

A Study to Evaluate the Profitability of a Structural Teaching Programme on Information Relating to the Prevention of URI among Mothers of Children under Five at the Well Baby Clinic at PHCS under RHTC Najafgarh, Delhi/NCR

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Abstract:- Infections that affect the upper respiratory tract, which includes the nose, sinuses, pharynx, and larynx, are known as upper respiratory tract infections, or URIs. Examples of this include tonsillitis, pharyngitis, laryngitis, sinusitis, otitis media, nasal blockage, and common cold. While some infections are caused by bacteria, viruses account for the majority of illnesses. Although they are considerably less prevalent, upper respiratory tract infections can also be caused by fungi or helminths. This research study was conducted at the well-baby clinic at PHCs under RHTC Najafgarh, Delhi/NCR, to evaluate the efficacy of a structured training session on knowledge regarding the prevention of upper respiratory tract infections (URTIs) among mothers of children under five. The Multiple-choice questions are used in self-administered surveys to gauge mothers' awareness of upper respiratory tract infections in children under five.

Results: Data also reveals that in pretest, the majority of 76.67 % of mothers have average knowledge, 20% of mothers have good knowledge and only 3.33% mothers have poor knowledge. **Conclusion:** The study demonstrated the efficacy of the researcher's organised training programme in raising mothers' awareness of upper respiratory tract infection prevention, which will assist to conceptually lower the incidence of URTIs.

Keywords:- URI, Infection, Respiratory system, STP, Mothers, Under five children.

I. INTRODUCTION

Acute respiratory infections are the most frequent cause of morbidity and mortality in children under five, which has a significant financial impact and is the main reason why children seek medical care. Every year, over 10 million people visit hospitals to treat upper respiratory tract infections. Over 12 million children in underdeveloped nations pass away from acute respiratory illnesses each year before turning five, with many of them passing away in their first year of life. Even though respiratory tract infections are prevalent in newborns and early children, it can be challenging to distinguish them as distinct clinical conditions. The reason for this is that the respiratory tract's tissues are continuous, extending from the trachea, bronchi, bronchioles, lungs, paranasal sinuses, and middle ear to the nose, pharynx, epiglottis, and larynx. An illness that starts in the upper respiratory tract frequently spreads to the lower respiratory tract. These infections might cause moderate to serious, or even deadly, diseases. 2020 National Ambulatory Medical Care Survey, Rechsteiner EA, et al. A virus-contaminated hand or respiratory droplets can spread an upper respiratory tract infection, which is a contagious illness. Sneezing and coughing help an illness spread. Antibiotics are used in allopathic medicine to treat respiratory tract infections. However, because medicines do not considerably shorten the healing period for these viral illnesses, the health authorities have been advising doctors against using antibiotics to treat common upper respiratory tract infections. They also started using relaxation, more water, and other measures to manage upper respiratory infections.

An upper respiratory tract infection occurs when bacteria directly penetrate the mucosa of the upper airway. Following inoculation, viruses and bacteria come up against a number of obstacles, including as mechanical, humoral, cellular, and immune system defences. Individuals who have compromised phagocytic and humoral immune activity are more vulnerable to URIs.

Journal of Emergency Medicine, 2016 In order to determine if honey significantly relieves cough symptoms in children suffering from upper respiratory tract infections (URTIs), a quick evaluation was conducted. A study addressing the clinical question was provided in one publication. The final result in terms of clinical effectiveness is that honey does seem to be useful in treating some URTI symptoms. Approximately 6.4% of Chinese children suffer from a cough. It makes around 3 percent of medical consultations in the US. It's unknown why girls appear to have a lower tolerance for coughing than boys do. While viral upper respiratory tract infections account for a large portion of acute cough Individuals who have viral URIs frequently get sinusitis. More than 80% of individuals with simple viral URIs had transient alterations in the paranasal sinuses on CT scans. But only around 2% of patients with viral URIs develop bacterial rhino sinusitis as a consequence.⁴

Many women experience changes in their mental health during the perinatal period. Poor mental health can negatively affect women's health and wellbeing of their babies and families. Equally, poor health or difficult circumstances in the lives of women, their babies and families can negatively impact women's mental health. Maternal and child health (MCH) services during the perinatal period a unique opportunity for service providers to connect with women and provide support.²¹

