

# A Quasi-Experimental Study To Assess The Effectiveness Of Educational Package On Level Of Knowledge And Attitude Regarding Mission Indradhanush Among Mothers Of Under Five Children In Selected Urban Slum Area

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## ABSTRACT

### Background

Immunization remains one of the most cost-effective and critical public health interventions aimed at reducing childhood morbidity and mortality associated with vaccine-preventable diseases (VPDs). In India, despite significant improvements in immunization coverage over the past decades, a large proportion of children still remain either unimmunized or partially immunized, particularly among marginalized populations such as urban slum dwellers. To address this, the Government of India launched **Mission Indradhanush** in December 2014. The mission aimed to increase full immunization coverage to at least **90% by 2020**, focusing on underserved, hard-to-reach, and high-risk populations. The initiative emphasized systematic planning, micro-mapping, community engagement, and targeted catch-up campaigns. However, the success of this mission is largely dependent on the **awareness, knowledge, and attitudes** of caregivers—particularly mothers—who are the primary decision-makers for children's health in Indian families.

In the urban slums of Bengaluru, gaps in immunization coverage have been reported due to various socio-cultural, economic, and informational barriers. While government programs have attempted to bridge these gaps, there exists a pressing need to **educate mothers** effectively about the immunization schedule, the benefits of vaccines, and their role in child survival. This study sought to assess the **effectiveness of a structured educational package** on improving the knowledge and attitudes of mothers regarding Mission Indradhanush and its benefits in immunization.

**Key words:** Mission Indradhanush, Immunization, Vaccine-preventable diseases, Under-five children, Urban slums, Maternal knowledge, Attitude towards immunization

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## 1.Introduction

Immunization is universally recognized as one of the most effective public health interventions for the prevention of childhood illnesses and deaths caused by vaccine-preventable diseases (VPDs). Globally, vaccination prevents an estimated 2 to 3 million deaths each year, and its expansion has significantly contributed to a reduction in under-five mortality rates. In India, childhood immunization has been a cornerstone of the country's health policy, implemented through the Universal Immunization Programme (UIP) since 1985. Despite these efforts, a significant proportion of children, particularly in underserved urban slums, remain either unimmunized or partially immunized.

To bridge this immunization gap, the Government of India launched **Mission Indradhanush** in December 2014. The initiative aimed to achieve at least 90% full immunization coverage among children and pregnant women by focusing on high-priority districts and underserved populations. This mission adopted a strategic and focused approach to reach left-out and drop-out beneficiaries through special immunization drives. The mission further evolved with the introduction of Intensified Mission Indradhanush (IMI) in 2017 and its successive phases, reflecting the government's commitment to equitable healthcare access.

However, the success of such large-scale immunization campaigns is deeply influenced by the **awareness, knowledge, and attitude of caregivers**, particularly mothers, who are the primary decision-makers in child health

care. In urban slum areas, mothers often face multiple barriers including lack of education, misinformation, limited access to health facilities, and sociocultural beliefs that deter timely immunization. These barriers result in low immunization uptake and increase vulnerability to preventable diseases.

Educational interventions targeted at mothers have proven to be effective in improving immunization knowledge, correcting misconceptions, and promoting positive attitudes towards vaccine acceptance. Empowering mothers with accurate and accessible health information is crucial to enhancing the reach and impact of Mission Indradhanush in urban slum populations.

Given this context, the present study aims to assess the effectiveness of a **structured educational package** on improving the knowledge and attitude of mothers regarding Mission Indradhanush and immunization of under-five children in a selected urban slum area in Bengaluru. The findings of this study will contribute to evidence-based strategies for improving community participation in national immunization programmes and ultimately reducing child mortality from vaccine-preventable diseases.

### Objectives of the study

1. To assess the existing level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.
2. To assess the posttest level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.
3. To assess the effectiveness of educational package on knowledge and attitude regarding Mission Indradhanush among mothers of under five children.
4. To determine the correlation between knowledge and attitude regarding Mission Indradhanush among mothers of under five children.
5. To associate the pretest level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children with their selected demographic variables.

## 2.Literature Review

Literature review is defined as a broad, comprehensive, in depth, systematic and critical review of scholarly publication, unpublished printed or audio visual materials and personal communications. Before starting any research whether it is single study or an extended project, a literature review of previous study and experience related to the purpose investigation should be done. One of the most satisfying purpose of the literature review is the contribution to make the new knowledge insight and general scholarship of the research. A researcher analyses existing knowledge before dwelling into a new area of the study, while conducting a study, when interpreting the results of the study and when making the judgement about application of new knowledge in nursing practice.

The related literature received has been organized under the following headings:

1. Literature related to knowledge regarding immunization.
2. Literature related to knowledge and attitude regarding immunization.
3. Literature related to effectiveness of educational programme on immunization.
4. Literature related to immunization programme.

### 2.1 Literature related to knowledge regarding immunization

A non-experimental survey was conducted to assess the level of knowledge regarding immunization among mothers of under five children and associate the findings with the selected demographic variables in selected area of Pune city. 200 mothers who were having under five children were selected by non-probability convenient sampling technique. The study results shows that majority of mothers was having average knowledge 140 (70%), poor 50 (20%) and good 10 (5%). There is also association between education of mothers and knowledge regarding immunization at  $p < 0.05$  level. The chi square test result indicates that as the standard of education is higher, the knowledge of immunization was more. The study concluded that mothers knows the importance of immunization, but they have knowledge deficiency about some vaccine like BCG,DPT, doses of hepatitis B and vitamin A vaccination.

## 2.2 Literature related to knowledge and attitude regarding immunization

A survey study was conducted to assess the knowledge and attitude of mothers towards childhood immunization in Bauchi Local Government, Nizeria. Data was collected from 322 mothers by in-depth interview schedule. The finding of the study revealed that the level of mothers' education relates to their knowledge and tend to encourage childhood immunization. The study recommends that Government should employ more health officials, such as nurses to meet the WHO health staff ratio of one nurse for four patients. There is need to remove all cultural impediments that prevent women from immunization by empowering them with decision making atome. The study believed that there is the need to encourage women or girl child education as well as to educating husbands, parents and community leaders on the dangers associated with lack of immunization especially of the mentioned five killer diseases.

## Literature related to effectiveness of educational progrommeon immunization

A cross-sectional study was conducted to assess parents' knowledge and to evaluate the effect of a short educational intervention on improving parents' knowledge of childhood immunization. 73 Malaysian parents were enrolled in this study and changes in total knowledge score before and after the intervention were measured using a validated questionnaire. The result shows that the majority were mothers (n=64, 8.7%). Parents' knowledge about childhood immunization increased significantly after the intervention compared to the baseline results ( $p < 0.001$ ). There were significant differences between parents' knowledge and their educational level and monthly income ( $p < 0.001$  and  $p = 0.005$ ), respectively. The study concluded that a short educational intervention desiagned for parents' had a positive effect on their knowledge about immunization.

