

# **“A Study To Assess The Level Of Knowledge Regarding Vitamin A deficiency Disorders Among Mothers Of Under five Year Children In Selected Hospital Of Udaipur Rajasthan.”**

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## **Abstract**

### **Background And Objectives:**

Vitamin A deficiency (VAD) is recognized as a significant public health issue, particularly in low- and middle-income countries, where it remains one of the leading causes of preventable blindness and increased susceptibility to infections in children. Vitamin A is essential for normal growth, vision, immune system function, and the overall development of children. Its deficiency can lead to a range of disorders, including xerophthalmia (dry eyes), night blindness, and an increased risk of infections, particularly measles and diarrheal diseases, which are major causes of child mortality.

Mothers of young children, especially those under five, play a pivotal role in shaping their children's nutritional status. Their knowledge about the importance of essential micronutrients, like vitamin A, is crucial. Vitamin A deficiency is a major public health issue, especially in developing countries like India. It can lead to various disorders and health problems, particularly among children under the age of five. Mothers play a crucial role in ensuring the health and well-being of their children, and therefore, it is important to assess their knowledge regarding vitamin A deficiency disorders.

The present study aims to assess vitamin A deficiency disorders among mothers of children under five years of age in selected hospital of Udaipur District, Rajasthan. This region, like many parts of rural India, faces challenges related to healthcare access and maternal education, making it a relevant setting for investigating the impact of health education interventions. By evaluating the knowledge levels before and after the teaching programme, this study seeks to determine whether such educational initiatives can be an effective strategy for preventing vitamin A deficiency and its associated disorders, ultimately contributing to the reduction of child morbidity and mortality in the region.

### **Problem Statement:**

“A study to assess the level of knowledge regarding vitamin a deficiency disorders among mothers of under five children in selected hospital of Udaipur Rajasthan.”

**Objectives:**

- To assess the level of knowledge regarding Vitamin A deficiency disorder among mother's of under five children before and after structured teaching programme.
- To determine the effectiveness of structured teaching programme regarding Vitamin A deficiency disorder by using Pre and Post test knowledge score.
- To find the association between pre test level of knowledge among mother's of under five children with socio demographic variables.

**Method:**

This study used one group pre-test post-test pre-experimental design and nonprobability convenient sampling technique to select the samples. Data collected from 90 mothers of under five children at PIMS hospital, Umarda, Udaipur. Conceptual framework used in this study was Modified conceptual framework based on King's goal attainment theory (1981). The intervention of structured teaching programme given to pre-experimental group. On 7<sup>th</sup> day posttest was conducted by using the same knowledge questionnaire.

**Data Analysis:**

Paired 't' test was used to evaluate and compare pretest and posttest level of knowledge. Chi square test was used to find out the association between the pretest level of knowledge with their selected demographic variables.

**Result:**

The finding of study shows that there was significant difference between the post- test levels of knowledge. By comparing the mean pretest and post test score. The mean post-test knowledge score (21.53) was higher than the mean pre-test score (11.13). The mean difference pre-test score (8.02) of knowledge was significant at 0.05 % level at the "t" = 17.06 \*P<0.05. Hence research hypothesis H<sub>1</sub> was accepted. This indicates that the STP was effective in increasing the knowledge of mothers of under five children on vitamin A deficiency disorder.

**Keywords:** Effectiveness, Under five children, vitamin deficiency,

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## I. Introduction

### Background of the study-

**"Children are the world's most valuable resource and its best hope for the future."**

**John F. Kennedy**

Vitamin A deficiency (VAD) is recognized as a significant public health issue, particularly in low- and middle-income countries, where it remains one of the leading causes of preventable blindness and increased susceptibility to infections in children. Globally, it is estimated that millions of children under the age of five suffer from the consequences of VAD, with the highest burden observed in regions such as South Asia and sub-Saharan Africa. In India, where malnutrition continues to be a widespread concern, VAD is prevalent, particularly in rural and underprivileged populations, putting young children at high risk for serious health complications<sup>1</sup>.

Vitamin A is essential for normal growth, vision, immune system function, and the overall development of children. Its deficiency can lead to a range of disorders, including xerophthalmia (dry eyes), night blindness, and an increased risk of infections, particularly measles and diarrheal diseases, which are major causes of child mortality. Furthermore, VAD can exacerbate malnutrition, leading to a vicious cycle of illness and poor nutritional status<sup>2</sup>.

Mothers of young children, especially those under five, play a pivotal role in shaping their children's nutritional status. Their knowledge about the importance of essential micronutrients, like vitamin A, and their ability to provide an adequate diet, can significantly impact their children's health outcomes. However, in many rural and semi-urban regions of India, awareness about the causes, prevention, and treatment of VAD is often insufficient. Cultural beliefs, lack of access to healthcare services, and educational barriers further compound the problem, leading to poor health practices and higher incidences of VAD among children<sup>3</sup>.

Structured teaching programmes (STP) have been recognized as effective educational tools for improving health literacy among mothers, particularly in addressing knowledge gaps regarding specific nutritional disorders such as VAD. These programs are designed to deliver information in a systematic and comprehensive manner, ensuring that mothers understand the importance of proper nutrition, the role of vitamin A, and the ways in which they can prevent deficiencies in their children through dietary choices and supplementation<sup>4</sup>.

The present study aims to assess vitamin A deficiency disorders among mothers of children under five years of age in selected hospital of Udaipur District, Rajasthan. This region, like many parts of rural India, faces challenges related to healthcare access and maternal education, making it a relevant setting for investigating the

impact of health education interventions. By evaluating the knowledge levels before and after the teaching programme, this study seeks to determine whether such educational initiatives can be an effective strategy for preventing vitamin A deficiency and its associated disorders, ultimately contributing to the reduction of child morbidity and mortality in the region.

Vitamin A deficiency is a major public health issue, especially in developing countries like India. It can lead to various disorders and health problems, particularly among children under the age of five. Mothers play a crucial role in ensuring the health and well-being of their children, and therefore, it is important to assess their knowledge regarding vitamin A deficiency disorders.

Vitamin-A deficiency is a systemic disease with major effects on eye. Vitamin-A Deficiency (VAD) occurs where diets contain insufficient vitamin A for meeting the needs associated with growth and development, physiological functions, and periods of added stress due to illness. Vitamin-A Deficiency (VAD) is a significant public health problem in over 75 countries. Night blindness is one of the first signs of vitamin-A deficiency. Xerophthalmia and complete blindness can also occur since Vitamin-A has a major role in photo transduction. Approximately 2,50,000 to 5,00,000 Malnourished Children in the developing world go blind each year from a deficiency of vitamin-A, approximately half of which die within a year of becoming blind. The most common cause of blindness in developing countries is vitamin-A deficiency (VAD).

The World Health Organization (WHO) estimates 13.8 million Children to have some degree of visual loss related to VAD (Vitamin-A Deficiency). Vitamin A deficiency is rare in the United States, but it can affect people who don't get enough vitamin A in their diets. It also affects people with certain liver disorders and conditions that affect how their bodies can absorb vitamins. In developing countries around the world, many people don't get enough vitamin A. Infants, children and people who are pregnant or breastfeeding are the most at risk<sup>5</sup>.

Vitamin A deficiency was moderately high (13%) in school-age children 5-9 years indicating the need for policy review Children aged 1-4 years (9%) and adolescents (7%) were found to have lower levels of Vitamin A deficiency as children aged 5-9 years. 7-13% children and adolescents had Vitamin A deficiency in Jammu and Kashmir, nearly half the national average (16-22%).

Mrs. Yamunambigai, Mrs.K. Manohari etal (2023): A quantitative research design was used for this study in group of selected mothers of under five children in rural area at Puducherry. A cross sectional descriptive survey was used. A total number of 50 samples were selected by the convenient sampling technique. The data was collected using a unstructured questionnaires. The findings reveal that out of 50 mothers of under five children the knowledge regarding vitamin A deficiency 36(72%) more than half of them had inadequate knowledge, 8(16%) of them had moderate knowledge and 6(12%) of them had adequate knowledge. From this study it was concluded that the knowledge of the mother of under five children regarding vitamin A deficiency shows that most of the mothers have inadequate knowledge<sup>6</sup>.

#### **Need For The Study-**

***“You can trace every sickness, every disease and every ailment to a mineral deficiency.”***

***-Linus Pauling***

Vitamin A deficiency (VAD) is widely recognised as a major public health concern in low- and middle-income countries (LMICs). Despite various interventions implemented in many countries, a lack of reliable data is hindering progress. We aimed to consolidate available data and quantify estimates of the prevalence of VAD among children  $\leq 18$  years in LMICs.

