

Study On Health Care Seeking Behavior For ARI Among Under Five Children In Honnutagi Village, Vijayapur District Karnataka.

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ABSTRACT

Background: Acute respiratory infections (ARI) continue to pose a significant health burden among children under the age of five, particularly in low- and middle-income countries. Understanding the healthcare seeking behavior for ARI among this vulnerable population is crucial for effective management and prevention of associated morbidity and mortality. Early recognition of danger signals by mothers at home and their health seeking behavior in appearance of danger signs were the key strategies to prevent severe life-threatening complications.

Methods: A cross sectional study was conducted in the rural field practice area, attached to the Department of Community Medicine, of Al Ameen Medical College Vijayapur District– Karnataka. A predesigned and pre-tested proforma was used to collect the information. This was followed by a detailed physical examination, anthropometric measurements and the study duration was for 3 months from October to December 2023.

Results: In our study, 298 out of 300 study subjects participated. The majority of the children, 69 (23.15%), were in the age group of 37-48 months. Additionally, 108 (36.24%) of the mothers were illiterate. A large number of children, 223 (74.83%), did not utilize ICDS services, while 200 (67.11%) had a 'Complete' immunization status. Furthermore, 186 (62.42%) of the children were living in poor housing conditions. The main causes of illness were underweight, stunting, and anemia.

Conclusion: Maximum under-five children were suffering from one or the other type of morbidity. Maternal education, immunization, utilization of ICDS services, good housing condition and good personal hygiene were associated with lower prevalence rates of morbidities.

Keywords: Acute respiratory infections (ARI), under-five children, health care seeking behaviour, morbidities.

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I. Introduction:

ARI continues to be the leading cause of acute illnesses worldwide and remain the most important cause of morbidity and mortality in infants and young children. WHO defined ARI as “a clinical state presenting with rapid breathing more than expected upper limit for age with or without chest in drawing, too sick to feed, nasal discharge, cough, fever with or without auscultatory findings of less than 2 weeks”.¹ Acute Respiratory tract infection (ARI) in under-five children is one of the major public health problems accounting for 15–30% of all under-five deaths in India.^{2,3} It has been estimated that respiratory infections account for 6% of the total global burden of disease.⁴ Furthermore, every year at least 300 million episodes of ARI occur in India, out of which about 30–60 million are moderate to severe ARI. Globally, every sixth child with ARI is Indian and every fourth child who dies due to ARI is from India.⁵ ARI accounts for 30–50% of visits to health facilities and 20–40% of hospital admissions.^{6,7} Most of the infants die despite the implementation of evidence-based interventions such as Integrated Management of Childhood Illnesses that put a substantial premium on early diagnosis and management of infants with ARI.⁸ This calls for investigations into factors that may be associated with increased infant morbidity and mortality including delayed health-seeking. Studies suggest that common causes of under-five morbidity and mortality in developing countries could substantially be reduced with timely healthcare seeking behavior (HCSB) of their families.^{9,10} The survival of an infant from the physical stressors associated with acute illness is dependent on the identification of cues for the illness, time lag, and the decision to seek expert help by the mother “the so-called health-seeking behavior.”¹¹ A large number of children under 5 years of age die of ARI without ever reaching a health facility due to delays in seeking health care. To decrease mortality and morbidity due to ARI in under five children at the community level, it is important to study the HCSB of

mothers for acute respiratory infection. Hence, the current study seeks to assess the proportion of mothers seeking health care for ARI in under-five children, from a registered medical practitioner and to determine factors influencing mother's HCSB.

In view of the above, this study was planned to know the sociodemographic factors of ARI among under five children and the health care seeking behaviour for ARI among parents of under five children in the rural filed practice area Honnutagi village Vijayapur District Karnataka.

II. Methodology:

Study Area: The study was conducted in the Honnutagi villagerural field practice area (RHTC) of Al Ameen Medical College, Vijayapur.

Study Design: Community Based Cross Sectional Study.

Study Population: Under five children in the study area

Inclusion Criteria: i) Under 5 children who are presently suffering from ARI or had an episode in the last 2 weeks

ii) Permanent residents in the study area

Exclusion Criteria: Parents not willing to participate in the study.

