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A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE OF MOTHERS REGARDING ACUTE RESPIRATORY INFECTIONS AMONG CHILDREN ADMITTED IN A TERTIARY CARE HOSPITAL IN PUNJAB

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ABSTRACT

The present study was conducted to assess the knowledge of mothers regarding Acute Respiratory Infections (ARI) in a tertiary care hospital in Ludhiana, Punjab with the aim of assessing the knowledge of mothers regarding ARIs and to ascertain the relationship of this knowledge with certain selected demographic variables viz. age of mothers, education of mothers, occupation of mothers ,age of child, gender of child, number of children, birth order of the child, type of family, family income, area of residence, type of house, medium of cooking and source of information. A quantitative approach and non experimental descriptive research design were adopted for the study. 200 mothers were included in the study using purposive sampling technique. A self structured knowledge questionnaire was prepared after extensive review of literature and expert's opinion, a pilot study was conducted to establish reliability of the outcomes. The data on responses of200 mothers was analysed by using descriptive and inferential statistics. The findings revealed that maximum 110(55%) mothers had average knowledge, whereas 90(45%) had good knowledge regarding ARI with highest knowledge in area of management and least knowledge in the area of incidence and prevention. Age, education, and occupation of mothers, age of the child, number of children, family income and source of information had significant relationship with the knowledge of mothers regarding ARIs.

INTRODUCTION

Awareness amongst mothers regarding a particular disease plays an important role in prevention of the disease in children and also helps them to play their role well in the management of the disease whenever the child contracts the disease. Health information empowers the mothers and instills the confidence in them to understand the logic behind management of the disease by the pediatrician and therefore ensures better compliance from the mothers. This aspect assumes more importance in the early years of life. Of the 2 million children added to pediatric population in India each year, about 18% of them come under the age group of $\leq$ 5 years. Fifty percent of the 2 million children succumb to some childhood disease or infections and do not live upto age 5 year. It is alarming to see these figures and surprisingly there are no significant gender differences. A significant 20% of the mortality in under 5 yrs children is attributable to ARI- acute respiratory infections[1]

WHO reports almost a decade back in 2007 highlighted the fact than nearly 30-40% of hospital visits by <5 children are due to ARI and that on an average children <5 yrs age suffer 5 episodes per year. A good number (20-40%) need hospitalization. There are more who do not reach a hospital or can not afford medical costs and hence the mortality at home is much higher than statistics for in hospital mortality[2]. Estimated ARI mortality in India is 19% of all <5 children as per WHO reports of 2009 and ranks amongst top 10 causes of <5yrs deaths. Preventive measure to halt the incidence or poor outcome of the disease has aptly taken the attention of the experts who are engaged in preventive and therapeutic measures to reduce the mortality due to ARI which includes developing new policies, analysis of the available data and development of vaccines, diagnostic tools, strategies to maintain the effectiveness of existing antibiotics, research to develop new ones, and improved access to health care , especially in poor urban and rural areas. ARI control program was mainly focused on community based education, and detection of such infections[3]

Although the menace of mortality in ARI amongst children of <5 yrs is very scary in India and other developing and underdeveloped countries, a large part of it can be avoided by instituting preventive measures in the community. Making the mothers aware of the symptoms of the disease, modes of transmission and what to do in case the child contracts the disease, is a powerful step in the right direction to control ARI morbidity and mortality. It is important that not only the mothers but the other family members should also be made aware of and must be protected since ARI is a communicable disease. Most children in the community who are suffering with ARI are generally managed at home. Therefore the preventive measures of Acute Respiratory Infections should start from home first. Main preventive measures at home should includes hygienic practices related to personal and environmental hygiene, appropriate disposal of secretions, isolation of infected persons, maintenance of nutritional status, immunizations as per schedule, proper breast feeding in infants, protection of children during weather variations, proper hand washing, use of disposable hand kerchief, social distancing, contact avoidance, proper use of disinfectant, importance of proper ventilation etc. Child health is an important indicator for describing the mortality condition, progress in health and overall social and economic well-being of the country[3].

Most of the hospitalized children with ARI report to the emergency room after a few days of management at home either through self-care, home remedies or through available limited health care facilities at the local residential level. It would thus be relevant to focus more on preventing the disease at home or local community level. One of the most important steps in prevention is educating the community, especially the mothers on preventive aspects.

