

Original Article

CURRENT KNOWLEDGE AND PRACTICES AMONG MOTHERS ABOUT ACUTE RESPIRATORY INFECTIONS IN CHILDREN BELOW 5 YEARS OF AGE IN RURAL COMMUNITY, DISTRICT BAHAWALPUR

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Objective: To determine the knowledge and practices of the mothers regarding management of acute respiratory tract infections in children below 5 years of age.

Material & Methods: Respondents were residents of a rural community. It was a descriptive, epidemiological study. 250 mothers with at least one child below 5 years of age who suffered from at least one episode of ARI were interviewed with the help of a semi-structured questionnaire. Data was analyzed with the help of Epi info statistical program.

Results: Among the mothers interviewed, 90% mothers were below 35 years of age, 54.8% were illiterate and 72% mothers belonged to nuclear families, 89.2% had 1-2 children below the age of 5 years. Among the children between 12 to 59 months, 64.24% were completely vaccinated. The symptoms identified by the mothers included cough in 68.4%, running nose in 22.2%, fever in 50%, blocked nose in 11.2%, sore throat in 9.2% and difficulty in breathing in 23.2%. Whistling was present in 34.4%, earache in 9.2%, ear discharge in 21.2% and chest in-drawing was present in 31.2%. 44.4% mothers considered difficult breathing as a dangerous symptom, 40.3% mothers considered whistling as dangerous and 33.1% mothers considered chest in-drawing as dangerous sign. The main causes of ARI as described by the mothers included "exposure to cold" by 73.2% "intake of sour or cold food" by 0.4%, "after bathing" by 17.6%, and , 0.4% "due to germs" by 16%, "evil eye" 3.2% and "change of weather" by 2.0%. 62.4% mothers consulted private doctors and 10.8% mothers consulted government health facility for treatment while 11.6% mothers used various types of home remedies like 55.17% used Joshanda, 86.22% used Vicks vaporub, 20.68% honey, 31.03% soanf (aniseed) water and 41.38% gave tea. 62.07% kept the child warm and 6.87% gave eggs to their children, Urq by 27.59% and brandy by 24.13%. 76% mothers consulted a qualified doctor for ARI treatment. The mothers who did not consult doctor for ARI treatment, 55% reasoned that illness was minor, 8.3% blamed lack of time etc. Among the mothers belonging to families with 9 or more family members, with 4+ children and with income per month Rs. 3000 or below, a statistically significant association was observed with using home remedy.

Conclusion: These results indicate that mothers are the main decision makers regarding the management of the diseased children and there is strong need for a comprehensive health education program for the parents especially the mothers.

Key words: Under five children, ARI, KAP and Home remedy.

Introduction

Acute respiratory infections are one of the major groups of diseases of infants and children. About 12 millions of children die worldwide each year. 28% of deaths are caused by acute respiratory infections (ARI).¹

In Pakistan every year, 700,000 children younger than 5 years die, 160,000 of these are due to ARI.² Each child, on an average has 4-6 episodes of ARI in a year. 33.6% of total admissions are due to ARI. 80% of ARI associated morbidity and mortality in Pakistan is due to lower respiratory tract infections.¹

The incidence of disease is 3-4% in developed and 10-30% in the developing countries and it may reach much higher levels in areas with high prevalence of risk factors such as low birth weight, malnutrition, chilling, indoor pollution, over crowding, poor accessibility to the health services including supply of adequate drugs.⁴

High mortality can be avoided if the mothers/caretakers of children properly recognize dangerous signs of acute respiratory infections recommended by the World Health Organization (WHO). Furthermore unfortunately various

harmful practices related to management of acute respiratory infections (ARI) such as traditional remedies, stopping or reducing the feed, the use of various harmful drugs etc also exists in the rural community. The existing deep-rooted local beliefs, customs and various taboos are also prevalent among these rural mothers. In the light of these facts, this study was conducted.

