Research Article

Association of maternal education and socioeconomic status with knowledge, attitude, and practice of her child regarding acute respiratory infections

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ABSTRACT

Background: The proportion of death due to ARI in the community is much higher as many children die at home. ARI is also an important cause of morbidity in the children across world, with an average about 5 episodes of ARI per child per year so accounting for about 238 million attacks. Medical records of states with high infant mortality rate show that up to 13% of inpatient deaths in pediatric wards are due to ARI. **Objectives:** The objectives are to find the association between socioeconomic status with maternal knowledge, attitude, and practice (KAP), to find the association of maternal education with child KAP, and to find the association of maternal education with maternal KAP. **Materials and Methods:** A cross-sectional study was carried out among the secondary high school children Azad High School, Kasegaon, to find the relationship between maternal education and socioeconomic status on KAP of mother and her child regarding acute respiratory infections. A pre-structured and pretested questionnaire was used to get the information regarding definition, causes, signs, symptoms, treatment, and prevention of respiratory illness. **Results:** Nearly 68% of the mothers completed school education, 6.8% had college education, and 37% were illiterate mothers. As per the occupation, 54.7% were farmers, 23.6% were labors, 12.8% were housewives, and 8.8% were professionals. Most of the families were belonging to middle class, i.e., 72.3%, 25.7% to lower class, and 2% to upper class. **Conclusion:** Maternal socioeconomic class and maternal education have an important role in the KAP of her children regarding acute respiratory infections.

KEY WORDS: Acute Respiratory Infections; Maternal Education; Socioeconomic Class

INTRODUCTION

Childhood acute respiratory infections are a significant public public health problem in developing and underdeveloped countries. Pneumonia deaths account for approximately one-fourth of the total deaths in under-five children, in India.[1] ARI is also an important cause of morbidity in the children across world, with an average about 5 episodes of ARI per child per year so accounting for about 238 million attacks. Medical records of states with high infant mortality rate show that up to 13% of inpatient deaths in pediatric wards are due to ARI.[2] The proportion of death due to ARI in the community is much higher as many children die at home. The rural parts of India where most of the population resides have still more deaths due to ARI due to poor health infrastructure, poor facilities and services, absence of doctors, poor accessibility, and many more. Hence, there is a certain need to create awareness among parents by which they can prevent the mortality and morbidity due to ARI.

One of the determinants of child health is the knowledge of the child's mother[3] In most of communities across the

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world and in India, mother is the primary caregiver for the child. Hence, the health practices of mother along with her knowledge and attitudes have direct implications on the health of the child. There are many risk factors which can be associated with acute respiratory infections. Some of them include maternal education and socioeconomic class. Hence, this study is an attempt to find the relationship between maternal education and socioeconomic status on knowledge, attitude, and practice (KAP) of mother and her child regarding acute respiratory infections.

Aims and Objectives

The aim of the study is to find the relationship between maternal education and socioeconomic status on KAP of mother and her child regarding acute respiratory infections. The objectives are to find association between socioeconomic status with maternal KAP, to find association of maternal education with child KAP, to find association of maternal education with maternal KAP, to find association between mother's knowledge, attitude, practice and overall knowledge, attitude, practice with her children's knowledge, attitude, practice and overall knowledge, attitude, practice.

MATERIALS AND METHODS

Design and Settings

A cross-sectional study was conducted at Azad higher secondary school of Kasegaon, Karad, Maharashtra.

Participants and Sampling

All the 148 students belonging to 9th standard of the Azad higher secondary school were participated in the study.

Exclusion Criteria

The students who did not give consent were excluded from the study.

Measures and Measurements

A community-based cross-sectional study was carried out among the secondary high school children belonging to 9th standard of Azad high school, Kasegaon, to find the relationship between maternal education and socioeconomic status on KAP of mother and her child regarding acute diarrheal diseases. The mother was selected purposefully for the study because she is primary caretaker of her children and her family. She is the one who spends maximum time with children and plays 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 current study, no such child was found without mother.

A pre-structured and pretested questionnaire was used to get the information regarding definition, causes, signs, symptoms, treatment, and prevention of acute respiratory infections. A total of 12 questions were asked to assess KAP of acute respiratory infections, of which 4 for knowledge, 4 for attitude, and 4 for practice for children, and in case of mothers, 12 questions were asked to assess KAP of ADD, of which 4 for knowledge, 5 for attitude, and 4 for practice. 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 statistician and with the help of reference studies number 12.

Data were collected related to KAP on acute respiratory diseases among 9th standard students and mothers in pre-designed and pre-tested questionnaire. The mothers were interviewed personally. The Institutional Ethical Committee clearance and permission from school were obtained before the start of the study.

RESULTS

Table 1 shows that nearly 68% of the mothers completed school education, 6.8% had college education, and 37% were illiterate mothers. As per the occupation, 54.7% were farmers, 23.6% were labors, 12.8% were housewives, and 8.8% were professionals. Most of the families were belonging to middle class, i.e., 72.3%, 25.7% to lower class, and 2% to upper class.

