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A study to assess the effectiveness of structure teaching program on knowledge and practice regarding prevention of acute upper respiratory tract infection among mothers of under five children in selected hospital, Lucknow

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ABSTRACT

Acute upper respiratory tract infection is responsible for 20 to 30% of death during under 5 age and mortality rate is 40% in India. Every day, millions of parents seek health care for their sick children, taking them to hospital, health centers, pharmacists, doctors and traditional healer. Each year more than 10 million children die before they reach their 5th birthday. Hence, the study "A study to assess the effectiveness of structured teaching program on knowledge and practice regarding prevention of acute upper respiratory tract infection among mothers of under five children in selected hospital, Lucknow" was undertaken by the research.Pre-experimental one group pre test post test design approach was used to assess the effectiveness of structured teaching program on knowledge and practice regarding prevention of acute upper respiratory tract infection among mothers of under five children in selected hospital, Lucknow" in view of the nature of the problem and objectives of the study a structured interview questionnaire, non- observational checklist and structured teaching program was developed focusing on prevention of acute upper respiratory tract infection. Validity was ensured in consultation with guides and experts in the field of nursing, medicine and statistics Reliability of the tool was tested by test retest method and found to be highly reliable with a score of 0.86. The study was carried out in Paediatric ward of Era's Lucknow Medical College & hospital, 60 mothers of under five children were selected by non probability purposive sampling technique. Structured interview questionnaires and Non observational checklist were used to collect needed data followed by that structured teaching Program on prevention of acute upper respiratory tract infection was administered on the same day. Post test was administered after seven days. The data collected were tabulated and analyzed by using descriptive and inferential statistics.

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1. Introduction

Acute upper respiratory tract infection is responsible for 20 to 30% of death during under S age and mortality rate s 40% in India. A report by Director General of health Services government of India indicated that acute upper respiratory tract infection contributes toward 0.5 to 0.25 of ll under five deaths in India. And it stand 52nd rank in global scenario of under 5 mortality in world. Most of the infection usually occurs at any age but 30% of infection was found in under 5 year children due to acute upper respiratory tract infection. [1]

Respiratory tract infection is normal further classified according to the duration of infection as acute upper and lower respiratory tract infection. Acute upper respiratory tract infection is the infection which involves nose, sinuses, pharynx or larynx. This commonly includes common cold, tonsllitis, pharyngitis, laryngitis, sinusis and influenza. Acute upper respiratory tract infection altered the celluler response and many infecious elements play a role, in

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paricular, eosinophi muscles, Tlymphocytes, neutrophill and epitheliallls cells.[2]

A study conducted in 2009, reveals that over 200 different viruses have been isolated in patient with acute upper respiratory tract infection. Common virus is called hinovirus. Other viruses are coronavirus, parainfluenza virus, adenovirus, enterovirus and respiratory syncytial virus and upto 15% of acute pharyngitis cases may be caused by bacteria like streptococcus pyogens, Group A streptococcus, streptococcus pnemonian, hemophilus enfluenza and corynebacterium diphtheria.

2. Need for Study

Children are one third of population and all of our futures but unfortunately the gift of health which makes the child to be a part of future is affected by so many diseases. One such dreadful disease is acute upper respiratory tract infection.

According to W.H.O it is considered as forgotten killer of children and it is leading cause of childhood morbidity and death in many developing countries. Causing 2 million deaths worldwide each year. Among 42 countries in the world 90% of child morality burden, 14-24% of under five morality occurs in Africa and South East Asian region. Most of the children have about 4-6 attack of acute upper respiratory tract infection each year. A research paper reporting global estimates projected 44 million cases per year in India, a previous estimated based on some data projected 43 iion episode per year. Hence, the investigators developed structured teaching program for mothers on prevention of acute upper respiratory tract infection in under five children. So that their knowledge will be enhanced and thereby they will be able to prevent acute upper respiratory tract infection in under five children and provide good care to their child with acute upper respiratory tract infection.[3]

2.1. Statement of program

A study to assess the effectiveness of structured teaching program on knowledge and practice regarding prevention of acute upper respiratory tract infection among mothers of under five children in selected hospital, Lucknow.