Research "to examine whether the development of respiratory tract infections is potentiated by cold exposure and lowered humidity in the northern population of Finland" was carried out by Makinen TM et al. in 2019. The temperature and humidity outside were examined in a population study of bouts of respiratory tract infections that were diagnosed. During the follow-up period, 643 occurrences of respiratory tract infections were diagnosed. There were 595 instances of upper respiratory tract infections and 87 cases of lower respiratory tract infections. The mean average daily temperature was -3.7 ± 10.6 degrees Celsius for upper respiratory tract infections and -1.1 ± 10.0 degrees Celsius for lower respiratory tract infections prior to any respiratory tract infections. The common cold ($p=0.017$), pharyngitis ($p=0.011$), and lower respiratory tract infection ($p=0.048$) were all related to temperature. Absolute humidity and upper respiratory tract illnesses were associated ($p<0.001$). A 1. degree Celsius drop in temperature was associated with a 4.3% ($p<0.0001$) rise in the predicted probability of upper respiratory tract infection. There was a 10.0% ($p<0.001$) increase in the predicted risk of upper respiratory tract infection with every 1g/m^3 (-3) rise in absolute humidity. The results described above demonstrated that colder temperatures and lower humidity were associated with an increased risk of

respiratory tract infections, and that these factors also reduced prior to the onset of the illnesses.¹

At Sophia Children's Hospital in Rotterdam, the Netherlands, Koopman LP et al. (2018) investigated the relationship between respiratory infection development in the first year of life in children with or without genetic risk and interactions with other children. An investigation was conducted on 4,135-46 children who took part in a prospective birth cohort study. Information on doctor-diagnosed upper and lower respiratory tract illnesses, child care attendance, having siblings, a family history of allergy disease, and other possible confounders were gathered by questionnaires.²

Treacy B. (2019) 150 serologically distinct viruses, the majority of which are rhinoviruses, all belong to the picornavirus family of tiny RNA viruses and are the predominant cause of upper respiratory tract infections. Certain bacteria, such as group A streptococci, *Corynebacterium diphtheria*, *N. meningitidis*, *Myc. pneumoniae*, *N. gonorrhoeae*, *H. influenzae*, pneumococcus, and staphylococcus aureus, can also cause upper respiratory tract infections in addition to viruses.⁷

II. METHODS

Pre-experimental one group pretest-post-test research design was modified for the investigation. The research approach adopted in this study is quantitative approach. The purpose of the study was to evaluate the efficacy of a structured education campaign on the prevention of upper respiratory tract infections (URTIs) among mothers of children under five who attend PHCs' well-baby clinics.

Knowledge of upper respiratory tract infections is the dependent variable. Programme for structured instruction is an independent variable. Mothers' age, level of education, employment, family income, religion, length of child's sickness, family history of upper respiratory tract infection, and prior exposure to information about upper respiratory tract infection and its treatment are examples of demographic factors.

All mothers of children under five who attend well baby clinics in particular PHCs will be included in the research. The population of this research consists of moms with children under five.

Samples were chosen using a non-probability method. By using a convenient sampling approach, samples that met the study's inclusion requirements were included. Sixty moms of children under five who attend well baby clinics at certain PHCs make up the study's sample size. Investigation duration: Thirty days were allotted for the research investigation.

The process of choosing research participants (eligibility requirements)

A. Criteria for inclusion

- Mothers of children under five.
- Mothers in attendance when the information was gathered.
- Mothers with an understanding of Hindi or English.

B. Disqualification standards

- Mothers unwilling to take part in research.

C. Retraction standards

At any point throughout the data gathering process, research participants are free to leave the study.

VII. RESULT

- **Section I:** Mothers' Demographic Profile.
- **Section II:** Evaluate moms of children under-five's pre-test knowledge on preventing upper respiratory tract infections
- **Section III:** Evaluate post-test knowledge of moms of children under five about preventing upper respiratory tract infections
- **Section IV:** Relationship between pre-test demographics and knowledge

III. TECHNIQUE FOR GATHERING DATA

- The member of the ethics committee's approval.
- Educate moms on the goal
- A written agreement
- Data on demographics will be gathered
- Determine what moms of children under five know about upper respiratory tract infections.

IV. TOOL DESCRIPTIONS

- **Section A:** This section includes the demographic variable for moms with children under five. (Eligibility, age, number of children, etc.)
- **Section B:** Multiple-choice questions designed to gauge mothers' awareness of upper respiratory tract infection in children under five are included in the self-administered surveys.

