

Original Article**Pattern of Management of Acute Respiratory Tract Infection by Mothers of under 5 Children**

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For Correspondence*Abstract**

Background: The primary cause of persistently high mortality are infectious diseases. Particularly important are diseases for which effective immunization is not widely available, such as diarrhea and acute respiratory infections. Mothers are the primary caregivers and their ability to recognize symptoms of ARI determine the success of controlling mortality from this condition.

Objectives: To assess the knowledge, attitude and practice of mothers regarding management of ARI of under 5 children from January to July 2010.

Methodology: This descriptive cross sectional study was conducted to assess the pattern of management of ARI by mothers of under 5 children. The study was carried out in a slum in Chattagram district. The study population were mothers who had at least one child aged 6 months–3 years. A total of 109 respondents were selected by simple random sampling. Data was collected using semi- structured questionnaire.

Results: Most of the respondents (43.1%) were in the age group between < 20 years and 34.9% were illiterate. 64.2% of the mothers did not give colostrum to their children instead gave honey, sugar or water from religious leader. The study revealed that more than two fifth of the respondents (41.3%) heard of ARI from health workers and more than a fifth from mass media (21.1%). Fast breathing and chest in-drawing were recognized as severe symptoms by more than half of respondents (58.7%). Regarding health care seeking pattern, nearly half of the respondents (48.6%) preferred to visit quack/ pharmacy drug seller/religious leaders and more than one fourth (26.6%) consulted private physician and hospital. More than one third (34.9%) used home cough remedy and 26.6% of the respondent practiced rubbing oil in chest and back as home care of ARI for their children. So, emphasis should be given for improving the knowledge of the mothers through health education is recommended for prevention of ARI.

Keywords: ARI, knowledge of mother.

Introduction

Acute respiratory Infection (ARI) is considered as one of the leading causes of morbidity and mortality of children. It constitutes Upper Respiratory Infection (URI) and Lower Respiratory Infection (LRI) and presents mainly rhinitis (common cold), tonsillitis, and sinusitis and ear infection while presentation of LRI is pneumonia. Worldwide more than 12 million children die every year due to acute respiratory illness. Most of them are in developing countries, die before they reach their fifth birthday, many during the 1st year of life¹.

The primary cause of persistently high mortality are infectious diseases. Particularly important are diseases for which effective immunization is not available, such as diarrhea and acute respiratory infections². Diarrhoeal and respiratory infections are common childhood diseases throughout the world. ARI represent an important cause of morbidity and mortality in developing countries. Together with malnutrition and diarrheal diseases, ARI ranks among the top diseases in terms of morbidity and mortality worldwide³.

Almost 40% of all under 5 deaths occur during the neonatal period, from a variety of complications. Of these neonatal deaths, around 26% accounting for 10% of all under 5 deaths- are caused by severe infections a significant proportion of these infections is caused by pneumonia and sepsis. Around 2 million children under 5 die from pneumonia each year- around 1 in 5 deaths globally. In addition, up to 1 million more infants die from severe infections including pneumonia, during the neonatal period⁴.

On average, children had general symptoms for 3.5 months during the first year of life, nasal discharge being most frequent followed by cough. Frequency of all symptoms increased steeply after 6 months of age⁵. The under five children are a vulnerable age group; their mortality reflecting a country's overall development. Timely and appropriate healthcare seeking behavior, if practiced by caregivers, can have a significant impact on survival. The slum dwellers have poor health seeking behavior due to their lower socioeconomic status, overcrowding, poor-sanitation, personal and cultural practices toward healthcare providers⁶.

The pragmatic treatment of ARI is only possible only if the mothers as the chief custodians can perceive the signs of the disease and take the imperative steps. The ability to decipher the usual insight of the mothers in relation to the basis and remedy of the disease is a significant foundation for rational health interventions⁷.

Many parents use a herbals and remedies with wrong conceptions, also the lack of adequate knowledge about the correct method of applying antibiotics in the medical care of young children highlighted the importance of intensive research studies in the field of intensifying the use of proper preventive measures in dealing with ARI infected young children⁸. Undernourished and immune-deficient children, particularly who are not exclusively breast fed remain at constant risk of developing pneumonia. Poor environment, indoor air pollution, overcrowding etc. may also play a role⁹. Evidence from Bangladesh shows that about 39% of all pediatric hospital admissions, and between 40% and 60% of total pediatric outpatient department visits were as a result of ARI¹⁰.

