IOSR Journal of Nursing and Health Science (IOSR-JNHS)
e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 12, Issue 5 Ser.1 (Sept. – October. 2023), PP 01-06
www.iosrjournals.org

Assessment Of Knowledge And Practice Of Mothers Regarding Acute Respiratory Infection Among Under Five Children

Md. Abdul Khalek[1], Merina Movis[2]
[1](*Master of Public Health Faculty of Health Science Northern University, Ashiyan city road Dhaka 1230 , Bangladesh)*
[2](*Master of Public Health Faculty of Health Science Northern University, Ashiyan city road Dhaka 1230 , Bangladesh)*

Abstract:
Background*: In Bangladesh, acute respiratory infections (ARIs) are a major health concern for children under five that leading to hospitalizations and deaths. Mothers' knowledge and practices are crucial in preventing and managing ARIs. Factors like diverse populations, varying healthcare access, and cultural beliefs affect maternal knowledge and practices. Understanding these factors is vital to create effective interventions and improve child health outcomes. This assessment focuses on a selected tertiary hospital in Chittagong, evaluating maternal knowledge and practices related to ARIs in under-five children. The findings will guide targeted strategies to reduce ARIs and child mortality, aligning with Bangladesh's Sustainable Development Goals.*
Objective: *To assess the level of knowledge and practice of mothers regarding ARI among under five children.*
Materials and Methods*: The descriptive type of cross sectional study was conducted to assess the level of knowledge and practices in under five ARI children mothers in a tertiary level hospital in Chittagong, Bangladesh with a sample size of 175. Semi structured questionnaire was developed by researcher to conduct this study and non-randomized purposive sampling technique was used to collect data. Descriptive statistics, including frequencies, percentages, means, and standard deviation was used to describe the sample characteristics. Data was presented by frequency and cross tabulation analysis. The association was find out by using chi-square (χ2) test and pearson's product moment correlation coefficient test.*
Results*: The study results finds that among the respondent 67.4% had poor knowledge on ARI, rest 19.5%, 12% and 1.1% had average knowledge, good knowledge & excellent knowledge respectively. Majority of the respondents (70%) practice level was not satisfactory and study results also finds significant association between level of knowledge and age of the respondent, (p=0 .000). It is seen that those who were younger in age i.e. 17-25 years had low level of knowledge than others respondents.*
Conclusion: *ARIs are a major cause of child mortality, affecting millions of under-five children annually. To reduce these infections, we need to improve living conditions and raise awareness among mothers about ARI risks. Achieving this also requires overall social and economic development and a commitment to implementing effective interventions.*
Key Word*: Acute respiratory infection, Mother Knowledge, under five children.*

Date of Submission: 02-09-2023 Date of Acceptance: 12-09-2023

I. Introduction

Acute respiratory tract infection (ARTI) is considered as one of the major public health problems and it is recognized as the leading cause of mortality and morbidity in many countries. The biggest problem for developing countries is the mortality from ARI in children less than five year of age[1]. Acute respiratory infections (ARI), particularly lower respiratory tract infections (LRTI), are the leading cause of under-five morbidity for an estimated just about two million childhood deaths globally. ARI contributes to one-fifths of all under-five deaths in developing countries which is around 12 million every year. It is estimated that Bangladesh, India, and Nepal together account for 40% of the global ARI mortality [2].Acute respiratory infection is an infection of any part of the respiratory tract and related structures including Para-nasal sinuses, middle ear and pleural cavity. It may causes inflammation of respiratory tract anywhere from nose to alveoli with a wide range of combinations of symptoms and signs. The incidence of ARI is highest in young children, especially below 5 years of age and decrease with the increasing age[3].

II. Material And Methods

This descriptive type of cross sectional study was conducted to assess the level of knowledge and practices in under five ARI children mothers in a tertiary level hospital in Chittagong, Bangladesh with a sample size of 175.
Study Design: Descriptive cross sectional
Study Location: The study was conducted in pediatric ward in of tertiary level hospital (CMCH) of Chittagong city in Bangladesh.
Study Duration: April 2016 to December 2016.
Sample size: 175 mothers of under five children.
Sample size calculation: The sampling size was determined by the following formula. Sample size for that proposed study was calculated by the following formula $n = \frac{z^2 pq}{d^2}$ Where, n = required sample size, z = standard normal deviation with 95% CI which is set as 1.96, p = Prevalence of under five children was 21.3 %27=0.213, q = 1-p, So, q=1-0.213 = .787, d = Acceptable error = 0.05 Required sample size, =257.6=258

Due to inadequate time, source, financial limitation we collect 175 samples with the consent of the guide.