## Literature related to immunization programme.

A study was carried out to assess the awareness of mothers about the new vaccines introduced in the childhood vaccination programme in Delhi State. Total samples of 388 mothers were interviewed in the immunization clinic of a tertiary care hospital. The result shows that only 18.3% of the participants were aware that newer vaccines have been introduced into the programme. 48. 2% of the respondents were unaware about the same, while 33.5% claimed to have heard about it but were not sure whether newer vaccines had been introduced. It was observed that as the education status of mothers improved, their awareness regarding newer vaccines in the programme also increased. The study concluded that there is a requirement of focused publicity campaign to increase the awareness and thereby uptake of the new vaccine among caregiver

## 3.METHODOLOGY

Research methodology is a systematic way to solve the research problems. It is of vital importance which consists of the various steps that are generally adopted by a researcher in studying the problem along with the logic behind them. The methodology of the researcher indicates the general pattern of organizing the procedure for gathering valid and reliable data for the purpose of the study.

### 3.1Research approach

Research approach indicates the basic procedure for conducting the research. Quantitative research approach was used to assess the effectiveness of educational package on level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children .

### 3.2Research design

Quasi experimental one group pre- test and post- test design.

Pre- test ( $O_1$ )	Intervention (X)	Post- test ( $O_2$ )
Assess pre-test level of knowledge and attitude regarding Mission Indradhanush among	Educational package regarding Mission Indradhanush among mothers of under five	Assess post-test level of knowledge and attitude regarding Mission Indradhanush among

mothers of under five children through structured interview	children by using flash cards, pamphlets and leaflets for duration of 45 minutes.	mothers of under five children through structured interview
schedule and Likert scale.		schedule and Likert scale.

### Research variables

Variables are an attributes of a person that varies and takes on different values.

### Independent variables

Educational Package on level of knowledge and attitude regarding Mission Indradhanush.

### Dependent variables

Knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

### Demographic variables

Baseline information of mothers such as age, religion, educational status, occupation, family income per month, type of family, number of children, immunization status of children, previous knowledge regarding Mission Indradhanush and sources of information.

### Demographic variables

Baseline information of mothers such as age, religion, educational status, occupation, family income per month, type of family, number of children, immunization status of children, previous knowledge regarding Mission Indradhanush and sources of information.

### Setting

The study was conducted in Jallirepeta urban slum area, Vissakhapatnam and the setting was selected according to geographic proximity, feasibility and availability of the sample.

### Population

In this study, population comprised of all the mothers of under five children in jallaripeta urban slum area, Visakhapatnam.

### Sample

Mothers of under five children who fulfilled the inclusion criteria were the samples and the sample size was 60.

### Criteria for sample collection Inclusion criteria

The study includes

1. Mothers having children below five years.
2. Mothers of under five children who can understand telugu or Hindi
3. Mothers who are residing in Jallaripeta urban slum area, Visakhapatnam

### Exclusion criteria

The study excludes

1. Mothers of under five children who are not available at the time of data collection.
2. Mothers of under five children who are not willing to participate in the study.

### Sampling technique

The sampling technique adopted for the study was Simple Random Sampling technique.

### Tools for data collection

The tool consists of the following sections:

### Section A

It includes demographic variables which give base line information of mothers such as age, religion, educational status, occupation, family income per month, type of family, number of children, immunization status of children, previous information regarding Mission Indradhanush and sources of information.

## Section B

Structured interview schedule was used to assess the level of knowledge regarding Mission Indradhanush among mothers of under five children.

### Scoring interpretation

Scoring key was prepared for section B, score '1' was awarded to correct response and '0' for wrong response in all items. Thus a score of 22 were allotted to interpret the level of knowledge among mothers of under five children, the scores were categorized as

1. Inadequate knowledge <50%
2. Moderate knowledge 50-75%
3. Adequate knowledge > 75%

## Section C

3 points Likert attitude scale was used to assess the attitude of mothers of under five children regarding Mission Indradhanush.

In section C, for positive questions, score of 3 for agree, score of 2 for uncertain and score of 1 for disagree, for negative questions, score of 3 for disagree, score of 2 for uncertain and score of 1 for agree. Thus a total score of 42 were allotted to interpret the level of attitude among mothers of under five children, the scores were categorized as

1. Unfavorable attitude <50%
2. Neutral attitude 50-75%
3. Favorable attitude >75%

## Development of educational package

The first draft of educational package was developed on the basis of information obtained during extensive literature review and objectives in the blue print. The entire content was prepared as a lesson plan. The content was given to 8 experts and modifications were made according to their suggestions and the content was finalized.

## Procedure for data collection

### Phase I

On the first day, the existing knowledge and attitude regarding Mission Indradhanush among mothers of under five children was assessed with the help of structured interview schedule and 3 point Likert scale.

### Phase II

On the same day, educational package was given to mothers of under five children regarding Mission Indradhanush by using flash cards, pamphlets and leaflets for 45 minutes.

### Phase III

After a period of 7 days of educational package, post-test level of knowledge and attitude regarding Mission Indradhanush was assessed by using the same structured interview schedule and 3 point Likert scale.

## Data Analysis

The data was collected and analysed by using descriptive and inferential statistics:

### Descriptive statistics

1. Frequency and Percentage distribution are used to assess the demographic variables.
2. Range, Mean and Standard deviation were used to describe pre-test and post-test level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.
3. Correlation co-efficient was used to correlate the correlation between knowledge and attitude regarding Mission Indradhanush.

### Inferential statistics

1. Paired t-test was used to compare pre and post-test knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

2. Chi-square test was used to determine the association between the pre- test level of knowledge and attitude regarding Mission Indradhanush with their selected demographic variables.

## RESULTS

### Organization of study findings

Analysis is the process of evaluating data using analytical and logical reasoning to examine each component of the data provided. This chapter provides the analysis and interpretation of data collected from the mothers of under five children in Jallaripeta Urban Slum area, Visakhapatnam. The data was analysed by using descriptive and inferential statistics.

The substantive summary of the analysis was under the following sections

Section 1: Description of demographic variables of mothers of under five children.

Table 1.1: Frequency and percentage distribution of demographic variables of the mothers of under five children according to age, religion, educational status and occupation.

Table 1.2: Frequency and percentage distribution of demographic variables of the mothers of under five children according to family income per month in rupees, type of family, number of children, immunization status of children, previous information regarding Mission Indradhanush and the sources of information.

Section 2: Assessment of pre -test level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

Table 2.1: Frequency and percentage distribution of pre-test level of knowledge regarding Mission Indradhanush among mothers of under five children.