Study Period: 1st October 2023- 31st December 2023(3 months).

Sample Size: With the prevalence of ARI, 63.7 %¹², at 95% confidence level and an allowable error 10%, sample size was calculated using the formula,

$$n = \frac{4pq}{d^2}$$

Where n is the sample size,

p is prevalence = 63.7,

q = 100 - p = 36.3,

d is relative precision = 10% of p = .10X 63.7=6.3(rounded off to 6)

n = $\frac{4 \times 63.7 \times 36.3}{6 \times 6} = 256.9$ (rounded off to 257)

After calculating a non-response rate of 10% a sample size of 282 was calculated which was rounded off to 300. Therefore, door to door survey of the under five children was undertaken till the required sample size was obtained.

Method of collection of data: After establishing rapport with the family and explaining the data collection procedure in the local language, a written informed consent was obtained from either of the parent, preferably mother and in absence of mother, father or guardian of under five children. Data was collected using a predesigned, semi structured questionnaire by interview method. The questionnaire was validated through a pilot study. A child having at least one of the four recognizable symptoms of ARI i.e. cough, cold, ear discharge, and sore throat; might as well be associated with symptoms like fever, fast breathing, at the time of visit to the house or within the preceding two weeks of the visit was taken in the study.

Information regarding sociodemographic factors was collected under the variables like age, gender, religion, parents education and occupation, living conditions, socioeconomic status along with information regarding immunization, birth details and feeding practices.

Information on health care seeking behaviour was collected under the variables like preference of health sector, reason for choosing type of facility, time taken for seeking health care, reasons for delay and not seeking health care.

If the house was locked at the time of visit, then the next house was chosen. If within a household, more than one child was suffering from ARI at the time of visit or 2 weeks prior to visit, one of them was selected randomly and recruited in the study.

Data Entry and Analysis: Data was entered using MS Excel (2010) and statistical analysis was done using SPSS software version 16. Descriptive analysis of data was done and presented as frequencies, percentages and means. The association between variables of interest pertaining to ARI episodes was tested using Chi-square test.

III. RESULTS

The table no 1 shows that, 150 under-five children are females and 148 are males. 69 (23.15%) under-five children belonged to age group of 37-48 months, 64 (21.47%) in the age group of 49-60 months, 55 (18.46%) in 13-24 months, 53 (17.79%). There was no statistically significant difference between male and female under-five children according to their age group ($p > 0.05$).

The table-2 shows that, 108 (36.24%) mothers of under-five children were illiterate and only 54 (18.12%) studied up to primary school. There was no statistically significant difference in education of mothers of male and female under-five children ($p > 0.05$).

The table-3 shows that, 120 (40.27%) under-five children belonged to class IV, 88 (29.53%) belonged to class V, 53 (17.79%) to class III, 35 (11.74%) to class II and 2 (0.67%) to class I socioeconomic status according to modified B.G. Prasad classification. There was no statistically significant difference in

socio-economic status among male and female under-five children

The table-4 shows that, Majority 127(42.61%) mothers of under-five children were in the age group of 24-28 years, 95(31.88%) in 19-23 years, 73(24.50%) in ≥ 29 years and 3(1.01%) in ≤ 18 years. There was no statistically significant difference between age of mothers of male and female under-five children.

The table-5 shows that, 223(74.83%) under-five children did not utilize ICDS services and 75(25.17%) under-five children utilized ICDS services. Among males, 107(72.30%) under-five children did not utilize ICDS services and 41(27.70%) under-five children utilized ICDS services. Whereas among females, 116(77.33%) under-five children did not utilize ICDS services and 34(22.67%) under-five children utilized ICDS services. There was no statistically significant difference in utilization of ICDS services by male and female under-five children.

The table-6 shows that, 262(87.92%) under-five children presented with one or more number of morbidities and 36(12.08%) did not present with any of the morbidity. Among males, 135(91.22%) under-five children presented with one or more number of morbidities and 13(8.78%) did not present with any of the morbidity. Whereas among females, 127(84.67%) under-five children presented with one or more number of morbidities and 23(15.33%) did not present with any of the morbidity. There was no statistically significant difference in status of morbidity among male and female under-five children.