3. Objectives of the Study

1. To assess the existing knowledge regarding prevention acute upper respiratory tract infection among mothers of under five children.
2. To assess the practice regarding prevention of acute upper respiratory tract infection among mothers of under five children.
3. To determine the effectiveness of structured teaching program on knowledge and practice regarding prevention of acute upper respiratory tract infection among mothers of under five children.
4. To correlate the post-test knowledge and practice regarding prevention of acute upper respiratory tract infection among mothers of under five children.
5. To associate the post-test knowledge and practice regarding prevention of acute upper respiratory tract infection among mothers of under five children with their selected demographic variable.

3.1. Assumptions

1. Mothers of under five children may have inadequate knowledge regarding prevention of acute upper respiratory tract infection.
2. Mothers of under five children may vary their practices depending on the existing knowledge regarding prevention of acute upper respiratory tract infection.
3. Structured teaching programmed may improve the knowledge & practice of mothers of under five children regarding prevention of acute upper respiratory tract infection.

3.2. Hypothesis

1. **H1**- There will be a significant difference between pretest and post-test mean knowledge and practice regarding prevention of acute upper respiratory tract infection among mothers of under five children.
2. **H2**- There will be significant correlation between post-test knowledge and practice regarding prevention of acute upper respiratory tract infection among mothers of under five children.
3. **H3**- There will be a significant association of the post-test knowledge and practice regarding prevention of acute upper respiratory tract infection among mothers of under five children.

4. Review of Literature

A quasi experimental study was conducted to determine the effectiveness of structured teaching programmed on knowledge regarding preventive of acute upper respiratory tract infection among the two groups of mothers of under five children. Simple random technique was adopted to selected 60 mothers. This setting of the study was Mahalakshmipuram under area at Bangalore. The result shows that in structure teaching program group pretest knowledge scores of mothers on acute upper respiratory tract infection 46.7 per cent had inadequate knowledge. The post test knowledge scores of mothers on acute upper respiratory tract infection 53.3 per cent had moderately. The study concluded that majority of mothers had inadequate knowledge regarding acute upper respiratory tract infection, and prevention of acute upper respiratory tract infection. Different leaching strategies would help the mother to updates with necessary knowledge with regards to the prevention of acute upper respiratory tract infection.[4]

A cross sectional study was conducted to the knowledge and practice of mothers regarding prevention of acute respiratory infection in Baringo district, Kenya. The study included 309 mothers those children aged 0-5 years. The study used mixed structured and unstructured questionnaire and subject was selected by stratified random sampling. The study result was 18% mothers have satisfactory knowledge about ARI, 60.2% mothers have knowledge about preventive measures of ARI and 87.1% of mothers said that they would seek health services for severe acute respiratory infections. The study concluded what formal education had a positive influence on knowledge and practice of mother.[5]

5. Methodology

5.1. Research approach

The research approach adopted for this study was an evaluative approach to test the effectiveness of structure teaching program on knowledge and practice regarding prevention of acute upper respiratory tract infection among mothers of under five children

5.2. Research design

One group pre-test post-test research design, which is a pre experimental design, was selected) to evaluate the knowledge and practice of mothers of under five children regarding prevention of acute upper respiratory tract infection.

5.3. Research variable

A variable is an attribute of a person or object that varies and is taken on different values.

5.4. Independent variable

In this study, structure teaching program regarding prevention of acute upper respiratory tract infection is the independent variable

5.5. Dependent variable

'In this study, level of knowledge and price of mothers of under five children regarding prevention of acute upper respiratory tract infection is dependent

5.6. Demographic variable

In this study demographic variables considered are age, religion, education qualification, occupation, type of family, income of family, no. of children, source of information and frequency of visit to hospital,

5.7. Setting of the study

The physical location and conditions in which data collection takes place is the setting of the study The study was conducted in Eras Lucknow Medical College & hospital

5.8. Sample and sample size

Sample is the sub set of a population selected to participate in a research Study, 1 In this study, the sample consisted of 60 mothers.

5.9. Sampling technique

In this study, the sampling technique was selected by using non probability purposive sampling technique.

