

## Knowledge, Attitude and Practice on Acute Respiratory Infections among Mothers in Two Rural Areas in Subang Subdistrict, West Java, Indonesia

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**ABSTRACT** A survey was conducted in 2 rural villages in Indonesia. This study was a part of a one-year intervention study on case management of acute respiratory infections (ARI) in infants of less than 12 months old in Cislalak (V1, intervention village) and Sagalaherang (V2, control village). The aim of the study is to know the knowledge, attitude and practice (KAP) on ARI among rural villages mothers. All pregnant women and mothers with child below five years resided in those villages were included in the study. Trained field interviewers visited and interviewed mothers on several questions related to ARI using pretested questionnaire. A total of 436 and 576 mothers, with a mean age of 25.4 (SD=5.7) and 26.5 (SD=5.4) years from V1 and V2 respectively, were included. Most mothers had traditional beliefs that the cause of ARI was bad wind (77.3% and 73.8%, respectively), only 1.8% and 9.2% mothers know that ARI is caused by microorganisms. However, they believe that the disease is infectious (59.9% and 79.7%). Therefore, most mothers were aware and gave medication (66.5% and 36.3%) or brought the child to village health center (23.6% and 57.1%). The problems for seeking a medical help are transportation, distance and ignorance. As conclusion, we found that the present knowledge on ARI was inadequate, thus more information are needed for mothers to solve the ARI problems in rural villages. [*Paediatr Indones* 1999; 39:293-301]

### Introduction

The new guidelines of World Health Organization (WHO) on ARI case management was developed to substitute the old one with the aim to detect and treat earlier pneumonia, and reduce mortality of pneumonia in underfive children.<sup>1</sup> It was hoped that

with this new one, the field personnel and also mothers everywhere can detect pneumonia earlier and prevent it from becoming severe, thus reduce ARI mortality.

Many factors influence the success of ARI control program. One of which did the knowledge, attitude and practice (KAP) of mothers on ARI. A study conducted in Malaysia which compares the knowledge, attitude and practice of mothers with regards to ARI in their child, found that most mothers did not know the cause of ARI. Furthermore, the mothers were aware about the effect of frequent attacks of ARI for the health status of their children, and that early treatment is important.<sup>2</sup>

This present study was conducted before an intervention study on evaluation of implementation WHO case management of ARI in infants, to know the characteristics and knowledge, attitude and practice (KAP) of ARI among mothers in two rural villages in Indonesia and also to compare the KAP of mothers in those two villages.

### Methods

This study was carried on before an intervention study on 'The evaluation of implementation of the New WHO ARI Case Management in Infants in Rural Area' started. The study was undertaken in two rural communities in Subang, West Java, Indonesia (Subdistricts Cisalak and Sagalaherang). Thirteen villages in each subdistrict were included in this study.

A total of 600 mothers from each village with a child below five years of age and pregnant women were randomly selected as subjects. The mothers were interviewed by trained field investigators using a pretested questionnaire. The questionnaire contains personal identification and several questions on knowledge, attitude and practice on ARI. Data processing and analysis was done by Statistic Program for Social Science (SPSS version 3). The statistical analysis consist of frequency distribution, mean, and standard deviation (SD).

### Results

From 1200 filled questionnaires, only 1012 (84.3%) could be analyzed, 436 (43.1%) from Cisalak and 576 (56.9%) from Sagalaherang.

#### Characteristics of respondents

The mothers' age ranged between 15 and 45 years, with mean of 25.4 (SD=5.7) in Cisalak and 26.5 (SD=5.4) years in Sagalaherang. The percentage of mothers with age of 20 years or less were 23.4% in Cisalak and 12.2% in Sagalaherang. Educational status of mothers in Sagalaherang was better than in Cisalak. Most of the mothers (77.3%) were housewives in Cisalak but not in Sagalaherang, where 66.1% of mothers work outside their home (Table 1).

Table 1. Age, educational and occupational status of subjects

Village	Mothers' age (years)		Duration of Education (years)			Occupational status	
	<20	≥20	<6	7-12	>12	Housewife	Working
	%	%	%	%	%	%	%
Cisalak	23.4	76.6	80.3	18.6	0.9	77.3	22.7
Sagalaherang	12.2	87.8	68.1	26.4	2.8	33.9	66.1

#### ARI knowledge, attitude and practice

Only 1.8% of mothers from Cisalak and 9.2% from Sagalaherang said that ARI was caused by microorganisms, the others mentioned about "too much wind" (77.3% and 73.8%) or "bad spirits" as a reason (0.7% and 0.9%), and 12.3% and 7.4% reported others such as bad weather, cold exposure, over-eating and irregular meals, and air pollution (Figure 1). However, they believe that ARI is a contagious disease (59.9% and 79.9%, respectively). Almost all mothers did not know what pneumonia is (97.5% and 84.4%, respectively).