The table-7 shows that, underweight 152(51.01%) was the most common morbidity, followed by Stunting 145(48.66%), Anemia 116(38.93%), Wasting 108(36.24%), ARI 88(29.53%), Pyoderma 60(20.13%), Dental caries 32(10.74%), Vitamin Deficiency 21(7.05%), Diarrhea 11(3.69%) and others 215(72.15%). Other morbidities were scabies, ring worm infection, otitis media, pediculosis, boil, etc.

Among males, underweight 77(52.03%) was the most common morbidity, followed by Stunting 73(49.32%), Anemia 72(48.65%), Wasting 54(36.49%), ARI 45(30.41%), Pyoderma 37(25.00%), Dental caries 13(8.78%), Vitamin Deficiency 12(8.11%), Diarrhea 6(4.05%) and others 108(72.97%).

Among females, underweight 75(50.00%) was the most common morbidity, followed by Stunting 72(48.00%), Wasting 54(36.49%), Anemia 44(29.33%), ARI 43(28.67%), Pyoderma 23(15.33%), Dental caries 19(12.67%), Vitamin Deficiency 9(6.00%), Diarrhea 5(3.33%) and others 105(70.00%).

There was no statistically significant difference of prevalence of morbidities such as underweight, stunting, wasting, ARI, dental caries, vit. deficiency, diarrhea and others among male and female under-five children. Whereas the prevalence of morbidities such as anemia and pyoderma among male and female under-five children was statistically significant ($p < 0.05$). Prevalence of anemia and pyoderma was more among males compared to females.

The table-8 shows that, highest percentage (100.00%) morbidity was seen in under-five children who have not received any vaccine at all and least percentage (83.50%) morbidity was seen in under-five children who have completed immunization as per age. The association between status of immunization and morbidity was statistically highly significant ($p < 0.01$).

The table-9 shows that, highest percentage of children (55.38%) suffered from ARI who were living in poor housing conditions. Least percentage of children (29.41%) suffered from ARI who were living in good housing conditions. The association between housing conditions and prevalence of ARI was statistically highly significant ($p < 0.01$).

IV. Discussion:

In the present study, the majority of under-five children 69 (23.15%) belonged to the age group of 37-48 months and least 27 (9.06%) in 7-12 months of age. Similar observations were made in a study done by Nirendrakumar Singh et al¹³ in rural area of Manipur which revealed that 94 (24.1%) under-five children were in the age group of 37-48 months and at least 66 (16.9%) in the 25-36 months age group and Sanjana Gupta et al¹⁴ in rural area of Jammu which revealed that majority 47 under-five children were in the age group of 25-36 months and least 31 in 49-60 months. In the present study there were 298 under-five children and females (150) outnumbered males (148), whereas in a study conducted by Mohan S. et al¹⁵ there were 400 under-five children and males (218) outnumbered females (182).

A study done by Viknesh A. A. et al¹⁶ in Chidambaram, Tamil Nadu revealed that majority 49 (33.8%) of mothers of under-five children have studied up to under graduate, followed by 36 (24.8%) studied up to secondary school. Whereas a study done by Deshmukh P. R. et al¹⁷ in rural area of Wardha district, Maharashtra revealed that majority 645 (65.2%) mothers had an education for 1-10 years, followed by 276 (27.9%) for more than 10 years and least 69 (6.9%) were uneducated. Another study conducted by

Ganeshkumar S. et al¹⁸ revealed that majority 471 mothers of under-five children studied between 1-7 class, followed by 20 mothers who were illiterate and at least 18 mothers who had studied \geq 8th class.

Similar results were obtained in a study conducted by Debasis P. et al¹⁹ in a rural area of West Bengal which revealed that majority 52 (51.5%) under-five children belonged to socio-economic class-IV, followed by 29 (28.7%) to class-III, 13 (12.9%) to class-V, 7 (6.9%) to class-II and none in class-I socio-economic class. Whereas in a study done by Subhadra S.A et al²⁰ in rural area of Loni revealed that majority 202 under-five children belonged to class III socio-economic status.