The PubMed, Medline and Embase for studies reported the prevalence of VAD or marginal (m)VAD among children. A multilevel mixed-effects meta-regression approach was applied to establish the regression models for VAD and mVAD prevalence. The total numbers of children affected by VAD and mVAD in LMICs in 2019 were separately calculated from the estimated age- and socio-demographic index (SDI)-specific prevalence with their corresponding United Nations Population Division populations projections. We estimated areas of significant public health concern in 165 LMICs using the lower confidence interval (CI) of VAD prevalence. The prevalence of both VAD and mVAD was the highest in children aged 0-5 years at 19.53% (95% CI = 15.03-24.91) and 28.22% (95% CI = 20.00-38.24), respectively, with both steadily decreasing to 10.09% (95% CI = 7.44-13.50) and 20.76% (95% CI = 14.16-29.50) in adolescents aged 13-18 years<sup>3</sup>.

Singh et al. (2023) further emphasized that a lack of awareness among caregivers contributes to poor dietary practices, underutilization of supplementation programs, and a higher risk of childhood diseases exacerbated by VAD, such as measles and diarrheal illnesses. Maternal knowledge gaps, combined with cultural beliefs, inadequate health education, and limited access to healthcare services, have perpetuated the cycle of malnutrition and VAD in children from underserved communities. Rural populations are particularly vulnerable, given their socioeconomic constraints, which further compound the problem by limiting access to vitamin A-rich foods and healthcare resources.

Kaur et al. (2022) demonstrated that STPs can significantly raise awareness and change health behaviors related to VAD in rural populations. These educational interventions focus on providing mothers with actionable information, including identifying vitamin A-rich foods like green leafy vegetables and fortified foods, as well as recognizing the importance of supplementation to prevent deficiency-related diseases.

Gupta et al. (2023) observed that regions with persistent VAD suffer from higher overall child mortality rates and developmental delays due to a combination of nutritional deficiencies and associated illnesses. Addressing these challenges through maternal education is essential for breaking the cycle of malnutrition and poor health outcomes among under-five children. In areas such as Udaipur district, Rajasthan—where malnutrition is widespread, and maternal health education is lacking—the need for effective, evidence-based interventions like STPs is especially urgent. Evaluating the impact of such interventions on maternal knowledge of VAD could lead to significant improvements in child health, reducing preventable blindness, infection rates, and mortality.

UNICEF, around one third of the children are not receiving the supplementation of Vitamin A they need. According to WHO guideline, approximately 190 million pre-school children are affected by VAD (i.e., serum retinol less than 0.70  $\mu\text{mol/L}$ ), majority of them belongs to Africa and South-east Asia region of WHO. World bank stated that the vitamin A supplementation is a cost-effective measure to improve child survival in pre-school children. Around 650,00 early childhood deaths from diarrhea, measles, malaria, and other infections each year be contributed to VAD as an underlying cause<sup>6</sup>.

In the GBD 2019 study, which utilized 46 data sources, a global age standardized prevalence of VAD was estimated to be 7.0%, accounting for 23.1 million cases. The highest prevalence rates were indicated in Central and Eastern sub-Saharan Africa, with rates of 25.9% and 23.5%, respectively. The World Health Organization (WHO) estimates that up to 500 million children are blind due to VAD, with half dying within a year of losing their vision. Globally, about 33% of pre-school children and 15% of pregnant women are vitamin A deficient, with the highest burdens of both groups in Africa and South-east Asia. Night blindness is a typical indicator of the vitamin A status of a population. It affects 5.2 million pre-school children and 9.8 million pregnant women worldwide<sup>7</sup>.

The overall prevalence of VAD in India is 17.54%. The highest prevalence of VAD is in the northeast region (19.56%), while the lowest in west region (11.42%) provides the prevalence of VAD in all the Indian states. The vitamin A deficiency in male and female children are almost equal. Children in age group 36–47 months have the highest prevalence of VAD, while children in age group 18–23 months have the lowest prevalence. The prevalence of VAD among children having minimum diet diversity is 18.63% Children who are exposed to longer duration of breastfeeding have lower prevalence of VAD. Stunted and severely stunted children have higher prevalence of VAD compared to non-stunted children. Anaemic children also have higher prevalence of VAD compared tonon- anaemic children<sup>8</sup>.

### **Problem Statement**

“A study to assess the level of knowledge regarding vitamin a deficiency disorders among mothers of underfive children in selected hospital of Udaipur Rajasthan”

### **Research Objectives**

- To assess the level of knowledge regarding Vitamin A deficiency disorder among mother's of under five children before and after structured teaching programme.
- To determine the effectiveness of structured teaching programme regarding Vitamin A deficiency disorder by using Pre and Post test knowledge score.
- To find the association between pre test level of knowledge among mother's of under five children with socio demographic variables.

### **Hypothesis**

- $H_{01}$ : There will be no significant difference in the mean pre- test and mean post- test knowledge scores regarding Vitamin A deficiency disorders among mother's of under five children.
- $H_1$ : There will be significant difference in the mean pre test and post- test knowledge scores regarding Vitamin A deficiency disorders among mother's of under five children.
- $H_{02}$ : There will be no significant association between knowledge scores regarding Vitamin A deficiency disorders among mother's of under five children with selected socio- demographic variables at 0.05 level of significance.
- $H_2$ : There will be significant association between knowledge scores regarding Vitamin A deficiency disorders among mother's of under five children with selected socio- demographic variables at 0.05 level of significance.

### **Assumption**

- The mother's of under five children may have inadequate knowledge regarding Vitamin A deficiency disorders.
- Mother's of under five children can gain knowledge from planned teaching programme.

### **Operational Definitions**

- **Assess:** It refers to appraisal or evaluation of knowledge of mother's of under five children regarding Vitamin A deficiency disorder.
- **Knowledge:** It refers to the information to mother about the Vitamin A deficiency disorder among under five children
- **Vitamin Deficiency:** It refers to lack of various essential fat soluble vitamins in the body leading various complications. In this study discuss only vitamin A deficiency in under five children
- **Mother's of Under five:** It refers to the women have baby age below 5 years.

### **Conceptual Framework**

Conceptual framework is a group of related ideas, statements, or concepts which deals with concept that are assembled by the virtue of their relevance to a common them. A conceptual model broadly presents an understanding of the phenomenon of interest and reflects the assumption and philosophic views of the model's designer.<sup>26</sup>

The proposed study was aimed to identify knowledge of mother's of under five children regarding Vitamin A deficiency disorder in selected hospital at Udaipur.

The conceptual framework for the present study has been derived from King's Goal Attainment Theory developed by Imogene King (1981), which encompasses a conceptual framework involving three interrelated sets of systems (personal, interpersonal and social system).

The smallest level is personal systems, comprised of individuals. The second level of systems is interpersonal systems or groups. These are generally small groups. The largest systems are social systems, or societies.

The essence of King's goal attainment theory is that the interacting components work together to define and reach goals that they set together. The interacting components each perceive, judge and act together. They react to each other and interact with each other. At the end of this process of communication and perception, if a goal has been set, a transaction is said to have occurred and plan of action is agreed upon. After the transaction has occurred and goals have been set, it is important for good documentation to be practiced by the interacting component. It helps to provide a way to determine if the goal is achieved. This assessment of whether or not the goal has been successfully achieved plays an important end stage in King's goal attainment theory.<sup>27</sup>

## **II. Concepts Of King'S Goal Attainment Theory**

King's goal attainment theory is based on the concepts of communication, perception, judgement, action, reaction, transaction and feedback.

### **Communication**

King's describe communication as a person providing information directly or indirectly to another person. And the other person receives this information and processes it.

In this study the researcher provides information about the study directly to the mother's of under five children.

### **Perception**

King's describes perception as a process in which data is obtained, through the sense and from memory are organized, interpreted and transformed.

In the present study the researcher perceived that mother needs to improve the knowledge regarding vitamin A deficiency in under 5 children & Mother perceived that they wants to improve knowledge on Vitamin A deficiency.

### **Judgement**

King's describes judgement as a dynamic and systemic process by which a goal directed choice of perceived alternatives is made and acted upon, by individuals or groups to answer a question and attain a goal.

In the present study the researcher judges that mobilization of resources is needed to assess, enhance and educate the knowledge of mother regarding Vitamin A deficiency & Mother Judges in identify the source of learning regarding Vitamin A deficiency.

**Action**

Action is defined as a sequence of behaviors involving mental and physical action.

In this study the researcher develops the structured knowledge questionnaires and gives planned teaching programme on Vitamin A deficiency to mother. Mother develops interest to learn about Vitamin A deficiency in children.

**Reaction**

Reaction refers to the sequence of behavior seen often action.

In the present study, the researcher and mother set mutual goals where the researcher reacts by assessing the existing knowledge on Vitamin A deficiency through pre-test and the mother reacts by answering the pre-test knowledge questionnaire.

**Interaction**

King’s defines interaction as a process of perception and communication between person and environment and between a person and person or as the acts of two or more persons in mutual presence.