There have been studies[4-8] conducted in the past on assessment of knowledge about ARI amongst mothers. Various aspects on disease severity, type of infection and resultant mortality has been studied in other states. It is assumed that some states where healthcare facilities are readily available and other factors like malnutrition, poor vaccination status, and illiteracy amongst mothers is less common, the prevalence of ARI would be much less. However, it has been observed that although these factors play their roles in ARIs, in many tertiary care hospitals of affluent cities,

the number of children <5 reporting to the hospital with ARI or its complications are significantly high.

In the above context, one of the important areas to be focused in prevention of ARI in under 5 years children in the community is to first assess the knowledge of the mothers regarding ARI and then suggest appropriate measures using the right tools to educate them. The present study was conducted to explore the knowledge of mothers of children under 5 years age admitted to tertiary care hospital of a reputed medical college at Ludhiana, Punjab.

AIM:

To assess the knowledge of mothers regarding acute respiratory infections among children under 5 years of age admitted in the hospital and to ascertain the relationship of mother's knowledge regarding acute respiratory infection with certain selected demographic variables viz. age of mothers, education of mothers, type of family, source of information and number of children, occupation of mothers, gender of the child and family income and type of residence.

MATERIAL AND METHODS

The present study was conducted in Child Health Care unit of a tertiary care hospital in Ludhiana, Punjab in the months of February. This study, a non-experimental research design and descriptive approach, included 200 mothers of children between birth to 5 years of age, admitted with ARI, using a purposive sampling technique. Mothers of children who were critically ill were excluded from the study as the mothers were not emotionally stable to participate in the study and were less receptive at the time of their personal crisis. All participating mothers were explained the purpose of the study and ensured about the confidential nature of their response. A verbal consent was obtained from each participant.

A self structured knowledge questionnaire was offered for verbal or written response to the mothers as a tool to assess their knowledge on ARI and to get their demographic details. This questionnaire was first used in a pilot study on 20 mothers randomnly selected from amongst the mothers of <5 years children admitted to general and private wards of paediatric unit of the same hospital. The tool (knowledge questionnaire) consisted of two sections (A and B).

DESCRIPTION OF TOOL:

The tool used in the study was divided into two parts:

SECTION A:-

DEMOGRAPHIC PROFILE OF MOTHERS:

This part of tool was for obtaining personal information from mothers .i.e. age of mothers, education of mothers, occupation of mother, age of the child, gender ,birth order, number of children, type of family, family income, area of residence, type of house, medium of cooking and source of information.

SECTION B:-

SELF -STRUCTURED QUESTIONNAIRE TO ASSESS THE KNOWLEDGE REGARDING ACUTE RESPIRATORY INFECTIONS AMONG CHILDREN.:

This part was composed of knowledge related questions on Acute Respiratory Infections. This self structured knowledge questionnaire consists of 30 multiple choice items on Acute Respiratory Infections. Each item consists of one correct answer among the three given choices. Each correct answer carries one mark and for the wrong answer zero mark awarded.

The questions were divided in the following aspects:-

Area of knowledge		Items
Nature of Illness	-	07 items
Incidence	-	05 items
Causes	-	05 items
Sign & Symptoms	-	05 items
Management	-	08 items
Prevention	-	06 items

CRITERION MEASURES

The criterion measure used in the study was knowledge score of mothers regarding acute respiratory infections. The knowledge score refers to the total obtained score by mothers on knowledge items in structured questionnaire by mothers of children from birth to five years of age. The knowledge regarding ARI was graded as good, average or below average.

Level of knowledge	Score	Percentage
Good	>24	>67%
Average	12-24	33-67%
Below average	<12	<33%

CONTENT VALIDITY OF TOOL:

The content validity of the tool was confirmed through consultation with experts regarding the relevance of items. The tool was given to the experts from the areas of Child Health Nursing, Obstretical and Gynecological Nursing, Community Health Nursing, Medical Surgical Nursing, Mental Health (Psychiatric) Nursing, Pediatric Surgery, Community Medicine of Christian Medical College & Hospital, Ludhiana, Punjab

RELIABILITY OF TOOL:

Reliability of the structured questionnaire was computed by split half method and calculated by Karl Pearson Coefficient of Correlation and Spearman Brown Prophecy formula. The reliability of the knowledge questionnaire was found to be 0.8.