In the present study majority 127(42.61%) mothers of under-five children were in the age group of 24-28 years. Similar results were obtained in a study conducted by Mittal A. et al²¹ which revealed that 203 (42.20%) were aged between 21-25, 184 (38.25%) were aged between 26-30, 62 (12.89%) were aged above 30 years and 32 (6.65%) mothers were aged \leq 20 years.

A study conducted by Dinesh Kumar et al²² revealed that, majority 110 (50.69%) under-five children were utilizing ICDS services and 107 (49.31%) were not utilizing ICDS services.

Similar results were obtained in a study conducted by Shinde M. et al²³ which revealed that majority 217 (54.25%) under-five children were suffering from any kind of morbidity. In a study conducted by Kaushik I. et al²⁴ revealed that the majority 118 (61.46%) under-five children did not had any morbidity and only 74 (38.54%) under-five children had morbidity. Similarly, majority 207 (58.64%) children were not suffering from morbidity and 146 (41.36%) children were suffering from any morbidity in a study conducted by Ujwala U. et al.²⁵

Similar results were obtained in a study conducted by Kaushik Ishore et al²⁶ which revealed that majority 58 (47.2%) under-five children were suffering from underweight, followed by diarrhea 50 (26.00%), acute respiratory infection 47 (24.5%), palmer pallor 47 (24.5%), fever 32 (16.7%) and other illnesses 29 (15.1%). Whereas a study conducted by Athar A. M. et al²⁷ revealed that majority 114 (13.8%) had diarrhea, followed by respiratory tract infection 249 (30.1%), skin diseases 235 (28.4%), worm infestation 80 (9.7%), fever 154 (18.6%), eye diseases 89 (10.8%), E.N.T diseases 30 (3.6%) and others 112 (13.5%). Whereas a study conducted by Vinod N. et al²⁸ in urban slum area of Nagpur revealed that anemia was present in 301 (77.78%) under-five children, vitamin-B deficiency in 188 (46.53%) children, vitamin-A deficiency in 63 (15.59%) children, vitamin-D deficiency in 11 (2.72%) children, acute respiratory infection in 86 (21.29%) children, dental caries in 64 (15.84%) children, etc.

The association between status of immunization and morbidity was statistically highly significant ($p < 0.01$). Whereas in a study conducted by Vijaykumar M. et al²⁹ revealed that highest percentage children had morbidity who were completely immunized and least percentage children had morbidity who were partially immunized. The association was not statistically significant.

In the present study the highest percentage of children (55.38%) suffered from ARI who were living in poor housing conditions. Least percentage of children (29.41%) suffered from ARI who were living in good housing conditions. The association between housing condition and prevalence of ARI was statistically highly significant ($p < 0.01$). Similar results were obtained in a study conducted by Jyothi Lakshmi A. et al³⁰. The association between prevalence of ARI and living conditions was statistically highly significant. Similarly a study conducted by Vinod K. R. et al³¹ in urban slums of Gulbarga city revealed that a higher incidence of ARI was noted among children who were living in houses with inadequate condition compared to children who were living in houses with adequate condition (OR=1.66).

V. Conclusion:

Majority of the under-five children in rural areas are suffering from one or other type of morbidity. Various determinants which have influence on the prevalence of morbidities are education of mother, immunization status of child, personal hygiene, housing condition, utilization of ICDS services and nutritional status of the children.

The study recommends conducting intensive awareness campaigns through a multimedia approach, stressing female literacy, improving socio-economic status, and counseling on early health care seeking practices for children under 5 years.