Table 2 shows that mother's education was not significantly associated with children knowledge and practice, whereas attitude was found to be associated. Illiterate mothers had significant poor knowledge and attitude. Majority of children whose mothers were illiterate had poor knowledge and attitude as compared to the children of educated mothers.

According to Table 3, the majority of mothers even having school education had poor KAP, whereas illiterate mothers had poor KAP. The difference was found statistically significant.

Table 4 shows that maximum numbers of mothers belonged to middle-class socioeconomic status had poor KAP followed by the lower class. The difference was suggesting an association between socioeconomic status and KAP and was found statistically significant.

From Table 5, it clearly indicates that the knowledge and attitude and overall knowledge, attitude and practice of children are found significantly associated with KAP of mothers. However, practice was not found statistically significant. The difference may be due to social and cultural practices followed at

respective homes or societies without knowing the appropriate reasons behind it.

DISCUSSION

In most of the societies, mother is the primary caretaker of the family and is thus charged with teaching her children proper health and hygiene practices. Illiteracy causes lack of knowledge, and hence, the diseases which can be easily be prevented by simple interventions may not be prevented. Similarly, mother even though she takes care of her entire family because of illiteracy, she may be less knowledgeable about teaching her children proper hygienic practices and hence causing increased rates of infection and disease among her children. In the current study, mean age of students was found to be 15 years, and 75.7% were boys and 24.3% girls. In the current study, more than one-third of mothers were illiterates, i.e., 36% and 58% were literates. Most of the mothers were farmers and laborers, whereas only minimum proportion was housewives and professionals, and most of the families in the study belonged to middle class, followed by lower class and upper class. The maternal education was significantly associated with an attitude of her child, whereas maternal education with maternal KAP was significantly associated. There was also a significant association of socioeconomic status with maternal KAP.

Table 1: Sociodemographic profile of parents

Particulars	Total *n*=148 (%)
Mother education	
Illiterate	37 (25)
School education	101 (68.2)
College education	10 (6.8)
Mother Occupation	
Housewife	19 (12.8)
Farmer	81 (54.7)
Labor	35 (23.6)
Professional	13 (8.8)
Father education	
Illiterate	28 (18.9)
School education	95 (64.2)
College education	25 (16.9)
Father occupation	
Farmer	99 (66.9)
Labor	35 (23.6)
Professional	14 (9.4)
Socioeconomic status	
Upper class	3 (2)
Middle class	107 (72.3)
Lower class	38 (25.7)

With respect to age group and gender, mean age was 15 years (range: 13–15). Majority of them were boys constituting 75.7% of girls were about one-fourth, i.e., 24.3%. Magalhães *et al*.[4] did a study on students from the 5th to 8th grades who were participants of the study. Among them, mean age was 10 years (range: 9–14) in the 5th grade and 14 years (range: 13–17) in the 8th grade. The study participants constituted 46.8% of boys and 53.2% of girls. As compared to the current study, there was no difference in study participants. A study conducted by Savitha *et al*.[5] reported illiteracy among mothers of 63.46% of study subjects and very less proportion of mothers with school and college education among study subjects. While Haroun *et al*.[3] observed less proportion of maternal illiteracy (13.2%) among study

Table 2: Association of maternal education with child KAP regarding acute respiratory infections

Particular	Knowledge (*n*=148)			Attitude (*n*=148)			Practice (*n*=148)		
	Poor (%)	Average (%)	Good (%)	Poor (%)	Average (%)	Good (%)	Poor (%)	Average (%)	Good (%)
Illiterate	22 (59.5)	14 (37.8)	1 (2.6)	35 (92.1)	2 (5.3)	0 (2.6)	29 (76.3)	6 (16.4)	2 (5.4)
School education	51 (50.5)	42 (41.6)	8 (7.9)	82 (81.2)	17 (16.8)	2 (2)	87 (85.3)	12 (11.9)	2 (2)
College education	4 (40)	3 (30)	3 (30)	5 (50)	5 (50)	0 (0)	10 (100)	0 (0)	10 (100)
χ^2 value	8.322			12.618			3.658		
P	>0.05			<0.05			>0.05		

KAP: Knowledge, attitude, and practice

Table 3: Association of maternal education with maternal KAP

Particular	Knowledge (*n*=148)			Attitude (*n*=148)			Practice (*n*=148)		
	Poor (%)	Average (%)	Good (%)	Poor (%)	Average (%)	Good (%)	Poor (%)	Average (%)	Good (%)
Illiterate	37 (100)	0 (0)	0 (0)	37 (100)	0 (0)	0 (0)	33 (89.2)	4 (10.8)	0 (0)
School education	65 (64.7)	17 (16.8)	19 (18.8)	73 (72.3)	20 (19.8)	8 (7.9)	69 (68.3)	31 (30.9)	1 (1)
College education	0 (0)	0 (0)	10 (100)	0 (0)	1 (10)	9 (90)	1 (10)	2 (20)	7 (70)
χ^2 value	60.570			77.422			94.390		
P	<0.05			<0.05			<0.05		

