

Impact of Health Education on Preventive Practices of A.R.I among Mothers Living In Urban Slum –Bangalore

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Abstract: Acute respiratory tract infections in young children take a heavy toll on life among urban slum dwellers and where medical care is not available or sought. The effective way to reduce deaths from ARI is early and prompt treatment as well as health education. The urban slum population is more vulnerable to health risk as they face many risk factors like living condition, sanitation, health care facilities. In this pre experimental study, the variables were assessed through pre and post test followed by educational intervention for 476 mothers of under five children residing in urban slums of Bangalore District. The data regarding socio demographic variables of mothers and knowledge of mothers on preventive practices of acute respiratory tract infections was collected through structured interview schedule. The major study findings indicate that there is significant difference between the knowledge of practice scores of mothers between pre and post test. The results also indicates that there is significant relationship between knowledge scores of mothers with their socio demographic variables and community based health education could enhance the knowledge of mothers regarding preventive practices of acute respiratory tract infections in their young children.

Keywords: Acute Respiratory Tract Infection, children, health education, mother, slum

I. Introduction

Children are the promise and the future of every nation. Investing in children health and development means investing in the future of a nation. Children are a vulnerable group whose needs and rights must be protected, including right to health and development [1]. India is home to largest number of children in the world, significantly larger than the number in China and India contributes 20% of the under five childhood population of the world. [2] Acute Respiratory Tract infections are the major cause of mortality among children aged less than 5 years especially in developing countries. Worldwide, 20% mortality among children aged less than 5 years is attributed to respiratory tract infections (predominantly pneumonia associated) and more than 10 million children die each year globally. The percentage of deaths due to all causes for acute respiratory infection is between 2 times and 6 times higher in less developed countries than in developed countries and it constitutes one third of the deaths in under five child population in developing countries.[3] In India, about 26.3 million cases of ARI were reported in 2011, with an incidence rate of about 2,173 cases per lakh population.[4,5]

Acute Respiratory Tract Infections are the main cause of acute childhood illness worldwide and it remain as the most important cause of infant and young children mortality, for about two million deaths each year & 20% (20-30%) of these deaths are from India .In India, more than 4 lakh deaths every year are due to pneumonia accounting for 13%-16% of all deaths in the pediatric hospital admissions. most of these death are preventable. [6].The practice of appropriate health seeking behavior and practice among urban slum dwellers has a great potential impact to reduce the occurrence of life-threatening childhood illnesses like acute respiratory tract infections also there is significant influence of socio demographic variables like cultural, social, economic and disease related factors in health care seeking for child illness plays an important role . In Karnataka State 2491 slums are existing, out of which 473 notified as urban slums belong to Bangalore and 3.04 million of total urban population in Bangalore is estimated around 17.02 proportion of total slum population of Karnataka state. The morbidity and mortality of under five children in urban slums is significantly high. So, controlling and preventing acute respiratory tract infection in urban slum is a big challenge for health authorities and providing strategic health education helps to increase awareness on ARI. [7]

I.1. Objectives:-The study aimed to:-

- a) To assess the knowledge on preventive practices among the mothers of under five children on A.R.I.
- b) To determine the effectiveness of Structured Teaching Programme.
- c) To compare the pretest and post test scores of knowledge on preventive practices with socio demographic variables of mothers

1.2. Hypotheses

H₁: There is no significant difference between the pre and post test scores of knowledge on preventive practices of acute respiratory tract infections among mothers of under five children.

II. Methodology

The study design was pre experimental with one group pre and post test to determine the knowledge on preventive practices among mothers of under five children residing in urban slums of Bangalore District. Overall, 500 mothers were selected through simple random sampling method. Mothers were interviewed before and after implementation of planned health education to assess their knowledge on preventive practices of A.R.I. The structured interview schedule was used to collect the data on knowledge of preventive practices of ARI. The tool consists of socio demographic data of mothers, which includes age, type of family, occupation, income, educational status, parity and religion. The tool had 13 items and the allotted maximum score were 13 with one mark for each item. Planned Health education includes meaning, causes, signs & symptoms and community based preventive practices of A.R.I. The purpose of the study was explained and consent was obtained from mothers.

Planned Health education was delivered to the mother's of under five children at selected Anganawadi centers in slums of Bangalore after the pre test. Different types of audio visual aids were used to facilitate the understanding of teaching content on A.R.I. After, one week of intervention, the same tool was used to collect the data on A.R.I. The number of mothers for post test was delimited for 476 as 24 mothers were not available for post test. The consistency of the tool was assessed by test retest method. The content validity was determined through subject experts from medical and nursing professionals. Descriptive statistics were used to describe the background variables. Inferential statistics and odds ratio were used to analyze the association between the study variables and socio demographic factors of mothers of under fives.

III. Results

Frequency and percentage distribution of mothers in relation to socio demographic variables indicates that, the highest mothers (44.12%) belong to the age group of 21-25 years, 1st parity (44.95 %) & joint family (56.2%) respectively. Majority of mothers (78.57 %) were house wives, with a family monthly income, of Rs.2000-3000. Most of the mothers were literate, (18.49%) were illiterate. Regarding the religion, majority of them (60.71 %) belongs to Hindu religion (39.29%) belong to Muslim religion.

