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Assessment of Knowledge Regarding Acute Respiratory Infection (ARI) and Its Prevention among the Mothers Having Underfive Children with a View to Develop an Information Booklet in Selected Hospitals of Guwahati, Assam

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Abstract: ***Introduction: Respiratory tract infections account for majority of acute illnesses in children. About 13 million children under 5 years of age die every year in the world, 95% of them in developing countries, one third of total deaths are due to ARI. On an average, children below 5 years of age suffer about 5 episodes of ARI per child per year, thus accounting for about 238 million attacks. The study was carried out to assess the level of knowledge regarding acute respiratory infection (ARI) and its prevention among the mothers having underfive children with a view to develop an information booklet in selected hospitals of Guwahati, Assam. Methods: A descriptive survey design was adopted for the study. Non - probability convenience sampling technique was used to collect data from 158 mothers having underfive children attending pediatric OPD of Gauhati Medical College and Hospital, Mahendra Mohan Choudhury Hospital and Maternal and Child Welfare Hospital, Assam. Data were collected by using structured interview schedule. Data analysis was done by descriptive and inferential statistics. Results: It revealed that majority number i.e. 106 (67.1%) out of 158 mothers had moderately adequate knowledge regarding acute respiratory infection (ARI) and its prevention, 30 (19%) had adequate knowledge and 22 (13.9%) had inadequate knowledge. The overall mean was 18.18 with SD ±4.45 which imply that the subjects had moderately adequate knowledge on average. The area wise distribution on level of knowledge showed highest mean knowledge level of 3.97 (66.17%) with SD ± 1.34 in the area of introduction of acute respiratory infection (ARI) and the lowest mean knowledge level of 1.89 (47.25%) with SD ± 1.04 was noted in the area of acute lower respiratory infection (ALRI). The study findings showed significant association between level of knowledge and the age of the mother (χ^2=35.62, df (6), p - value=<0.001), religion (χ^2=26.52, df (6), p - value=<0.001), education of the mother (χ^2=88.65, df (12), p - value=<0.001), occupation of the mother (χ^2=24.43, df (8), p - value=0.002), monthly income of the family (χ^2=33.40, df (10), p - value=<0.001), age of the child (χ^2=19.43, df (8), p - value=0.013) and occurrence of acute respiratory infection in underfive children (χ^2=18.58, df (6), p - value=0.005) where p<0.05. The information booklet regarding acute respiratory infection (ARI) and its prevention for the mothers having underfive children was developed, validated and distributed after the interview schedule. Conclusion: On the basis of the study findings, it can be concluded that majority of mothers had moderately adequate knowledge regarding acute respiratory infection (ARI) and its prevention. The result of this study may provide important baseline information about awareness on acute respiratory infection (ARI) and its preventions among the mothers having underfive children. There was a need to increase the level of knowledge on acute respiratory infection (ARI) and its prevention. Therefore, health care professionals should develop various effective programs to help them acquire adequate knowledge for the betterment of children as a whole.***

Keywords: ARI and its prevention, level of knowledge and information booklet

1. Introduction

Children are our future and our most precious resources. Today's children are the citizens of tomorrow's world. Their survival, protection and development is a prerequisite for the future development of humanity. "A healthy child: A sure future" is one of the themes of WHO. Healthy children grow to become healthy adults, who are strong both in body and mind. [1]

Infections of the respiratory tract are perhaps the most common human ailment. While they are a source of discomfort, disability and loss of time for most adults, they are a substantial cause of morbidity and mortality in young children and the elderly. The most common disorder of upper respiratory tract is related to infections, bacterial, viral and allergic reaction. [1]

Acute respiratory infection is an infection of any part of respiratory tract or any related structures including paranasal sinuses, middle ear and pleural cavity. It includes, a new episode means occurring in an individual who has been free of symptoms for at least 48 hours and also all infections of less than 30 days duration except those of middle ear where the duration of acute episode is less than 14 days.2 ARI is often classified by clinical syndromes depending on the site of infection and is referred to as ARI of upper (AURI) or lower (ALRI) respiratory tract. [3]