Inclusion criteria:
1. All women who have under five children with ARI
2. The mother with under five children who stay in hospital ward.
3. Mother who willingly participate in this study
4. Mentally sound health

Exclusion criteria:
1. Respondents who refuse to provide informed consent
2. Respondent with major psychiatric problem

Procedure methodology

Data was collected after obtaining permission from the Director of Chattogram Medical College Hospital. After obtaining permission from the Director, the researcher met the nursing superintendent and briefly explain the purpose of the study. Written consent obtained from each respondents after explaining the objectives, benefits, and method of data collection. A semi-structured questionnaire was used to collect data and time for each respondents was not be more than 20-23 minutes. The participant was informed that they can withdraw from this study at any time without negative consequence. To protect human subjects, confidentiality and anonymity was strictly maintained by using numerical codes in the questionnaires instead of respondents names.

Statistical analysis

Data was analyzed using SPSS. Descriptive statistics, including frequencies, percentages, means, and standard deviations were used to describe the sample characteristics. Data was presented by frequency and cross tabulation analysis. The association was find out by using chi-square ($\chi 2$) test and *pearson's product moment correlation coefficient test.*

III. Result

This descriptive type of cross sectional study was conducted to assess the knowledge and practices about ARI among under five children mothers in tertiary level hospital in Chittagong, Bangladesh with a sample size of 175.

Table 1: Distribution of socio-demographic characteristics of the respondents, (N=175)

Variables	Categories	n	(%)	Mean ± SD
Mother Age (years)	***Range (25-57)***			**25.32±4.695**
	17-25 years	105	60	
	26-33 years	57	32.6	
	34-40 years	13	7.4	
Child age(month)	7-17	82	46.9	**22.89±11.623**
	18-27	53	30.3	
	28-37	21	12.0	

	38-47	1	.6	
	48-57	18	10.3	
Place of living	Rural	138	78.9	
	Urban	37	21.1	
Religion	Islam	133	76.0	
	Hindu	36	20.6	
	Buddhist	4	2.3	
	Christian	2	1.1	
Educational status	Illiterate	66	37.7	
	Primary	37	21.1	
	Secondary	48	27.4	
	Higher secondary	15	8.6	
	Graduate & Above	9	5.1	
Occupation	Housewife	140	80.0	
	Service holder	23	13.1	
	Businessman	1	.6	
	Day laborer	5	2.9	
	Student	6	3.4	
Type of family	Nuclear family	148	84.6	
	Joint family	27	15.4	
Monthly family income (in taka)	5000-12000	109	62.3	
	13000-20000	57	32.6	**12634.29±4761.31**
	21000-30000	9	5.1	
Housing condition	Teen sheed	116	66.3	
	Semi pakka	27	15.4	
	Building	27	15.4	
	Kacha ghor	5	2.9	
Number of children	1	75	42.9	
	2	66	37.7	
	3	27	15.4	
	4	7	4.0	

The table 1 presents the distribution of socio-demographic characteristics of a sample of 175 respondents. Each row represents a different socio-demographic variable, and the categories within each variable are listed along with their respective percentages. More than half of the respondent (60%) falls within the age group of 17-25 years, indicating that a significant portion of the mothers are relatively young and near half(46.9%) of the respondents children aged 7-17 months. The majority (78.9%) of respondents lives in rural areas, and the predominant religion among the respondents is Islam (76.0%). The largest percentages (37.7%) are illiterate and majorities (80.0%) of respondents are housewives. The majority (84.6%) of respondents belongs to nuclear families and their highest percentage (62.3%) falls within the income range of 5000-12000 taka. More than half (66.3%) live in "Teen sheed," houses and the largest percentage (42.9%) of respondents have one child.