V. PILOT STUDY

Six mothers of children under five were chosen for pilot research that was carried out on March 9, 2022, in order to determine the viability of the project and the design of the data analysis strategy. Prior authorization was obtained in order to gather the samples from specific cities. Purposive sampling with non-probability was used to choose the sample. The pilot study assists the researcher in visualising potential real-world issues that may arise when carrying out the primary investigation.

VI. PLAN FOR STATISTICAL ANALYSIS

- Tables and graphs will be used to describe the samples, which are women of less than five children, depending on their individual features in terms of frequency and percentages.
- Mothers' knowledge will be analysed using percentages and frequencies, and the results will be shown as tables and graphs.
- The mean, standard deviation, and t-test will be used to analyse the effectiveness of the structured instructional curriculum.
- The connection between a few demographic factors and mothers of children under five who have upper respiratory tract infections will be examined using the Chi-square test.

A. Section I

Demographic profile of mothers

Table1: Frequency and percentage distribution of mothers of under five children according to their demographic characteristic

Demographic characteristic	Frequency (f)	Percentage (%)
1. Age of the mothers (in years)		
a. Below 20	23	38.33
b. 21-25	22	36.67
c. 26-30	15	25.00
d. Above 30	0	0.00
2. Mother's educational status		
a. High school and less than high school	19	31.67
b. Intermediated	13	21.67
c. Graduated	20	33.33
d. Post graduate and above	8	13.33
3. Mother's Occupational status		
a. Housewife	25	41.67
b. Working	13	21.67
c. Business	16	26.67
d. Any other (specify)	6	10.00
4. Spouse's education status		
a. High school and less than high school	20	33.33
b. Intermediated	11	18.33
c. Graduated	21	35.00
d. Post graduate and above	8	13.33
5. Spouse's occupation		
a. Service	22	36.67
b. business	14	23.33
c. unemployed	17	28.33
d. Daily wager	7	11.67
6. Place of Resident		
a. Urban	24	40.00
b. Rural	17	28.33
c. Slums	19	31.67
7. Family income (rupee/month)		
a. Below 10,000	17	28.33
b. 10,000 - 20,000	17	28.33
c. 20,000 - 30,000	18	30.00
d. Above 30,000	8	13.33
8. Types of family		
a. nuclear family	35	58.33
b. Joint family	25	41.67
9. Habit of smoking		
a. Father	22	36.67
b. Mother	10	16.67
c. Any other family member	14	23.33
d. None	14	23.33
10. Number of children in family		
a. One	22	36.67
b. Two	13	21.67
c. Three	18	30.00
d. More than three	7	11.67

B. Section II

Analysis of Pre-test knowledge regarding the prevention of upper respiratory tract infection among mothers of under five children

Table 12: Pre-test knowledge level of mothers of under five children regarding prevention of upper respiratory tract infection

Knowledge score	Frequency	Percentage
Poor Knowledge	2	3.33
Average Knowledge	46	76.67
Good Knowledge	12	20
Mean	17.8	
SD	4.50	