Material & Methods

It was a cross sectional, descriptive epidemiological study conducted in a village, Khanqah Sharif, District Bahawalpur, which is 15 kilometers away from Bahawalpur City on Karachi road. The study population consisted of mothers having at least one child below 5 years of age at with symptoms of ARI at the time of interview or had suffered from ARI earlier. A sample size of 250 mothers was calculated with the help of Epi Info. The area map and house numbers of the village were available at the town committee. These available tools were used to obtain the required sample size by simple random sampling technique. To collect the data, a semi-structured questionnaire was designed and pre-tested. All the responses were entered in Epi Info and analyzed. After describing the study variables by frequency distribution tables, Chi Square test was used between different categorical variables. $p < 0.05$ was used as a cut off point for statistical significance.

Results

Socio demographic profile of respondents:

In this study a total of 250 mothers were interviewed. Regarding the age of the mothers, majority 230 (92%) were below 35 years. 136 (54.4%) of the mothers were below 20 years of age at the time of their marriage and 103 (41.2%) were in 20-24 years age group. 137 (54.8%) mothers were illiterate. 180 (72%) mothers belonged to nuclear families and 70 (28%) were part of an extended family. 219 (87.6%) families were having total members less than 10 and 31 (12.4%) having total members less than 13 with an average family size of 7.14. 232 (92.8%) families had a total income of less than Rs. 600/- per month. The average total family income was Rs. 3871.24. 106 (42.4%) mothers had 1-2 children, 86 (28.2%) mothers had 3-4 children and 45 (24.2%) mothers had 5 or more children. (Table 1)

Socio-demographic profile of children under five years of age:

Out of total number of 747 children, 388 (51.9%) were males and 359 (48.1%) were females. The under five male to female ratio was 108:100. 480

(64.26%) were completely vaccinated, 210 (28.11%) were partially vaccinated and 57 (7.63%) were never vaccinated. 20 (8%) were never breast-fed, 82 (32.8%) were among breast-fed group and 148 (59.2%) were being breast-fed at the time of the interview. (Table-2)

Table-2: Socio demographic characteristics of respondents. The symptoms of ARI perceived by the mothers

Characteristics	Frequency	Percentage
Age Group (Years)		
15 - 34	230	92%
35 - 44	20	08%
Age at Marriage (years)		
< 15 - 19	137	54.4%
20 - 24	103	41.2%
25 - 34	11	04.4%
Mothers Education		
Illiterate	137	54.8%
Literate	113	45.2%
Family Types		
Nuclear	180	72%
Extended	70	28%
Monthly Income (Rs.)		
<3000	117	46.8%
3000-6000	115	46.0%
6000+	18	7.2%

Table-2: Socio demographic profile of children under 5 years of age.

Characteristics	Frequency	Percentage
Sex		
Male	388	51.94%
Female	359	48.06%
Vaccination		
Completely vaccinated	480	64.26%
Partially vaccinated	210	28.1%
Not vaccinated	57	7.63%
Breast feeding (n=250)		
Currently breast feeding	148	59.2%
Ever Breast feeding	82	32.8%
Never Breast feeding	20	08%

included cough in 171 (68.4%), running nose in 56 (22.2%), fever in 145 (58%), blocked nose in 28 (11.2%), sore throat in 23 (9.2%), difficulty in breathing in 58 (23.2%), whistling in 86 (34.4%), earache in 23 (9.2%), ear discharge in 53 (21.2%) and chest in drawing in 78 (31.2%) children. About perceived seriousness of a symptom, 9 (5.2%) mothers considered cough, 10 (6.5%) considered fever and 24 (44.4%) considered difficult breathing as a dangerous sign. 41(17.6%) considered chest in drawing as a dangerous symptoms. The main causes of ARI as described by the mothers included “exposure to cold” by 183 (73.2%), “intake of sour or cold food” by 44 (17.6%), “after bathing” by 10 (5.9), “due to germs” by 40 (16%), “evil eye” by 47 and “change of weather” by 5 (2.0%) mothers. (Table 3).