Table 2 Level of knowledge among mothers regarding acute respiratory infection of under five children

Knowledge level	Frequency	Percent
Poor knowledge	118	67.4
Average knowledge	34	19.4
Good knowledge	21	12.0
Excellent knowledge	2	1.1
Total	**175**	**100.0**

Table 2 shows that, among the respondent 67.4% had poor knowledge on ARI, rest 19.5%, 12% and 1.1% had average knowledge, good knowledge & excellent knowledge respectively**.**

Figure-1: Distribution of respondents by level of practice n=175

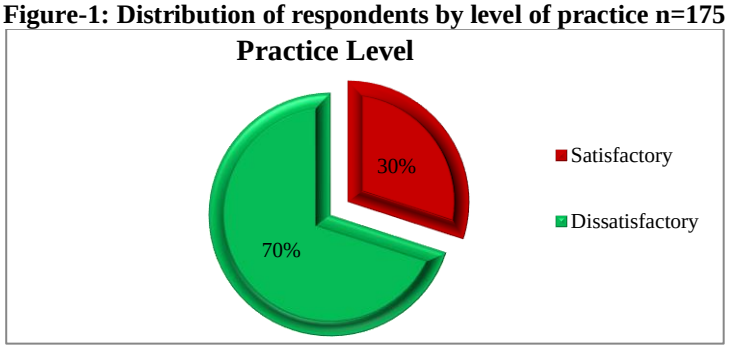

Figure 19 reveals that, majority of the respondents (70%) practice level was not satisfactory and 30% practice level was satisfactory.

Table-3: Distribution of respondent's by association between Level of knowledge and maintenance of personal hygiene

Level of knowledge	Maintenance of personal hygiene (Normal Cleanliness)		Total	P-Value
	Yes	No		
Poor knowledge	26	92	118	
Average knowledge	23	11	34	
Good knowledge	17	4	21	**0.000**
Excellent knowledge	2	0	2	
Total	**68**	**107**	**175**	

Table no 3 finds a significant association between Level of knowledge and Maintenance of personal hygiene, (p=0 .000). It is found that those who score poor knowledge did not maintain personal hygiene.

Table-4: Distribution of respondent's by association between Level of knowledge and age

Age group	Level of knowledge				Total	P-Value
	Poor knowledge	Average knowledge	Good knowledge	Excellent knowledge		
17-25	73	17	14	1	105	
26-33	35	14	7	1	57	**0.000**
34-40	10	3	0	0	13	
Total	**118**	**34**	**21**	**2**	**175**	

It is found from table no 4 that there is a significant association between Level of knowledge and age of the respondent, (p=0 .000).It is seen that those who were younger in age i.e. 17-25 years had low level of knowledge than others respondents.

Table 5 Relationship between knowledge and practice among mothers regarding acute respiratory infection of under five children

Variables	knowledge	What type of fuel did you used for cooking?	Did you/any of your family member smoke?	Did you maintain personal hygiene (Normal Cleanliness) in daily life?	When did you visit health care center?	What you do, if your baby suffers from respiratory problem? Try to treat at home
knowledge	1					
What type of fuel did you used for cooking?	**.420****	1				
Did you/any of your family member smoke?	**.371****	**.376****	1			
Did you maintain personal hygiene (Normal Cleanliness) in daily life?	**-.489****	**-.291****	**-.389****	1		
When did you visit health care center?	**-.305****	**-.335****	**-.208****	.120	1	

What you do, if your baby suffers from respiratory problem? Try to treat at home	**.570****	**.375****	**.434****	**-.559****	**-.196****	1

Table 5 describes the relationship between knowledge and practice among mothers regarding acute respiratory infection of under five children. Study results reveals that mother knowledge is strongly related with practice.

IV. Discussion

This descriptive type of cross sectional study was conducted to assess the level of knowledge and practices in under five ARI children mothers in a selected tertiary level hospital in Chittagong in Bangladesh. The study showed that most of the respondents (60%) were in age group 17-25 years and rest (32.6%, 7.4 %,) were in 26-33 and 35-40 years of age respectively with mean 25.3. The study also showed that most of the respondents child (46.86%) were in age group 7-17 month and rest (30.3%, 12%, 10.3 % and .6%) were in age group 18-27, 28-37, 48-57 and 38-47 month respectively. The study revealed that among the respondents 78.9% live in rural area and 21.1% live in the urban area. The study revealed that among the 175 respondents 37.7% were Illiterate, followed by 27.4% had Secondary education and rest 21.1%, 8.7% and 5.1% had Primary, Higher secondary and Graduation and Above respectively. The study also showed that, 49.7% respondent's children sleep in kitchen area, rest 41.1% and 9.2% sleep inside room and open place /uthan respectively. A study conducted by Simiyu D E, et al on Mother's knowledge and practices regarding acute respiratory infections in children in Baringo district, Kenya,15 this study result is almost similar with the current study.