In this study the researcher administers planned teaching programme on Vitamin A deficiency and interact with the mother by clarifying doubts after the planned teaching programme. The post-test was evaluated after 7 days.

**Transaction**

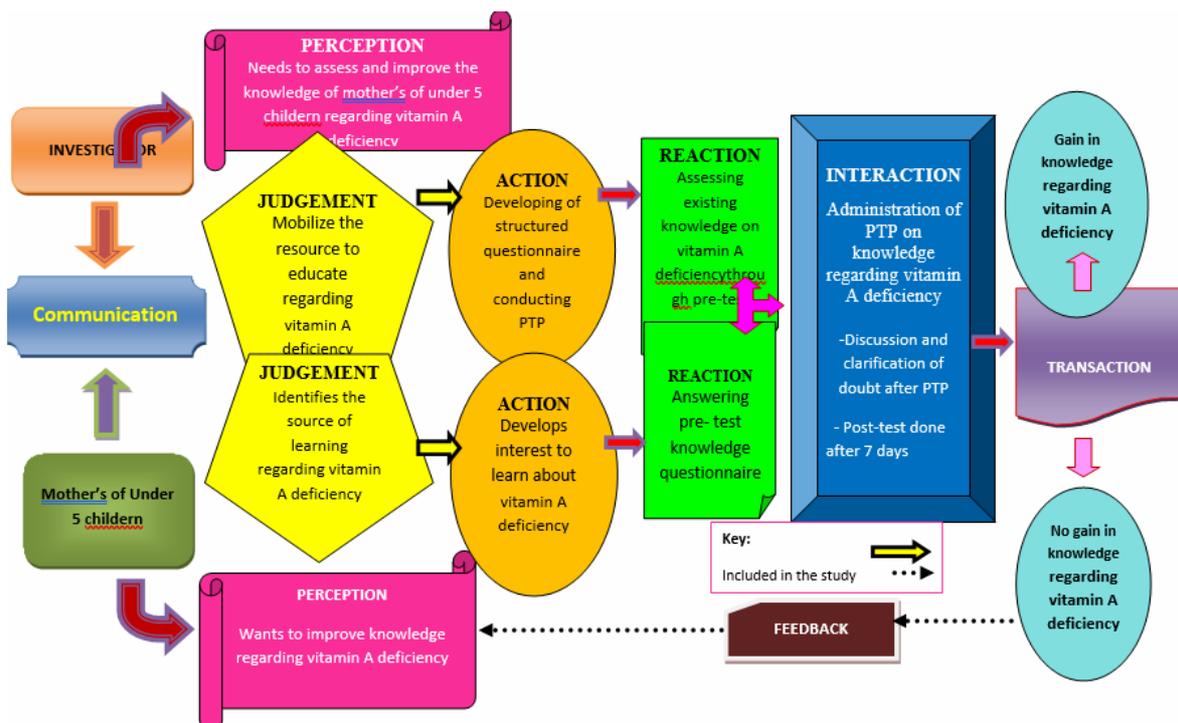
Transaction is defined as observable behaviours of human beings interacting with their environment. Transaction refers to goal directed human behaviours. It can be positive or negative.

In this study, the positive transaction is in terms of gain in knowledge and its implication into practice by the mother for a positive outcome and negative transaction was indicated by no gain knowledge regarding Vitamin A deficiency.

**Feedback**

Feedback is the outcome of the goals desired by the interacting components.

In this study the outcome may be either significant or No significant gain in knowledge regarding Vitamin A deficiency. If there is No significant gain in knowledge, it leads to rearrangement of prior situation by the researcher, where the process recycles. This is not included in the study.



**Figure-1: Modified conceptual framework based on king's goal attainment theory (1981)**

### III. Review Of Literature

Review of literature is an important step in the development of a research project. Literature review refers to the activities involved in identifying and searching for information on a topic and developing a comprehensive picture of the state of knowledge on the topic.

In John Best's view, "It is the brief summary of previous research and the writing of recognized experts provides evidence that the research is familiar with what is already known and what is still untested."<sup>16</sup>

An in-depth study of any subject involves a systematic review and appraisal of all the relevant scholarly literature on the specific topic. Keeping this in mind the investigator delved into the available resources such as books, journals, newsletters, reports, and websites Medline, etc. This contributed to gaining insight and understanding regarding the selected problem under study.

For the easy understanding of readers, the literature is organized and presented under the following Parts:

- Review of literature related to vitamin a deficiency
- Review of literature related to prevalence of vitamin a deficiency
- Review of literature related to effectiveness of structured teaching programme

#### Part-I

##### Review Of Literature Related To Vitamin A Deficiency

**Venu, 2023**In a recent study conducted by Venu (2023), vitamin A deficiency among mothers of under-five children was evaluated in a rural area of South India. The study found a significant improvement in the knowledge levels of mothers after the implementation of the teaching program. The research emphasized the importance of community-based education in addressing micronutrient deficiencies, particularly in underdeveloped regions where awareness is low<sup>9</sup>.

**Mishra & Sharma, 2022**Mishra and Sharma (2022) conducted a cross-sectional study on the knowledge, attitude, and practices (KAP) regarding vitamin A deficiency among mothers in rural Rajasthan. The study found that although awareness about vitamin A deficiency existed, there were gaps in the practical application of this knowledge. The authors recommended regular educational interventions to bridge this gap, especially for illiterate or semi-literate mothers<sup>10</sup>.

**Patil et al., 2021**Patil et al. (2021) investigated the role of maternal education on child nutrition in rural Maharashtra, with a particular focus on vitamin A deficiency. Their findings showed that mothers with higher education levels had significantly better knowledge about vitamin A-rich foods and were more likely to ensure their children received vitamin A supplementation. The study highlighted the critical role of formal education in improving child health outcomes<sup>11</sup>.

**Kumar & Singh, 2020** Kumar and Singh (2020) conducted a study to assess the awareness of vitamin A deficiency and its prevention among mothers in Uttar Pradesh. Their findings revealed that only 45% of mothers were aware of the clinical signs of VAD, and most relied on traditional remedies rather than modern healthcare practices. The study concluded that there is a strong need for health education programs focusing on the causes and prevention of vitamin A deficiency<sup>12</sup>.

#### Part-II

##### Review Of Literature Related ToPrevalence Of Vitamin A Deficiency

**Mrs. Yamunambigai, Mrs.K. Manohari Et .al (2023)**A quantitative research design was used for this study in group of selected mothers of under five children in rural area at Puducherry. A cross sectional descriptive survey was used. A total number of 50 sampleswere selected by the convenient sampling technique. The data was collected using a unstructured questionnaires. The findings reveal that out of 50 mothers of under five children the knowledge regarding vitamin A deficiency 36(72%) more than half of them had inadequate knowledge, 8(16%) of them had moderate knowledge and 6(12%) of them had adequate knowledge. From this study it was concluded that the knowledge of the mother of under five children regarding vitamin A deficiency shows that most of the mothers have inadequate knowledge<sup>13</sup>.

**Singh et al. (2023)** further emphasized that a lack of awareness among caregivers contributes to poor dietary practices, underutilization of supplementation programs, and a higher risk of childhood diseases exacerbated by VAD, such as measles and diarrheal illnesses. Maternal knowledge gaps, combined with cultural beliefs, inadequate health education, and limited access to healthcare services, have perpetuated the cycle of malnutrition and VAD in children from underserved communities. Rural populations are particularly vulnerable, given their socioeconomic constraints, which further compound the problem by limiting access to vitamin A-rich foods and healthcare resources.<sup>14</sup>

**Kaur et al. (2022)** demonstrated that STPs can significantly raise awareness and change health behaviors related to VAD in rural populations. These educational interventions focus on providing mothers with

actionable information, including identifying vitamin A-rich foods like green leafy vegetables and fortified foods, as well as recognizing the importance of supplementation to prevent deficiency-related diseases.<sup>15</sup>

**Gupta et al., 2019** Gupta et al. (2019) explored the impact of a health education intervention on the knowledge of vitamin A deficiency among mothers in rural areas of Himachal Pradesh. Their research demonstrated that post-intervention, there was a marked increase in the number of mothers who could identify vitamin A-rich foods and symptoms of deficiency. The authors advocated for integrating such programs into regular maternal and child health services<sup>16</sup>.

**Rao & Kaur, 2018** Rao and Kaur (2018) conducted a study on the role of community health workers in improving maternal knowledge about vitamin A deficiency in Punjab. The research highlighted that mothers who had regular contact with community health workers had significantly better knowledge and practices related to vitamin A supplementation and dietary sources. The study recommended scaling up community-based health education to combat micronutrient deficiencies effectively<sup>17</sup>.

