

# Study to assess the knowledge, attitude, and practice about acute respiratory infections among school going children and their parents in rural Maharashtra

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## ABSTRACT

**Background:** 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 1<sup>st</sup> year of life. Among all illnesses of childhood, acute respiratory tract infections, malnutrition, and diarrheal diseases are the principal causes of morbidity and mortality in the developing countries. 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 imply on the health status and survival of the child. **Objectives:** To find out the knowledge, attitude, and practice (KAP) toward acute respiratory diseases among school going children and their parents. **Materials and Methods:** A restructured and pretested questionnaires were used to assess the KAP of children's at school and their mothers at home. A scoring system was developed and was compared among children's and their mothers. **Results:** More than half of children had average knowledge, but attitude and practice regarding diarrheal diseases were found very poor. Overall, KAP score was also between poor and average whereas mothers were having very poor KAP about acute respiratory infection. **Conclusion:** A major determinant of child health is the health and knowledge of the child's mother. Hence by improving the knowledge, attitude and health practices of the mothers regarding acute respiratory illness directly reflects on the health and vitality of the child.


**KEY WORDS:** Acute Respiratory Infection; Attitude Knowledge; Mothers; Practice

## INTRODUCTION

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 1<sup>st</sup> year of life.<sup>[1]</sup> Among all illnesses of childhood, acute respiratory tract infections, malnutrition, and diarrheal diseases are the principal causes of morbidity and mortality in the developing countries.<sup>[2]</sup>

Acute respiratory diseases are reported to be the 3<sup>rd</sup> leading cause of child morbidity and mortality.<sup>[3]</sup> 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.<sup>[4]</sup> India ranks 2<sup>st</sup> for three-quarter of death due to acute respiratory illness in under five population in the developing regions of the world (2004).<sup>[5,6]</sup>

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

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managed at home. A comprehensive health education on the etiology or causation, its prevention and management has 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. National family health survey - 3 study found that before 2 weeks of survey around 6% of under five children had on amor the other symptoms of an acute respiratory infection (ARI) which included cough, short and rapid breathing. Among these children, just 69% reported to a health facility or health provider for treatment.<sup>[7]</sup> Health education is an important and a primary aspect of health care. It is reported that the incidence of acute respiratory diseases in rural India is 11.3% and in urban India is 8.5%.<sup>[8]</sup> Hence, the purpose of this study is to identify the knowledge, attitude, and practice (KAP) regarding acute respiratory diseases among school going children and their mothers.

### Objective

The objective of the study was to find out the KAP toward acute respiratory diseases among school going children and their parents.

### MATERIALS AND METHODS

A descriptive study was conducted among the secondary high school children (9<sup>th</sup> standard) Azad high school, Kasegaon, to find out the level of KAP of children and their parents about the acute respiratory illness. The mother was specifically selected for the study because she is the primary caretaker of her children and her family. She is the one who spends maximum time with children and plays an important role in inculcating health KAP in them. If the child had single parent, i.e., father, then the father would have been considered for the study, but in the current study, no such child was found without a mother.

A pre-structured and pretested questionnaire was used to get the information regarding definition, causes, signs, symptoms, treatment, prevention of respiratory illness, etc. Total 12 questions were asked to assess KAP of ARI of which 4 for knowledge, 4 for attitude, and 4 for practice for children. Scoring system was developed to assess both pre- and post-test performance of study and control group. Correct answer was given score 1 and wrong answer and uncertain answer 0. The grading of KAP was done as 0-1 = Poor, 2 = Average, and 3-4 = Good. The grading for overall KAP was done as 0-3 = Poor, 4-7 = Average, and 8-12 = Good. This was done in consultation with a statistician and with the help of reference studies number 52.

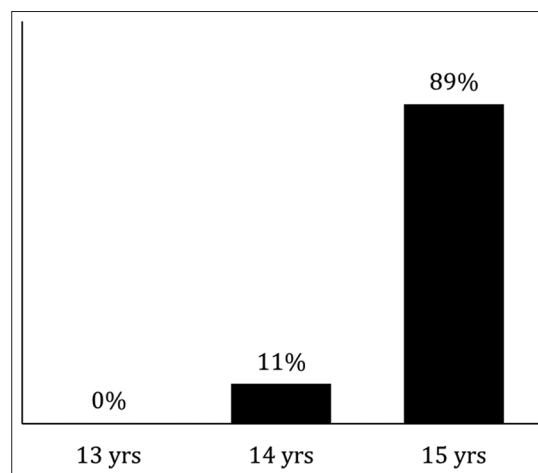
Data were collected related to knowledge, attitude, and practice on respiratory diseases among 9<sup>th</sup> students and mothers in predesigned and pretested questionnaire. The

mothers were interviewed personally. Institutional Ethical Committee clearance and permission from school was taken before the start of the study.