Analysis of the data was done in accordance with the objectives: In descriptive statistics percentage, mean, mean percentage and standard deviation were used for describing the distribution of mothers according to their sample characteristics related to acute respiratory infections. Level of knowledge was analyzed by mean & standard deviation. In inferential statistics ANOVA, t-test was used to interpret the relationship between variables. The level of significance chosen was $p \leq 0.05, 0.01$ and 0.001 .

OBSERVATIONS AND RESULTS:

SECTION A:

Findings regarding demographic details of the mothers

The findings shows that out of 200 subjects, maximum 79 (39.5%), subjects were in the age group of 26-33 years, followed by 77(38.5%) subjects in the age group of 34-41, and least 44(22%) subjects in age group of 18-25 years. According to educational status maximum 85(42.5%) subjects were having educational status of primary to middle standard, followed by 77(38.5%) subjects studied up to matriculation to 10+2, and least 38(19%) subjects were illiterate. As per occupation of mothers maximum 113 (56.5%) subjects were housewives 50(25%) were laborers and 30(15%) were doing service and least 07(3.5%) were involved in business. As per age of child maximum subjects 110 (55%) had children of <1month of age and 48(24%) had children of 1month-1year of age and 28(14%) had children of 1-3 years of age and least 14(7%) had children of 3-5 years of age. According to gender of the child 95(47.5%) subjects were having a boy child and 105(52.5%) mothers were having a girl child. According to number of children maximum 94(47%) subjects had only one child and 59(29.5%) mothers had 2 children followed by 31(15.5%) subjects had 3 children and least 16(8%) subjects had > 3 children. As per birth order of children maximum 70 (35%) subjects had child in third birth order and 67(33.5%) had child with first birth order and 38(17%) subjects had child with second birth order followed by least 29(14.5%) subjects had child with birth order more

than three. Out of 200 subjects maximum 136 (68.0%) subjects were from a nuclear family while 50 (25%) subjects were from a joint family structure and least 14 subjects (7%) were from extended family. According to family monthly income maximum 110 (55%) subjects had family income of <5000 Rs followed by 43 (21.5%) subjects had family income of 5001-10000 Rs and next to them were 36 (18%) subjects with family income group of 10001-15000 Rs and least 11(5.5%) subjects with >15,001 Rs of monthly family income. According to area of residence maximum 128(64%) subjects were living in urban area and 72(36%) subjects were living in rural area. Regarding type of house maximum 132(66%) subjects were living in pucca house and 67(33.5%) mothers were living in kaccha house and least1(.5%) subject had other type of house. According to medium of cooking maximum 105(52.5%) subjects were using stove as a medium of cooking followed by 56 (28%) subjects were using charcoal whereas 28 (14%) subjects were using gas and least 11 (5.5%) subjects were having electrical medium of cooking. As per source of information related to acute respiratory infections, maximum 69 (34.5%) subjects had magazines and newspaper as source of information followed by 49(24.5%) subjects had health professionals as source of information followed by 40(20%) subjects had mass media as source of information and least 42(21%) subject had families/friends as a source of information.

SECTION B:
Findings related to knowledge of mothers regarding Acute Respiratory Infections

This observations in this section were analysed for mean, mean percentage and rank order of knowledge score of mothers according to areas of knowledge regarding Acute Respiratory Infections. The mean knowledge score of mothers was highest in the area of management of Acute Respiratory Infections (14.44% rank 1st), followed by nature of illness of Acute Respiratory Infections (12.08% rank 2nd), prevention of Acute Respiratory Infections (10.13% rank 3rd), sign & symptoms of Acute Respiratory Infections (10.11% rank 4th), causes of Acute Respiratory Infections (9.69% rank 5th) and least knowledge score in the area of incidence of Acute Respiratory Infections (9.33% rank 6th).

