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RESEARCH PAPER

Knowledge Attitudes, and Practices of Parents on Acute Respiratory Tract Infection in Children Under Five Years: A Cross Section Study

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PAPER INFO	ABSTRACT
	To assess the parent's knowledge, attitude, and practice regarding childhood acute respiratory Acute respiratory infection is an infection that may interfere with normal breathing. Acute respiratory infections (ARI) are a major cause of pediatric mortality and morbidity, particularly when associated with delays in treatment Control of acute respiratory infections (ARI) is a major public health problem in developing countries. A descriptive cross-sectional survey study design was used in which 150 parents were selected for the study through simple random sampling technique and the sample size was calculated by Rao soft with confidence interval and margin of error. In this study total 150 participants were included in which there were 36 males and 64 females. There were more than half of the participants had poor knowledge related to ARIs. The majority participants had negative attitude toward consulting a physician. This study result shows that half of the participants had poor knowledge and rest had good knowledge regarding childhood acute respiratory infections. Most of the participants had negative attitude towards the consulting a physician

Introduction

The most common cause leading to morbidity and mortality among children under five years old is acute respiratory infection (ARI) that results in high burden of economic costs and the most important cause for children admission to health services among children (Dennon et al., 1994). It is the main reason for utilization of health services for children. Acute respiratory infection (ARI) is major public health problem in developing countries. More than 12 million children die every year due to acute respiratory illness in developing countries die before they reach their fifth birthday, many during the 1st year of life (Simiyu et al., 2003). Acute respiratory diseases are reported to be the 3rd leading cause of child morbidity and mortality (Krishnan et al., 2015). Acute respiratory diseases continue to affect the developing world causing in more than 3 million deaths, accounting for 15.5% of total childhood deaths, i.e., under 5 years (Mutalik et al., 2017). Respiratory infections constitute both Upper Respiratory Infection (URI) and Lower Respiratory Infection (LRI). Upper respiratory infection presents mainly with Rhinitis (Common Cold), Tonsillitis, Sinusitis and ear infection while main presentations of LRI is Pneumonia which exhibits with increased respiratory rate. All over the world, average ARI experience of child is 6-8 spells in a year (Ali et al., 2015). The incidence of ARI in Pakistan is 16% as shown by a survey conducted in Pakistan in 2011.2 That survey also revealed that ARI was more prevalent in urban areas in the country.

In rural areas there are 3-5 episodes of ARI per child per year while in urban areas there are 5-8 episodes per child per year. In Pakistan 19-20% of total deaths occur due to ARI in children under five years of age. Majority of children have about 4-6 episodes of ARI each year in their first five years of life (Kumar et al., 2012). A significant determinant of child health is the attitude and knowledge of the child's mother toward these diseases. Mother is the main caregiver for the child in almost all societies. Hence, the knowledge, attitude, and health practices of the mothers directly implies on the health status and survival of the child. Most of the morbidity due to acute respiratory diseases is such that, they can adequately manage at home. Several risk factors have been shown to contribute to high mortality from ARI. First are socio economic conditions that have long been known to influence human health. A second measure to assess the health status is education, especially of female. A comprehensive health education on the etiology or causation, its prevention and management have the potential to establish appropriate contact between the health services provided and the society. This will increase the capability of the families to identify the danger signs of acute respiratory diseases in children and to encourage appropriate and early care seeking behaviors.

Literature Review

Every seven seconds, a kid under the age of five dies from ARI in developing nations, with pneumonia being the leading cause (Theodoratou et al., 2010). In 1990, an estimated 4,3 million children under the age of five were killed by ARI, representing 33 percent of all childhood mortality; the vast majority of these deaths occurred in developing nations. However, it has been shown that ARI is the biggest cause of disability-adjusted life years in children under the age of five when the catastrophic chronic implications of pneumonia and otitis media, the main avoidable cause of deafness, are included (Travis et al., 2004).