Respiratory tract infections account for majority of acute illnesses in children. The etiology and course of these

infections are influenced by the age of the child, the season, living conditions, and preexisting medical problems. [4] The clinical features include nasal discharge, cough, fever, malaise, sore throat, respiratory distress, swelling lymph node, tonsil enlargement, wheezing and ear problem. Most children with these infections have only mild infection, such as cold or cough. However, some children may have pneumonia which is a major cause of death. [5]

According to UNICEF it is estimated that about 90% of children die at home every year due to lack of facilities. Therefore, it is recommended that, parents and caregivers should be provided with essential knowledge and necessary commodities to save the lives of their children. Mothers of underfive children play a key role in reducing under - five childhood mortality. [6]

ARI control programme launched by BRAC in 1992 focused on the community base - education, detection, and control of such infections. The aim was to reduce mortality and severity of complications from ARIs among children aged below 5 years. [7]

Acute respiratory infection is a major cause of morbidity and mortality in developing and also developed countries. About 13 million children under 5 years of age die every year in the world, 95% of them in developing countries, one third of total deaths are due to ARI. In the developing countries out of ten, seven deaths in underfive children are due to ARI. It is estimated that at least 300 million episodes of ARI occur in India every year, out of these about 30 to 60 millions are moderate to severe ARI. While every 6^{th} child in the world is Indian, every 4^{th} child who dies, come from India. ARI is responsible for about 30 - 50% visits to health facilities and for about 20 - 40% admissions to hospitals. DALYs lost due to ARI in South East Asia Region are about 3, 30, 26, 000. [8]

On an average, children below 5 years of age suffer about 5 episodes of ARI per child per year, thus accounting for about 238 million attacks. Hospital records from states with high infant mortality rates show that up to 13% of inpatient deaths in pediatric wards are due to ARI. The proportion of death due to ARI in the community is much higher as many children die at home. The reason for high case fatality may be that children are either not brought to the hospitals or brought too late. In India, during the year 2014, about 34.81 million cases of ARI were reported. During 2014 about 2, 932 people died of ARI and 2, 661 died of pneumonia. [9]

According to National family health survey (NFHS - 4) Assam prevalence of symptoms of ARI in the last two weeks preceding was 1% and children with fever or symptoms of ARI in the last 2 weeks preceding the survey taken to a health facility was 46.8%. [10]

A community - based cross - sectional study was carried out to elicit the prevalence and risk factors associated with ARI in 21 registered urban slums of Guwahati, Assam. The prevalence of ARI was shown as 26.22% and infants and female children were more affected. [11]

A study conducted in selected village of Nellore district to assess the prevalence of respiratory tract infection among 100 samples of underfive children showed the prevalence of 63%, among which 29% had mild, 22% had moderate and 12% had severe respiratory tract infections. The study concluded that prevalence is influenced by age, development, exposure to smoking and immunization status. [12]

In general for management of ARI there is a lack of basic health service availability, lack of awareness and other factors associated like over - crowding, environmental factors, defects in immune system, over use and misuse of antibiotics, poverty, absence of ventilation and indoor air pollution however majority of associated factors are preventable. [13]

As time passes there is a change in life style, need and development of every individual. In present scenario the country is over populated, polluted and urbanized, making the underfive children more susceptible to environmental pollutants. After reviewing many literatures, based on above findings on prevalence, incidence and mortality rate, inadequate knowledge level showed by the mothers having underfive children regarding acute respiratory infection and its prevention, it is found that acute respiratory infection is a serious threat to the underfive children which requires awareness and information to be given to the mothers of underfive children.

Objectives

The objectives of the study were to:

- Assess the level of knowledge regarding acute respiratory infection (ARI) and its prevention among the mothers having underfive children.
- Find out the association between the level of knowledge and the selected demographic variables such as age of the mother, religion, education of the mother, occupation of the mother, monthly income of the family, types of family, number of children, age of the child, sources of information regarding acute respiratory infection and occurrence of acute respiratory infection in underfive children.
- Develop and validate an information booklet regarding acute respiratory infection (ARI) and its prevention for the mothers having underfive children.