Table 2. shows the mothers' action while their children suffered from ARI, by home treatment (66.5% and 36.3%) or brought to the health center (23.6% and 57.1%), or in 0.7% and 1.6% were brought to traditional healer.

Table 2. What did mothers do when their children were sick

What did mothers do if their child is sick	Number			
	Cisalak		Sagalaherang	
	n	%	n	%
Home treatment	290	66.5	209	36.3
Brought to health center	103	23.6	329	57.1
Brought to traditional healer	3	0.7	9	1.6
Brought to private doctor	2	0.5	14	2.4
Do or give nothing	7	1.6	4	0.7
Ask neighbours	2	0.5	6	1.0
No answer	29	6.6	5	0.9
Total	436	100.0	576	100.0

The reasons for not seeking medical help were distance, transportation and ignorance. Most mothers had experiences to treat their sick children by home treatment either by giving unprescribed drugs bought in the village's drug seller including antibiotics (50.5% and 86.17%, respectively) or giving traditional remedies such as herb, spices, tamarind, holy water, pepper, ointment or many kinds of leaves.

### Relationship between mother's characteristics and KAP on ARI

Analyses was done to know whether mothers' characteristics were associated with KAP. Three mothers' characteristics: age, duration of education and occupation were analyzed. However, no statistical analyses on the relationship between those factors and KAP could be done due to the small entries in several cells.

#### 1. Mothers' age

The relationship between mothers' age and KAP on ARI is shown in Table 3. Mothers' age were divided into 20 years or less, and more than 20 years old. The table shows that mothers in Sagalaherang know more about micro-organisms as the etiology of ARI. Furthermore, more mothers brought their sick child to health center than mothers in Cisalak. However, no difference was found between mothers according to age.

#### 2. Mothers' education

Table 4 shows that either in Cisalak or Sagalaherang, mothers' knowledge about the etiology of ARI increased with the duration of mothers' education. The longer the mother's going to school, the knowledge is better.

The table also shows that more educated mothers brought their sick child to the Health Center in Sagalaherang but not in Cisalak; however, there is no influence of the duration of education. Furthermore, in Cisalak the percentage of mothers who seek for medical treatment was higher in mothers with higher education, but not in Sagalaherang.

#### 3. Mothers' occupation

There is no difference on KAP of ARI between working mothers and housewives, except that housewives know more about the etiology of ARI in Sagalaherang (Table 5).

## Discussion

One of the important things to achieve effective ARI control program is the role of mother. In 1990 the WHO (World Health Organization) proposed a new case management for children with cough or difficult breathing, with the aim to detect and treat

Table 3. Relationship between mothers' age and KAP on ARI

KAP variables	Mothers' age (years)			
	Cisalak		Sagalaherang	
	<20 %	≥20 %	<20 %	≥20 %
<b>Etiology</b>				
■ Microorganisms	1.0	2.1	7.1	9.5
■ Too much wind	77.5	77.2	64.3	75.1
■ Bad spirits	0	0.9	0	1.0
■ Other	12.7	10.8	24.3	12.1
■ Do not know	8.8	9.0	4.3	2.4
<b>Care seeking</b>				
■ Home treatment	67.6	66.2	28.6	37.4
■ Brought to HC	17.6	25.4	60.0	56.7
■ Traditional healer	0	0.9	2.9	1.4
■ Private doctor	0	0.6	1.4	2.6
■ Ask neighbours	0	0.6	5.7	0.4
■ Give or do nothing	2.9	1.2	0	0.8
■ Do not know	11.8	5.1	1.4	0.8
<b>Contagious</b>				
■ Yes	58.8	60.2	72.9	80.6
■ No	26.5	26.9	15.7	14.6
■ Do not know	9.8	10.2	11.4	4.2
■ No answer	4.9	2.7	0	0.6
<b>Ever heard pneumonia</b>				
■ Yes	2.9	0.9	5.7	7.7
■ No	96.1	97.9	88.6	83.8
■ Do not know	1.0	1.2	5.7	8.5