Table 2.2: Range, Mean, Standard deviation and Mean percentage of pre-test level of knowledge regarding Mission Indradhanush among mothers of under five children.

Table 2.3: Frequency and percentage distribution of pre-test level of attitude regarding Mission Indradhanush among mothers of under five children.

Table 2.4: Range, Mean, Standard deviation and Mean percentage of pre-test level of attitude regarding Mission Indradhanush among mothers of under five children.

Section 3: Assessment of post- test level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

Table 3.1: Frequency and percentage distribution of post- test level of knowledge regarding Mission Indradhanush among mothers of under five children.

Table 3.2: Range, Mean, Standard Deviation and Mean percentage of post- test level of knowledge regarding Mission Indradhanush among mothers of under five children.

Table 3.3: Frequency and percentage distribution of post- test level of attitude regarding Mission Indradhanush among mothers of under five children.

Table 3.4: Range, Mean, Standard deviation and Mean percentage of post-test level of attitude regarding Mission Indradhanush among mothers of under five children.

Section 4: Assessment of pre and post-test knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

Table 4.1: Frequency and percentage distribution of mothers according to pre and post- test knowledge regarding Mission Indradhanush.

Table 4.2: Range, Mean, Standard deviation and Mean percentage of pre and post-test knowledge regarding Mission Indradhanush among mothers of under five children.

Table 4.3: Frequency and percentage distribution of mothers according to pre and post-test attitude regarding Mission Indradhanush.

Table 4.4: Range, Mean, Standard Deviation and Mean percentage of pre and post- test attitude regarding Mission Indradhanush among mothers of under five children.

Section 5: Effectiveness of educational package on level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

Table 5.1: Paired t-test analysis for the significance of pre and post-test knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

Section 6: Assessment of correlation between the pre-test level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

Table 6.1: Correlation between the pre-test knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

Section 7: Association between pre- test level of knowledge and attitude regarding Mission Indradhanush with selected demographic variables.

Table 7.1: Association between pre- test level of knowledge regarding Mission Indradhanush among mothers of under five children with their selected demographic variables such as age in years, religion and educational status.

Table 7.2: Association between pre- test level of knowledge regarding Mission Indradhanush among mothers of under five children with their selected demographic variables such as occupation, family income per month, type of family, number of children, immunization status of children, previous information regarding Mission Indradhanush and sources of information.

Table 7.3: Association between pre-test level of attitude regarding Mission Indradhanush among mothers of under five children with their selected demographic variables such as age in years, religion and educational status.

Table 7.4: Association between pre-test level of attitude regarding Mission Indradhanush among mothers of under five children with their selected demographic variables such as family income per month, type of family, number of children, immunization status of children, previous information regarding Mission Indradhanush and sources of information.

### Section 1: Description of demographic variables of mothers of under five children

**Table1.1: Frequency and percentage distribution of demographic variables of mothers according to age, religion, educational status and occupation.**

n=60

SL.NO	DemographicVariables	Frequency	Percentage
1	<b>Age in years</b>		
	a.20 years and below	6	10.0
	b.21-25 years	28	46.7
	c.26-30 years	18	30.0
	d.31years and above	8	13.3
2	<b>Religion</b>		
	a.Hindu	42	70.0
	b. Christian	3	5.0
	c.Muslim	12	20.0
	d.Others	3	5.0
3	<b>Educational status</b>		
	a. No formal education	2	3.3
	b. Primary education	15	25.0
	c. Secondary education	11	18.3
	d. Higher secondary education	21	35.0
	e. Graduation and above	11	18.3
4	<b>Occupation</b>		
	a.Home maker	23	38.3
	b.Daily wager	17	28.3
	c.Self employed	11	18.3
	d.Government employee	2	3.3
	e.Private employee	6	10.0
	f.Others	1	1.7

Table 1.1 shows the frequency and percentage distribution of selected demographic variables of mothers of under five children as age in years, religion, educational status and occupation.

With regards to age, 10.0% (6) mothers were 20 years and below, 46.7% (28)

were 21-25 years, 30.0% (18) were 26-30 years and 13.3% (8) were 31 years and above. With respect to religion, 70.0% (42) mothers belong to Hindu religion, 5.0%

(3) mothers belong to Christian religion, 20.0% (12) belong to Muslim religion and 5.0% (3) belong to other religion. With regards to educational status of mothers, 3.3%

(2) had no formal education, 25.0% (15) had primary education, 18.3% (11) had

secondary education, 35.0% (21) had higher secondary education and 18.3% (11) had graduation and above level of education. With regards to occupation of mothers, 38.3% (23) were homemaker, 28.3% (17) were daily wager, 18.3% (11) were self-employed, 3.3% (2) were government employee, 10% (6) were private employee and 1.7% (1) was other occupations.

**Table1.2: Frequency and percentage distribution of demographic variables of the mothers according to occupation, family income per month in rupees, type of family, number of children, immunization status of the children, previous information about Mission Indradhanush and the sources of information.**

n=60

Sl. No	DemographicVariables	Frequency	Percentage
5	<b>Family income (rupees/month)</b>		
	a.≤10,000	37	61.7
	b.10,001-15,000	16	26.7
	c.15001 and above	7	11.7
6	<b>Type of family</b>		
	a. Nuclear family	17	28.3
	b. Joint family	38	63.3
	c. Extended family	5	8.3
7	<b>Number of children</b>		
	a. 1	27	45.0
	b. 2	22	36.7
	c. 3 or more	11	18.3
8	<b>Immunization status of children</b>		
	a. Fully immunized	42	70.0
	b. Partially immunized	15	25.0
	c. Drop out	3	5.0
9	<b>Have you heard about Mission Indradhanush?</b>		
	a. Yes	24	40.0
	b. No	36	60.0
	<b>If yes, specify the sources of information (n=24)</b>		
	a. Health personal	13	54.2
	b. Family member	5	20.8
	c. Friends	-	-
	d. Mass media	6	25.0

The above table shows the frequency and percentage distribution of selected demographic variables of mothers of under five children according to family income per month in rupees, type of family, number of children, immunization status of children, knowledge about Mission Indradhanush and sources of information.

With regards to family income per month in rupees, 61.7.% (37) had an income of ≤ 10,000 per month, 26.7% (16) had an income of 10,001-15,000 per month, and 11.7 % (7) had an income of 15,001 and above per month .With regards

to type of family, 28.3% (17) belongs to nuclear family, 63.3% (38) belongs to joint family and 8.3% (5) belongs



to extended family. With regards to number of children 45% (27) had one child, 36.7% (22) had two children and 18.3% (11) had three or more children. With regards to immunization status of the children 70.0% (42) were fully immunized, 25.0% (15) were partially immunized and 5.0% (3) were drop out. With regards to previous knowledge about Mission Indradhanush 40.0% (24) have heard about Mission Indradhanush and 60.0% (36) have not heard about Mission Indradhanush. With regards to source of information, 54.2% (13) heard about Mission Indradhanush through health personnel, 20.8% (5) heard from family members and 25% (6) heard through mass media.