KAP: Knowledge, attitude, and practice

Table 4: Association of socioeconomic status with maternal KAP

Particular	Knowledge (*n*=148)			Attitude (*n*=148)			Practice (*n*=148)		
	Poor (%)	Average (%)	Good (%)	Poor (%)	Average (%)	Good (%)	Poor (%)	Average (%)	Good (%)
Upper class	0 (0)	0 (0)	3 (100)	0 (0)	0 (0)	3 (100)	1 (33.3)	0 (0)	2 (66.7)
Middle class	66 (61.7)	15 (14)	26 (24)	72 (67.3)	21 (19.6)	14 (13.1)	70 (65.4)	31 (24)	6 (5.6)
Lower class	36 (94.7)	2 (5.3)	0 (0)	38 (100)	0 (0)	0 (0)	32 (84.2)	6 (15.8)	0 (0)
χ^2 value	27.332			39.424			27.607		
P	<0.05			<0.05			<0.05		

KAP: Knowledge, attitude, and practice

Table 5: Association of mother's KAP and overall KAP with children's KAP and overall KAP

Mother (KAP)	Poor	Average	Good	χ^2 value	*P*
Children					
Knowledge					
Poor	48 (62.3)	13 (16.9)	16 (20.8)	19.876	0.000
Average	49 (83.1)	4 (6.8)	6 (10.2)		
Good	5 (41.7)	0 (0)	7 (58.3)		
Attitude					
Poor	102 (83.6)	14 (11.5)	6 (4.9)	43.620	0.000
Average	6 (25)	7 (29.2)	11 (45.8)		
Good	2 (100)	0 (0)	0 (0)		
Practice					
Poor	85 (67.5)	33 (26.2)	8 (6.3)	2.556	0.790
Average	15 (82.3)	3 (16.7)	0 (0)		
Good	3 (75)	1 (25)	0 (0)		
Overall KAP					
Poor	76 (73.2)	26 (25.2)	1 (1)	13.187	0.001
Average	27 (60)	11 (24.4)	7 (15.6)		
Good	0 (0)	0 (0)	0 (0)		

KAP: Knowledge, attitude, and practice

subjects, Broor *et al*.[6] observed more proportion of maternal illiteracy (42.6%). In the current study, more than one-third of mothers were illiterates, i.e., 36% and 58% were literates. This different observation may be existed due to different of the study setting. In regard to maternal occupation, most of the mothers were farmers and laborers, whereas only minimum proportion was housewives and professionals. In a study done by Angela,[7] 11% of mothers of children in an agriculture work, 3.36% on daily-based labor, 1.68% domestic work for others, and 85.71% were housewife. As per the socioeconomic class using modified Prasad classification, most of the families in study belonged to middle class, followed by lower class and upper class. Similar studies of puri and Mehta[8] reported that 66.4% belonged to lower class, 23.8% belong to middle class, and 9.6% belong to upper class. The different observation is due to different study setting. In the current study, it was noted that mother's education had a significant association with children knowledge and attitude ($P < 0.05$) but was not associated with practice ($P > 0.05$). Mother's education was compared with their KAP and observed significant association ($P < 0.05$). In a study done by Siziya *et al*.[9] on diarrhea and acute respiratory infections, prevalence and risk factors among under-5 children in Iraq in 2000 showed a significant association between maternal education and maternal socioeconomic status with the prevalence of diarrhea and ARI (AOR = 1.11, 95% confidence interval [1.04, 1.18]). Similarly, a study done by Ibrahim *et al*.[10] which was a 3-year demographic surveillance observed that under-5 mortality from diarrhea in children of illiterate mothers was more in comparison with literate mothers. All observations indicate that mother's education is associated with child health as well as children's KAP. Hence, the risk of acute diarrheal diseases was less in their children as compared to illiterate mothers among whom risk was high. Socioeconomic status was found significantly associated with mother KAP. Mothers belonging to upper class had good KAP as compared to those belonging to middle and lower class. Similarly, mother's KAP were significantly associated with child's knowledge, attitude, and overall KAP, while mother's practice was not associated with child's practice. This difference might be due to social and cultural factors which have been followed in the family. Siziya *et al*.[9] also showed that poor socioeconomic status of the family was associated with the incidence of diarrhea. Datta *et al*.[11]

observed that the incidence of diarrhea was found to be more among low socioeconomic status as compared to upper class. The results were in coherence to the current study.

The strength of the study is involvement of both mother and her child which will help in understanding the transmission of KAP from mother to child. This can be further used for interventions to improve the health practices of infectious diseases. The limitation of the study is as it was done in rural school it can be done in other urban schools, compared the results, and analyzed the gaps of rural as well as urban mothers.

To conclude, maternal socioeconomic class and maternal education has important role in the KAP of her children regarding acute respiratory infections.

CONCLUSION

The very important determinant of child health is the knowledge of the child's mother and also the attitude and practices of mother regarding acute respiratory infections. Hence, this gives an opportunity to do the health inventions where healthy practices can be introduced among mothers which can certainly reach her children and further reduce under-5 mortality due to acute respiratory infections and pneumonia.

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