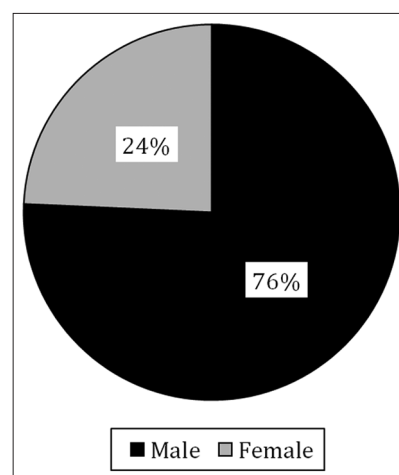
### RESULTS

Following Figures 1 and 2 show that a maximum number of children in both was having an age of groups 15 and 14 years whereas male gender (boys) which was found in maximum number compared to female (girls).

According to Table 1, the majority of parents had school education (mothers 71.6% and father 59.5%) whereas illiterate mothers were less than one third (20.3%). More than one-fourth mothers of were engaged in one or the other form of work. Majority of them were engaged in farm work (52.7%) followed by labor work (23%). Similarly, 66.2% of fathers were engaged in farming and 23% in labor work. It was observed that two-third of students (71.6%) belonged to middle class followed by lower (24.3%) and upper class.



**Figure 1:** Distribution of study group according to age group in 9<sup>th</sup> standard



**Figure 2:** Distribution of study group according to gender in 9<sup>th</sup> standard

Tables 2 and 3 summarize the responses given by school children's and their mothers to the questions regarding KAP of ARI. Table 2 summarized that the proportion of children given correct answers to the questions was from 1.4% to 64.9%. Mothers were asked about 12 questions 4 each in knowledge, attitude, and practice in section, and the correct responses were from 2.7% to 52.7%.

Tables 4 and 5 summarizes scoring of marks allotted to answers given by children and their mother separately. More than half of children had average knowledge, but attitude and practice regarding respiratory diseases were found very poor. Overall, KAP score was also between poor and average. Whereas more than 2/3<sup>rd</sup> mothers were having very poor KAP about ARI.

## DISCUSSION

In general, the mother is the primary caretaker of the family and is thus charged with teaching her children proper health and hygiene practices. An illiterate or uneducated mother even though she takes care of her family, she may be less knowledgeable about teaching her children proper hygienic practices, subsequently leading to increased rates of infection and disease among her children. Most common age was 13 years with boys being the majority. Most of the mothers had school education and were farmers. The KAP was poor among both students as well their mothers.

According to age group and gender, the mean age of 9<sup>th</sup> standard students was 13 years (range: 12-14). Majority of them were boys constituting 74.7% in the study group and 70.7% in control group whereas only about 1/4<sup>th</sup> girl's population was constituted in study and control group (25.3% and 29.3%, respectively). In a study of Danielle Ferreira de Magalhães et al.<sup>[9]</sup> students from the 5<sup>th</sup> and 8<sup>th</sup> grades were participants of the study. Mean age was 10 years (range: 9-14) in the 5<sup>th</sup> grade and 14 years (range: 13-17) in the 8<sup>th</sup> grade. Moreover, 46.8% were boys and 53.2% girls. Nearly 20% mothers were illiterate and 71% had school education and 8% had college education. In a study of Savitha et al.<sup>[10]</sup> reported illiteracy among mothers of 63.46% of study subjects and very less proportion of mothers with school and college education among study subjects. Similarly, Haroun et al.<sup>[11]</sup> observed less of maternal illiteracy (13.2%) among study subjects and Broor et al.<sup>[12]</sup> made the observation of more proportion of maternal illiteracy (42.6%). In this study, 1/4<sup>th</sup> mothers were illiterates among 9<sup>th</sup> standard (20.3% in study and 29.3% in control group) students. With respect to maternal occupation among 9<sup>th</sup> standard students, most of the mothers were laborers and farmers as most of them had their own lands and with very less proportion being housewives and professionals in both studies. A study by Lloyd<sup>[13]</sup> showed 11% of mothers of children doing agriculture work, 3.36% daily based labor, 1.68% domestic work for others families, and 85.71% being housewife. The KAP was found to be poor among both children and their mothers, i.e. 38% and 58%,