According to the age of mothers the mean knowledge score was highest (24.34) in subjects of 34-41 years of age group. Subjects who were educated from primary to middle had highest (26.82) mean knowledge score. The mean knowledge score was highest (25.04) among housewives group. The mean knowledge score of subjects was highest (26.36) among mothers of children in 1-3 years of age group. The mean knowledge score was highest (24.48) in subjects who had girl child. The mean knowledge score of subjects was highest (27.88) in mothers had >3 children. The mean knowledge score of subjects was highest (24.00) in mothers who had child with more than third birth order. The mean knowledge score of subjects was highest (23.52) who were living in nuclear family. The mean knowledge score of subjects was highest (24.47) among subjects who were having family income <5000 Rs. The mean knowledge score was highest (24.24) in subjects living in urban area. The mean knowledge score was highest (23.89) in subjects living in pucca houses. The mean knowledge score of subjects was highest (26.09) in subjects who were using electrical medium of cooking. The mean knowledge score was highest (7.19) in subjects who were using magazines & newspaper as a source of information

DISCUSSION:
In the present study most (55%) of the mothers had average level of knowledge regarding acute respiratory infections, whereas 4% mothers had good level of knowledge. According to areas of knowledge mean percentage knowledge score was maximum (4.65) in area of management of acute respiratory infections and least (3.36) score was seem in area of incidence of acute respiratory infections. These results were comparable to an earlier study done by D'souza Asha in 2004[9] on knowledge of mothers regarding prevention and management of ARI

The highest mean knowledge score (24.32) according to the age of mothers in the present study was highest in age group of 34-41years followed by (23.62) in age group of 26-33 years. The difference in the mean was found statistically significant. The findings of the present study correlates with study done by Gehan[10] who did a study on knowledge of mothers of children with bronchial asthma.

The mean knowledge score of mothers was highest (26.82)of mothers educated from primary to middle followed by(22.96) in mothers educated from matriculation to 10+2 group. Subjects educated from matriculation to 10+2 were highly significant group. Level of education of the mother had major impact on knowledge of mothers regarding ARI. In a cross sectional study conducted by Bandyopadhyay Debasis[11] regarding the ARI among mothers in both urban and rural communities of Burdwan.

As per occupation of mothers, 113 (56.5%) subjects were housewives, 50(25%) were laborers and 30(15%) were in service 07(3.5%) had own business. The mean knowledge score of mothers was highest (25.04) in housewives group followed by(22.54) among laborers and (20.30) in mothers of service group and least (19.29)in business group. Similar findings were seen in the study conducted by Bandyopadhyay Debasis[11].

The present study observed that 95(47.5%) mothers had male child and 105(52.5%) mothers had female child. The mean knowledge score of mothers was highest (24.48) of mothers had girl child followed by (23.44) mothers of boy child. Another study conducted in 2012 by Kumar et al[12].

In our study 110 (55%) subjects had family monthly income < Re5,000 followed by 43 (21.5%) between 5,000-10,000 and 36 (18%) had income between 10,000-15,000 followed by 11(5.5%) earned >15,000. The mean knowledge score of mothers was highest (24.47) in mothers having family income <5000 followed by (23.65) in those with income 5.000-10,000 followed by (22.18) with family income >15.001 followed by (20.75) mothers with family income 10.000-15,000 group . These findings are in accordance with a similar study conducted by Gajendra Singh[13].

As per area of residence, 128 (64%) subjects had urban area of residence and 72(36%) had rural area of residence. the mean knowledge score of mothers was highest (24.24) of mothers living in urban area followed by (23.61) mothers living in rural area. Regarding type of house 132(66%) subjects had pucca house and 67(33.5%) had kaccha house and 1(.5%) had other type of house. The mean knowledge score of mothers was highest (23.89) of mothers living in pucca houses followed by (22.76) mothers living in kaccha houses. The findings of survey conducted by Devi Ashalata [14] had very similar findings to our study.

According to medium of cooking ,105(52.5%) subjects had stove as medium of cooking and 56 (28%) uses charcoal 28(14%) had gas and 11(5.5%) had electrical medium of cooking. The mean knowledge score of mothers was highest 11(26.09) of mothers using electrical medium of cooking followed by 105(23.73) mothers using as stove as medium of cooking followed by28(23.71) mothers using gas as medium of cooking and least 56(22.45) mothers using charcoal as a medium of cooking. A similar study was done by **Rehmaan**[15]