## Section 2: Assessment of pre- test level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

**Table 2.1: Frequency and percentage distribution of pre-test level of knowledge regarding Mission Indradhanush among mothers of under five children.**

n=60

Sl. No	Pre-test level of knowledge	Frequency	Percentage
1.	Inadequate knowledge (<50%)	45	75.0
2.	Moderate knowledge (50-75%)	11	18.3
3.	Adequate knowledge (>75%)	4	6.7
Total		60	100

The above table shows that in the pre- test, 75.0% (45) of mothers had inadequate knowledge, 18.3% (11) had moderate knowledge and 6.7% (4) had adequate knowledge.

**Table 2.2: Range, Mean, Standard Deviation and Mean Percentage of pre- test level of knowledge regarding Mission Indradhanush among mothers of under five children.**

n=60

Pre-test knowledge	Max. Score	Range	Mean	SD	Mean%
Over all	22	3-19	10.17	4.49	46.2%

The above table shows that in the pre-test, the range was 3- 19, mean was 10.17, SD was 4.49 and mean percentage was 46.2.

**Table 2.3: Frequency and percentage distribution of pre-test level of attitude regarding Mission Indradhanush among mothers of under five children.**

n=60

Sl. No	Post-test level of knowledge	Frequency	Percentage
1.	Unfavorable attitude (<50%)	-	-
2.	Neutral attitude (50-75%)	40	66.7
3.	Favorable attitude (>75%)	20	33.3
Total		60	100

The above table shows that in the pre-test, 66.7% (40) of mothers had neutral attitude and 33.3% (20) had favorable attitude.

**Table 2.4: Range, Mean, Standard Deviation and Mean Percentage of pre-test level of attitude regarding Mission Indradhanush among mothers of under five children.**

n=60

Pre-test knowledge	Max. Score	Range	Mean	SD	Mean%
Over all	42	27-36	30.58	2.39	72.8%

The above table shows that in the pre-test range was 27-36, mean was 30.58, SD was 2.39 and mean percentage was 72.8%.

### Section 3: Assessment of post- test level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

**Table 3.1: Frequency and percentage distribution of the post-test level of knowledge regarding Mission Indradhanush among mothers of under five children.**

n=60

Sl. No	Post-test level of knowledge	F	%
1.	Inadequate knowledge (<50%)	-	-
2.	Moderate knowledge (50-75%)	26	43.3
3.	Adequate knowledge (>75%)	34	56.7
Total		60	100

The above table shows that in the post- test, 43.3% (26) of mothers had developed moderate knowledge and 56.7% (34) of mothers developed adequate knowledge.

**Table 3.2: Range, Mean, Standard deviation and Mean percentage of the post- test level of knowledge regarding Mission Indradhanush among mothers of under five children.**

n=60

Post-test knowledge	Max. Score	Range	Mean	SD	Mean%
Over all	22	11-22	17.00	3.36	77.3%

The above table shows that in the post- test, the range was 11-22, mean was 17.00, SD was 3.36 and mean percentage was 77.3%.

**Table 3.3: Frequency and Percentage distribution of the post- test level of attitude regarding Mission Indradhanush among mothers of under five children.**

n=60

Sl. No.	Post-test level of attitude	Frequency	Percentage
1.	Unfavorable attitude (<50%)	-	-
2.	Neutral attitude (50-75%)	-	-
3.	Favorable attitude (>75%)	60	100
Total		60	100

The above table shows that in the post test, 100% (60) have developed favorable attitude.

**Table 3.4: Range, Mean, Standard deviation and Mean percentage of post- test level of attitude regarding Mission Indradhanush among mothers of under five children.**

n=60

Post-test Attitude	Max. Score	Range	Mean	SD	Mean%
Over all	42	33-42	37.21	2.50	88.6%

The above table shows that in the post test, the range was 33- 42, mean was 37.21, SD was 2.50 and mean percentage was 88.6%.

#### Section 4: Assessment of pre and post-test knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

**Table 4.1: Frequency and Percentage distribution of mothers according to pre and post- test level of knowledge regarding Mission Indradhanush.**

n=60

Sl. No.	Level of knowledge	Pre-test		Post-test	
		F	%	F	%
1.	Inadequate knowledge (<50%)	45	75.0	-	-
2.	Moderate knowledge (50-75%)	11	18.3	26	43.3
3.	Adequate knowledge (>75%)	4	6.7	34	56.7
Total		60	100	60	100

The above table 4.1 presents the frequency and percentage distribution of mothers according to level of knowledge before and after the educational package. Majority of 75.0% (45) of the mothers had inadequate knowledge, 18.3% (11) had moderate knowledge and 6.7% (4) had adequate knowledge before the educational package but after educational package was administered, majority of 56.7% (34) of mothers had developed adequate knowledge and 43.3% (26) developed moderate knowledge.

Mothers of under five children according to level of knowledge before educational package were within inadequate, moderate and adequate but after the educational package, majority of them had developed adequate knowledge.

It evidenced that the educational package had shown the effect on improving the level of knowledge regarding Mission Indradhanush among mothers of under five children.

**Table 4.2: Range, Mean, SD and Mean percentage of pre and post -test level of knowledge regarding Mission Indradhanush among mothers of under five children**

n=60

Sl. No.	Knowledge	Max. Score	Range	Mean	SD	Mean%
1.	Pre test	22	3-19	10.17	4.49	46.2
2.	Post test	22	11-22	17.00	3.36	77.3

The above table shows that in the pre- test range was 3-19, mean was 10.17, SD was 4.49 and mean percentage was 46.2%. In the post- test, range was 11-22, mean was 17.00, SD was 3.36 and mean percentage was 77.3%.

**Table 4.3: Frequency and Percentage distribution of mothers of under five children according to the pre and post-test level of attitude regarding Mission Indradhanush.**

n=60

Sl.	Level of attitude	Pre-test	Post-test
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No.		F	%	F	%
1.	Unfavorable attitude (<50%)	-	-	-	-
2.	Neutral attitude (50-75%)	40	66.7	-	-
3.	Favorable attitude (>75%)	20	33.3	60	100
Total		60	100	60	100

The above table presents the frequency and percentage distribution of mothers of under five children according to level of attitude before and after the educational package. 66.7% (40) of mothers had neutral attitude and 33.3% (20) had favorable attitude before the educational package, but after the educational package, 100% (60) of them had developed favorable attitude.

Mothers of under five children according to level of attitude before educational package were within neutral attitude but after the educational package 100% of have developed favorable attitude.