Table-3: Knowledge of mothers about ARI (n=250)

Characteristics	Frequency	Percentage
Symptoms of ARI as perceived by mothers		
Cough	171	68.4%
Fever	145	58%
Sore throat	23	9.2%
Running nose	56	22.2%
Blocked nose	28	11.2%
Earache	23	9.2%
Ear discharge	53	21.2%
Difficult breathing	58	23.2%
Whistling	86	34.4%
Chest in drawing	78	31.2%
Causes of ARI as perceived by mothers		
Exposure of cold	183	73.2%
Intake of sour/cold food	44	17.6%
After bathing	01	0.4%
Due to germs	40	16%
Evil eye	47	3.2%
Change of weather	05	2%

Practices of Mothers Regarding ARI

156 (62.4%) mothers as their first preference consulted private doctors. 29 (11.6%) mothers used various types of home remedies as their first preference. Only 27 (10.8%) mothers went to government hospitals or dispensaries during the episode of ARI. Out of remaining 38 (15.2%)

mothers, 12 (4.8%) consulted homeopath, 21 (8.4%) consulted spiritual healers and 5 consulted quacks. As home management, 16 (55.7%) used joshanda, 25 (86.22%) used Vicks vaporub, (20.68%) honey, 9 (31.03%) soanf water, 18 (62.07%) kept the child warm and 2 (6.87%) gave eggs to their children during episode of ARI. For consulting about disease of the child from a qualified doctor, 174 (69.6%) mothers decided about it on their own while in 72 (28.8%) cases husbands and in 4 (1.6%) cases others decided.

For reasons for not consulting a doctor for ARI, 38 (63.33%) of the mothers said that it was minor illness, lack of time in 6 (10%), cannot afford in 4 (6.67%), no one to accompany in 6 (10%) and somebody else had to decide 6 (10%). (Table 4)

Table-4: Practices of mothers regarding ARI (n=250)

Characteristics	Frequency	Percentage
Consultation for ARI as 1st preference		
Private Doctor	150	60%
Home remedy	29	11.6%
Hospital/dispensary	27	10.8%
Child specialist	06	2.4%
Homeopath	12	4.8%
Quack	05	02%
Spiritual healer	21	8.4%
Home remedies by mothers (n=29)		
Joshanda	16	55.15%
Vicks vaporub	25	86.22%
Keeping the child warm	18	62.07%
Soanf water	09	31.03%
Reasons for not consulting doctor (n=60)		
Illness was minor	33	63.33%
Lack of time	06	10%
Some body else to decide	06	10%
Can not afford	06	10%
	04	6.67%

Socio-demographic Factors & Health Care Seeking Behavior

It was observed that with increasing age of the mothers the use of home remedies increased and the difference was statistically significant. Regarding maternal education on the use of home remedies, mothers belonging to the illiterate group were 15 (12.4%), as compared to 14 (10.95%) literate mothers. However the difference was not

statistically significant. The use of home remedies was highest, 13 (32.5%), in families with 9 or more members and lowest, 8 (6.56%), 3-5 member families. The difference was statistically significant. Considering the effect of total number of children of the mothers on the use of home remedies for ARI treatment, an upward trend was observed in the use of home remedies with increase in the number of children with statistically significant association. While studying the effect of total family income on type of consultation for ARI, it was observed that with increase in total family income the use of home remedies decreased, 2 (12.5%) in families having total income/month Rs. 6000+ and 21 (17.36%) having total family income Rs. 3000/month and the difference was statistically significant (**Table 5**). Among mothers who did not use home remedies, 78 (93.08%) from extended families consulted private health facility as compared to 116 (84.06%) of the mothers from nuclear families but the difference was not statistically significant.

Table-5: Comparison of Sociodemographic characteristic of mothers in relation to their use of home remedy for treatment of ARI.

