

# ARI Concepts of Mothers in Punjabi Villages: A Community-Based Study

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## Abstract

Pneumonia is a major child killer in the developing world; to prevent such deaths, mothers must be able to differentiate pneumonia from common cold. Local concepts regarding these illnesses were studied by interviewing 315 mothers of young children in their homes in Punjabi villages. Mothers described pneumonia differently from cough-and-cold but only a few volunteered fast breathing as a sign of pneumonia. Both illnesses were thought to be caused by "coldness," and were initially treated with "heat-producing" home remedies and feeding was continued in both. Spiritual healers were not consulted for cough-and-cold or pneumonia. Virtually all mothers said that allopathic medicines were necessary for both illnesses and 2/3rd said that if a child did not improve after 2 days of a given medicine, they would change the medicine and/or the doctor (JPMA 44: 185, 1994).

## Introduction

Acute respiratory infections (ART) are now the leading causes of child mortality in the developing world<sup>1</sup>. It is estimated that at least 4 million children die of ARI every year, with pneumonia accounting for most of these deaths<sup>2</sup>. In Pakistan, studies have consistently shown that between 24 to 37% of pediatric hospital admissions are for ARI<sup>3-5</sup>, and in a community at large, up to 37% of child deaths are attributable to ARI, chiefly pneumonia<sup>6</sup>. Thus pneumonia is clearly one of the major causes of child morbidity and mortality in Pakistan. As at present, prevention of pneumonia is difficult. Although some cases can be prevented by immunization against measles and pertussis but most pneumonia are not associated with these EPI target diseases. Further, known risk factors for ARI such as overcrowding and household smoke<sup>4,7</sup> are difficult to control. Thus for effective management of pneumonia timely case detection and early referral for antibiotic treatment is essential. A child with bacterial pneumonia cannot be cured with home remedies. Death from the disease can occur very rapidly (within 3 or 4 days) after symptoms of fast breathing appear<sup>8</sup>. Since early recognition of pneumonia by mothers is important, we studied the concepts regarding cough-and-cold and pneumonia in a village setting. Although U.S. researchers surveyed 35 women in Karachi squatter settlements and Punjabi villages in 1990<sup>9</sup>, but this study is more comprehensive than others and it differs from hospital-based project carried out in Rawalpindi<sup>10-12</sup> in that it focuses on a broad sample of mothers interviewed in their own homes rather than on a select group of women who brought their children to a health care facility.

## Patients and Methods

Between January to March, 1991, 315 mothers or caretakers of children under 5 years were interviewed in depth at their homes in 4 villages near Islamabad. Primary health care centers were established in those villages so that simple curative care was available at the sites. Mothers had not received any instructions prior to the interview. Two interviewers were Women with Master's degrees in

anthropology who were accompanied to the villages by a trained physician. The sampling was purposive, i.e., the interviewers went house-to-house asking whether an under-5 child lived there. The questionnaire used was developed with the assistance of ART- trained doctors, local health workers and an anthropologist. It included closed-ended (yes-no) and open-ended questions. Both cough-and-cold and pneumonia were covered with respect to local terminology used to refer to the illness; perceived prevalence; perceived signs and symptoms; perceived cause; home remedies used; feeding practices during the illness; perceived danger signs; and health-seeking strategies outside the home (patterns of resort), including expectations about how rapidly a child should show improvement after being given a medicine.

## **Results**

### **Demographic data**

Of 315 respondents in four villages, 310 were mothers and 5 were other family members temporarily caring for the child. Most mothers were under 30 years of age and 71% were illiterate. Mothers had a mean of 1.8 children under the age of five. Eighty five percent of respondents said that there was an allopathic doctor available within walking distance of their homes. All villages were homogenous in respect to socio-economic and cultural characteristics. Tables I and II show the terminology used, signs, symptoms and causes as perceived by the mothers for cough and cold and pneumoniae respectively, home remedies, health care seeking behaviour and feeding practices during ART episodes.

### **Cough and Cold**

Terminology of "Nazla Khansi" and "Zookam" were the two usual terms recognized by the mothers for cough and cold. Catching a chill ("Thand lag gal" 49%) and sudden change of temperature from warm to cold ("Garam sard" 31%) were the most frequent perceived causes of cough and cold (Table I). Regarding danger signs, i.e., signs indicating that medical care should be immediately sought were fever (77%), fast breathing ("Saah tayz" 65%), failure to improve (16%) and difficult breathing ("Saah okhay" 10%) respectively. Seventy-four percent mothers said that they would use home remedies for treatment of coughs and cold. Various home remedies are given in Table I.