Table 2: mean, standard deviation and t value of mothers knowledge on Preventive practices according to their age.

Age in years	Mean		S.D		t value	df
	Pretest	Post test	Pretest	Post test		
<20	1.92	4.56	1.866	1.398	-14.513**	47
21-25	2.11	4.58	1.914	1.609	-33.620**	209
26-30	2.18	4.73	2.091	1.727	-26.881**	189
31-35	2.11	5.21	2.331	1.853	-13.077**	27

Level of significance < 0.05, **Significant

Table 3: Mean, Standard Deviation and T Value Of Mothers Knowledge On Preventive Practices According To Their Parity

Parity	Mean		S.D		t value	df
	Pretest	Post test	Pretest	Post test		
1 st Parity	1.98	4.58	1.915	1.581	-33.374**	213
2 nd Parity	2.09	4.66	1.959	1.687	-27.250**	183
3 rd Parity	2.60	4.96	2.275	1.761	-17.931**	77

Level of significance < 0.05, **significant

The highest mean value of 2.18 (SD2.091) was observed among mothers of age group 26 - 30 years in the pretest and mean value of 4.73 with a standard deviation (sdv 1.727)for posttest. The lowest mean value of 1.92 (SD1.866) and 4.56 (SD 1.398) in the posttest was for mothers belonging to the below 20 years of age. Third parity mothers were showing highest pre test mean value of 2.60 (SD 2.275) and posttest mean value of 4.96 (SD 1.761) and t value of -17.931. The lowest mean value of 1.98 with (SD1.915) in pretest and 4.58 mean value(SD 1.581) in the pretest and t value of -33.374 was of 1st parity mothers.

Table 4: Mean, Standard Deviation And T Value Of Mothers Knowledge On Preventive Practices According To Their Type Of Family

Type of Family	MEAN		S.D		t value	df
	Pretest	Post test	Pretest	Post test		
Nuclear	2.16	4.67	1.921	1.510	-35.303**	129
Joint	1.88	4.56	1.883	1.725	-23.564**	269
Extended	2.38	4.87	2.427	1.996	-18.871**	75

Level of significance<0.05, **Significant

Table 5: Mean, Standard Deviation And T Value Of Mothers Knowledge On Preventive Practices According To Their Occupation

Occupation	MEAN		S.D		t value	df
	Pretest	Post test	Pretest	Post test		
Housewife	2.09	4.64	1.966	1.616	-41.694**	373
Coolie	2.52	5.05	2.288	1.92	-14.221**	55
Employment	1.93	4.48	1.914	1.588	-14.532**	45

Level of significance < 0.05, **Significant

In terms of the type of family, the highest mean value of 4.87 were of mothers who belong to extended family, (SD 1.996) in the posttest and 2.38 mean values (SD 2.427) in the pretest with a t value of -18.871. The lowest mean value of 4.56 (SD 1.725) in the posttest and mean value of 1.88 (SD 1.883) for mothers of joint family.

On comparing the mean value of mothers knowledge on preventive practices according to their occupation, the lowest mean value was 1.93 (SD 1.914) in pre test and 4.48 (SD 1.588) in posttest among employed mothers. However the mean value of housewives was 2.09 (SD 1.966) in pretest and the mean value of 4.64 and t value of 1.616 in the post test and t value of -41.694 in the posttest.

Table 6: Mean, Standard Deviation And T Value Of Mothers' Knowledge On Preventive Practices According To Their Monthly Family Income

Monthly Family Income	MEAN		S.D		t value	df
	Pretest	Post test	Pretest	Post test		
Rs. 2000-3000	2.28	4.78	2.199	1.787	-34.222**	281
Rs. 3001-4000	1.89	4.49	1.703	1.479	-29.442**	159
Rs. 4001-5000	1.85	4.68	1.417	1.199	-11.921**	33

Level of significance < 0.05, **Significant

The highest mean value in the pre test was 2.28 (SD 2.199) and 4.78 (SD 1.787) in the posttest for mothers with a family income of Rs. 2000-3000. The lowest mean value of 1.85 (SD 1.417) in the pretest and 4.68 with a standard deviation of 1.199 was of mothers with a family income Rs 4001-5000.

Table 7: Mean, Standard Deviation and t value of mothers knowledge on preventive practices according to their level of education

Level of Education	Mean		S.D		t value	df
	Pretest	Post test	Pretest	Post test		
Illiterate	2.13	4.76	1.673	1.554	-17.993**	87
Primary	1.85	4.57	1.892	1.545	-18.453**	74
Higher Primary	2.32	4.71	2.041	1.736	-25.780**	141
High School and Above	2.07	4.65	2.165	1.692	-29.381**	171

Level of significance < 0.05, ** Significant

The highest mean value, 2.32 (SD 2.041) in pre test and 4.71 (SD 1.736) was of mothers, who completed higher primary education in the post test. The lowest mean value was 1.85 (SD 1.892) in the pretest and 4.57 (SD 1.545) in the post test was of primary school educated mothers. Whereas illiterate mothers had mean value 2.13, 4.76 and SD of 1.673, 1.554 in the pre and post test respectively. The mean value and SD of mothers who completed their high school and above education and above were 2.07, 4.65, 2.165, 1.692 in pre and posttest respectively.