It evidenced that the educational package had shown the effect on improving the level of attitude among mothers of under five children.

**Table 4.4: Range, Mean, SD and Mean percentage of pre and post -test level of attitude regarding Mission Indradhanush among mothers of under five children.**

n=60

Sl. No	Attitude	Max. Score	Range	Mean	SD	Mean%
1.	Pre-test	42	27-36	30.58	2.39	72.8%
2.	Post-test	42	33-42	37.21	2.50	88.6%

The above table shows that in the pre- test, range was 27-36, mean was 30.58, SD was 2.39 and mean percentage was 72.8%. In the post test, range was 33-42, mean was 37.21, SD was 2.50 and mean percentage was 88.6%.

#### **Section 5: Effectiveness of educational package on level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.**

**Table 5.1: Paired t-test analysis for the significance of pre and post- test knowledge and attitude regarding Mission Indradhanush among mothers of under five children.**

n=60

Sl. no.	Variables	Max score	Pre and post knowledge difference			Paired t-value	P-value
			Mean difference	SD of difference	% of increase		
1.	Knowledge	22	6.83	1.13	31.0	14.45*	p<0.001
2.	Attitude	42	6.63	0.11	15.7	11.16*	p<0.001

Note: \*- denotes significant (  $p < 0.001$ ) for  $df = 59$ .

The above table depicts the outcome of paired t-test analysis carried over to assess the significance of pre and post-test mean score of knowledge and attitude regarding Mission Indradhanush among mothers of under five children. The paired t- test was found to be significant to overall knowledge and attitude regarding Mission Indradhanush.

It evidenced that there is a significant difference in knowledge and attitude after the intervention of educational package.

#### **Testing of hypothesis**

**H<sub>1</sub>:** There is a significant difference between the mean pre- test and post- test score of knowledge and attitude

regarding Mission Indradhanush among mothers of under five children.

$H_{01}$ : There is no significant difference between the mean pre -test and post- test score of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

The table 5.1 represents the mean pre-test and post-test knowledge and attitude regarding Mission Indradhanush among mothers of under five children respectively. The paired t- test was carried out and it was found out significant at  $P<0.001$  level, hence reseaech hypothesis ( $H_1$ ) was accepted and the null hypothesis ( $H_0$ ) was rejected. It provides evidence that the educational package was significantly effective in improving the knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

#### Section 6: Assessment of correlation between pre-test knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

Table 6.1: Correlation between the pre-test knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

n=60

Variables	Mean	SD	r	p-value
Knowledge	10.17	4.49	0.486*	p<0.05
Attitude	30.58	2.39		

Note: \*- Significant at 5% level (i.e.,  $p<0.05$ )/NS-not significant at 5% level (i.e.,  $>0.05$ )

The above table 6.1 presents the correlation between knowledge and attitude regarding Mission Indradhanush among mothers of under five children. The Karl Pearson's correlation was found to be ( $r=0.486$ ) and it was found to be statistically significant at  $p<0.05$ . It was evidenced that there was significant linear correlation between knowledge and attitude ie., increase in knowledge bears the further increase in attitude regarding Mission Indradhanush among mothers of under five children. There was significant trend in increase of attitude with the increase in knowledge through the regression model (Attitude =  $27.29 + 0.34 \times \text{Knowledge}$  ). The R-square was 0.24, which implied that chance of increase in attitude was by the influence of 24.0% increase of knowledge and remaining influence was due to other factors.

#### Testing of Hypothesis

In order to evaluate the correlation between knowledge and attitude regarding Mission Indradhanush among mothers of under five children, the following hypothesis were tested.

$H_2$ : There is a significant correlation between knowledge and attitude regarding Mission Indradhanush among mothers of under five children

$H_{02}$ : There is no significant correlation between knowledge and attitude regarding Mission Indradhanush among mothers of under five children

The above table 6.1 indicates that there positive correlation between knowledge and attitude regarding Mission Indradhanush among mothers of under five children at  $p<0.05$  level hence, research hypothesis was accepted and null hypothesis was rejected.

#### Section 7: Association between pre-test level of knowledge and attitude with their selected demographic variables.

Table 7.1: Association between pre- test level of knowledge regarding Mission Indradhanush among mothers of under five children with their selected demographic variables such as age in years, religion and educational status

n=60

Sl. No	Demographic variables	Sample (n=60)	Level of knowledge		Chi- square value	p-value
			$\leq$ Median	$>$ Median		

		F	%	F	%	F	%			
1	Age in years									
	a. 20 years and below	6	10.0	5	14.3	1	4.0	8.759, df=3, S	p<0.05	
	b. 21-25 years	28	46.7	19	54.3	9	36.0			
	c. 26-30 years	18	30.0	9	25.7	9	36.0			
	d. 31 and above	8	13.3	2	5.7	6	24.0			
2	Religion									
	a. Hindu	42	70.0	19	54.3	23	92.0	10.676, df=3, S	p<0.05	
	b. Christian	3	5.0	3	8.6	0	0			
	c. Muslim	12	20.0	11	31.4	1	4.0			
	d. Others	3	5.0	2	5.7	1	4.0			
3	Educational status									
	a.Noformal education	2	3.3	2	5.7	0	0	18.801, df=4, S	p<0.05	
	b. Primary education	15	25.0	13	37.1	2	8.0			
	c.Secondary.education	11	18.3	8	22.9	3	12.0			
	d.Higher Secondary education	21	35.0	11	31.4	10	40.0			
	e.Graduation and above	11	18.3	1	2.9	10	40.0			

Note: S=significant ( $p<0.05$ ); NS=Not significant ( $p>0.05$ ).

Table 7.2 Association between pre - test level of knowledge regarding Mission Indradhanush among mothers of under five children with their selected demographic variables such as occupation, family income, type of family, number of children, immunization status of children, previous knowledge about Mission Indradhanush and sources of information.