**Table I. Terminology, perceived signs, perceived symptoms, perceived causes, perceived danger signs, home remedies, feeding practices and health seeking behaviour for cough and cold (n=317 respondents)\***

Terminology		Home Remedies	
*"Nazla, khansi" (cold and cough)	100%	*Home remedies	74%
*"Zookam"(cold)	70%	*"Qehwa" (Green Tea)	29%
		*"Undey"(Egg)	23%
<b>Perceived Signs and Symptoms</b>			
*"Khansi"(cough)	87%	*"Karra (concentrate of herbs & roots boiled in water)	7%
*"Nazla" or "Zookam" (cold)	70%	*"Ajwain" (Tea made with seeds of Trachyspermum ammi)	7%
*"Bukhar"(fever)	56%		
*"Resha"(phlegm)	27%	*"Joshanda" (herbal tea based on Unani formulas)	7%
*"Naak band" (blocked nose)	26%		
<b>Perceived Cause</b>		<b>Feeding Practices</b>	
*"Thand lag gai" (Catching chill)	49%	*None of the mothers stopped feeding	
*"Garam Sard"(sudden change of temperature from warm to cold)	31%	*Reduced feeding	43%
*Living conditions in village	11%	*Same amount as before	57%
*Breast milk	7%		
*"Thandi cheezain" (humorally cold foods or icy food items)	7%		
*Mother's negligence	5%		
<b>Perceived danger signs</b>		<b>health care seeking outside home</b>	
*"Bukhar"(fever)	77%	*Mother thinks child would not get better without medication	83%
*"Saah tayz tayz" (Fast breathing)	65%	*Mother expected the child to get better in two days	90%
*"Failure to improve"	16%	*Consult allopathic doctor	82%
*"Noisy breathing"	12%	*Village maulvis/pir (religious leaders)	1%
*"Saah okhay" (Difficult breathing)	10%	*Change medicine or doctor if child not better within 2 days	69%
*Not feeding well	8%		
*Nasal flaring	7%		
*"Tohay" (pits, meaning chest indrawing)	2%		

\*Total in percents may be more than 100% because of multiple answer

None of the mothers would stop feeding during cough and cold. Along with using home remedies, 83% of the respondents thought the children would not get better without some allopathic medication. Ninety percent mothers expected their children to get better in two days. If they did not get better then 69% said they would change the medicine or the doctor.

## Pneumonia

All respondents were familiar with the term pneumonia and called it “numonia”. Other local words used were “dard” (literally, “pain” i.e. chest pain; 95%). “Goom numonia” (hidden pneumonia 3%) and “double numonia” (severe respiratory illness 2%). The phrase “double numonia” did not necessarily mean involvement of both lungs (Table II). Like cough and cold, catching chill (“Thand lag gai” 89%) and sudden change of temperature from warm to cold (“Garani sard” 10%) were again the two commonest perceived causes of pneumonia (Table II). When a child had pneumonia, the most alarming signs, i.e., danger signs, identified were difficult breathing (“okhay saah” 37%), failure to feed (35%), chills and fever (“Palay nal bukhar” 30%) (Table II). Fifty three percent of respondents said they would use a home remedy for pneumonia initially. The remedy most often named was not a food however, it was tying the child's chest with strips of cotton woolandckflh after applying warm and sometimes even hot paste made, of tumeric and mustard oil, aprocedure known locally as “dard nu but (literally “tying the pain” 36%) (Figure and Table II).



Figure. "Dard nu bunna"; a child whose chest is tied with a cloth to tie the chest pain.

**Table II. Terminology, perceived signs, perceived symptoms, perceived causes, perceived danger signs, home remedies, feeding practices and health seeking behaviour for pneumonia (n=317 respondents)\***

Terminology		Preceived Danger Signs	
*"Numonia"(pneumonia)	100%	*"Okhay Saah" (difficult breathing)	37%
*"Dard"(pain)	95%	*Failure to feed	35%
*"Goom numonia" (hidden numonia)	3%	*"Palay nal bukhari"(Chills and fever)	30%
*"Double numonia" (severe respiratory illness)	2%	*"Saah tayz tayz" (Fast breathing)	8%
		*"Saah main awaz"(wheezing)	4%
		*"Tohay" (Pits, meaning chest indrawing)	4%
<b>Perceived Signs and Symptoms</b>		<b>Home Remedies</b>	
*"Okhay saah" (Difficult breathing)	91%	*Initially home remedies	53%
*"Bukhar" (Fever)	48%	*"Dard nu bunna" (tying the child's chest, literally tying the pain)	36%
*"Seenay/Chatti main dard" (Chest pain)	44%	*"Undey" (egg)	9%
*"Khansi" (cough)	43%	*Honey	5%
*"Not feeding well"	26%	*Green Tea	4%
*"Resha" (Phlegm)	20%	*"Karra" (Concentrate of several herbs and roots boiled in water)	4%
*"Tayz tayz saah" (Fast breathing)	13%		
*"Tohay" (Pits, meaning chest indrawing)	12%		
<b>Perceived Cause</b>		<b>Feeding Practices</b>	
*"Thand lag gai" (Catching chill)	89%	*Continued feeding	99%
*"Garam Sard"(sudden change of temperature from warm to cold)	10%	*Reduced feeding	65%
		*Giving same amount as before	35%
*Starts as cough and cold	10%		
*Bathing	7%		
*Breast milk	2%		
<b>Health Care seeking outside Home</b>			
*Mother expect the child to get better in two days			97%
*Consult allopathic doctor			95%
Consult maulvi/pir/shrine(Religious leader or place)			1%
*Mother's change doctor and medicine if child doesn't improve within two days			67%

\*Total in percents may be more than 100% because of multiple answers.