**Table 1:** Distribution according to parents education, occupation, and socioeconomic status

| Particulars          | Study<br>n=74 (%) |
|----------------------|-------------------|
| Mother education     |                   |
| Illiterate           | 15 (20.3)         |
| School education     | 53 (71.6)         |
| College education    | 6 (8.1)           |
| Mother occupation    |                   |
| Housewife            | 10 (13.5)         |
| Farmer               | 39 (52.7)         |
| Labor                | 17 (23)           |
| Professional         | 8 (10.8)          |
| Father education     |                   |
| Illiterate           | 14 (18.9)         |
| School education     | 44 (59.5)         |
| College education    | 16 (21.6)         |
| Father occupation    |                   |
| Farmer               | 49 (66.2)         |
| Labor                | 17 (23)           |
| Professional         | 8 (10.8)          |
| Socioeconomic status |                   |
| Upper class          | 3 (4.1)           |
| Middle class         | 53 (71.6)         |
| Lower class          | 18 (24.3)         |

**Table 2:** Proportion of correct answers by children to questions about KAP of ARI

| Variables | Questions numbers | Correct answers<br>n=75 (%) |
|-----------|-------------------|-----------------------------|
| Knowledge | Question 1        | 51 (68.9)                   |
|           | Question 2        | 31 (41.9)                   |
|           | Question 3        | 22 (29.7)                   |
|           | Question 4        | 9 (12.2)                    |
| Attitude  | Question 5        | 13 (17.6)                   |
|           | Question 6        | 27 (36.5)                   |
|           | Question 7        | 19 (25.7)                   |
|           | Question 8        | 1 (1.4)                     |
| Practice  | Question 9        | 20 (27)                     |
|           | Question 10       | 13 (17.6)                   |
|           | Question 11       | 27 (36.5)                   |
|           | Question 12       | 11 (14.9)                   |

KAP: Knowledge, attitude, and practice, ARI: Acute respiratory infection

respectively. The above findings are almost similar to the studies of Tragler<sup>[14]</sup> and Fawole et al.<sup>[15]</sup> in which significant increase in KAP after the experiment (health education) was observed. The proportion of correct answers reported among mothers is similar to study conducted by Danielle Ferreira de Magalhães et al.<sup>[9]</sup> which observed the less proportion of correct answers by family members.

**Table 3:** Proportion of correct answers by the mothers of children's for questions about KAP of ARI

| Variables | Question numbers | Correct answers<br>n=75 (%) |
|-----------|------------------|-----------------------------|
| Knowledge | Q1               | 39 (52.7)                   |
|           | Q2               | 23 (31.1)                   |
|           | Q3               | 18 (24.3)                   |
|           | Q4               | 9 (12.2)                    |
| Attitude  | Q5               | 19 (25.6)                   |
|           | Q6               | 20 (27)                     |
|           | Q7               | 13 (17.6)                   |
|           | Q8               | 13 (17.6)                   |
| Practice  | Q9               | 25 (35.8)                   |
|           | Q10              | 27 (36.5)                   |
|           | Q11              | 2 (2.7)                     |
|           | Q12              | 9 (12.2)                    |

KAP: Knowledge, attitude, and practice, ARI: Acute respiratory infection

**Table 4:** Distribution of children's according to KAP grades

| Variables   | n=74 (%)  |           |         |
|-------------|-----------|-----------|---------|
|             | Poor      | Average   | Good    |
| Knowledge   | 39 (51.4) | 29 (39.1) | 7 (9.5) |
| Attitude    | 57 (77)   | 16 (21.6) | 1 (1.4) |
| Practice    | 59 (79.7) | 13 (17.6) | 2 (2.7) |
| Overall KAP | 38 (51.4) | 36 (48.6) | 0 (0)   |

KAP: Knowledge, attitude, and practice

**Table 5:** Distribution of mother according to grades of KAP

| Variable    | n=74 (%)  |           |           |
|-------------|-----------|-----------|-----------|
|             | Poor      | Average   | Good      |
| Knowledge   | 51 (68.9) | 5 (6.8)   | 18 (24.3) |
| Attitude    | 55 (74.3) | 8 (10.8)  | 11 (14.9) |
| Practice    | 51 (68.9) | 19 (25.7) | 5 (6.8)   |
| Overall KAP | 53 (71.6) | 15 (20.3) | 6 (8.1)   |

KAP: Knowledge, attitude, and practice

The strength of the study is as it was one of its kinds in the part of western Maharashtra where it tried to identify the KAP regarding ARIs among children and their mothers.

## CONCLUSION

A major determinant of child health is the health and knowledge of the child's mother. It has been seen that the mother is the main caregiver for the child in almost all societies. Hence, the knowledge, attitude, and health practices of the mothers directly reflect on the health and vitality of the child. In light of these observations, future school-based health and hygiene education programs should include strategies to involve family members, particularly mothers and siblings.

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