected.

## 5. Summary

The chapter described the statistical outcome of demographic variables, assessment of pre-test and post-test knowledge regarding vitamin A, the effectiveness of structured teaching programme and the association between the post -test knowledge with their selected demographic variables of ANM.

## 6. Nursing Implications

### Nursing Education

The study would provide the guidelines to the nursing staff for developing health education programmes. In Community health Nursing, health promotion being significant areas of primary, secondary and tertiary prevention for the diseases due to nutritional deficiencies.

### Nursing Service:

Health promotion has been identified as fundamental concepts for nursing practice. Staff nurses' education has historically been in the domain of nursing. Nurses can recognize risk of Vitamin A deficiency disorders and. So, nurses can take steps to prevent this condition from developing or treat it before it becomes worse.

### Nursing Administration:

The nursing administrators need to take initiatives in creative policies or plans in providing education to the staff nurses during working hours. In service education programme to be conducted regularly for staff nurses who are working in community Areas and who are working as middle level health provider in community areas.

### Nursing Research

Several studies have been conducted on prevalence on vitamin A deficiency disorders but prevention on these have not been studied so extensively. There is a vast scope for exploration in this area. Findings of the study will act as a

catalyst to carry out more extensive research on larger population in other different areas. The result of the study and tool used contributes to the body of knowledge of nursing. The tool and methodology used in this study would provide guidelines to the future researchers who are interested in conducting community-based research.

## 7. Recommendations

Based on the findings of the study, the following recommendations were made:

- A Similar study may be conducted on a larger sample for wider generalization.
- A similar study may be replicated with control group
- A descriptive study can be conducted to find out the factors associated with Vitamin A deficiency and its related disorders.
- The study may be conducted at different settings
- Longitudinal study can be conducted on incidence among children in different community areas.

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