5.10. Inclusion criteria

1. Mothers who are having under five children.
2. Mothers who are willing to participate in study.

5.11. Exclusion criteria

1. Mothers who are not present during the time of data collection.

5.12. Development and description of the tool

1. **Section A**: Demographic variables
2. **Section B:** Structured interview questionnaire on prevention of acute upper respiratory tract infection
3. **Section C:** Non observational checklist on prevention of acute upper respiratory tract infection,
4. **Section D**: Structured teaching program regarding prevention of acute upper respiratory tract infection.

5.13. Content validity of the tools

To ensure content validity of the tools, which includes demographic data, structured knowledge interview questionnaire and checklist to assess the practice of mothers of under five children regarding prevention of acute upper respiratory tract.

5.14. Reliability of the tool

Reliability for knowledge and practice tool was established by using split half method. The reliability was established by using Spearman's Brown formulae.

Table 1:

Aspects	Reliability
Knowledge	0.86
Pratice	0.86

5.15. Ethical consideration

1. The study was accepted by research committee of Era's college of nursing.
2. Formal permission was obtained from hospital authority.
3. Oral consent of each subject was obtained and the subjects were informed their participation was voluntary and have the freedom to withdraw from the study.
4. Privacy, confidentiality and anonymity of the subjects were guarded throughout the study.
5. Scientific objectivity of the study was maintained with honesty and impartiality.
6. There were no ethical issues aroused during the study period.

5.16. Method of data collection

1. Procedure data collections
2. Plan for data analysis
3. Descript statistic
4. Inferential statistic

5.17. Procedure for data collection

1. Section A: Description of demographic variables of mother of under five children.
2. Section B: An analysis of pre-test and post-test level of knowledge of mother of under five children was made under following heading: Assessment of level of knowledge of mother of under five children regarding. The prevention of acute upper respiratory tract infection before and after structure teaching program.
3. Section C: An analysis of pre test and post-test level of practice of mother of under five children was made under following headings:
4. Section D: Examining the effectiveness of structure teaching program regarding prevention of acute upper respiratory tract infection.
5. Section E: Correlation between post test knowledge and practice of mother of under five children regarding prevention of acute upper respiratory tract infection.
6. Section F: Association of post test knowledge and practice of mother of under five children regarding prevention of accute upper respiratory tract infection with their.

Section A - Description of demographic variables of mother of under five children

The Table 2 depicts the frequency and percentage distribution of mothers including age, religion. Educational qualification, family income, no. of living children.

Age wise distribution shows that the majority 20 (33.3%) belongs to age group of below 25 year, 22 (37%) belongs t age group of 26-30 years, 16(27%) belongs to age group of 31-35 years and 2 (3.3%) belongs to age group of 36-40 years. Religion wise distribution shows that maximum numbers 31 (52%) of subjects are Hindu.22 (37%) of subjects are Muslims. 4 (6.7%) of Subic are Christian and 3 (5%) subjects are other specific religion. In relation to Educational Qualification, maximum number 20 (33%) subjects belongs to primary qualification, 20 (3.3%) belongs to secondary qualification, 10 (16.7%) subject belongs to higher secondary qualification 7(1.7%) subjects are literate, and 3 (5%) subjects belongs to degree and above qualification. With regard to Family income, maximum number 24 (40%) got above 800 month income, 16 (27%) got 4001-600 month, 16 27%) got 6001-000 and 4(6.7%) subjects got below 4000/ month. In relation to Number of living children that the majority 26 (43%) have 2 children, 13 (22%) have 3 children, (18%) subjects have I children and 10 (17%) subjects have above 3 children.

Section B: Assessment of level of knowledge level of mother of under children regarding prevention of acute upper respiratory tract infection before and after structure teaching program.

The Table 4 represents tat in the pre test, majority of the subjects 54(90%) had Moderate knowledge and S(8.4%)of them had adequate knowledge and 1(1.6%) had inadequate knowledge. In the post test majority of them 48(80%) had adequate knowledge level, 12(20%) had moderately adequate knowledge and none of them had inadequate knowledge.

Section C: Assessment of level of knowledge level of mother of under five children regarding prevention of acute upper respiratory tract infection before and after structure teaching programme.