Table 8: Mean, Standard Deviation and t value of mothers' knowledge on preventive practices according to their Religion

Religion	MEAN		SD		t value	df
	Pretest	Post test	Pretest	Post test		
Hindu	2.21	4.72	2.001	1.627	-38.565**	288
Muslim	1.98	4.61	2.003	1.698	-26.867**	186

Level of significance < 0.05, **significant

The highest mean value of 2.21 (SD 2.001) in the pretest and 4.72 (SD 1.627) in the post test was observed in Hindu Mothers. Muslim mothers have shown the mean value 1.98 (SD 2.003) in the pretest and 4.61 (SD 1.698) in the post test lesser than Hindu mothers. The t value for Hindu mothers was -38.565 and -26.867 for Muslim mothers. These values were significant at < 0.05 level

Table 9: Mean, standard deviation, total scores and t value of mothers knowledge on preventive practices on ARI

	Pre test	Post test
Total score	1010	2225
Mean value	2.12	4.67
Standard deviation	2.003	1.655
Approximate ration	1: 2.21	
t value	-46.351**	

Level of significance <0.05,**No significant

Table9 indicates that the mean value of pre test was 2.12 (SD 2.003) and the post test mean was 4.67 and (SD 1.655).The ratio of improvement between the two conditions is 1:2.21. The t-value between pretest and posttest was -46.351.

IV. Discussions

In this study, the impact of Planned health education on preventive practices of acute respiratory tract infection was measured before and after implementation of planned health education. The results were compared with their knowledge scores as impact and later correlated the findings with different socio demographic variables of mothers.

In terms of comparison and degree of association between knowledge scores with different socio demographic variables, the highest mean value of 2.18 (S.D.2.091) and 4.73(SD 2.091) in pre and post test were recorded among the age group of 26-30 years..The 3rd parity mothers have scored high in pre test with a mean value of 2.60(SD 1.959) and on post test 4.66(SD 1.687) also the `t` value was 33.374.On comparison of mean value among extended family in Pre & post test was 4.87 (SD 1.996) and 2.38(S D 2.427) respectively. The highest mean 4.64 scores among employed mothers in post test The highest pre test score of housewives with a mean of 2.09(S D 1.96) and post test mean.5.05(SD 1.92)among coolie worker with t value 41.6 was recorded.

The study conducted by Kone Pefoyo and Rivard.M(2006) reveals that, the poverty had a negative effect on the use of maternal and child care services [8]. However in the present study ,relevance to the family income of mothers, belong to the income strata of Rs.2001-3000 had score highest mean in both pre and post test conditions of 2.28 (S.D.2.199.) and 4.78(S.D.1.787). This indicates that the mothers with lower income showed more interest to inculcate better preventive practices of ARI.In the present study, the mothers of high school level had shown greater interest in pre test with a mean score of 2.13(S.D.1.673) but the impact in post test was high. Mothers with a mean of 4.65(S.D.1.693) with `t` value of -29.381 shows that mothers education play a key role in child caring. Similar study conducuted by Thanh Huyen(2003), reported that the maternal education has a significant impact on both knowledge and practice and likely to have better knowledge of ARI.[9]

However, the present study shows that there is less significant relationship between religion and preventive practices against ARI among mothers belong to muslim or hindu religion. As there is more or less similar mean scored obtained between Hindu and Muslim with a pre and post test 2.21(S.D.2.001) and 1.98(S.D.2.003) respe ctively. The comparison of the mean value of pre and post test scores of knowledge on preventive practices, among mothers of social demographic variables ,reveals that there is significant difference between pre and post test scores. This indicates the significant impact of planned health education. The study findings indicate that the mean value of pre test 2.12 with SD of 2.003 and the post test mean value was 4.67 and SD 1.655. The Ratio improvement between the pre and post test conditions was 1:2.21. The `t` Value between the pre and post test was -46.51 and its corresponding `p` value is 0.0001< 0.05. Hence, the hypotheses ,there is no significant difference between pre and post test scores of knowledge on ARI is rejected, as the study findings reveals that the post test mean value of all mothers was comparatively higher than the pretest mean value . Health education could help mothers to enhance their knowledge on prevention practices of ARI.

V. Conclusions

The study finding reveals that during the pretest, the mothers had less knowledge on preventive practices of ARI among under five children. The study concludes that the under five children belonging to lower educated and young mothers are at a significantly higher risk of severe ARI than the educated mothers and higher age group mothers in Bangalore. A significant improvement has been observed in the knowledge of mothers on preventive practices of ARI after implementing planned health education. It was evident that, the awareness in urban slum can be promoted through public health education to increase knowledge for prevention of ARI.

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