n=60

SL. NO	Demographic variables	Sample no (60)		Level of knowledge				Chi square value	p-value	
				≤Median		>Median				
		F	%	F	%	F	%			
4	Occupation								21.839, df=5, S	p<0.05
	a. Home maker	23	38.3	10	28.6	13	52.0			
	b. Daily wagger	17	28.3	16	45.7	1	4.0			
	c. Self employed	11	18.3	8	22.9	3	12.0			
	d.Government employee	2	3.3	1	2.9	1	4.0			
	e. Private employee	6	10.0	0	0	6	24.0			
	f. Others	1	1.7	0	0	1	4.0			
5	Family income(Rupees/month)								4.306, df=2, NS	p>0.05
	a. ≤10,000	37	61.7	25	71.4	12	48.0			
	b. 10001-15,000	16	26.7	8	22.9	8	32.0			
	c. Above 15,001	7	11.7	2	5.7	5	20.0			
6	Type of family								0.284, df=2, NS	p>0.05
	a. Nuclear family	17	28.3	9	25.7	8	32.0			
	b. Joint family	38	63.3	23	65.7	15	60.0			
	c. Extended family	5	8.3	3	8.6	2	8.0			
7	Number of children								10.691,	p<0.05
	a. 1	27	45.0	15	42.9	12	48.0			

	b. 2	22	36.7	9	25.7	13	52.0	df=2, S		
	c. 3 or more	11	18.3	11	31.4	0	0			
8	Immunization status of children								2.386, df=2, NS	p>0.05
	a. Fully immunized	42	70.0	3	65.7	19	76.0			
	b. Partially immunized	15	25.0	9	25.7	6	24.0			
	c. Drop out	3	5.0	3	8.6	0	0			
9	Have you heard about Mission Indradhanush?								7.143, df=2, S	p<0.05
	a.	a. Yes	24	40.0	9	25.7	15	60.0		
		b. No	36	60.0	26	74.3	10	40.0		
b.	If yes, specify the sources of information (n=24)								1.546, df=2, NS	p>0.05
	a.	Health personal	13	54.2	6	66.7	7	46.7		
	b.	Family member	5	20.8	2	22.2	3	20.0		
	c.	Friends	0	0	0	0	0	0		
	d.	Mass media	6	25.0	1	11.1	5	33.3		

Note: S-significant ( $p<0.05$ ); NS-Not significant ( $p>0.05$ ).

The table 7.1 and 7.2 envisages the outcome of chi square analysis being carried out to bring out the association between the pre-test level of knowledge regarding Mission Indradhanush among mothers of under five children with their demographic variables. The categories such as age, religion, educational status, occupation, family income, number of children, immunization status of the children, previous information about Mission Indradhanush and the sources of information were accounted for determining the association with knowledge. Out of which, age, religion, education and occupation of mothers, family income, number of children and previous information of the demographic variables of the mothers of under five children were found significant with level of knowledge regarding Mission Indradhanush.

**Table 7.3: Association between pre- test level of attitude regarding Mission Indradhanush among mothers of under five children with their selected demographic variables such as age in years, religion, educational status and occupation.**

n =60

Sl. No	Demographic variables	Sample (n=60)		Level of attitude				Chi-square value	P-value	
				≤ Median		>Median				
		F	%	F	%	F	%			
1	Age in years								3.252, df=3, NS	p>0.05
	a.20 yearsand below	6	10.0	3	8.1	3	13.0			
	b.21-25 years	28	46.7	18	40.6	10	43.5			
	c.26-30 years	18	30.0	13	35.1	5	21.7			
	d.31 and above	8	13.3	3	8.1	5	21.7			
2	Religion								3.797, df=3, NS	p>0.05
	a. Hindu	42	70.0	24	64.9	18	78.3			
	b. Christian	3	5.0	2	5.4	1	4.3			
	c. Muslim	12	20.0	10	27.0	2	8.7			
	d. Others	3	5.0	1	2.7	2	8.7			
3	Educational status								16.076, df=4, S	p<0.05
	a. No formal education	2	3.3	2	5.4	0	0			
	b. Primary education	15	25.0	13	35.1	2	8.7			
	c. Secondary education	11	18.3	5	13.5	6	26.1			
	d.Higher Secondary education	21	35.0	15	40.5	6	26.1			

	e. Graduation and above	11	18.3	2	5.4	9	39.1		
4	<b>Occupation</b>								
	a.Home maker	23	38.3	13	35.1	10	43.5	9.331, df=5, S	p<0.05
	b. Daily wager	17	28.3	15	40.5	2	8.7		
	c. Self employed	11	18.3	6	16.2	5	21.7		
	d.Government employee	2	3.3	1	2.7	1	4.3		
	e. Private employee	6	10.0	2	5.4	4	17.4		
	f. Others	1	1.7	0	0	1	4.3		

Note: S-significant ( $p<0.05$ ); NS-Not significant ( $p>0.05$ ).

**Table 7.4:** Association between pre- test level of attitude regarding Mission Indradhanusamong mothers of under five children with their selected demographic variables such as family income, type of family, number of children, immunization status, previous information regarding Mission Indradhanush and sources of information.

n=60

SL. NO	Demographic variables	Sample no (60)		Level of knowledge				Chi square value	p-value
				≤Median		>Median			
		F	%	F	%	F	%		
5	Family income(Rupees/month)								
	a. ≤10,000	37	61.7	25	67.6	12	52.2	1.791, df=2, NS	p>0.05
	b.10001-15,000	16	26.7	9	24.3	7	30.4		
	c. Above 15,001	7	11.7	3	8.1	4	17.4		
6	Type of family								
	a. Nuclear family	17	28.3	11	29.7	6	26.1	1.696, df=2, NS	p>0.05
	b. Joint family	38	63.3	24	64.9	14	60.9		
	c. Extended family	5	8.3	2	5.4	3	13.0		
7	Number of children								
	a. 1	27	45.0	14	37.8	13	56.5	8.410, df=2, S	p<0.05
	b. 2	22	36.7	12	32.4	10	43.5		
	c. 3 or more	11	18.3	11	29.7	0	0		
8	Immunization status of children								
	a. Fully immunized	42	70.0	25	67.6	17	73.9	0.272, df=2, NS	p>0.05
	b.Partially immunized	15	25.0	10	27.0	5	21.7		
	c. Drop out	3	5.0	2	5.4	1	4.3		
9 a.	Have you heard about Mission Indradhanush?								
	a.Yes	24	40.0	13	35.1	11	47.8	0.952, df=2, NS	p>0.05
	b.No	36	60.0	24	64.9	12	52.2		
b.	If yes, specify the sources of information (n=24)								
	a.Health personal	13	54.2	6	46.2	7	63.6	6.616, df=2, S	p<0.05
	b. Family member	5	20.8	5	38.5	0	0		



c.Friends	0	0	0	0	0	0
d.Mass media	6	25.0	2	15.4	4	36.4

Note: Ssignificant ( $p < 0.05$ ); NS-Not significant ( $p > 0.05$ ).

The table 7.3 and 7.4 envisages the outcome of chi square analysis being carried out to bring out the association between the pre- test level of attitude regarding Mission Indradhanush among mothers of under five children with their demographic

variables. The categories such as age, religion, educational status, occupation, family income, type of family, number of children, immunization status of children, previous information about Mission Indradhanush and the sources of information were accounted for determining the association with attitude. Out of which, education, occupation, number of children and source of information of the demographic variables of the mothers of under five children were found significant with level of attitude regarding Mission Indradhanush.

### Testing of hypothesis

**H<sub>3</sub>:** There is a significant association between the pre- test level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children with their selected demographic variables.