2. Materials and methods

Research design - Descriptive survey design was used for the present study.

Settings of the study

The study was conducted among the mothers having underfive children attending pediatric OPD of selected hospitals of Guwahati, Assam (Gauhati Medical College and Hospital, Mahendra Mohan Choudhury Hospital and Maternal and Child Welfare Hospital). Gauhati Medical College and Hospital (GMCH) is located at Bhangagarh sub locality, GMCH road, district Kamrup Metro, Assam, Mahendra Mohan Choudhury Hospital (MMCH) is located at MG road, Pan Bazar, district Kamrup Metro, Assam and Maternal and Child Welfare Hospital (MCWH) is located at

AK Dev road, Dhirenpara, district Kamrup Metro, Assam. The GMCH, MMCH and MCWH runs academic pursuits, patient care and are a referral centre for special treatment. The setting was conveniently selected because of the feasibility of the study.

Population
The target population comprised of mothers having underfive children attending pediatric OPD of selected hospital of Guwahati, Assam.

Sample
Sample size for the present study was 158 mothers having underfive children attending pediatric OPD of Gauhati Medical College and Hospital, Mahendra Mohan Choudhury Hospital and Maternal and Child Welfare Hospital, Guwahati, Assam.

Sampling technique
Non - probability convenience sampling technique was used for the study.

Sampling criteria

Inclusion criteria

a) Mothers who are willing to participate in the study.
b) Mothers who are available during data collection.

Exclusion criteria

a) Mothers who have children with congenital abnormalities, mental retardation and chronic illness.
b) Mothers who are health personnel.

Data collection tool

After reviewing literature, discussion with the guides and experts structured interview schedule was prepared. The tool consisted of two sections:

- **Section A:** items on demographic variables such as age of the mother, religion, education of the mother, occupation of the mother, monthly income of the family, types of family, number of children, age of the child, sources of information regarding acute respiratory infection and occurrence of acute respiratory infection in underfive children.
- **Section B:** questionnaire on knowledge regarding acute respiratory infection and its prevention among mothers having underfive children. There were thirty one items in section B. There were 4 options in each item with one correct response. A total score was computed by adding thirty one items. The maximum possible score was thirty one. Based on the Mean ± SD the scores were divided into inadequate, moderately adequate and adequate.

Further in this section, the items were prepared according to the following units:

- **Unit I** - Introduction on acute respiratory infection (ARI)
- **Unit II** - Causes and risk factors of acute respiratory infection (ARI)
- **Unit III** - Acute upper respiratory infection (AURI)
- **Unit IV** - Acute lower respiratory infection (ALRI)
- **Unit V** - Management and prevention of acute respiratory infection (ARI)

Description of the information booklet

A thorough review was done on the concepts of acute respiratory infection, causes, risk factors, acute upper respiratory infection (AURI), acute lower respiratory infection (ALRI), danger signs, management and prevention of acute respiratory infection (ARI) as well as the advice from expert opinions, the investigator developed an information booklet keeping in mind the simplicity of the language and concept so that it was suitable for the mothers having underfive children which were the target population of the study. The information booklet was developed under the following headings:

- Introduction of acute respiratory infection
- Causes and risk factors of acute respiratory infection (ARI)
- Acute upper respiratory infection (AURI)
- Acute lower respiratory infection (ALRI)
- Danger signs of acute respiratory infection (ARI)
- Management of acute respiratory infection (ARI)
- Prevention of acute respiratory infection (ARI)

Ethical consideration

- Institutional approval was obtained from the Institutional Ethics Committee of Regional College of Nursing, Guwahati.
- Permission for conducting the study in the hospital was obtained from the Medical Superintendent of Gauhati Medical College and Hospital, Mahendra Mohan Choudhury Hospital and Maternal and Child Welfare Hospital, Assam.
- Informed consent was taken from the mothers who were willing to participate in the study.
- Confidentiality was maintained during data collection procedure.