This study showed that among the respondent 67.4% has poor knowledge on ARI, rest 19.5%, 12% and 1.1 has average knowledge, good knowledge & excellent knowledge respectively.

Farhad J, Malihe A, Fatemeh A, Mahmood S. Conducted a study about the knowledge ,attitude and practice of mothers regarding acute respiratory tract infection in under five children .the study was cross-sectional descriptive study in December, 2010. The study showed that most of the respondents (89.7%) did not have any concept about ARI and only 10.3% knew about it. It is found from the study; among the respondents 71.4% have no idea about the signs of ARI while 28.6% knew about it. The study indicates that, among the respondents 41.3% said fever is the sign of ARI; rest 33.2%, 22.9% & 2.8% said respiratory distress, cough & Sore throat respectively. 5.2% causes of ARI is micro-organism. A study conducted by Aung T, Tun KM, Thin K, Aye A on knowledge, attitudes and practices of mothers on childhood acute respiratory infections (ARI) in Myanmar. The study shows the result Regarding knowledge, very few proportion of mothers (1.5%) knew that the microorganisms were the cause of ARI and there was not much difference between mothers of urban and rural areas (urban = 2%, rural = 1%). Regarding signs and symptoms of pneumonia, nearly 70% of mothers knew that fever, cough and difficult breathing were symptoms of pneumonia and again there was no marked difference between knowledge of mothers from the two areas (urban = 32%, rural= 35%).14 The findings showed dissimilar as there is difference between the socio-demographic characteristics of these two countries.

V. Conclusion

ARI is an important public health problem among under five children. Improvement of living conditioning house may help in reduction of ARI among under five children in the community .the present study also found some major factors where it was seen that mother have allowing to sleep their children in kitchen area,mothers were not aware of the risk of ARI as well as they were not taking their child to hospital for ARI management.

Overall knowledge and practice cannot be increase without an overall increase in social and economic development .Mothers should be explained that cold weather is a supportive causal factor for ARI. Hence predisposing factors they should be informed about health promotion measures. Final step toward control of ARI need commitment to implement different program and evidence based intervention

References

[1]. Thamer KY, Ban A. K. Epidemiology Of Acute Respiratory Tract Infections (ARI) Among Children. Middle East Journal Of Family Medicine.2006;4(3):18-21 Available From:Http://Www.Mejfm.Com/Journal/July2016/Epidemiology.Htm

[2]. Farzana I, Ratna S, Arup D, Sumit K, Ranabir P. Profiling Acute Respiratory Tract Infection In Children. Journal Of Global Infectious Disease. 2013; 5(1):8-14. Available From: Http://Www.Ncbi.Nlm.Nih.Gov/Pmc/Articles/PMC3628235.

[3]. Dutta, P (2009). Pediatric Nursing . New Delhi: Japee Brothers Medical Publications(P) Ltd.

[4]. Pore P D, Ghattargi C H, Rayate M V. Study Of Risk Factors Of Acute Respiratory Infection (ARI) In Under-Fives Children In Solapur. Nati. J. Community Med (2010). (2), 64-7. URL:Http://Connection.Ebscohost.Com/C/Articles/83290426/Study-Risk-Factors-Acute-Respiratory-Infection-Ari-Underfives-Solapur.