Throughout the twentieth century, the scarcity of antibiotics contributed to high death rates in industrialized nations. The disparity in ARI-related child mortality is widening as the rate of child death in wealthy nations falls more rapidly than in less developed nations (Watt et al., 2009). Even if antibiotics are readily accessible, the high ARI mortality rates in underdeveloped nations should not be expected to endure until socioeconomic development occurs. Through a greater knowledge of environmental, social, and health determinants, as well as long- and short-term locally effective, suitable, and community-specific management approaches, ARI mortality may be minimized.

In addition to mortality study, it is required to analyze the health needs of children in a social, economic, and health-care setting, as well as the prevalence and patterns of disease that contribute to mortality. Most respiratory ailments are not classified as diseases that must be reported to health statistics organizations, resulting in a paucity of data on the incidence of ARI in the general population. According to longitudinal community-based research, they are fairly frequent. Children in urban slums have an average of five to eight respiratory infections in their first five years of life. According to the available data, the length of each episode with one or more respiratory symptoms varies slightly, averaging between seven and nine days. Acute lower respiratory infections, particularly pneumonia, are more prevalent and severe, and this seems to be the primary driver of diversity in illness symptoms (Weber et al., 1998).

In Europe and North America, ARI mortality dropped in the first half of the 20th century without any specific preventative or therapeutic efforts. This is presumably the result of a rising level of life. Early exposure to socioeconomic hardship increases the frequency of acute lower respiratory infections in industrialized nations, according to surveys. The living circumstances in rural and pre urban regions of developing nations are

associated with host and environmental variables that may increase the frequency of severe respiratory infections in children (Zaman, 1994).

According to experts, the birth weight of a kid is the most crucial factor in predicting the infant's chances of survival, growth, and development (Zaman et al., 1997). It has been used as a social progress indicator in the past (Jakab, 1977). Low birth weight (LBW) is more prevalent in underdeveloped nations (between 20 and 40 percent) than in industrialized nations (between 7 and 10 percent), and prenatal growth retardation rather than preterm birth is often to blame. Pneumonia was shown to be the most prevalent infection-related cause of mortality in LBW infants (Kallander et al., 2004).

Infection and illness have a detrimental effect on the process of eating. In times of shortage, the consequences of malnutrition are exacerbated, and those who are already unwell are more prone to get ill. Malnutrition is a risk factor for infection, which, in turn, affects food intake and protein metabolism (Kapoor et al., 1990). Over 40 percent of the world's children suffer from malnutrition, with protein-energy malnutrition, hypovitaminosis A, anemia, and rickets being the most prevalent types (Lee et al., 2008). Children who are malnourished are more susceptible to ARI and suffer from it for longer durations. Breastfeeding seems to lessen the incidence of severe respiratory infections among newborns in underdeveloped nations, according to studies. According to studies conducted in affluent nations, human milk also has a protective effect. In a London neighborhood, breastfed infants had a lower incidence of bronchitis and pneumonia than formula-fed infants. In a case-control research conducted in Newcastle-upon-Tyne, England, breastfeeding seems to reduce the incidence of 0 to 5-month-old babies hospitalized with respiratory syncytial virus infection (Loeb et al., 2005).

Extensive research indicates that a deficit in vitamin A may worsen pediatric illnesses. Vitamin A is essential for preserving the integrity of mucosal surfaces (44) and for establishing effective cell-mediated immune responses, indicating that it may have an impact on ARI protection in children with ARI or diarrhea. At the level recommended by the World Health Organization, vitamin A supplementation decreased measles morbidity, particularly pneumonia morbidity, by 61 to 82% (Luby et al., 2008). According to previous research, vitamin A insufficiency is connected with a threefold increase in ARI morbidity. There is evidence that vitamin A supplementation may decrease ARI mortality and morbidity in well-nourished Australian children. However, a recently concluded study in northern Ghana revealed that vitamin A supplementation had no effect on the incidence of illness among children, despite a considerable decrease in the severity of diarrhoea. Multiple studies have shown that vitamin A administration greatly increases morbidity (McCombie, 1996). In a meta-analysis of 20 controlled investigations, mortality rates were dramatically lowered, but there was insufficient data to make judgments concerning morbidity. Vitamin A supplementation should be investigated further to see whether it reduces the morbidity of ARI. Vitamin D deficiency rickets is a still-common illness associated with an elevated mortality risk, particularly in the context of the ARI (McLuckie, 2009).