Data collection procedure

After obtaining administrative approval from the concerned authority, the data collection was scheduled from 2nd March to 17th March' 2020 and 29th June to 3rd July' 2020. Since the lockdown was imposed due to COVID - 19 pandemic, the period of scheduled dates for data collection was interrupted. The participants were interviewed by the investigator herself with the help of research tool. The investigator introduced her to the participants, the purpose of the study was explained and written consent was obtained from the study participants. In one day about 10 samples were collected and around 15 minutes was needed in completing interview of one participant. The data collection procedure had been terminated by giving thanks to the respondents. The data was then compiled for analysis.

3. Results

Table 1: Frequency and percentage distribution of subjects according to selected demographic variables, n= 158

Demographic variables	Characteristics	Frequency (f)	Percentage (%)
Age of the mother	<20 years	18	11.4
	20 - 29 years	67	42.4
	30 - 39 years	61	38.6
	≥40 years	12	7.6
Religion	Hinduism	98	62
	Islam	47	29.7
	Christian	8	5.1
	Others	5	3.2
Education of the mother	Illiterate	17	10.8
	Primary school	13	8.2
	Middle school	31	19.6
	High school	25	15.8
	Higher secondary school	31	19.6
	Graduate and above	33	20.9
	Professional	8	5.1
Occupation of the mother	Housewife	111	70.2
	Government employee	5	3.2
	Private employee	16	10.1
	Self employee	18	11.4
	Professional	8	5.1
Monthly income of the family	Rs <10, 000	29	18.4
	Rs 10, 001 - Rs 20, 000	46	29.1
	Rs 20, 001 - Rs 30, 000	58	36.7
	Rs 30, 001 - Rs 40, 000	16	10.1
	Rs 40, 001 - Rs 50, 000	3	1.9
	Rs ≥50, 001	6	3.8
Types of family	Nuclear family	92	58.2
	Joint family	66	41.8
Number of child	One	52	32.9
	Two	68	43
	Three	30	19
	Four or more	8	5.1
Age of the child	0 - 12 months	60	38
	13 - 24 months	30	19
	25 - 36 months	18	11.4
	37 - 48 months	19	12
	49 - 60 months	31	19.6
Sources of information regarding ARI	Government health personnel	67	42.4
	Mass media	45	28.5
	Friends	6	3.8
	Neighbours	22	13.9
	Relatives	8	5.1
	Magazines	6	3.8
	Others	4	2.5
Occurrence of acute respiratory infection	1 time	15	9.5
	2 times	61	38.6
	3 times	51	32.3
	4 times or more	31	19.6

The data presented in table no.1 showed frequency and percentage distribution of mothers according to selected demographic variables.

Table 2: Distribution of Mothers according to Level of Knowledge in terms of Mean and Standard Deviation regarding Acute Respiratory Infection (ARI) and its Prevention, n=158

Level of knowledge	Frequency (f)	Percentage (%)	Mean	Overall mean	SD	Overall SD
Inadequate (<14)	22	13.9	10.68		±2.63	
Moderately adequate (14 - 22)	106	67.1	18.03	18.18	±2.3	±4.45
Adequate (>22)	30	19	24.2		±1.73	
Total	158	100				

Maximum possible score = 31

The data presented in table no.2.1 shows that majority number i. e.106 (67.1%) out of 158 mothers had moderately adequate knowledge regarding acute respiratory infection (ARI) and its prevention, followed by 30 (19%) mothers with adequate knowledge and the minimum number i. e.22 (13.9%) had inadequate knowledge. The overall mean was found as 18.18 with standard deviation ±4.45. Thus the findings indicated that there was moderate knowledge regarding acute respiratory infection (ARI) and its prevention among the mothers having underfive children.