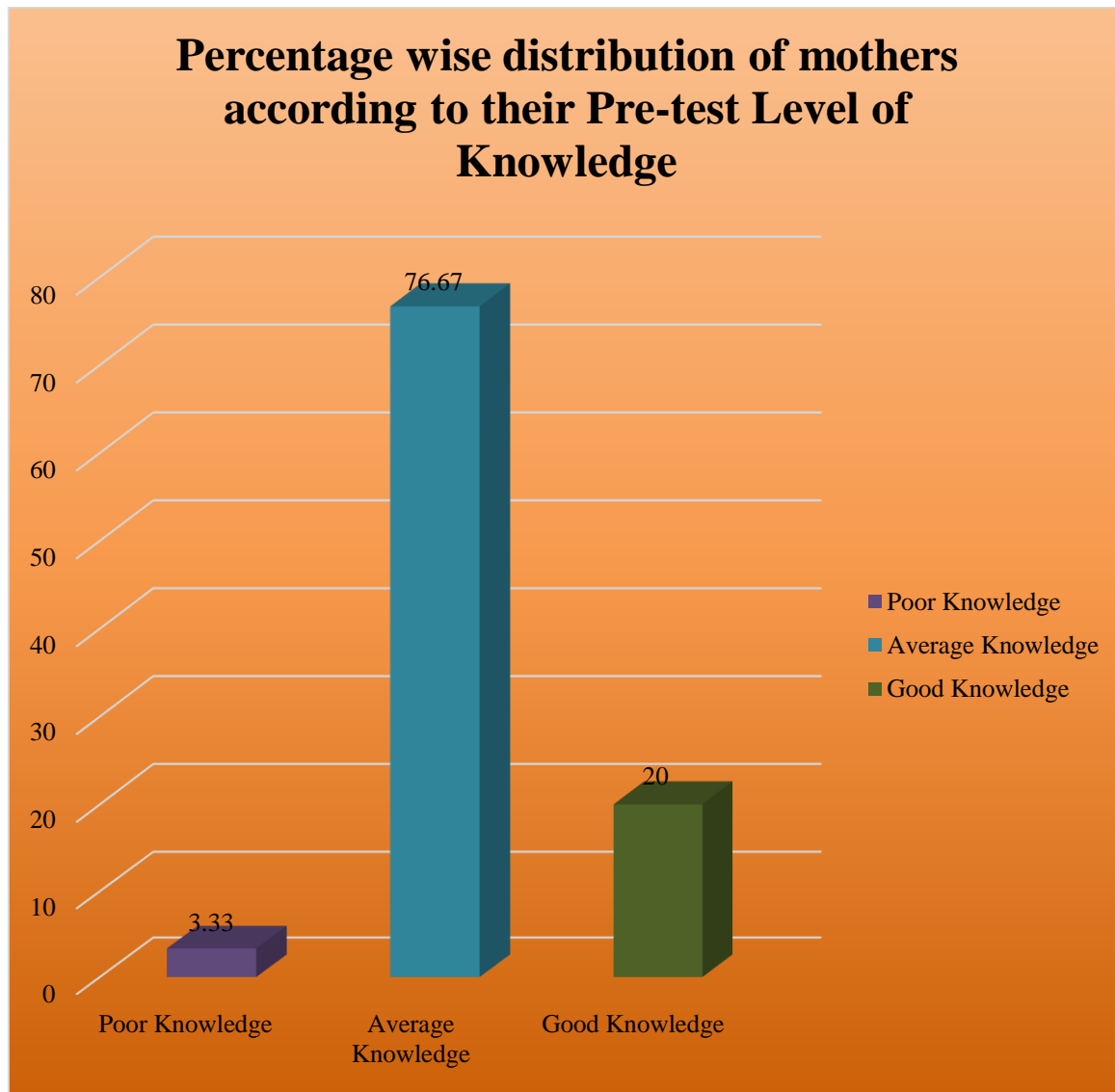


Fig-1: Percentage wise distribution of mothers according to their Pre-test Level of Knowledge

According to the data above, the majority of mothers—76.67%—had average knowledge, 20% have strong knowledge, and just 3.33% have bad knowledge. The mean score for the pretest was 17.8 ± 4.50 .

C. Section III

Analysis of Post-test knowledge regarding the prevention of upperrespiratory tract infection among mothers of under five children

Table 13: Post-test knowledge level of mothers of under five children regarding prevention of upper respiratory tract infection

Knowledge score	Frequency	Percentage
Poor Knowledge	1	1.67
Average Knowledge	3	5.00
Good Knowledge	56	93.33
Mean	27.15	
SD	3.69	