The Table 5 represents that in the pre test, 31(52%) of the subjects had god practice, 29(48%) of the subjects had Moderate level of Practice and none of the subjects had poor practice regarding prevention of acute upper respiratory tract infection. In the post test, majority of them 56(93.39%) had good practice and 4(6.6%) of them had Moderate level of Practice.

5.18. Interpretation and major findings of the study

1. Age: In the study majority 22 (37%) belongs to age group of below 26-30 years.
2. Religion: In the study majority 31 (52%) of subjects are Hindu.
3. Educational Qualification: In the study majority 20 (33.3%) subjects belong to primary qualification
4. Family income: In the study majority 24 (40%) of subject got above 8000/month income.
5. Number of living children: In the study majority 26(43%) have 2 children, Occupation of mothers: In the study majority 46 (47%) subjects are house wife and 14 (23%) subjects are private employee.

Table 2: Frequency and percentage distribution of mothers including age, religion, educational qualification, monthly family income and number of living children

S No.	Identification Data	Options	Frequency	Percentage
1.	Age	Below Year 25	20	33%
		26-30 year	22	37%
		31-35 year	16	27%
		36-40 year	02	3%
2.	Religion	Hindu	31	53%
		Muslim	22	37%
		Christian	4	7%
		other specific	3	5%
3.	Educational Qualification	Illiterate	07	12%
		Primary	20	33%
		Secondary	20	33%
		Higher secondary	10	17%
		Degree and above	03	05%
4.	Family Income	Below 4000	04	7%
		4001-6000	16	27%
		6001-8000	16	27%
		Above8000	24	40%
5.	Number of Living Children	1	11	18%
		2	26	43%
		3	13	22%
		Above-3	10	17%
	Total	60	100%	

Table 3: Frequency and percentage distribution of mothers including Occupation of the mother, soure of information, type of family and frequency of visit to hospital

Identification Data	Options	Frequency	Percentage
Occupation of the Mother	Government employee	00	0%
	Private employee	14	23%
	House wife	46	77%
	Other specific	00	0%
Source of Information	Healthpersonnel	5	8%
	Family member	7	12%
	Peer group	4	7%
	Mass media	44	73%
Type of Family	Nuclear family	24	40%
	Joint family Single	35	58%
	Parents Family	1	2%
	Blended family	00	0%
Frequency of Visit to Hospital	Weekly	2	3%
	Monthly	25	42%
	Half yearly	20	33%
	yearly	13	22%

Table 4: Frequency and percentage distribution of mother of under five children according to their level of knowledge regarding prevention of acute upper respiratory tract infection before and after structure teaching programme

			Pre Test		Post Test	
S.No	Knowledge Level	Category	Number	%	Number	%
1	Inadequate Knowledge	Greater 50% score	01	1.6%	0	0%
2	Moderate knowledge	50-75% score	54	90%	12	20%
3	Adequate Knowledge	Greater 75% score	5	8.4%	48	80%
	Total		60	100%	60	100%

Table 5: Frequency and parentage distribution of mother of under five children according to their level of practice regarding prevention of acute paper respiratory tract infection before and after structure teaching program

			Pre Test		Post Test	
S.No	**Knowledge Level**	**Category**	**Number of Mother**	**%**	**Number of Mother**	**%**
1	Poor Practice	Greater 50% score	0	0%	0	0%
2	Moderate Level Practice	50-75% score	29	48%	4	6.6%
3	Adequate Knowledge	Greater 75% score	31	52%	56	93.3%
	Total		60	100%	60	100%

6. Source of information: In the study majority 44 (73%) subjects go information from mass media.
7. Type of family: In the study majority 35 (58%) subject have joint family. (Frequency of visit to hospital: In the study majority 25 (42%) subjects goes monthly hospital.
8. The overall mean pre-test knowledge score obtained by the mothers was 13.02 and 16.73 with SD of 1.87 and 1.26 in the pre-test and post test respectively. The study reveals that overall mean practice score obtained by the mothers was 15.58 and 17.92 with SD of 1.5and 1.52 in the pre test and post test respectively.
9. (k) The total difference between "t" value of knowledge and practice was 15.5 and 10.25 was found to be significant at the level of 0.001.