Table 3: Area wise distribution of Level of Knowledge of Mothers regarding Acute Respiratory Infection (ARI) and its Prevention, n = 158

Unit	Maximum possible score	Mean	Mean %	Standard deviation
I. Introduction of acute respiratory infection (ARI)	6	3.97	66.17	± 1.34
II. Causes and risk factors of acute respiratory infection (ARI)	3	1.49	49.67	± 0.84
III. Acute upper respiratory infection (AURI)	8	4.52	56.5	± 1.44
IV. Acute lower respiratory infection (ALRI)	4	1.89	47.25	± 1.04
V. Management and prevention of acute respiratory infection (ARI)	10	6.3	63	± 1.76
Total	31	18.18	58.64	±4.45

The data presented in table no.2 depicted the highest mean knowledge level of 3.97 (66.17%) with standard deviation ± 1.34 in the area of introduction of acute respiratory infection (ARI) and the lowest mean knowledge level of 1.89 (47.25%) with standard deviation ± 1.04 was noted in the area of acute lower respiratory infection (ALRI). The overall mean knowledge level regarding acute respiratory infection (ARI) and its prevention was found as 18.18 (58.64%) with standard deviation ±4.45. It implies that knowledge level regarding acute respiratory infection (ARI) and its prevention was above 50%.

Association between the level of knowledge with selected demographic variables

The chi - square value was computed to test the association between level of knowledge and selected demographic variables**.** The study findings showed significant association between level of knowledge and the age of the mother (χ^2=35.62, df (6), p - value=<0.001), religion (χ^2=26.52, df (6), p - value=<0.001), education of the mother (χ^2=88.65, df (12), p - value=<0.001), occupation of the mother (χ^2=24.43, df (8), p - value=0.002), monthly income of the family (χ^2=33.40, df (10), p - value=<0.001), age of the child (χ^2=19.43, df (8), p - value=0.013) and occurrence of acute respiratory infection in underfive children (χ^2=18.58, df (6), p - value=0.005) where p<0.05. On the other hand, there was no significant association between level of knowledge and variables such as types of the family, number of child and sources of information regarding acute respiratory infection.

Thus, it was concluded that the research hypothesis (H_1) could be partially accepted i. e. level of knowledge has a significant association with selected demographic variables such as age of the mother, religion, education of the mother, occupation of the mother, monthly income of the family, age of the child and occurrence of acute respiratory infection in underfive children.

Development and validation of an information booklet regarding acute respiratory infection (ARI) and its prevention for the mothers having underfive children

Information booklet on acute respiratory infection (ARI) and its prevention for the mothers having underfive children was developed based on conceptual framework, objectives of the study. To ensure the content validity of the information booklet, statement and objectives of the study, structured interview schedule and information booklet along with criteria for validation were submitted to seven experts. Among them three experts were from pediatric department, three experts were from child health nursing department, one expert was from department of community medicine. The information booklet was modified and prepared as per suggestions and advice by the experts and in consultation with the guide.

The information booklet was developed in English keeping in mind the simplicity of language and concept so that it was suitable for the mothers having underfive children which were the target population of the study and then translated into Assamese, which was validated by experts. At the end of the interview session the information booklet was distributed to mothers of underfive children as it would help mother in acquiring knowledge on acute respiratory infection (ARI) and its prevention in underfive children.

4. Discussion

The present study findings revealed that majority number i. e.106 (67.1%) of the mothers had moderately adequate knowledge regarding acute respiratory infection (ARI) and its prevention, 30 (19%) had adequate knowledge and 22 (13.9%) had inadequate knowledge. The overall mean was found as 18.18 with standard deviation ±4.45. Thus, the findings indicated that there was moderate knowledge regarding acute respiratory infection (ARI) and its prevention among the mothers having underfive children.

The study findings were supported by a similar study conducted by **Gyawali M, Pahari R, Maharjan S, Khadka RR (2016) [14],** to find out the level of knowledge about acute respiratory infection among the mothers of underfive children. The study findings revealed that 322 (83.9%) of respondent had satisfactory level of knowledge, 41 (10.7%) had poor level of knowledge and only 21 (5.5%) had excellent level of knowledge.