### **Part-III**

#### **Review Of Literature Related To Effectiveness Of Structured Teaching Programme**

**Vandana Kumbhar 2024** Vitamin A is an essential micronutrient. It enhances children's immunity and protects against illness/morbidity and reduces death/mortality. Therefore, it is essential for child survival. Objective: The aim of the study was to assess the knowledge of mothers on Vitamin A requirements, sources, deficiency, and its prophylaxis among under five children before and after planned teaching program. The data were collected from 100 mothers of under five children using semi structured questionnaire in the selected Anganwadi from Ahmed Nagar District. Results: The majority of the mothers belong to the age group of 21–40 (83%) and (41%) completed secondary education, Majority (58%) had two children. The knowledge mean score in pretest in the area of concept of Vitamin A was 1.78, whereas in post-test, it was increased to 3.39. Mean score analysis is done in different sections of questionnaire such as Sources of Vitamin A, requirement of Vitamin A and Vitamin A deficiency, and prevention and prophylaxis, and its found increased in post-test score in all respective areas. The overall mean score was 13.8 out of maximum score of 50 in pre-test and 31.8 in post-test which was statistically significant.<sup>18</sup>

**Gupta et al. (2023)** observed that regions with persistent VAD suffer from higher overall child mortality rates and developmental delays due to a combination of nutritional deficiencies and associated illnesses. Addressing these challenges through maternal education is essential for breaking the cycle of malnutrition and poor health outcomes among under-five children In areas such as Udaipur district, Rajasthan—where malnutrition is widespread, and maternal health education is lacking—the need for effective, evidence-based interventions like STPs is especially urgent. Evaluating the impact of such interventions on maternal knowledge of VAD could lead to significant improvements in child health, reducing preventable blindness, infection rates, and mortality.<sup>19</sup>

**Sathiyabama G 2020** Nutrition is recognized as an important determinant of health and development of societies. It is estimated that each year 55% of deaths hunger and malnutrition in developing countries including India. Apart from the protein energy malnutrition, inadequate intake of micronutrients such as vitamin 'A' and vital minerals (iron, calcium, iodine, zinc) are recognized to affect younger children. A quantitative experimental research was conducted among 60 antenatal mothers. A purposive sampling techniques was used to select the sample. Self administered structured questionnaires were used to collect the demographic data. calculated paired t test value of  $t=23.043$  was found to be statistically highly significant at  $p<0.001$  level.<sup>20</sup>

**Nirmala Dahal 2020** 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 ( $p<0.05$ ).<sup>21</sup>

### **IV. Research Methodology**

A research methodology defines what the activity of researcher is, how to proceed, how to measure progress, and what constitute success.<sup>44</sup> Research methods are the steps, procedure and strategies for gathering and analyzing the data in a research.

### Research Approach

The research approach spells out the basic strategies that the researcher adopts to develop information that is accurate and interpretable. Quantitative research approach was used in the study. It was needed to assess the level of knowledge regarding vitamin A deficiency disorders among mothers of under five children in selected hospital of Udaipur.

### Research Design

It is the overall plan for obtaining answer to the questions being studied and for handling some of the difficulties encountered during the research process. In the present study a pre-experimental one group pretest-posttest design adopted. In this design the investigator identifies level of knowledge regarding vitamin A deficiency disorders among mothers of under five children in selected hospital of Udaipur.

**Table:1 Schematic representation of research design**

Group	Pre-test $O_1$	Intervention $X$	Post-test $O_2$
Experimental group	Identify pre-test level of knowledge regarding vitamin A deficiency disorders among mothers of under five children in selected hospital of Udaipur	Provide structured teaching programme on vitamin A deficiency disorders	Identify post-test level of knowledge regarding vitamin A deficiency disorders among mothers of under five children in selected hospital of Udaipur

### Research Setting

It refers to the physical location and conditions which data collection takes place in the study. The present study has been conducted in Pacific institute of medical sciences hospital, Udaipur. The selection of the hospital was done on the basis of:

- Geographical proximity
- Feasibility of conducting study
- Availability of sample

### Variables

Variables are “An attribute of a person or object that varies taken on different values” (Polit & Hungler).

- Independent variable:** - In this study the independent variable is structured teaching programme on vitamin A deficiency disorders.
- Dependent variable:** - In this study the dependent variables is the Knowledge of mothers of under five children regarding vitamin A deficiency disorders.
- Demographic variables:** - An uncontrolled variable that greatly influences the result of the study is called as extraneous variable. In this study demographic variables are Age, Religion, Dietary pattern, Types of family, Socio-economic status, previous knowledge related to vitamin A deficiency.

### Population

Population is the entire aggregation of the cases that meet a designed set of criteria. In the present study population consists of mothers of under five children.

### Sample

Sample consists of the population selected to participate in the research study. The samples selected for the present study comprises mothers of under five children in selected Hospitals at Udaipur.

### Sampling Criteria

#### Inclusion Criteria

- Mothers of under five children present at the time of data collection.
- Mothers of under five children who are willing to participate in the study.

#### Exclusion criteria

- Mothers of under five children who are not willing to participate in the study
- Mothers of under five children who are already attained any educational programme regarding vitamin A deficiency since last 6 month.

### Sample Size

The samples selected for the present study comprises 90 mothers of under five children in selected hospitals and who met the inclusion criteria.

### **Sampling Technique**

In the present study mothers of under five children were selected by non-probability convenient sampling technique in selected hospitals.

### **Data Collection Tool**

#### **Selection and development of tool**

The instrument is a vehicle that could best obtains data pertinent to the study and at the time adds to the body of general knowledge in the discipline.<sup>48</sup>

#### **Selection of tool**

The tool consisted of demographic variables, Structured knowledge questionnaire regarding vitamin A deficiency disorders.

#### **Development of the tool**

The tool developed for the study consiststructured self – administered knowledge questionnaire based on the objective of the study as it was considered the best and appropriate instrument to elicit the response from the literate subjects. The tool was developed from the investigators experience, literature review and discussion with nursing & experts, teachers and friends.

### **Literature Review**

Books, journals, articles, published and unpublished theses; electronic media were reviewed and used to develop the tool.

### **Preparation of blue print**

The blue print was prepared for assessing the knowledge of mothers under five children regarding vitamin A deficiency disorders in selected hospital of Udaipurbased on review of research and literature and opinion of experts.

The blue print consist 3 domains of knowledge, comprehensive and application.

### **Description of the tool**

The tool comprises of two parts:

#### **Part I: Demographic variables**

It consist of 6 variables such as Age, Religion, Dietary pattern, Types of family, Socio-economic status, previous knowledge related to vitamin A deficiency.

#### **Part II: Structured Knowledge questionnaire**

It consist 30 knowledge questionnaire. Each item has multiplechoices in nature with 4 choices with one correct answer. One mark for each correct answer and zero marks for incorrect answer. The maximum score is 30, to interpret level of knowledge the score was distributed as follows;

Interpretation of knowledge:

<b>Level</b>	<b>Range</b>
Inadequate knowledge	<50%
Moderate knowledge	50-75%
Adequate knowledge	>75%

### **Testing of the Tool**

#### **Content Validity**

Validity is a criterion for evaluating the quality of a measure of an instrument. Content validity refers to the degree to which an instrument measures what it is supposed to measure.<sup>19</sup>

To ensure content validity of the tools, which include demographic data, structured knowledge questionnaire for assessing the level of knowledge regardingVitamin A deficiency disorder, submitted to three experts, There suggestions were taken in to consideration and the modifications were incorporated in the final preparation of the tool.

### **Reliability**

Reliability of the research instrument is defined as the extent to which the instrument yields the same results on repeated measures. It is then concerned with consistency, accuracy, precision, stability, equivalence and homogeneity.<sup>49</sup>

Reliability was established by split-half method for structured knowledge questionnaire. Karl Pearson's correlation formula used to compute 'r' value which was 0.88, which was substitute in to Spearman Brown Formula to get the reliability (r'), and value obtained was 0.98, which showed that tool was highly reliable. Hence the tool was considered reliable for proceeding the study.

### **Development Of Structured Teaching Programme**

The initial draft of the STP prepared by the investigator by utilizing various sources like,

- Related review of literature
- Based on the opinions and suggestion of experts.
- Books, journals, internet etc.

Preparation of lesson plan on Vitamin A Deficiency Disorder -

The STP for Mothers of under-five children was developed based on review of research and experts opinion. STP was prepared with the title "Lesson plan on Vitamin A Deficiency Disorder". The content of the STP covered the following areas:

- ❖ General Introduction.
- ❖ Functions of vitamin A
- ❖ Causes of vitamin A deficiency
- ❖ Symptoms of vitamin A deficiency
- ❖ Complications of severe Deficiency
- ❖ Diagnosis of vitamin A deficiency
- ❖ Treatment of vitamin A deficiency

### **Pilot Study**

Pilot study is a small preliminary investigation of the same general character on the major study, which is designed to acquaint the researcher with problems that can be corrected in preparation of larger research project.<sup>48</sup>

The purpose of the pilot study was to find out the feasibility of the study, clarity of language in tools and structured teaching programme for mothers of under-five children regarding Vitamin A Deficiency Disorder and finalize the plan for analysis.