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Owing to the ignorance or inadequate knowledge, mothers cannot take care of the children. In the management of the child's sickness, it is utmost important for the mothers to have some knowledge about the disease. For this reason, mother should be educated properly. This education helps to improve the pre-existing knowledge, attitude, behavior of the parents. On the other hand, effective preventive measure needs to be taken in order to reduce the morbidity and mortality due to ARI.

Material and methods

This descriptive type of cross-sectional study was conducted in Debarpar slum of Chittagong district in January–July 2010. Study subjects were selected by simple random sampling. The study population was mothers who had at least 1 child aged 6 months- 3 years. The sample size was 109. Data was collected using semi structured questionnaire. The questionnaire was pretested. Data was edited, coded and then verified. Further validation checks for accuracy and consistency were carried out afterwards. Finally data was analyzed. Data interpretation was done by table and statistical influence.

Results

This cross-sectional descriptive study was conducted among 109 respondents and their mean age was 20.89 ± 3.77 years. Most of the respondents (43.1%) were aged between <20 years. The majority of the respondents (34.9%) were illiterate. (Table I).

Table I: Socio-demographic characteristics of the respondents

Variable	Frequency	Percentage
Age group	25	
< 20	47	43.1
20-24	25	22.9
25-29	18	16.5
30-34	09	8.3
> 35	10	9.2
Mean ± SD	20.89 ± 3.77	
Educational Status		
Illiterate	38	34.9
Class I-V	35	32.1
Class VI to VIII	22	20.2
Class IX to X	14	12.8

More than half (70.6%) of the respondents used wood fuel for cooking and more than three fourth (76.1%) of the family members smoked biri/cigarette /hukka

Table II: Behavior of the respondents

Variable	Frequency	Percentage
Type of burner used for cooking		
Kerosene burner	03	2.8
Wood fuel	77	70.6
Kerosene burner and wood fuel	29	26.6
Family members smoking cigarette/biri/hukka in the house		
Yes	83	76.1
No	26	23.8

Table III: Characteristics of the child

Variable	Frequency	Percentage
Colostrum given to the child		
Yes	39	35.8
No	70	64.2

More than one third (35.8%) of the children were given colostrum.

Table IV: Knowledge, attitude and practice of mothers on ARI

Variable	Frequency	Percentage
Source of hearing about ARI		
Doctor	14	12.8
Health worker	45	41.3
Neighbor	27	24.8
TV/Radio	23	21.1
Knowledge on recognizing symptoms of ARI		
Fever	25	22.9
Running nose	29	26.6
Repeated cough	40	36.7
Sneezing	11	10.1
Ear ache, pain in throat	04	3.7
Knowledge on recognizing severe symptoms of ARI		
Stop feeding well	18	16.5
Wheezing	27	24.8
Fast breathing	30	27.5
Chest in-drawing	34	31.2
Treatment seeking behavior for ARI		
Hospital	14	12.8
Private Physician	15	13.8
Relative/neighbor	27	24.8
Quack/pharmacy/religious leader	31	48.6
Measures taken for ARI		
Rubbing oil in chest and back	38	26.6
Feed the child frequently	25	22.9
Gave home cough remedy	29	34.9
Keep the baby warm	17	15.6

The most common symptoms for ARI was repeated cough (36.7%). Fast breathing and chest in-drawing were recognized as severe symptoms by 31.2% of respondents. 48.6% of the respondents were interested in seeking treatment from quack/pharmacy/religious leader. About a third (34.9%) of respondents gave home cough remedy for measures of ARI.

Discussion

In this study most of respondents (43.1%) belonged to the age group <20 years which was similar to a study carried out in Bangladesh about risk factors for respiratory tract infections among children¹¹. Majority of the respondents (70.6%) used wood fuel for cooking food. The findings in this study showed similarity with a study carried out in Baringo district in Kenya regarding knowledge, attitudes and practices in ARI in children¹². In this study, more than two-third (76.1%) of family members smoke biri/ cigarette/hukka in the room had alike findings with the study carried out on home management of ARI: a challenge to the family and the community¹³. Parental education especially maternal education is important to differentiate ARI among children. In our study, 34.9% of mothers were illiterate and 32.1% had completed primary education which was similar to a study carried out in Eastern Nepal about what do others know about ARI: a case from Nepal¹⁴. This study showed repeated cough (36.7%) and running nose (26.6%) were recognized as common symptoms of ARI. In a study conducted in Dar es Salam major symptoms were fever (92.5%), cough (85.3%) and inability to play (83.5%)¹⁵. Regarding health care seeking pattern, it was found that most of the women did not seek health care from the health care practitioners. Instead they mostly sought health care from quack/ pharmacy drug sellers/ religious leaders/neighbor/relative due to financial constraints. The mothers sought health care after more than 5 days of illness. This finding is not consistent with a study done in Tamil Nadu about knowledge, attitude and practices about acute respiratory infection among mothers of under 5 children¹⁶. Most of the respondents (34.9%) mentioned, that they would carry out home cough remedy such as lemon juice, honey and luke warm water and rubbing oil in chest was done by more than one fourth of the respondents (26.6%). Similar findings were found in a studies conducted in Multan showed practice of home remedies was 40%¹⁷. A study carried out to find out the role of mother's knowledge to

control respiratory tract infection in children showed dissimilar findings¹⁸. This may be due to cultural differences.