**H<sub>03</sub>:** There is no significant association between the pre- test level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children with their selected demographic variables.

The table 7.1 and 7.2, shows the chi-square value at the level of  $p < 0.05$  for knowledge and prove that there was association between the pre-test level of knowledge regarding Mission Indradhanush among mothers of under five children with their selected demographic variables such as age, religion, education, occupation, number of children and previous information. Hence, research hypothesis (H<sub>3</sub>) was accepted and null hypothesis (H<sub>03</sub>) was rejected.

The table 7.3 and 7.4 shows the chi-square value at the level of  $p < 0.05$  for attitude and prove that there was association between the pre-test level of attitude regarding Mission Indradhanush among mothers of under five children with their selected demographic variables such as education, number of children and source of information. Hence null hypothesis (H<sub>03</sub>) was rejected and research hypothesis (H<sub>3</sub>) was accepted.

## DISCUSSION

This chapter deals with discussion part according to the result obtained from the statistical analysis based on the data of the study, review of literature and hypothesis which was formulated to this study. The present study was conducted to assess the effectiveness of educational package on level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children in Kengeri Upanagar urban slum area, Bengaluru.

In order to achieve the objective of the study, a quasi experimental one group pre-test post-test design was adopted. The samples were selected by random sampling technique. The data was collected from 60 respondents before and after providing the educational package regarding Mission Indradhanush. The findings of the study has been discussed with reference to the objectives, hypothesis and with the findings of the other studies.

### Demographic variables of the subjects

Regarding the frequency and percentage distribution on demographic variables of mothers of under five children according to the age, religion, educational status, occupation, family income per month in rupees, type of family, number of children, immunization status of children, previous information about Mission Indradhanush and the sources of information.

With regards to age, majority of the mothers of under five children 46.7% (28) belongs 21-25 years, 30.0% (18) mothers belongs to below 26-30 years, 13.3% (8) belong to 31 years and above and 10.0% (6) belongs to 20 years and below .

With regards to religion, majority of the mothers 70.0% (42) belongs to Hindu religion 20.0% (12) belongs to Muslim religion, 5.0% (3) belongs to Christian and 5.0% (3) belongs to other religion.

With regards to educational status of mothers majority of them 35.0% (21) had secondary education, 25.0% (15) had primary education, 18.3% (11) had graduation and above, 18.3% (11) had secondary education, and 3.3 % (2) had no formal education.

With regards to occupation of mothers, majority of mothers 38.3% (23) were home maker, 28.3% (17) were daily wager, 18.3% (11) were self employed, 10.0% (6) were private employee, 3.3% (2) were government employee and 1.7% (1) were from others occupation,

With regards to family income per month in rupees, majority of mothers 61.7% (37) had an income of 10,000 and below, 26.7% (16) had an income of 10,001-15,000 and 11.7% (7) had an income of 15,001 and above.

With regards to type of family, majority of mothers 63.3% (38) belongs to joint family, 28.3% (17) belongs to nuclear family and 8.3% (5) belongs to extended family.

With regards to number of children, majority of mothers 45.0% (27) had one child, 36.7% (22) had two children and 18.3% (11) had three or more children.

With regards to immunization status of the children, majority of children 70.0% (42) were fully immunized, 25.0% (15) were partially immunized and 5.0% (3) were drop out.

With regards to previous knowledge about Mission Indradhanush, majority of mothers 60.0% (36) had not heard about Mission Indradhanush and 40.0% (24) had heard about Mission Indradhanush.

With regards to sources of information, majority of mothers 54.2% (13) had heard about Mission Indradhanush from health personnel, 25.0% (6) had heard from mass media, 20.8% (5) had heard from family members and no mothers had heard from friends.

**The first objective was to assess the existing level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.**

With regards to the pre- test level of knowledge regarding Mission Indradhanush among mothers of under five children from table 2.1 and 2.2 it is evident that 75.0% (45) of mothers had inadequate knowledge, 18.3% (11) had moderate knowledge and 6.7% (4) had adequate knowledge from table 2.2. All the pre-test knowledge scores were ranging within 3- 19, mean was 10.17, SD was 4.49 and mean percentage was 46.2%

With regards to the pre- test level of attitude regarding Mission Indradhanush among mothers of under five children from table 2.3 and 2.4, it is evident that 66.7% (40) of mothers had neutral attitude and 33.3% (20) had favorable attitude. The attitude scores were ranging between 27-36, mean 30.58, SD was 2.39 and mean percentage 72.8%.

The findings of the study was supported by a non experimental study which was conducted to assess the knowledge regarding immunization among mothers of under five children and prepare health education programme regarding immunization at Kunderki U.P. India. The mothers of under five children were selected as sample by using convenient sampling technique. The sample size was 30. The finding of the study shows that good knowledge score is 10%, average knowledge score is 23.34% and poor knowledge score is 66.66%. The study concluded that the mothers of under five having poor knowledge of immunization.

A descriptive study was conducted to assess the knowledge and attitude regarding national vaccine programme among mothers of under five in selected hospital Mangalore. The sample size consists of 300 mothers. The study result shows that 289 (96.33%) mothers knew that BCG vaccine prevents Tuberculosis. Only 26 (8.66%) mothers were knowledgeable about the measures that can be done if the child has not given DPT. 11 (3.66%) mothers knew that chicken pox can be prevented by varicella vaccine. The study concluded that even though the mothers had good attitude regarding vaccines but they were unaware of Hib vaccine and rotavirus vaccine and awareness should be created among mothers.

**The second objective was to assess post-test level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.**

With regards to the post- test level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children, from table 3.1 and 3.2, it is evident that 43.3% (26) had moderate knowledge and 56.7% (34) had adequate knowledge and post- test knowledge scores were ranging between 11-22 with a mean

17.00 and mean percentage 77.3 where SD was 3.36.

With regards to post- test level of attitude, all 100% (60) had developed favorable attitude regarding Mission Indradhanush and all the post- test attitude scores were ranging between 33-42 with a mean 37.21 and mean percentage 88.6 where SD was 2.50.

**The third objective was to assess the effectiveness of educational package on level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.**

With regards to the pre -test and post- test level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children, from the table 5.1, the 't' value were found to be 14.45 for knowledge and 11.16 for attitude which was statistically significant at  $p < 0.001$  level.

The findings of the study was supported by a quasi experimental study conducted to assess the effectiveness of health teaching programme on knowledge regarding immunization among mothers of under five children in selected community setting, Aurangabad. 40 mothers of under five children were selected by purposive sampling technique. The study result shows that the overall pre-test mean knowledge score was found to be 14.675 and SD as 4.226. And the overall post-test mean knowledge score was found to be 21.800 and SD as 4.207. Paired t-test shows statistical significance at 5 per cent level ( $p < 0.05$ ) establishing the impact of planned teaching on knowledge regarding immunization among mothers of under five children. The study concluded that post-test mean knowledge score of mothers indicated significant difference which is a net benefit to the mothers due to the effectiveness of health teaching program.