The pilot study was conducted in a Dr. Choudhary hospital and medical research center, HM sector 4 at Udaipur from 01-05-2024 to 15-05-2024. The written permission to conduct the study was obtained from the principal of the institution and nursing superintendent of the hospital. Consent was obtained from the mothers of under five children. 10 mothers of under five children were selected for the study. Pre-test was administered using structured knowledge questionnaire to assess the knowledge level. Structured teaching programme was given on the same day. On 7<sup>th</sup> day, post-test was conducted by using the same questionnaire for evaluating the effectiveness of structured teaching programme. The effectiveness of structured teaching programme was assessed on the basis of their response to knowledge questionnaire.

In the results of the pilot study, the total mean percentage of pre-test score was 51 % with standard deviation 4.6. The total mean percent of post test score was 68.66 % with standard deviation 3.84. The mean post test score (20.6) is higher than the mean pretest score (15.3) with "t" value (3.09) which is significant at 0.05 level. It gave the evidence that the tools were reliable. Finding of pilot study also revealed that it was feasible and practicable to conduct the study at the selected settings.

### **Data Collection Procedure**

Data collection is the gathering of information needed to address research problem. Formal written permission was obtained from the nursing superintendent of Pacific Institute of medical sciences and hospital, Umarda Udaipur.

Data collection is the gathering of information needed to address research problem. Formal written Permission was obtained from the authorities concerned of the Hospital and approval was obtained to conduct the study. The investigator obtained written permission from ethical committee and the administrator of a PIMS hospital, Umarda prior to the collection of data.

The main study was conducted from 02 July 2024 to 14 Aug. 2024. The samples included 90 Mothers of under five children, who were available during the period of data collection and were selected by convenient sampling technique.

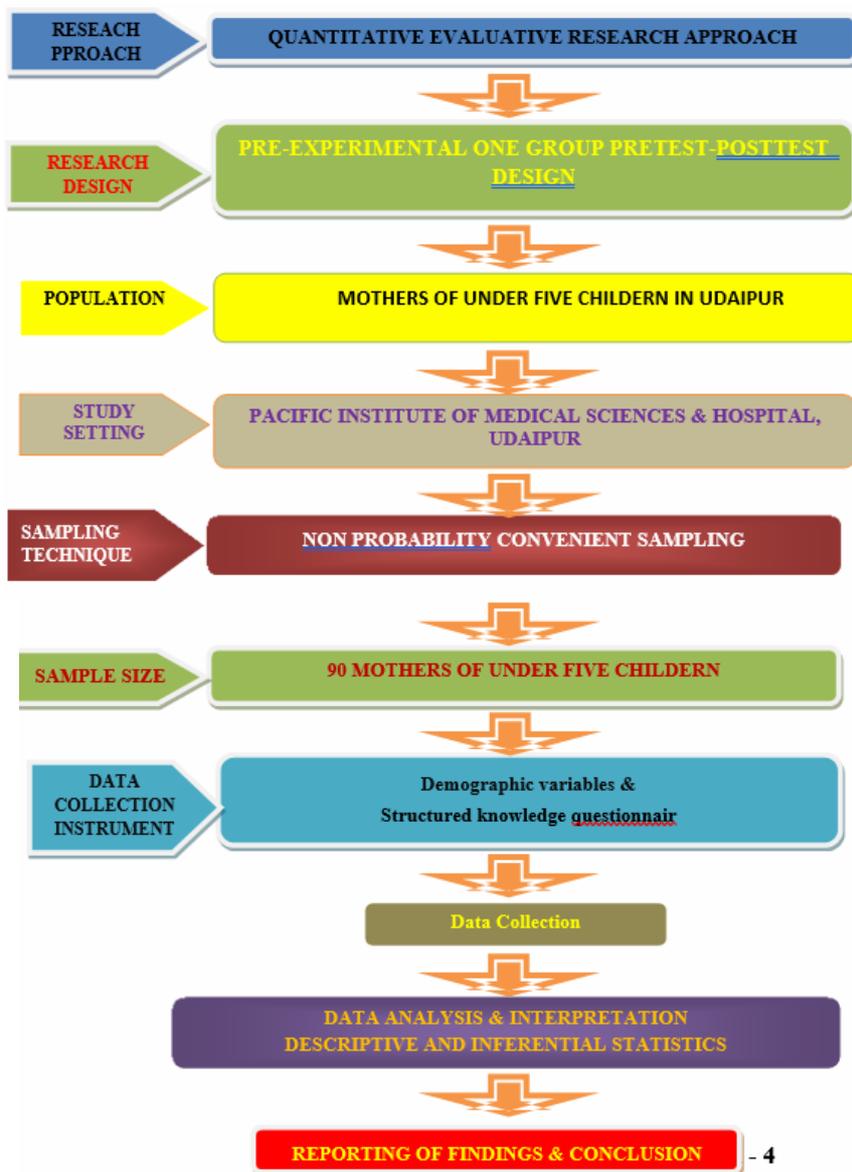
The purpose of the study was explained to the group and confidentiality of their responses was assured. After obtaining the permission and consent, pre test were taken on the first day for both groups and the structured teaching programme on Vitamin A Deficiency Disorder was administered. On the next day after conducting pre test, post test was taken on the seventh day to assessing knowledge.

**Plan for Data Analysis**

Data analysis is a systematic organization and synthesis of research data and testing of research hypothesis using those data.

The data obtained was planned to be analyzed by both descriptive and inferential statistics, on the basis of objectives and hypothesis of the study, a master data sheet was prepared with responses given by respondents. The plan for data analysis was as follows:-

- Description of demographic characteristics
- Mean, median, SD and mean percent are used to describe the area wise pre-test and post–test knowledge score of the respondents regarding Vitamin A Deficiency Disorder
- Paired ‘t’ test is used to find the effectiveness of structured teaching programme by comparing pre and post test knowledge score of the respondents.
- Chi –square is used to find the association between the pre-test knowledge score of the respondents with demographic variables.



**Figure-2: Schematic representation of research methodology**

### V. Analysis And Interpretation Of Data

The data was tabulated, analyzed and interpreted using descriptive and inferential statistics based on the objectives and hypothesis formulated for the present study.

The purpose of the data analysis is to translate information collected during the course of the study into an interpretable form so that the research questions could be answered. Master sheet was prepared and the data was analyzed based on the objectives and hypothesis using descriptive and inferential statistics. This chapter deals with 90 mothers with under-five children for assessing knowledge regarding vitamin A deficiency disorders.

#### Objectives Of The Study

- To assess the level of knowledge regarding Vitamin A deficiency disorder among mother's of under five children before and after structured teaching programme.
- To determine the effectiveness of structured teaching programme regarding Vitamin A deficiency disorder by using Pre and Post test knowledge score.
- To find the association between pre test level of knowledge among mother's of under five children with socio demographic variables.

#### Organization Of The Findings

The collected data was entered in a master sheet for tabulation and statistical processing. The data is analyzed and interpreted using descriptive and inferential statistics based on the objectives and hypothesis formulated for the present study.

The findings are presented under the following headings:

**Section-I: Description of demographic variables of the respondents.**

**Section-II: Distribution of Respondents according pre-test and post-test level of knowledge score.**

**Section-III: Effectiveness of structured teaching programme on knowledge of mothers of under five children on vitamin A deficiency disorder**

**Section-IV: Association between pretest knowledge scores and selected demographic variables.**

#### Section - I

##### Description Of Demographic Variables Of The Respondents

This section deals with distribution of demographic characteristics of mothers of under five children. The obtained data on sample characteristics were described under the sub-headings of Age, Religion, Dietary pattern, Types of family, Socio-economic status, previous knowledge related to vitamin A deficiency. The description of sample characteristics express in frequency and percentage.

**Table 2: Distribution of the Samples according to the Demographic variables  
N=90**

Demographic Variable	Category	Frequency	Percent (%)
Age in years	20-25year	71	78.88
	26-30year	13	14.44
	31-35year	05	5.55
	Above35year	01	1.11
<b>Total</b>		<b>90</b>	<b>100</b>
Religion	Hindu	82	91.11
	Christian	06	6.66
	Muslim	02	2.22
	Other	0	0
<b>Total</b>		<b>90</b>	<b>100</b>
Dietary Pattern	Vegetarian	71	78.89
	Non vegetarian	06	6.67
	Mixed	13	14.44
<b>Total</b>		<b>90</b>	<b>100</b>
Types of Family	Nuclear	70	77.77
	Joint	12	13.33
	Extended	08	8.90
<b>Total</b>		<b>90</b>	<b>100</b>
Demographic Variable	Category	Frequency	Percent (%)
Socio-Economic Status	Below 5000	04	4.44
	5001-10000	11	12.22
	10001-15000	72	80.00

(Rupees per month)	Above 15000	03	3.33
<b>Total</b>		<b>90</b>	<b>100</b>
Previous Knowledge regarding Vitamin A Deficiency	Yes	18	20
	No	72	80
<b>Total</b>		<b>90</b>	<b>100</b>

**Age in Years:** The majority of respondents 71 (78.88%) belongs to the age group of 20-25 year, 13(14.44%) respondents belongs to the age group of 25-30 year, 05(5.55%) respondents belongs to the age group of 30-35 year and 01(1.11%) respondents belongs to the age group of above 35 year.