Conclusion

Emphasis should be given on improving knowledge of mothers by health education for early recognition of symptoms of ARI. Better literacy rate and improving the financial condition will have positive effect on knowledge, attitude and practice towards ARI.

References

1. Gupta N, Jain SK, Ratnesh C, Chawla UR, Hossain S, Venkatesh S. An evaluation of Diarrheal diseases and acute respiratory infections control programs in a Delhi Slum. *Indian J Pediatric*. 2007; 74(5):471-6.
2. Goldman N, Pebley AR, and Beckett M. Diffusion of ideas about personal hygiene and contamination in poor countries: evidence from Guatemala. *Forthcoming in Social Science and Medicine*. 52(1)53-59.2001
3. Sultana NK, Saha SK, Al-Emran HM, Modak JK, Sharker Y, Arifeen SE, et al. Impact of Introduction of the Haemophilus Influenzae Type b Conjugate Vaccine into Childhood Immunization on Meningitis in Bangladeshi Infants. *J Pediatr*. 2013; 163: S73–S78.
4. Bangladesh Bureau of Statistics (BBS). *Health and Morbidity Status Survey*. Dhaka, Bangladesh; 2013.
5. Winstow V, Lousie M. Acute respiratory symptoms and general illness during the first year of life: a population based birth control study. *Pediatr Pulmonol*. 2008 Jun; 43(6): 584-93.

6. Mishra O K, Mahapatra I, Kumar A. A study on the health seeking behavior among caregivers of under five children in an urban slum of Bhubaneswar.
7. Teka T, Dagne M. Health behaviour of rural mothers to acute respiratory infections in children in Gondar, Ethiopia. *East Afr Med J.* 1995; 72(10):623-5.
8. Schaad U. Prevention of paediatric respiratory tract infections: emphasis on the role of OM-85. *European Respiratory Review.* 2005; 14: 74-77.
9. Winstow V, Lousie M. Acute respiratory symptoms and general illness during the first year of life: A population based birth control cohort study. *Pediatr Pulmonology.* 2008; 43; 584-593
10. Kabir L, Amin R, Mollah AH, Khanam S, Mridha AA, Ahmed S, et al. Respiratory Disorders in Under-Five Children Attending Different Hospitals of Bangladesh: A Cross Sectional Survey. *J Respir Med Res Treat.* 2016; 2016:1-11.
11. Kazi M, A. K. A. Risk Factors for ARI among under 5 Children in Bangladesh: *Journal of Scientific Research.* 2009; 1 (1): 72-81
12. Simiyu D E, Wafula E M, Nduati R W. Mothers KAP regarding acute respiratory infection in children in Baringo district, Kenya: *East African Medical Journal.* 2003; 80 (6):303-307.
13. Magdalena CC. Home Management of Acute Respiratory Infections: A Challenge to the Family and the Community: *International Journal of Sociology and Social Policy.* 1998; 18 (7/8): 108-27.
14. Onta S R, Yengden B. What do Mothers Know about Acute Respiratory Infection: a case from Eastern Nepal. *Journal of the Institute of Medicine.* 2003; 14.
15. Athumani J. Knowledge, Attitudes and Practices of Mothers on Symptoms and Signs of Integrated Management of Childhood Illness (IMCI) Strategy at Buguruni Reproductive and Child Health Clinics in Dar es Salam. *Dar es Salam Medical Students J.* 2010; 15 (1): 4-8
16. Nesan S. Knowledge, Attitude and Practices about Acute Respiratory Infection among Mothers of Under 5 Children: *International Journal of Research in Pharmaceutical Sciences.* 2020, 11(02), 16-20.
17. Allah Y M, Iqbal I. Knowledge and Practices of Mothers regarding Acute Respiratory Infections in Children under 5 Years in Urban Slums of Multan. *Med Forum* 2012; 11
18. Ihtisham A, Bashir B. Role of Mother's Knowledge to Control Respiratory Tract infection in Children, *Indo American Journal of Pharmaceutical Sciences.* 2020; 07 (08): 268-273