The burning of fossil fuels in cities has led to a significant quantity of air pollution in urban areas. In rural parts of poor nations where biomass fuel is the primary source of energy, however, indoor air pollution has received less attention. When their moms are in the kitchen, small children are often there, exposing them to high levels of biomass fuel pollution. In addition, during the winter months, residents in highland communities sometimes sleep in unclean, overcrowded conditions. The majority of countries that depend on biomass have high rates of infant mortality and pneumonia. This has brought to the forefront the subject of whether or not indoor air pollution is a significant cause of paediatric pneumonia. Numerous studies have shown this correlation, however the techniques employed to gather the data do not permit any definitive conclusions (Kumar et al., 2012).

Papua New Guinea's highland students' respiratory tracts were not significantly harmed by indoor air pollution, according to an epidemiological study (Mutalik et al., 2017). This research is invalid due to the tiny sample size and the exclusion of infants. To fully comprehend the impact of indoor smoke particle exposure on children's health, further research is necessary.

Children in underdeveloped nations are sometimes required to make treatment choices without the benefit of verified test results. The World Health Organization (WHO) has established and promoted clinical symptom-based diagnostic and treatment algorithms for a number of common childhood diseases, including acute respiratory infection (ARI) (Simiyu et al., 2003). To avoid mistaking patients with pneumonia for those with other ARI-related disorders, a more recent form of case management is being used. In order to facilitate training, just a limited number of criteria are utilized to diagnose pneumonia. Case management includes not only detecting and treating pneumonia, but also educating patients on the need of vaccination and prompt medical attention. Consider that ARI has been associated with four of the six diseases targeted by the Expanded Programme on Immunization (EPI), including measles.

Almost many instances of pneumonia may be diagnosed based on clinical symptoms alone, without the requirement for imaging scans or laboratory testing. Rapid breathing, which is more reliable than auscultatory indications, is one of the most accurate signs of pneumonia (Dennon et al., 1994). Fast breathing is a consistent indicator of pneumococcal illness in children, and detecting this symptom might assist differentiate between children with a high risk of pneumonia and those with a low risk of the disease, according to the results of these studies. Detailed information was also given on the sensitivity and specificity of various respiratory rate criteria across many age groups. There may be a need for more study to discover whether trained lay reporters' observations of clinical symptoms are more sensitive than clinical diagnosis made by clinicians.

ARI, particularly pneumonia, need community-based ethnographic research to collect data on community perceptions of its cause and treatment. It is essential to gather information from families on the language, signs, and symptoms they use to detect illnesses that may or may not be pneumonia. In order to prevent the majority of ARI-related fatalities, families must recognize the symptoms of pneumonia and seek medical assistance immediately. It is vital to identify the elements that enable or hinder prompt access to a skilled health care practitioner. Due to cultural variations in how mothers recognize and interpret pneumonia symptoms, it may not always be possible to translate these symptoms and signs into a local language. Therefore, research is required to determine if the care-seeking instructions provided to women in a particular community are acceptable. It is essential to discover additional cultural factors and situations that may have a significant impact on the community's response to ARI initiatives.

Material and Methods

Study Design

The quantitative cross-sectional survey study design was used in this study. This study was conducted from February 15,2019 till May 15, 2019 at kharrakai Community Charsada Peshawar. As in the current study, data were collected at one point in time from the participants, therefore stated design was chosen (Polit and Beck, 2006). Another reason for choosing the above-mentioned study design was the execution of the study in a short time period due to institutional policy.

Population and Study Setting

The study population included those parents who had children under five years of age in kharakai community Peshawar.

Exclusion Criteria

Those parents who had more than 5 years of children, those who were not willing, and those who were not present at the time of data collection were excluded.

Inclusion Criteria

Those parents who had less than 5 years of children, those who were willing, and those who were present at the time of data collection were included.