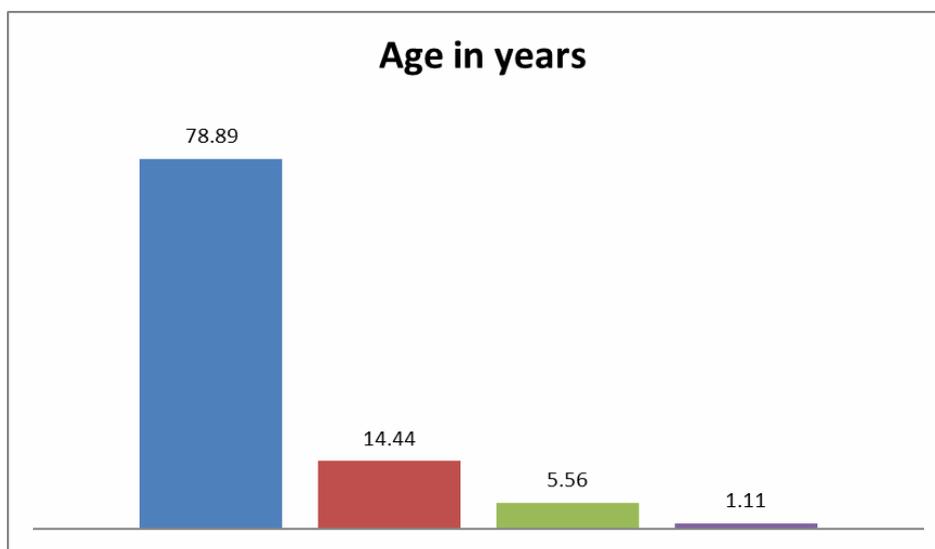
**Religion:** The majority of respondents 82(91.11%) belongs to Hindu, 06(6.66%) respondents belongs to Christian and 02(2.22 %) respondents belongs to Muslim.

**Dietary Pattern:** The majority of respondents 71 (78.89%) belongs to Vegetarian, 13 (14.44%) respondents belongs to Non-vegetarian and 06 (6.67%) respondents belongs to mixed dietary patterns.

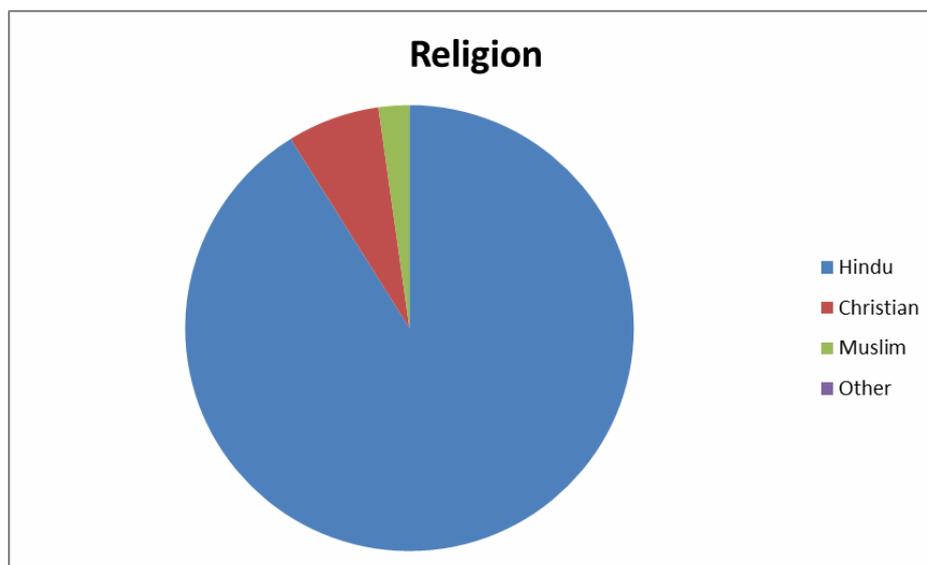
**Types of Family:** The majority of respondents 70 (77.77%) belongstoNuclear family, 12(13.33%)respondentsbelongstoJoint Family.and 08 (8.90%) respondents belongs to Extended family.

**Socio-Economic Status:** The majority of respondents 72 (80%) belongsto10001-15000 Rs/mo.,11(12.22%)respondentsbelongsto5001-10000 Rs/mo.,04(4.44%)respondentsbelongstobelow 5000 Rs/mo.and03(3.33%)respondentshadabove15000 Rs/mo.

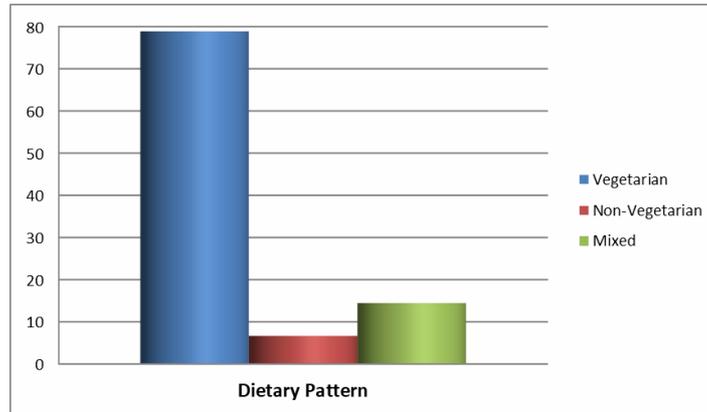
**Previous Knowledge regarding Vitamin A deficiency:** The majority of respondents 72(80%) respondents had no previous knowledge and 18(20%) respondents had yes for knowledge of vitamin A deficiency disorder.



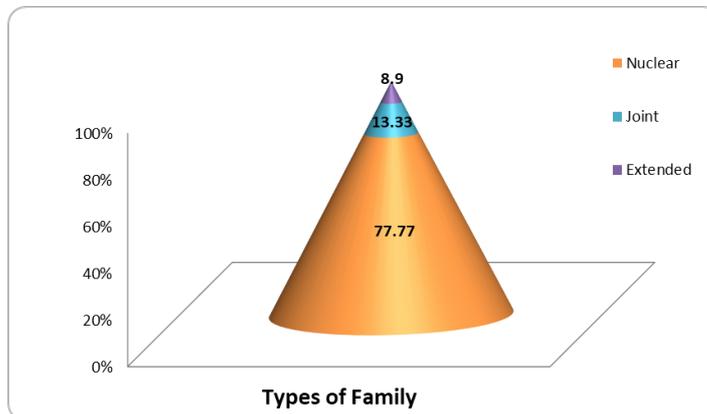
**Figure: 3 Distribution of respondents by Age in years**



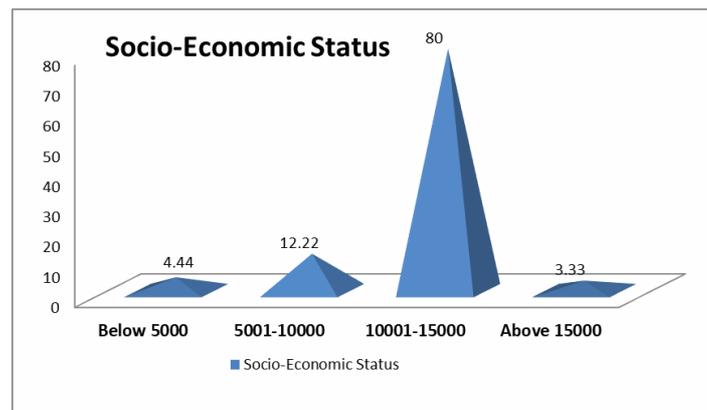
**Figure: 4 Distribution of respondents by Religion**



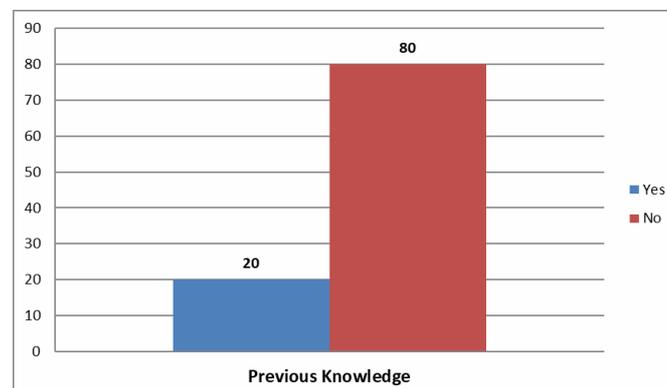
**Figure: 5 Distribution of respondents by Dietary Pattern**