For pneumonia; 95% of the respondents said they would take the child to an allopathic doctor. Ninety seven percent mothers thought that pneumonia would not get better without allopathic medicines (Table II). None of the mothers said that they would stop feeding during pneumonia.

## Discussion

This study represents the first large-scale survey of community beliefs and practices about cough and cold arid pneumonia to be conducted in rural Pakistan. The need for such studies is now widely recognized<sup>13</sup>. World Health Organization (WHO). recommended standard ARI case management approach relies upon tachypnoea, lower chest in drawing and presence of certain danger signs for classification and management of ART in under five children<sup>14</sup>. The recognition of these symptoms and signs are extremely important by the mothers for prompt seeking of health care. While many topics were covered, the overnding goal was to gauge mother's ability to differentiate between relatively minor upper respiratory infectionsandiife4hreatening pneumonia for which antibiotics arc needed. Investigation of local ideas about the cause of cough-and-cold and pneumonia showed widespread popular fear of cold, especially cold weather, and very little. emphasis on contagion. This finding has public health implications. Studies by other researchers<sup>10,11</sup> show that some patents aM so afraid of exposure to cold that they are reluctant to unwrap an infant to check for chest in drawing; a late sign of severe pneumonia. It is difficult to promote hygienic measures such as avoidance of sneezing or coughing on others or use of handkerchiefs when contagion is not well understood. Questioning mothers about home remedies revealed a heavy reliance on those thought to produce warmth to counter the perceived "coldness" of the respiratory infection. These remedies arc largely innocuous except for the practice of tying the chest which can interfere with the breathing if done too tightly Reported feeding practices indicated it that continued feeding of children during respiratory illness was virtually universal. This is a welcome finding in view of evidence that some children are not fed during episodes of severe diarrhoea<sup>15</sup> the other major child killer in the developing world. Mothers' responses to yes-fib questions about danger signs suggested that in. cough-and-cold, 65% were aware of fast breathing as a sign for which a child. should be taken to a health professional,] 1% of difficult breathing and 2%of chest in drawing - all three signs being very good indicators of possible pneumonia. While this result was encouraging, its . validity is uncertain since a later open-ended question about signs and symptoms of pneunionia produced a different finding. There, 91% of mothers mentioned difficult breathing but only 13% mentioned fast breathing. Other studies conducted in Pakistan indicate that fast breathing is not an alarming or even salient sign for most mothers, some of whom attribute it to fever rather than to pneumonia<sup>9,11</sup> Researchers have long recognized that yes-no questions may produce an over-optimistic picture of informants' knowledge since they carry with them the risk of producing yes saving responses: Reported health-seeking patients outside the home indicated that there was heavy use of allopathic medicines for cough-and-cold as well as virtually universal use for pneumonia. This finding suggests overuse of antibiotics for simple. self-limiting upper respiratory tract infdetions - a pattern common in Pakistan as elsewhere in the developing world. Also, there was widespread belief (2/3 of informants) that if a child with either cough-and-cold or pneumonia did. hot improve within 2 days after the medicine was begun the medicine and/or the doctor should be changed. Again, this is worrisome because a minimum of 5 days of antibiotic therapy is necessary both for clinical efficiency in pneumonia and to avoid creating strains of drug resistant baetena. Only 1% of informants said that they would patronize a spiritual, healer .for pneumonia - a finding consistent with results from India<sup>16</sup> and with mothers' attribution of respiratory illness to "coldness' not to sin or pollution<sup>9</sup>. The results of this study both confirm and extend results obtained in other areas of Pakistan<sup>9-11</sup>. For example the concept of go on pneumonia and the continuation of feeding during respiratory illness have not been previously documented. Further, the size of the sample, quite large for a household survey, lends considerable weight to the findings. The authors recommend that further community-based studies be Carried out to counterbalance the possible bias inherent in facility-based research in which only those individuals who have come to seek health care are informants. Future community samples should be randomly selected to ensure that iifforthants are representatives of the population from which They are drawn. Two other desirable features of such studies would be. first, evaluation of The are mothers

ability to recognize danger signs in actual infants with ARI and, second, collection of mothers' narratives of actual illness episodes to confirm that survey findings reflect real-life behaviours.

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