5.19. Implications of the study

The finding of the study can be used in the following areas of the nursing profession.

5.19.1. Nursing practices

1. Several implications can be drawn from the present study for nursing practices. Acute upper respiratory tract infection is most identified problem. Nursing personnel have an important role in recognition and prevention of acute upper respiratory tract infection and hence prevent mortality and morbidity associated with acute upper respiratory tract infection.
2. Nurses should also be aware of, and is able to assess, acute upper respiratory tract infection so that they can provide appropriate treatment or referrals as needed.
3. Nurses also need to educate the client on prevention of acute upper respiratory tract infection in order to improve their knowledge and quality of life of their children.

5.19.2. Nursing education

1. The present study emphasizes an enhancement on knowledge and practice regarding prevention of acute upper respiratory tract infection. In order to achieve this nurse as an educator should focus on education to mother of under five children regarding prevention of acute upper respiratory tract infection.
2. The nursing curriculum should give more emphasis on knowledge and practice regarding prevention of acute upper respiratory tract infection by using different methods of teaching.
3. The students, nurses and all health professionals should be given the responsibility to teach the mothers and teaching should be repeated until they gain knowledge.
4. Nurses need to take role as a motivator, facilitator, educator, counselor and research.[6]

5.19.3. Nursing administration

1. Staff develop program in any organization is the prime responsibility of the nurse administrator.
2. Strengthening public health infra structure, surveillance, emerging planning and protective technologies in all effective adaptive measures for prevention of acute upper respiratory tract infection. Improving communication between the levels of government responsible for public health.
3. Strengthening links between the public health and personal health services.
4. Assuring that the registered nurse is an essential provider in all practice settings through research, workplace advocacy, legislation and regulation. This reference promotes education, and policy that serve to prevent /minimize the mortality and morbidity associated with acute upper respiratory tract infection.[7]

5.19.4. Nursing research

1. The essence of research is to build a body of knowledge in nursing. The finding of the present study serves as the basis for the professionals and the students to conduct further studies.
2. Nursing professional organizations need to support research on prevention of acute upper respiratory tract infection to improve the quality of life.
3. Nurse researchers need to be able to recognize new and unforeseeable consequences of prevention of acute upper respiratory tract infection and also to identify key vulnerabilities and critical thresholds. And there is a

need for extensive and intensive research in this area so that strategies for educating nurses and people can be developed.
4. This study will serve as a valuable reference material for future investigation. [8]

6. Summary

The study attempted to examine the following research hypothesis:

1. **H1 -** There will be significant difference between pretest and post-Test mean knowledge and practice regarding prevention of acute upper respiratory tract infection among mothers of under five children.
2. **H2** - There will be a significant correlation between post-test knowledge and practice regarding prevention of acute upper respiratory tract infection among mothers of under five children.
3. **H3 -** There will be a significant association of the post-test knowledge and practice regarding prevention of acute upper respiratory tract infection among mothers of under five children.

Finding related to association between post-test knowledge and practice among mothers of under five children with their selected demographic variables.

There was statistically significant association found between level knowledge and two demographic variables. The demographic variables such as educational qualification the chi-square value was 12.5, df=4 which was significant at $p<0.05$ and source of information, the chi-square value was 4.71, df=3 which was significant at $p<0.05$level. Regarding practice of mother, the two demographic variables such as type of family was significant, the chi-square value was 14.9, df= which was significant, the chi-square at $p<0.05$ level and frequency of visit to hospital was significant, the chi-square value was 14.6, df=4. Hence, the hypothesis H3: "There is a significant association between post test knowledge and practice regarding prevention of acute upper respiratory tract infection among mothers of under five children their selected demographic variables" was accepted. [9]

7. Conclusion

Based on the above findings of the study, recommendations were drawn for nursing practice, nursing education, nursing administration and nursing research. Study concludes that the structured teaching program was effective in improving the knowledge and practice of mothers of under five children regarding prevention of acute upper respiratory tract infection. [10]

8. Recommendations

1. A similar study can be under taken on large scale.
2. A similar study may be replicated with control group.
3. Prevalence and Incidence study can be undertaken.

9. Source of Funding

None.

10. Conflict of Interest

None.

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