Table 4. Relationship between duration of education and KAP on ARI

KAP variables	Duration of education (years)					
	Cisalak			Sagalaherang		
	<6 %	7-12 %	>12 %	<6 %	7-12 %	>12 %
<b>Etiology:</b>						
■ Microorganisms	1.4	1.2	50.0	4.6	21.3	30.0
■ Too much wind	76.6	81.5	50.0	77.3	67.4	60.0
■ Bad spirits	0.9	0.6	0	1.2	0	0
■ Others	12.3	7.4	0	14.2	10.6	0
■ Do not know	9.1	8.6	0	2.7	0.7	10.0
<b>Care seeking:</b>						
■ Home treatment	70.3	50.6	75.0	43.1	19.1	20.0
■ Health center	21.1	33.3	25.0	50.6	73.8	70.0
■ Traditional healer	0.6	1.2	0	1.4	1.4	0
■ Private doctor	0	2.5	0	2.2	3.5	0
■ Ask neighbour	0.6	0	0	1.2	0.7	0
■ Do or give nothing	1.7	1.2	0	0.7	0	10.0
■ Do not know	5.7	11.1	0	0.7	1.4	0
<b>Contagious:</b>						
■ Yes	59.1	64.2	50.0	76.9	88.7	100.0
■ No	28.3	19.8	25.0	16.9	8.5	0
■ Do not know	8.9	14.8	25.0	5.8	2.1	0
■ No answer	3.7	1.2	0	0.5	0.7	0
<b>Ever heard pneumonia:</b>						
■ Yes	1.1	2.5	0	3.6	16.3	40.0
■ No	97.7	96.3	100.0	88.2	76.6	40.0
■ Unknown	1.1	1.2	0	8.2	7.1	20.0

Table 5. Relationship between mothers' occupation and KAP on ARI

KAP variables	Mothers' occupation			
	Cisalak		Sagalaherang	
	Housewife %	Working %	Housewife %	Working %
<b>Etiology</b>				
■ Microorganisms	1.5	3.0	12.8	7.3
■ 'Too much wind'	78.9	71.7	74.4	73.5
■ Bad 'spirits'	0.3	2.0	1.0	0.8
■ Others	13.4	4.0	10.3	15.2
■ Do not know	5.9	19.2	1.5	3.1
<b>Care seeking</b>				
■ Home treatment	65.3	79.7	29.7	39.6
■ Health center	26.4	14.1	62.6	54.3
■ Traditional healer	0.6	1.0	2.1	1.3
■ Private doctor	0.3	1.0	2.6	2.4
■ Ask neighbours	0.6	0	1.5	0.8
■ Do or give nothing	1.5	2.0	0.5	0.8
■ Do not know	5.3	11.1	1.0	0.8
<b>Contagious</b>				
■ Yes	59.6	60.6	86.7	76.1
■ No	27.3	25.3	9.7	17.3
■ Do not know	9.8	11.1	3.1	6.0
■ No answer	3.3	3.0	0.5	0.5
<b>Ever heard pneumonia</b>				
■ Yes	1.8	0	10.8	5.8
■ No	97.9	96.0	84.1	84.5
■ Do not know	0.3	4.0	5.1	9.7

pneumonia as early as possible.<sup>1</sup> It was hoped that mother could detect pneumonia earlier and seek for treatment promptly. It is clear that in several places, especially in rural areas, the deaths caused by ARI is due to the fact that some children are too late to be brought to medical services. The reason for this is often a lack of knowledge of the mother.<sup>1</sup> Several intervention studies conducted in developing countries on case management showed that the mortality of ARI decreased in the intervention area.<sup>1</sup> From our study we found that only 1.8% mothers in Cisalak and 9.8% in Sagalaherang know that ARI is caused by microorganisms. More than 70% mothers answered that the cause of ARI is "too much wind". The similar result was reported by Hamid et al.<sup>3</sup> from their study in Aceh Besar, Indonesia.

More mothers choose for home treatment in Cisalak, while in Sagalaherang mostly bring their sick child to the Health Center. One of the possible reasons is that in Sagalaherang there are two health centers and only one in Cisalak. However, for home treatment most mothers had experiences to treat their sick children at home by giving unprescribed drugs bought in the village's drug seller including antibiotics, or giving traditional remedies such as herb, species, tamarind, holy water, pepper, ointment or many kinds of leaves. Nevertheless, the use of traditional medicine decrease because nowadays it is easier to get modern medicines in those areas.

Three mothers' characteristics were assumed to influence KAP on ARI of the mothers, i.e. age, duration of education and working status. Hortal et al.<sup>4</sup> reported from Uruguay that the risk of developing ARI was smaller in children of younger-age mothers, and a study in Manila found that the incidence of ARI was higher in children of parents with lower education.<sup>5</sup> Furthermore, Vathanophas et al.<sup>6</sup> and Hortal et al.<sup>4</sup> reported that the incidence of ARI was slightly higher when the mothers were working. A cross sectional study conducted in Cikutra, Bandung, reported that the prevalence of ARI was higher among working mothers and mothers of higher education.<sup>7</sup>

We found that the KAP on ARI was better among mothers in Sagalaherang compared to those from Cisalak. Furthermore, we found also a better KAP among mothers who get higher education. However, there is found no influence of age and working status on ARI in those two villages.

Many mothers did not know that ARI is caused by microorganisms. The KAP on ARI among mothers in rural areas need to be increased. Thus, to achieve a good and success in ARI program, a communication with mother is one of the important things. Talking to mother has to be the number one approach.

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