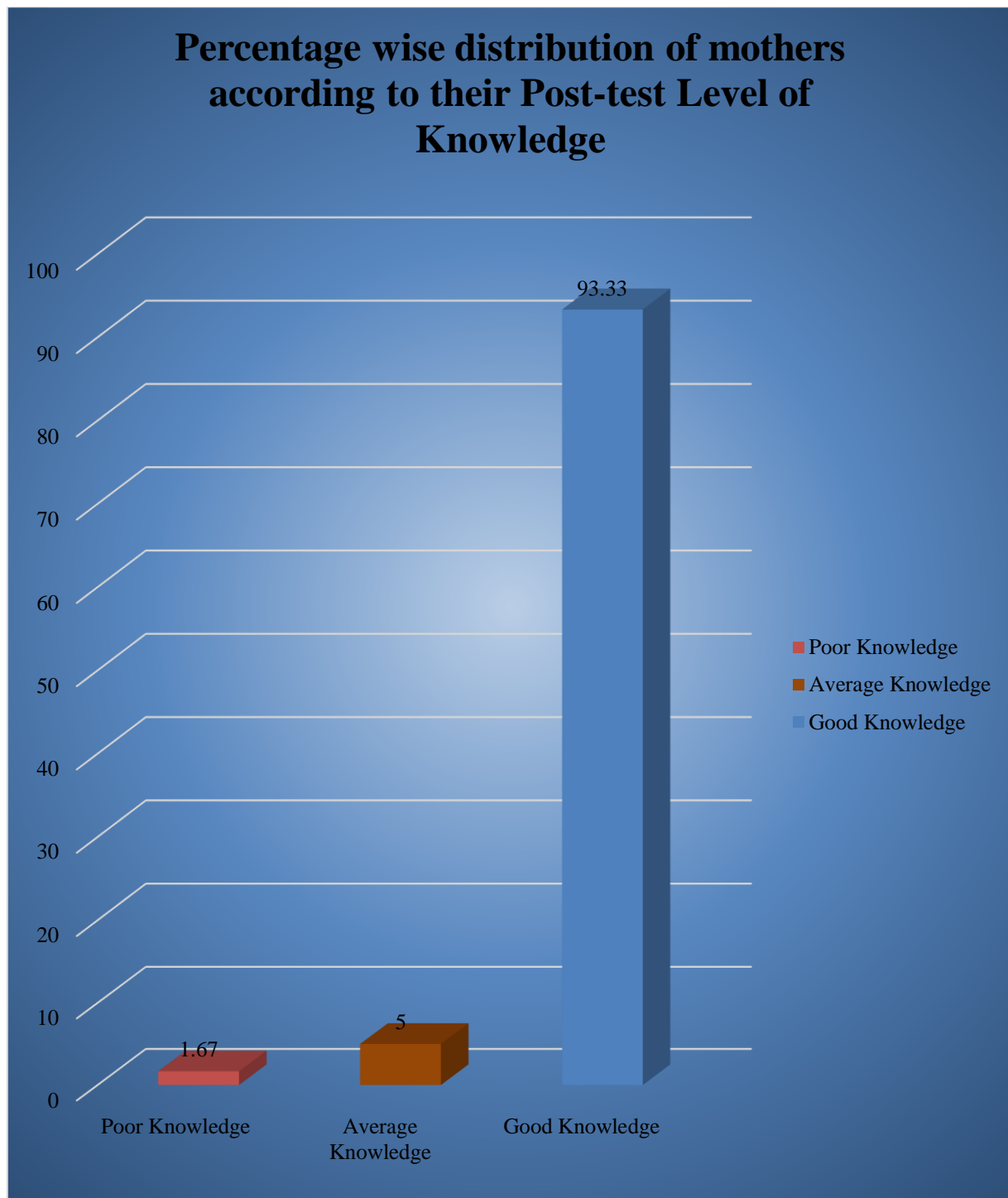


Fig. 2: Percentage wise distribution of mothers according to their Post-test Level of Knowledge

According to the data above, 93.33% of moms have excellent knowledge, 5% have moderate knowledge, and just 1.67% have inadequate knowledge. The efficiency of a systematic training programme about acute respiratory tract

infections among mothers of children under five was demonstrated by the post-test mean score of 27.15 ± 3.69 , which was higher than the pre-test mean score of 17.8 ± 4.50 .

D. Section IV

Association between pretest knowledge and demographic variables

Table 14: Frequency distribution of mothers of under five children according to their demographic characteristic and knowledge level regarding prevention of upper respiratory tract infection

Variable	Knowledge			DF	Chi squire table	Chi squire calculated	P value	remark
	Average	Good	Poor					
1. Age of the mothers (in years)								
a. Below 20	18	4	1	6	12.59	5.37	0.06	NS
b. 21-25	19	2	1					
c. 26-30	9	6	0					
d. Above 30	0	0	0					
2. Mother’s educational status								
a. High school and less than high school	13	6	0	6	12.59	10.98	0.08	NS
b. Intermediated	10	1	2					
c. Graduated	18	2	0					
d. Post graduate and above	5	3	0					
3. Mother’s Occupational status								
a. Housewife	20	4	1	6	12.59	4.59	0.59	NS
b. Working	7	5	1					
c. Business	13	3	0					
d. Any other (specify)	6	0	0					
Spouse’s education status								
a. High school and less than high school	19	0	1	6	12.59	6.05	0.41	NS
b. Intermediated	8	3	0					
c. Graduated	15	5	1					
d. Post graduate and above	4	4	0					
5. Spouse’s Occupation								
a. Service	18	3	1	6	12.59	1.89	0.92	NS
b. business	10	4	0					
c. unemployed	12	4	1					
d. Daily wager	6	1	0					
6. Place of Resident								
a. Urban	18	6	0	4	9.488	6.01	0.41	NS
b. Rural	14	1	2					
c. Slums	14	5	0					
7. Family income (rupee/month)								
a. Below 10,000	15	3	0	6	12.59	10.46	0.1	NS
b. 10,000 - 20,000	14	1	2					
c. 20,000 - 30,000	10	7	0					
d. Above 30,000	7	1	0					
8. Types of family								
a. nuclear family	28	6	1	2	5.991	0.52	0.77	NS
b. Joint family	18	6	1					
9. Habit of smoking								
a. Father	20	2	0	6	12.59	9.2	0.16	NS
b. Mother	6	4	0					
c. Any other family member	12	1	1					
d. None	8	5	1					
10. Number of children in family								
a. One	16	5	1	6	12.59	3.65	0.03	S
b. Two	11	2	0					
c. Three	13	5	0					