[5]. Denny F W , Loda, F A.1986. Acute Respiratory Infections Are The Leading Cause Of Death In Children In Developing Countries. Am. J. Trop. Med. Hyg., 35(1),1-2.URL: Https://Www.Ncbi.Nlm.Nih.Gov/Pubmed/3946732

[6]. Vandana C, Dipti Y S, Rajkumari S D. Effectiveness Of URTI Preventive Education Programme On Recovery Of Children And Practice Of Caregivers .IOSR Journal Of Nursing And Health Science .2013; 2(2): 31-35. URL:Http://Iosrjournals.Org/Iosr-Jnhs/Papers/Vol2-Issue2/F0223135

[7]. Park, K. (2005). Text Book Of Preventive And Social Medicine. 17th Edition. Jabalpur. Banarasidas Bharot Publication 2005;132-140.
[8]. Respiratory Tract Infection.(2005). Http://Www.Nhs.Uk/Conditions/Respiratory-Tract- Infection/Pages/Introduction.Aspx.
[9]. Denny F W, Loda F A. Acute Respiratory Infections Are The Leading Cause Bipin J P, N. (2012). Knowledge, Attitude And Practices Of Mothers Regarding Acute Respiratory Infection. National Journal Of Integrated Research In Medicine. 2012; 3(2):101-103. Available From: Http://Www.Scopemed.Org/?Mno=20435.
[10]. Saini N K, Garu D R . Acute Respiratory Infections In Children. A Study Of Knowledge And Practice Of Mothers In Rural Haryana. Journal Of Communicablediseases.(2002);24(2):75-77
URL:Http://Www.Ncbi.Nlm.Nih.Gov/Pubmed/1344174.
[11]. Jenai M. Effectiveness Of Information Booklet On Knowledge & Practice About Prevention Of Pneumonia Among Mothers Of Under Five Children. IOSR Journal Of Nursing And Health Science (IOSR-JNHS).2014 January; Volume 3, Issue 1 Ver. II (Jan. 2014), PP 25-30
[12]. Acute Respiratory Disease. (2015).URL: Http://Www.Healthline.Com/Health/Acute-Respiratory-Disease#Complications.
[13]. Rahman MM, Rahman A. Prevalence Of Acute Respiratory Tract Infection And Its Risk Factors In Under Five Children. Dinajpur, Bangladesh.(1997).URL: Https://Www.Ncbi.Nlm.Nih.Gov/Pubmed/9465435
[14]. Aung T.Knowledge, Attitudes And Practices Of Mothers On Childhood Acute Respiratory Infections (ARI) (1994).Yangoon, Myanmar: Vol 25 No 3.URL: Http://Www.Popline.Org/Node/293253
[15]. Simiyu DE. Mother's Knowledge And Practices Regarding Acute Respiratory Infections In Children In Baringo District, Kenya. Baringo District, Kenya: East African Medical Journal . June 2003;Vol.80 No. 6
URL: Https://Www.Ncbi.Nlm.Nih.Gov/Pubmed/12953739
[16]. Ahmed Y, Diwan V And Arvidson AB. Effectiveness Of Information Booklet On Knowledge & Practice About Prevention Of Pneumonia Among Mothers Of Under Five Children. IOSR Journal Of Nursing And Health Science (IOSR-JNHS).2014 January; Volume 3, Issue 1 Ver. II (Jan. 2014), PP 25-30
[17]. Siswanto E,Bhuiyan SU. Knowledge And Perception Of Pneumonia Disese Among Mothers Of Children Under Five Years Attending Nakhon Pathom General Hospital, Thailand.
URL:Http://Www.Aihd.Mahidol.Ac.Th/Sites/Default/Files/Images/New/Pdf/Journal/Mayaug2007/5.Pdf
[18]. Kumar R, Knowledge, Attitude And Practice About Acute Respiratory Infection Among The Mothers Of Under Five Children Attending Civil Hospital Mithi Tharparkar Desert. Pakistan: An Open Access Journal.2012;
URL:Http://Www.Omicsgroup.Org/Journals/Knowledge-Attitude-And-Practice-About-Acute-Respiratory-Infection-Among-The-Mothers-Of-Under-Five-Children-Attending-Civil-Hospital-Mithi-Tharparkar-Desert-2167-1079.1000108.Php?Aid=3793
[19]. Bipin J P, Knowledge, Attitude And Practices Of Mothers Regarding Acute Respiratory Infection. National Journal Of Integrated Research In Medicine. 2012; 3(2):101-103. Available From: Http://Www.Scopemed.Org/?Mno=20435.
[20]. Dr. Jayantilal B.Knowledge Attitde And Practices Of Mothers Regarding Acute Respiratory Infection (ARI) In Urban And Rural Communities Of Ahmedabad District, Gujarat. Ahmedabad, Gujarat.