As per source of information, maximum 69(34.5%) subjects were using magazines and newspaper followed by 49(24.5%) subjects had health professionals as source of information

and 40(20%) subjects had mass media as source of information and 42(21%) subject's source of information was families/friends. The mean knowledge score was highest (7.19) of mothers who were using magazines & newspaper as source of information followed by (5.78) mothers had mass media as source of information followed by 4.95) mothers had family/ friends as source of information least (4.29) by mothers had health professionals as source of information. The findings are comparable to an earlier study by **Jeena M**[16]
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CONCLUSIONS:

We conclude that most urban mothers who are educated have average knowledge regarding acute respiratory infections with most having basic knowledge in area of management and least knowledge in area of incidence. In socio-demographic characteristics age of mothers, education of mothers, occupation of mothers, age of the child, and birth order of child, family income and source of information had significant relationship with knowledge of mothers regarding acute respiratory infections.

LIMITATIONS:

The size of sample studied was 200 mothers, hence it was difficult to make broad generalizations. Purposive sampling was done from selected area which restricts the generalization of the study to the particular study. The study was confined to mothers of children under five years of age group.

REFERENCES:

1) National institute of health and family welfare. Reproductive and child health module for medical officer [primary Health Center]. Munirka, New Delhi; May 2000.
2) Sherene G Edwin, effect of planned teaching programe on knowledge, Attitude on practice of ARI among mothers, Shakuntala college of nursing, Trichy, the nursing journal of India, TNAI, Nov 2009, Vol C.No. 11.
3) Park K. Textbook of preventive and social medicine. 17th ed. Banarasidas bhanot; Jabalpur: 2005. p. 81.
4) Gupta N, Jain SK. An Evaluation of Diarrheal Diseases and Acute Respiratory Infections Control Programmes in a Delhi slum. Indian J Pediatric 2007; 74(5):471-6.
5) Saini NK, Gaur DR, .Acute Respiratory Infections In Children: A Study Of Knowledge And Practices Of Mothers In Rural Haryana. 1992 Jun;24(2):75-7
6) Basavanthappa BT. Nursing Research.2nd ed.New Delhi: Jaypee brothers; 2006.
7) Sarkar R. Sivarathinaswamy P. Thangaraj B. Sindhu KN, Ajjampur SS, Muliyil J, et al. Burden of childhood diseases and malnutrition in a semi-urban slum in southern India. BMC Public Health. 2013; 13:87. [PMC free article] [Pub Med]
8) Taneja J. Malik A. Rizvi M. et al. Acute lower respiratory tract infections in children. Indian Pediatric. 2009; 46:509–11. [Pub Med]
9) D'souza Asha. Knowledge of mothers regarding prevention and management of respiratory tract infection in children. International Journal of Recent Scientific Research Mangalore. Dec 2014:Vol. 5,(12); 2188-2219
10) Gehan M Amin. Knowledge of Mothers of Children with Bronchial Asthma Med. J. Cairo Univ.; March 2014, Vol. 82, (2): 63- 70,.
11) Debasis, B and Ahemed. A Study of Knowledge, Attitude And Practice Among Mothers Towards Acute Respiratory Infection In Urban And Rural Communities Of Burdwan District, West Bengal, India. June 2013:, 8(1): 19
12) Kumar et al. Hashmi. Knowledge Attitude and Practice about Acute Respiratory Infection among the Mothers of Under Five Children Attending Civil Hospital, Mithi Tharparkar Desert. Primary Health Care: Open Access; 2012, Vol 2 (1): 108
13) Gajendra Singh S. Impact of Health Education on Preventive Practices of A.R.I among Mothers Living In Urban Slum –Bangalore: IOSR Journal of Nursing and Health Science : 2320–1940 Volume 4, Issue 1 Ver. I (Jan.-Feb. 2015), PP 27-31
14) Devi Ashalata W, Ranjana Lama. A survey to assess the knowledge, practice, and attitude on acute respiratory infection among mothers of under five children at MCH clinic, Ramghat, Pokhara, Nepal: International Journal of Nursing Education. 2012;Vol4(1) :8-11
15) Rehman, & M.A. Khan Standard management of acute respirator infections in a children's hospital in Pakistan: impact on antibiotic use and case fatality. Bulletin of the World Health Organization. 1996; 74 (5): 501-507.
16) Jeena M. Insights From Community-Based Research On Child Pneumonia In Pakistan. Med Anthropol 1994 May; 15(4):335-52.