The study was contrasted by a study performed by **Vetriselvi P (2018) [15],** to assess the knowledge on prevention and management of acute respiratory tract infection. The knowledge level of mothers showed that 48% had inadequate knowledge, 47% had moderately adequate knowledge and 5% had adequate knowledge.

In the present study the highest mean knowledge level of 3.97 (66.17%) with standard deviation ± 1.34 was found in the area of introduction of acute respiratory infection (ARI) and the lowest mean knowledge level of 1.89 (47.25%) with standard deviation ± 1.04 was noted in the area of acute lower respiratory infection (ALRI). In contrast to the present study, **D'souza A et al (2013) [16]** in their study found highest mean knowledge level of 1.24 (62%) with standard deviation ±0.476 in the area of clinical manifestations and complications of respiratory tract infection and lowest score was found in the area of general aspect of respiratory tract infection with mean 4.88 (44.66%) and standard deviation of ±1.15.

In the present study there was a significant association between level of knowledge and age of the mother, religion, education of the mother, occupation of the mother, monthly income of the family, age of the child and occurrence of acute respiratory infection in underfive children. On the other hand, there was no association between level of knowledge and variables such as types of the family, number of child and sources of information regarding acute respiratory infection.

The present study was consistent with the study done by **Patidar K (2018) [13]** in Mehsana district, Gujarat where the result revealed significant association between knowledge scores with demographic variables like education and occupation of mothers having underfive children.

The similar study conducted by **Vetriselvi P (2018) [15]** among mothers of underfive children also showed association between level of knowledge and monthly income.

Another study supporting this findings was conducted by **Gyawali M, Pahari R, Maharjan S, Khadka RR (2016) [14]** which revealed a significant association between level of knowledge and education of mothers of underfive children.

In contrast to the present study, it was found in the study carried out by **W DA, Lama R, Adhikari L (2012) [17]** that there was no significant association between the knowledge score and selected demographic variables such as age, types of family, education, immunization, family income, food habit, cross ventilation and disposal of waste material.

The present study developed the information booklet on acute respiratory infection (ARI) and its prevention for the mothers having underfive children and at the end of the interview schedule it was distributed to mothers of underfive children.

In contrast to the present study, **Gaikwad PL, Chandekar PA (2019) [18]** in their study assessed the effectiveness of self - instructional module on knowledge of mothers regarding acute respiratory infection in underfive children.

5. Conclusion

The present study was carried out to assess the level of knowledge regarding acute respiratory infection (ARI) and its prevention with a view to develop an information booklet in selected hospitals. The study findings revealed that majority of the mothers had moderately adequate knowledge regarding acute respiratory infection (ARI) and its prevention. The information booklet was developed, validated and distributed after the interview schedule. The results of this study may provide important baseline information about awareness on acute respiratory infection (ARI) and its preventions among the mothers having underfive children. There was a need to increase the level of knowledge on acute respiratory infection (ARI) and its prevention. Therefore, health care professionals should develop various effective programs to help them acquire adequate knowledge for the betterment of children as a whole.

References

[1] Basavanthappa BT. Paediatric child health nursing.1st ed. New Delhi: Ahuja Publishing House; 2008. P.16, 595
[2] Datta P. Pediatric Nursing.3rd ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2014. P.259 - 60
[3] World Health Organization. Programme for the control of Acute Respiratory Infections. Acute respiratory infections in children: case management in small hospitals in developing countries, a manual for doctors and other senior health workers.1990; 90.5 Available from: https: //apps. who. int/iris/handle/10665/61873
[4] Hockenberry MJ, Wilson D. Wong's essential of paediatric nursing.1st ed. New Delhi: Reed Elsevier India Pvt Ltd; 2015. P.594 - 7
[5] Pal P. Textbook of paediatric nursing.1st ed. New Delhi: Paras Medical Publishers; 2016. P.256 - 7
[6] Oluwatosin A. Comparative study and determinants of infection control practices of mothers of under - five children in selected health care institutions in Ibadan. Int J Infect Control.2014; 10 (14): 1 - 9 doi: 10.3396/IJIC. v10i4.029.14
[7] Hadi A, Management of acute respiratory infections by community health volunteers: Experience of Bangladesh Rural Advancement Committee (BRAC), Bulletin of the World Health Organisation.2003; 81 (3): 183 - Available from: https: //www.who. int/bulletin/volumes/81/3/Hadi0303. pdf?ua=1
[8] Prajapati B, Talsania N, Lala MK, Sonaliya KN. A study of risk factors of acute respiratory tract infection