**Figure: 6 Distribution of respondents by Types of Family**



**Figure: 7 Distribution of respondents by –Socio-Economic Status**



**Figure: 8 Distribution of respondents by Previous Knowledge regarding vitamin A deficiency disorder**

**Section II**

**Distribution Of Respondents According Pre-Test And Post-Test Level Of Knowledge Score**

**Part-A: Frequency and Percentage distribution of Pre-test& Post-test level of knowledge score**

**Table-3:Pretest level of knowledge regarding vitamin A deficiency disorder.**

**N=90**

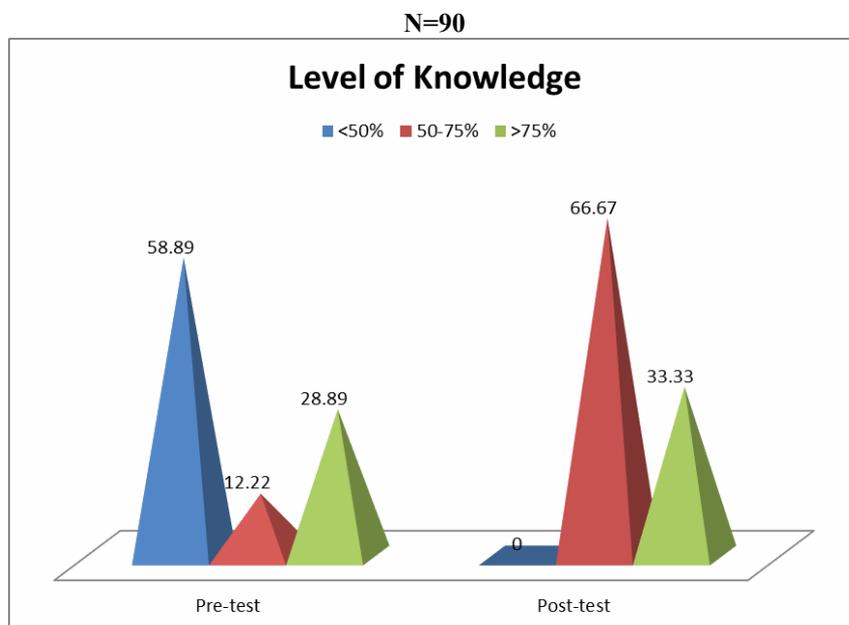
Level of Knowledge	Score	Pre-Test	
		F	%
Inadequate knowledge	<50%	53	58.88
Moderatelyknowledge	50-75%	11	12.22
Adequate knowledge	>75%	26	28.88

Above table 4: The result showed that, in pre-test out of 90 respondents 53 respondents (58.88 %) belongs to inadequate knowledge and 11 respondents (12.22%) belongs to moderate knowledge and 26 respondents (28.88%) belongs to adequate knowledge regarding vitamin A deficiency disorder.

**Table-4 : Post-test level of knowledge regarding vitamin A deficiency disorder.**

**N=90**

Level of Knowledge	Score	Post-Test	
		F	%
Inadequate knowledge	<50%	0	0
Moderatelyknowledge	50-75%	60	66.66
Adequate knowledge	>75%	30	33.33



**Figure12: Distribution of respondents by level of knowledge regarding vitamin A deficiency disorder**

Above table 5 and figure 12 shows that in post-test 60 (66.66%) respondents belongs to moderate knowledge and 30 (33.33 %) respondents belongs to adequate knowledge and No respondents had Inadequate knowledge.

**Section Iii**

**Effectiveness Of Structured Teaching Programme On Knowledge Of Mothers Of Under Five Children On Vitamin-A Deficiency Disorder**

The paired "t" value was computed to determine the effectiveness of structured teaching programme on knowledge of mothers of under five children on vitamin A deficiency disorder.

The following research hypothesis was stated

**H<sub>0</sub>:** There will be no significant difference in the mean pre- test and mean post- test knowledge scores regarding Vitamin A deficiency disorders among mother's of under five children.

**H<sub>1</sub>:** There will be significant difference in the mean pre test and post- test knowledge scores regarding Vitamin A deficiency disorders among mother's of under five children.

**Table 5:** Effectiveness of structured teaching programme on knowledge of mothers of under five children on vitamin A deficiency disorder.

N=90						
Knowledge Assessment	Mean	Mean Difference	SD	Df	Paired “t”test	P Value
Pre-test	13.51	8.02	3.70	89	17.06	<0.05
Post-test	21.53		2.74			

Table 9: The result showed that the mean post-test knowledge score (21.53) was higher than the mean pre-test score (11.13). The mean difference pre-test score (8.02) of knowledge was significant at 0.05 % level at the “t” = 17.06 \*P<0.05. Hence research hypothesis H<sub>1</sub> was accepted. This indicates that the STP was effective in increasing the knowledge of mothers of under five children on vitamin A deficiency disorder.

**Section Iv**

**Association Between Pre-Test Knowledge Score And Selected Demographic Variable**

To establish the association between pre-test knowledge score and selected demographic variable

The following hypothesis was formulated-

**H<sub>02</sub>:** There will be no significant association between knowledge scores regarding Vitamin A deficiency disorders among mother's of under five children with selected socio- demographic variables at 0.05 level of significance.

**H<sub>2</sub>:** There will be significant association between knowledge scores regarding Vitamin A deficiency disorders among mother's of under five children with selected socio- demographic variables at 0.05 level of significance.

**Table 6: Association between Pre-Test Knowledge Score with Selected Demographic Variable**  
N=90

SL No.	Variables	Above median	Below median	Total	Df	χ <sup>2</sup>	table Value	Inference
<b>1. Age in years</b>								
	20-25year	50	21	71	3	4.74	7.815	NS
	25-30year	07	06	13				
	30-35year	02	03	05				
	Above35year	0	01	01				
	<b>Total</b>	<b>59</b>	<b>31</b>	<b>90</b>				
<b>2. Religion</b>								
	Hindu	55	27	82	3	7.31	7.815	NS
	Christian	02	04	06				
	Muslim	02	0	02				
	Other	0	0	0				
	<b>Total</b>	<b>59</b>	<b>31</b>	<b>90</b>				
<b>3. Dietary Pattern</b>								
	Vegetarian							
	Non vegetarian							
	Mixed							
	<b>Total</b>	<b>59</b>	<b>31</b>	<b>90</b>				

The obtained χ<sup>2</sup> value for age, religion & Dietary Pattern (4.74, 7.31 &) are lesser than the table value which indicates that there is no significant association between pre-test knowledge scores and age, religion & Dietary Pattern of respondents at df (3,1,3 p<0.05 level). Hence the research hypothesis is rejected and null hypothesis is accepted.

**Table 7: Association between pre-test knowledge score with selected demographic variable such as types of family, Socio-Economic Status and Previous knowledge regarding Vitamin A deficiency disorder.**  
N=90

SL. No.	Variables	Above median	Below median	Total	Df	χ <sup>2</sup>	table Value	Inference
<b>4. Types of Family</b>								
	Nuclear	50	20	70	1	4.94	3.84	S*
	Joint	05	07	12				

Extended	04	04	08				
<b>Total</b>	<b>59</b>	<b>31</b>	<b>90</b>				
<b>5. Socio-Economic Status</b>							
Below 5000	52	20	72	3	9.23	7.815	S*
5001-10000	06	05	11				
10001-15000	01	03	04				
Above 15000	0	03	03				
<b>Total</b>	<b>59</b>	<b>31</b>	<b>90</b>				
<b>6. Previous knowledge regarding Vitamin A deficiency disorder</b>							
Yes	14	04	18	1	2	3.84	NS
No	45	27	72				
<b>Total</b>	<b>59</b>	<b>31</b>	<b>90</b>				

S\*=Significant, NS=nonsignificant

The obtained  $\chi^2$  value for Types of Family and Socio-Economic Status (4.94 & 9.23) are more than the table value which indicates that there is significant association between pre-test knowledge scores and Types of Family and Socio-Economic Status at df (1,3, p.>0.05 level) and  $\chi^2$  value for Previous knowledge regarding Vitamin A deficiency disorder (2) are lesser than the table value which indicates that there is no significant association between pre-test experimental group pre-test knowledge scores and Previous knowledge regarding Vitamin A deficiency disorder at df (1, p<0.05 level). Hence the research hypothesis is accepted with regard to Types of Family and Socio-Economic Status and null hypothesis is rejected.