Characteristics	Use of home remedy		Statistical Significance		
	Yes No.	%age	No No.	%age	
Age of Mothers (years)					
<25	06	17.5	74	92.5	p<0.05
25-34	15	21.95	12.2	89.5	
35+	08	24.24	25	75.7	
Total family members					
3-5	08	6.56	114	93.44	p<0.05
6-8	08	9.09	80	90.91	
9+	13	32.5	27	67.5	
Total no. Of children per mother					
1-2	07	07	93	93.0	p<0.05
3-4	02	2.9	67	97.1	
4+	20	24.69	61	75.31	
Total family Income per month					
<3000	21	17.36	100	82.64	
3000- 6000	06	5.30	107	94.70	p<0.05
6000+	02	12.5	14	97.5	
Maternal education					
Illiterate	15	12.4	99	87.6	p<0.05
Literate	14	10.95	122	89.05	

Discussion

It is apparent from this study that difficult breathing, whistling, and lower chest in drawing, were considered as dangerous by 44.4%, 40.3% and 33.1% of the mothers respectively. This finding was similar to the finding of the study conducted in Mexico⁵ where common respiratory tract infections reported by the mothers to the clinics (59%), included chest congestion 41%, rapid breathing 30%, cough and cough with blood 15.5%.

The decision of management of acute respiratory infections either by home remedy or consultation by a health care provider depends upon a number of factors like mother's perception about dangerousness of symptoms, sociocultural background, economic condition of the family and knowledge of the mother regarding causes of the disease. In this study, mothers had poor understanding of the etiology of ARI; only 16% of the mothers attributed the causation of ARI to germs. Similar findings were noted in a study conducted in Antalya, Turkey and urban Ghanaian population, in which only 5% of the mother's labeled origin of ARI as germ based. Other causes of ARI as mentioned by the mothers included "exposure to cold" 73.2%, intake of sour and cold food 17.6%. Similar results had also been found in a study conducted in urban slum of Lahore, in which the causes of ARI as perceived by the mothers included exposure to cold, evil eye, intake of sour/cool food, change of weather, dusty atmosphere, congested houses, teeth eruption.⁶

11.6% mothers used various types of home remedies as their first preference, either alone or in combination, with treatment of ARI in their children. Evidence of home remedies was also seen in the studies conducted by Khallaf in Egypt and Denno in an urban Ghanaian population.⁷

36.8% mothers did not consider that treatment for ARI should be sought from qualified doctor at the beginning of the disease. However, it was encouraging to note that in 69.6% cases, the decision to consult or not to consult a doctor was made by the mother herself while the role of husband was not as prominent (28.8%) in this community so a health education program regarding the importance of consulting doctors need to be targeted to the mothers mainly.

Regarding the use of home remedy for the management of ARI, a number of factors were studied and the results showed that the mothers who were older, having larger family size, higher

Number of children and lower family income/month, used home remedy more commonly and this was statistically significant. Significant association was found between the income per capita per month less than Rs. 400 and health care seeking behavior of mothers regarding the use of government health facility for the treatment of ARI in their children. This can be explained by taking into account the poor socioeconomic status of the community and provision for free medication in government health facilities.

Pattern of home remedies, government and private health facilities conform with the generally prevalent pattern of low socioeconomic status and poor demographic conditions. The fact is that few relationships were not found statistically significant. This problem could be overcome by doing a similar study with a large sample size and in heterogeneous population with more diversity.

Conclusion and recommendations

In the light of above study following recommendations are made:

1. A well planned and intensive health education campaign should be initiated to improve the management and health care seeking behavior of mothers. Health education campaign should target mothers mainly but fathers, community leaders, school teachers should also be approached. Radio and TV should broadcast featured interviews with health workers on burning issues like ARI management.
2. Focus group discussion sessions and demonstrations should be conducted both in urban as well as rural areas to give the better understanding of this problem.
3. The literacy rate among women which is a cornerstone in this aspect should be increased through regular education strategies.

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