(ARI) of underfive age group in urban and rural communities of Ahmadabad District, Gujarat. Health line.2012; 3 (1): 16 - 20 Available from: https: //pdfs. semanticscholar. org/8db4/35fc279903f6167c55017b5ce94809408ab1. pdf

[9] Park K. Textbook of preventive and social medicine.24th ed. Jabalpur: Banaridas Bhanot Publishers; 2017. P.177 - 84

[10] National Family Health Survey - 4, Assam Fact Sheet. Ministry of Health and Family Welfare. Government of India 2015 - 2016. Available from: http: //rchiips. org/nfhs/pdf/NFHS4/AS_FactSheet. pdf

[11] Islam F, Sarma R, Debroy A, Kar A, Pal R. Profiling acute respiratory tract infections in children from Assam, India. J Glob Infect Dis.2013; 5 (1): 8 - 14 doi: 10.4103/0974 - 777X.107167

[12] Radhika M. A study to assess the prevalence of respiratory tract infection among underfive children in selected village at Nellore District. Nepal Journal of Epidemiology.2014; 4 (2) Available from: 20140403%20 (2). pdf

[13] Patidar K. A study to assess the effectiveness of self instructional module on knowledge regarding prevention of acute respiratory tract infection among the mother of underfive year children in Bhandu Village, Mehsana District. Asian Journal of Nursing Education and Research.2018; 8 (1): 5 - 6 doi: 10.5958/2349 - 2996.2018.00002.2

[14] Gyawali M, Pahari R, Maharjan S, Khadka RR. Knowledge on acute respiratory infection among mothers of underfive year children of Bhaktapur District, Nepal. International Journal of Scientific and Research Publications.2016; 6 (2): 85 - 9 Available from: http: //www.ijsrp. org/research - paper - 0216/ijsrp - p5013. pdf

[15] Vetriselvi P. A study to assess the knowledge on prevention and management of acute respiratory tract infection among mother of underfive children attending medical pediatric OPD in JIPMER hospital, Puducherry. International Journal of Paediatric Nursing.2018; 4 (1): 29 - 32 Available from: https: //rfppl. co. in/subscription/upload_pdf/P. %20Vetriselvi_6588. pdf

[16] D'souza A, Joy A, Karkada A, Jacob J, Sebastian M, Joseph ST, et al. Knowledge of mothers regarding prevention and management of respiratory tract infection in children. International Journal of Recent Scientific Research.2014; 5 (12): 2188 - 91 Available from: http: //www.recentscientific. com/sites/default/files/1562. pdf

[17] W DA, Lama R, Adhikari L. Knowledge, practices and attitude on acute respiratory infection among 100 mothers of under - five children attending the MCH clinic, Ramghat, Pokhara, Kaksi District, Nepal. Int J Nurs Educ.2012; 4 (1): 8 - 11 Available from: https: //www.indianjournals. com/ijor. aspx?target=ijor: ijone&volume=4&issue=1&article=003

[18] Gaikwad PL, Chandekar PA. A study to assess the effectiveness of self - instructional module on the knowledge of mothers regarding acute respiratory infection in underfive year children in selected urban health centre in selected city. International Journal of Advanced Scientific Research.2019; 4 (6): 15 - 8 doi: doi. org/10.22271/scientific