**The fourth objective was to correlate the pre-test level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.**

The table 6.1 revealed that there was significant linear correlation ( $r = 0.486$ )

between knowledge and attitude regarding Mission Indradhanush among mothers of under five children which is significant at  $p < 0.05$  level.

The findings of the study was supported by a descriptive study which was conducted to assess the knowledge and attitude on immunization among the mothers of under five children, Halaga village, Belgaum, Karnataka. 50 mothers of under five

children were selected by convenient and purposive sampling. The result reveals that mean knowledge value on immunization of mothers of under five children was 58.1 and attitude score was 41.4. The correlation between knowledge on immunization and attitude of mothers showed that there is a positive correlation between knowledge on immunization and attitude ( $r = 0.483$ ). The study concluded that the mothers of under five children of rural community area had moderately adequate knowledge on immunization and moderate positive attitude towards immunization.

A survey study was conducted to assess the knowledge and attitude of mothers towards childhood immunization in Bauchi Local Government, Bauchi State- Nizeria. The total sample size was 322 mothers and data was collected by in-depth interview schedule. The finding of the study revealed that the level of mothers' education relates to their knowledge and tend to encourage childhood immunization. The study also believed that there is the need to encourage women or girl child education as well as to educating husbands, parents and community leaders on the dangers associated with lack of immunization especially of the mentioned five killer diseases.

**The fifth objective was to associate between the pre- test level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children with their selected demographic variables.**

The table 7.1 and 7.2 shows that there was a significant association between the pre-test level of knowledge regarding Mission Indradhanush among mothers of under five children with their selected demographic variables such as age, religion, education and occupation of mothers, number of children and information regarding Mission Indradhanush.

The table 7.3 and 7.4 shows that there was a significant association between the pre-test level of attitude regarding Mission Indradhanush among mothers of under five children with their selected demographic variables such as educational status of mothers, number of children and sources of information.

The findings is supported by a non-experimental survey was conducted to assess the level of knowledge regarding

immunization among mothers of under five children and associate the findings with the selected demographic variables in selected area of Pune city. 200 mothers who were having under five children were selected from selected area by non-probability convenient sampling technique. The study results shows that majority of mothers was having average knowledge 140 (70%), poor 50 (20%) and good 10 (5%). There is also association between education of mothers and knowledge regarding immunization at  $p < 0.05$  level. The chi square test result indicates that as the standard of education is higher, the knowledge of immunization was more. The study concluded that mothers knows the importance of immunization, but they have knowledge deficiency about some vaccine like BCG, DPT, doses of hepatitis B and vitamin A vaccination.<sup>25</sup>

A non experimental research exploratory study was conducted to assess the knowledge among mothers of under five children regarding immunization in selected villages of Moga, Punjab. 100 mothers of under five children were selected from anganwadis by using simple random sampling method. The finding of the study revealed that 12% of mothers had good knowledge, 40% of mothers had average knowledge and 48% of mothers had below average knowledge regarding immunization. The total mean percentage of mothers knowledge regarding immunization is (69.12%). There was statistically significant effect of age, qualification, occupation of mother, family income in rupees, religion, numbers of children and source of information on knowledge regarding immunization. So the study concluded that the level of knowledge vary according to different demographic variables.<sup>28</sup>

## CONCLUSION

This chapter presents a brief summary of the study with limitation, nursing implications and recommendations for future research and conclusion

The present study assessed the effectiveness of educational package on level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children in Jallaripeeta Urban slum area, Visakhapatnam . In the pre- test level of knowledge, 45 (75.0%) of mothers had inadequate knowledge, 11 (18.3%) had moderate knowledge and 4 (6.7%) had adequate knowledge whereas in post-test, 26(43.3%) of mothers had moderate knowledge and 34 (56.7%) of them had developed adequate knowledge. On the assessment of level of attitude in pre-test, 40 (66.7%) had neutral attitude and 20 (33.3%) had favorable attitude and none of them had unfavorable attitude whereas in the post-test, 60 (100%) had developed favorable attitude. The paired t-test was carried out and it was found to be significant at  $p < 0.05$  level. Hence, research hypothesis was accepted and null hypothesis was rejected.

The study concluded that educational package is significantly effective in improving the level of knowledge and attitude regarding Mission Indradhanush among mothers of under five children.

## Nursing Implications

The investigator has drawn the following implications from the studies which are of vital concern to the field of nursing practice, nursing administration, nursing education and nursing research.

### Nursing Practice

1. Educational package can be effective in improving the knowledge and attitude of mothers regarding Mission Indradhanush.
2. The community health nurse should identify the various factors which affects the immunization of children and pregnant mothers, create awareness about importance of immunization.
3. Regular health education programme can be conducted by the nursing personnel in community setting which helps the mothers to be aware about the ongoing immunization Programme for children and pregnant mothers, the optional vaccines, benefits of immunization and about the killer or vaccine preventable diseases.
4. The study carries an implication that community health nurse plays an important role in imparting knowledge and helping the mothers regarding Mission Indradhanush and help the Government to achieve the goals and objectives.

### Nursing Education

1. Nurse should equip themselves by reading more books, recent advances and current health related issues to

keep themselves updated.

2. The nursing curriculum should include more on the recent National Health Programme for effective utilization of the ongoing health programme including immunization programme so that the public can benefit from various Health schemes.

### **Nursing Administration**

1. Nurse administrator should collaborate and co-ordinate with the community leaders in creating awareness in the community for effective utilization of Universal Immunization Programme including Mission Indradhanush.
2. Nurse administrator should arrange in-service education, training and staff development programme to nursing personnel regarding latest and ongoing National health programme including Universal Immunization Programme and Mission Indradhanush.
3. Nurse administrator should arrange special training to School Teachers, Anganwadi workers and social workers about Mission Indradhanush and Universal Immunization Programme, its importance and about vaccine preventable diseases or killer diseases.

### **Nursing Research**

1. The study should be generalized and conducted in a larger population so it can be used for Evidenced Based Studies .
2. The study should be disseminated through research journals and scientific papers.
3. The study should be utilized for future studies and references.

### **Recommendations**

1. Health education programs should be regularly conducted in urban slums with the support of local ASHA and Anganwadi workers.
2. Similar quasi-experimental studies should be conducted in diverse geographical settings to generalize the effectiveness of the educational package.
3. Use of digital tools (mobile reminders, videos in local languages) may further enhance the reach and effectiveness of such educational interventions.

### **Limitations**

- The study was limited to mothers who were having children below five years in Jallari peta urban slum area, Visakhapatnam .
- The sample size of the study was limited to 60 mothers of under five children.

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