### VI. Discussion, Conclusion And Recommendations

This chapter presents a summary and conclusion of the study, as well as its implication for nursing and health care services followed by its limitations. This chapter ends with suggestions and recommendation for future research in this field.

Objectives of study, which were:

- To assess the level of knowledge regarding Vitamin A deficiency disorder among mother's of under five children before and after structured teaching programme.
- To determine the effectiveness of structured teaching programme regarding Vitamin A deficiency disorder by using Pre and Post test knowledge score.
- To find the association between pre test level of knowledge among mother's of under five children with socio demographic variables.

#### Discussion

**The findings of the study was discussed under the following headings which were based on the objectives of the study:**

**Section-I:** Description of demographic variables of the respondents.

**Section-II:** Distribution of Respondents according pre-test and post-test level of knowledge score.

**Section-III:** Effectiveness of structured teaching programme on knowledge of mothers of under five children on vitamin A deficiency disorder.

**Section-IV:** Association between pretest knowledge scores and selected demographic variables.

#### Section-I: Description Of Demographic Variables Of The Respondents

- **Age in Years:** The majority of respondents 71 (78.88%) belongs to the age group of 20-25 year, 13(14.44%) respondents belongs to the age group of 25-30 year, 05(5.55%) respondents belongs to the age group of 30-35 year and 01(1.11%) respondents belongs to the age group of above 35 year.
- **Religion:** The majority of respondents 82(91.11%) belongs to Hindu, 06(6.66%) respondents belongs to Christian and 02(2.22 %) respondents belongs to Muslim.
- **Dietary Pattern:** The majority of respondents 71 (78.89%) belongs to Vegetarian, 13 (14.44%) respondents belongs to Non-vegetarian and 06 (6.67%) respondents belongs to mixed dietary patterns.
- **Types of Family:** The majority of respondents 70 (77.77%) belongs to Nuclear family, 12 (13.33%) respondents belongs to Joint Family. and 08 (8.90%) respondents belongs to Extended family.
- **Socio-Economic Status:** The majority of respondents 72 (80%) belongs to 10001-15000 Rs/mo., 11 (12.22%) respondents belongs to 5001-10000 Rs/mo., 04 (4.44%) respondents belongs to below 5000 Rs/mo. and 03 (3.33%) respondents had above 15000 Rs/mo.
- **Previous Knowledge regarding Vitamin A deficiency:** The majority of respondents 72 (80%) respondents had no previous knowledge and 18(20%) respondents had yes for knowledge of vitamin A deficiency disorder.

#### Section II: Distribution Of Respondents According Pre-Test And Post-Test Level Of Knowledge Score

In the pre-test level out of 90 respondents 53 respondents (58.88 %) belongs to inadequate knowledge and 11 respondents (12.22%) belongs to moderate knowledge and 26 respondents (28.88%) belongs to adequate knowledge regarding adequate knowledge regarding vitamin A deficiency disorder.

In post-test 60 (66.66%) respondents belongs to moderate knowledge and 30 (33.33 %) respondents belongs to adequate knowledge, and No respondents had Inadequate knowledge.

### **Section III: Effectiveness Of Structured Teaching Programme On Knowledge Of Mothers Of Under Five Children On Vitamin-A Deficiency Disorder**

To find out the effectiveness of structured teaching programme on knowledge of mothers of under five children on vitamin A deficiency disorder, the mean post-test knowledge score (21.53) was higher than the mean pre-test score (11.13). The mean difference pre-test score (8.02) of knowledge was significant at 0.05 % level at the "t" = 17.06 \*P<0.05. Hence research hypothesis H<sub>1</sub> was accepted. This indicates that the STP was effective in increasing the knowledge of mothers of under five children on vitamin A deficiency disorder.

**H<sub>01</sub>:** There will be no significant difference in the mean pre- test and mean post- test knowledge scores regarding Vitamin A deficiency disorders among mother's of under five children.

**H<sub>1</sub>:** There will be significant difference in the mean pre test and post- test knowledge scores regarding Vitamin A deficiency disorders among mother's of under five children.

Therefore research hypothesis H<sub>1</sub> was accepted.

### **Section IV: Association Between Pre-Test Knowledge Score And Selected Demographic Variable**

The association between pre test level of knowledge with selected variables including Age, Religion, Dietary pattern, Types of family, Socio-economic status, previous knowledge related to vitamin A deficiency. Accordingly, The obtained  $\chi^2$  value for age, religion & Dietary Pattern (4.74, 7.31 & ) are lesser than the table value which indicates that there is no significant association between pre-test knowledge scores and age, religion & Dietary Pattern of respondents at df (3, 1, 3 p<0.05 level). Hence the research hypothesis is rejected and null hypothesis is accepted. The obtained  $\chi^2$  value for Types of Family and Socio-Economic Status (4.94 & 9.23) are more than the table value which indicates that there is significant association between experimental group pre-test knowledge scores and Types of Family and Socio-Economic Status at df (1, 3, p.>0.05 level) and  $\chi^2$  value for Previous knowledge regarding Vitamin A deficiency disorder (2) are lesser than the table value which indicates that there is no significant association between experimental group pre-test experimental group pre-test knowledge scores and Previous knowledge regarding Vitamin A deficiency disorder at df (1, p<0.05 level).

**H<sub>02</sub>:** There will be no significant association between knowledge scores regarding Vitamin A deficiency disorders among mother's of under five children with selected socio- demographic variables at 0.05 level of significance.

**H<sub>2</sub>:** There will be significant association between knowledge scores regarding Vitamin A deficiency disorders among mother's of under five children with selected socio- demographic variables at 0.05 level of significance.

Hence the research hypothesis is accepted with regards to Types of Family and Socio-Economic Status and null hypothesis is rejected.

## **VII. Conclusion**

The present study was done to assess the effectiveness of structured teaching programme on knowledge of mothers of under five children regarding Vitamin A deficiency disorders at selected hospitals at Udaipur.

In respondents showed that in pre-test out of 90 respondents 53 respondents (58.88 %) belongs to inadequate knowledge and 11 respondents (12.22%) belongs to moderate knowledge and 26 respondents (28.88%) belongs to adequate knowledge regarding vitamin A deficiency disorder. In post-test 60 (66.66%) respondents belongs to moderate knowledge and 30 (33.33 %) respondents belongs to adequate knowledge and No respondents had Inadequate knowledge.

To find out the effectiveness of Vitamin A deficiency the mean post-test knowledge score (21.53) was higher than the mean pre-test score (11.13). The mean difference pre-test score (8.02) of knowledge was significant at 0.05 % level at the "t" = 17.06 \*P<0.05. Hence research hypothesis H<sub>1</sub> was accepted. This indicates that the STP was effective in increasing the knowledge of mothers of under five children on vitamin A deficiency disorder, Therefore research hypothesis H<sub>1</sub> was accepted

There will also be a significant association between significant association between pre-test knowledge scores and Types of Family and Socio-Economic Status at df (1, 3, p.>0.05 level). Hence the research hypothesis H<sub>2</sub> was partially accepted.

### **Implications**

The findings of the study have implication in the areas of nursing education, practice, administration and research.

#### **Implication for Nursing Education:**

- With the emerging health care demanding and newer trends in field of nursing, education must focus on the innovation to enhance the nursing care.
- Nurses could learn about the assessment of mother's knowledge
- Nursing students should be taught about the importance of vitamin for bodily development and value for having knowledge to mother for proper growth of their child

#### **Implication for Nursing Administration:**

- The nurse administrators can initiate that to improve knowledge of mother with educational sessions and continuing nursing education programmes.
- This enable the nurse to update the knowledge and to render the effective care to public.
- The nurse administrator can train the nurses to identify the deficiency or disorders in children and give counseling and teaching regarding management to mothers.

#### **Implication for Nursing Research**

- The essence of research is to build a body of knowledge in nursing as it is involving profession. The findings of the present study serve as the basis for the professionals and the students to conduct further studies.
- The generalization of the study result can be made by replication of the study. In India only a few research studies have been done on assessment of knowledge of mother under five for vitamin A deficiency. All community personnel must join hands to provide scientifically listed materials of programme to evolve a time bound plan for the most good knowledge and safety practices. The study reveals there is a adequate knowledge of the mother of under five children in Preventive aspects corrective efforts regarding vitamin A deficiency disorders.

#### **Limitations**

- ❖ The study was limited to the assessment of knowledge of mother of under five children regarding Vitamin A deficiency disorder.
- ❖ The sample was limited to 90 only.
- ❖ The data were collected by using simpler random sampling.

#### **Recommendations**

Based on the findings of the study the following recommendations are put forward for future research.

- A similar study may be conducted with maximum time and extended days which may yield more reliable results.
- A similar study can be replicated on a large sample for wider generalization.
- A comparative study can be conducted with control and experimental group.

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