Sampling Technique

A probability simple random sampling technique was used to give equal chances of selection for all parents. This technique gives better results because every participant gets an equal chance of selection (Saunders, 2012). The starting of the data collection was done by the guidelines of WHO.

Sample Size

The total population was 700 and the sample size was 250 which calculated by Raosoft.150 parents out of 250 were respondent during the collection of data.

Data Collection Tool

A modified Questionnaire was used as a data collection tool. First, we conducted a piolet study for testing the validity and reliability of questionnaires.

Questionnaire

The questionnaires were consisted on four parts, first relevant to demographic characteristic, 2nd relevant to knowledge, 3rd relevant to practices, and 4th relevant to attitude.

Ethical Consideration

For conducting the project research committee of one of the tertiary care hospitals included in the study gave permission. permission letter was signed from MPA of the village. Inform consent was given to each participant with a verbal explanation of the study's purpose. The participants were given a free choice to accept or reject the request for participating in the study. Confidentiality and anonymity were assured throughout the study.

Data Analysis

Data analysis was done using SPSS volume 22 and summarized by descriptive statistics and data were presented in tables, graph, and charts with support of mean, percentages and textual explanations. The different tests were used to know the association between the demographic variables and their knowledge level about childhood acute respiratory infections.

Results and Discussion

Table 1
Add table Heading

S. No	Demographic variables	Frequency	Percentage%
1.	Gender:		
	Male	55	36.7
	Female	95	63.3
2.	Educational status:		
	Educated	77	51.3
	Uneducated	73	48.7
3.	Education level:		
	Primary	24	16.0
	Matric	29	19.3
	Bachelor	21	14.0
	Master	3	2.0
4.	Employment:		
	Employed	24	16.0
	Unemployed	126	84.0
5.	Marital status:		
	Married	147	98.0
	Widowed	1	.7
	Divorced	2	1.3
6.	Occupation		
	Professional	26	17.3
	Labor	30	20.0
	Housewife	87	58.0
	Farmer	7	4.7

In our study Regarding the demographic characteristics there were male 36.7% , female 63.3% .The mean age of participants were 32.00 with standard deviation 9.3, educated 51.3%, uneducated 48.7% ; among the educated participants primary education was 16.0% , majority of the participants were Matriculate 19.3% , Bachelor 14.0% , Master 2.1% , employed 16.0% , unemployed 84.0% , married 98% , divorced 1.3% , widowed only 0.7% professionals 17.3% ,labors 20% , housewife 58.0% , farmer 4.7% , 50.7% of the participants had 1-3 Children, 36% had 4-6 Children, and 13.3% had 7-9 children.

Table 2
Knowledge

Knowledge Category	Frequency	Percentage %
Poor 1-6	78	51.7
Good >6	72	47.7

Assessment of knowledge of the included subjects regarding Acute Respiratory Infections:

Data presented in table 2 show the knowledge score of the included participants. In our study more than half of the participants had poor knowledge which was 51.7% and 47.7% of the participant had good knowledge regarding ARIs. The mean score of the participants were 5.72 with standard deviation of ± 1.17. An independent sample T test was

applied to find out the association between categorical variable (Gender) and outcome variable (knowledge score). There was significant association between them with the P-value 0.03. One-way ANOVA test was applied to check the association between categorical variable (Educational level) and outcome variable (Knowledge score). There was significant association between them with the P-value 0.05. Another Independent sample T test was applied to find out the association between employment and knowledge score, but there was no association between them with P- value 0.21.

Table 3
Practice Pattern of Included Subjects

S. No	Practice Pattern of the Participants	Frequency	Percentage%
1.	Practicing self-medication in ARI:		
	Yes	83	55.3
	No	67	44.7
2.	First action regarding the management of childhood Acute Respiratory Infections:		
	Home remedies	59	39.3
	Dispenser	50	33.3
	Physician	41	27.3
3.	Practice of the participants regarding vaccination:		
	Yes	148	98.7
	No	2	1.3

Table 3 demonstrate practice pattern of the participants towards ARIs. 55.3% of the participants practiced self-medication without consulting doctors and 44.7% of the participants don't practice self-medication. 39.3 % participants go for home remedies,33.3% go to nearest dispenser and only 27.3 % go to physician when their children get disease of ARIs.98.7% vaccinate their children but 1.3% don't vaccinate their children.