d. More than three	6	0	1					
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VIII. DISCUSSION

The study's results were presented together with its goals and hypotheses. The goal of the current study was to evaluate the efficacy of a structured education campaign on upper respiratory tract infection (URTI) prevention among mothers of children under five who were admitted to the paediatric ward at the Well Baby Clinic at PHCs in Delhi.

Based on the data analysis in this study, it is clear that the demographic variable 38.33% of the population is under 20 years old, with mothers qualifying for this age category. 31.67% of them have completed high school or less. 41.67% of mothers are housewives, 36.67% of spouses work, 40% of mothers live in urban areas, 30.00% earn between \$20,000 and \$30,000 per year for their family, 58.33% of mothers live in nuclear families, 36.67% of fathers smoke regularly, and 36.67% of mothers have one child. Just 3.33% of moms have low knowledge, compared to the bulk of 76.67% who have moderate knowledge (20%) and high knowledge (3%). The mother's knowledge improved following the intervention, as evidenced by the post-test mean score of 27.15 ± 3.69 , which was higher than the pre-test mean score of 17.8 ± 4.50 . This shown how well moms of children under five responded to an organised education programme on acute respiratory tract infections. There was no significant correlation found between the participants' degree of knowledge and any demographic indicator, however there was a significant correlation found between the participants' level of knowledge and the number of children in their household.

IX. SIGNIFICANCE

Nursing practise, nursing education, nursing administration, and nursing research are all impacted by the study's conclusions.

X. PRACTISE OF NURSING

Periodically providing opportunities for healthcare workers to update their expertise is important. They ought to inspire and support nurses. Clarification and explanation must be provided. Periodically providing opportunities for healthcare workers to update their expertise is important. They ought to inspire and support nurses. Clarification and explanation must be provided. It is necessary to discuss the clinical facilitator's function in advancing nursing practise. It is advisable to motivate nursing staff members to engage in educational initiatives aimed at preventing respiratory tract infections. The instrument may be used by the community health nurse to evaluate the mothers of children under five years old's level of knowledge on the management of URIs.

XI. LIMITATIONS

The research had the following limitations: it was only open to moms of children under five.

- There were only 60 samples used in the research.
- The study's analysis will be predicated only on the moms' replies. The study was constrained by the researchers' degree of experience.
- There was just a two-week period for data collecting.

XII. SUGGESTION

The following recommendations for more research have been made in light of the study's findings.

- Similar research can be conducted with substantial sample sizes to enable generalisation of findings.
- A research can be conducted to evaluate moms of children under the age of five's degree of knowledge on the management of URIs.
- Mothers of children under five living in rural and urban areas can compare notes.
- Using different teaching techniques, such as a self-instruction module, comparable research might be conducted.

XIII. CONCLUSION

There are two types of acute respiratory infections: lower respiratory tract infections and upper respiratory tract infections. The airways from the nostrils to the vocal cords in the larynx, which include the middle ear and the paranasal sinuses, make up the upper respiratory tract. The extension of the airways from the trachea and bronchi to the bronchioles and alveoli is protected by the lower respiratory region. Because of the potential for infection or microbial toxin extension, inflammation, and diminished lung function, acute respiratory tract infections are not limited to the respiratory tract and can have systemic repercussions. After the session, the mother's overall knowledge score about acute respiratory tract infections is good. There is no noteworthy correlation between the participants' degree of knowledge and demographic variables; nonetheless, there is a noteworthy correlation between.

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