Table 4
Attitude of the participants towards ARIs

S. No		Frequency	Percentage
1.	Every time I would go to the physician if my child has fever and cough:		
	Yes	40	26.7
	No	110	73.3
2.	Thinking regarding the best way of prevention in ARI: Keeping warm		
	Give boiled water	46	30.7
	Maintain hygiene	13	8.7

	Vaccination	47	31.3
	All	12	8.0
		32	21.3
3.	Expectation regarding the prescription of doctor:		
	Yes	118	78.7
	No	32	21.3

The majority participants 73.3% had negative attitude toward consulting a physician and 26.7% had positive attitude, 78.7% had good expectation about the prescription of physician, 21.3% had no expectation, majority participants 31.3% thought the best way of prevention is maintain hygiene, 30.7% keep warming, 8.0% give boiled water, 8% vaccination, and 21.3% thought that all ways are important for prevention.

Discussion

Parents are the caregivers of children and they are responsible for maintaining good health of their children. Thus, the parental knowledge is very important for the proper care of their children and the prevention of different childhood diseases. The good knowledge was related to ARIs affects both upper and lower respiratory infections. Cough being the most common symptom of Aris. Literature are available on the subject matter; studies have been conducted in different parts of the world. Some studies show different result and some of them are related to the result of the current study. Our study results show that majority of the parents were mothers (63.3%) and less of them were fathers (36.7%), An overall literacy rate of parents being 51.3%. Of these, 19% were secondary than higher education. This contrasts with another study which was conducted at Tharparkar by R Kumar and et. al in (2012) showing overall literacy of 74% with the urban background. The study showed that majority of the parents (51.7%) had poor knowledge and 47.7% had good knowledge.

Another study 'Knowledge, attitude and practices of parents regarding acute respiratory infections at primary health care center in the Kingdom of Saudi Arabia "was conducted by Maha Fahad Alluqmani and et. al (2017) in which data were collected from 733 mothers through questionnaire and they were interviewed and asked to fill the predesigned questionnaire. The result showed that majority of the parents had poor knowledge regarding ARIs which is similar with the result of our study.

In cross sectional study titled as "knowledge, attitude and practice of mothers on acute respiratory infection in children under five years" in the department of pediatrics, Darul Sehat Hospital in Karachi, was conducted by Shireen Qassim Bham in (2016), in which data was collected from the parents through self-administered questionnaire. The result showed that 89% of mother had good attitude and practice toward the consultation of good qualified doctors. This result of that study contrasts with our study result due to the higher education of parents over there.

Another study was conducted at King Khalid College of Medicine, Aseer region showed that there was more than one third (37.8%) of the parents had poor knowledge, and less than one fifth (19.5%)had good knowledge due to the low level of education.

Acceptable (10-12) 171 42.8

Good (13-16) 78 19.5   no significant association between knowledge score of parents and their level of education and age.

Conclusion

Current study revealed that more than half of the parents had poor knowledge and bad practice of self-medication without consulted physician and negative attitude toward physician rather than home remedies and dispenser. However, mothers had enough knowledge than fathers regarding childhood acute respiratory infection. of Saudi mothers had inadequate, knowledge, attitude and practice toward ARI. The better knowledge was significantly correlated with higher education. TV and health care workers are the most important sources of knowledge. Thus, it is concluded that several health preventive and promotive educational programs showed be arranged for parents, give training to community health care worker to improve their knowledge and decrease the childhood acute respiratory infections.

Recommendation

1. The Federal and provincial health administration should be focused on primary and secondary level of prevention rather than tertiary level of prevention.
2. The government should be making a policy to arrange the workshops for community health care workers to improve the knowledge and methods of parents regarding childhood acute respiratory infections.
3. The government should be produced enough community health care workers to fill the gap.

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