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Tables

Table-1: Distribution of under-five children according to age and sex

Age in months	Males		Females		Total	
	No.	%	No.	%	No.	%
0-6	13	8.78	17	11.33	30	10.07
7-12	13	8.78	14	9.33	27	9.06
13-24	28	18.92	27	18.00	55	18.46
25-36	25	16.90	28	18.67	53	17.79
37-48	36	24.32	33	22.00	69	23.15
49-60	33	22.30	31	20.67	64	21.47
Total	148	100.00	150	100.00	298	100.00

$\chi^2=1.057, p=0.958, \text{Not Significant}$

Table-2: Distribution of under-five children as per education status of their mother

Education status	Male		Female		Total	
	No.	%	No.	%	No.	%
Illiterate	58	39.19	50	33.33	108	36.24
Primary School (Class I to IV)	25	16.89	29	19.33	54	18.12
Middle School (Class V to VII)	23	15.54	21	14.00	44	14.77
High School (Class VIII to X)	17	11.49	30	20.00	47	15.77
P.U.C. (Class XI to XII)	15	10.14	15	10.00	30	10.07
Degree and above	10	6.75	5	3.34	15	5.03
Total	148	100.00	150	100.00	298	100.00

$\chi^2=3.99, p=0.55, \text{Not Significant}$

Table-3: Distribution of under-five children as per Socio-Economic Status (SES)

Socio-Economic Status (Modified B.G. Prasad Classification)	Male		Female		Total	
	No.	%	No.	%	No.	%
Class I	0	0.00	2	1.33	2	0.67
Class II	15	10.14	20	13.33	35	11.74
Class III	22	14.86	31	20.67	53	17.79
Class IV	66	44.59	54	36.00	120	40.27
Class V	45	30.41	43	28.67	88	29.53
Total	148	100.00	150	100.00	298	100.00

$\chi^2=5.475, p=0.242, \text{Not Significant}$

Table-4: Distribution under-five children as per age of their mother

Age of mother	Male		Female		Total	
	No.	%	No.	%	No.	%
≤18 Years	1	0.68	2	1.33	3	1.01
19-23 Years	44	29.73	51	34.00	95	31.88

24-28Years	65	43.91	62	41.34	127	42.61
≥29Years	38	25.68	35	23.33	73	24.50
Total	148	100.00	150	100.00	298	100.00

$\chi^2=1.03, p=0.794, \text{Not Significant}$

Table-5: Distribution of under-five children as per utilization of ICDS services

ICDS services	Male		Female		Total	
	No.	%	No.	%	No.	%
Utilizing	41	27.70	34	22.67	75	25.17
Not utilizing	107	72.30	116	77.33	223	74.83
Total	148	100.00	150	100.00	298	100.00

$\chi^2=1.279, p=0.258, \text{Not Significant}$

Table-6: Distribution of under-five children's per status of morbidity

Morbidity	Male		Female		Total	
	No.	%	No.	%	No.	%
Present	135	91.22	127	84.67	262	87.92
Absent	13	8.78	23	15.33	36	12.08
Total	148	100.00	150	100.00	298	100.00

$\chi^2=3.009, p=0.083, \text{Not Significant}$

Table-7: Distribution of under-five children's per prevalence of morbidities

Morbidity	Male		Female		Total		χ^2	'p' value	Significance
	No.	%	No.	%	No.	%			
Underweight	77	52.03	75	50.00	152	51.01	0.229	0.892	NS
Stunting	73	49.32	72	48.00	145	48.66	0.059	0.971	NS
Anemia	72	48.65	44	29.33	116	38.93	11.691	0.001	S
Wasting	54	36.49	54	36.49	108	36.24	0.045	0.978	NS
ARI	45	30.41	43	28.67	88	29.53	0.108	0.742	NS
Pyoderma	37	25.00	23	15.33	60	20.13	4.329	0.037	S
Dental caries	13	8.78	19	12.67	32	10.74	1.172	0.279	NS
Vit. Def.	12	8.11	9	6.00	21	7.05	0.505	0.477	NS
Diarrhea	6	4.05	5	3.33	11	3.69	0.109	0.741	NS
Others	108	72.97	105	70.00	215	72.15	0.352	0.875	NS

S=Significant, NS=Not Significant

Table-8: Association between status of immunization and morbidity.

Immunization status	Status of morbidity				Total	
	Present		Absent		No	%
	No	%	No	%		
Complete	167	83.50	33	16.50	200	100.00
Partial	92	96.84	3	3.16	95	100.00
Non-Immunized	3	100.00	0	0.00	3	100.00
Total	262	87.92	36	12.08	298	100.00

$\chi^2=11.21, p=0.004, \text{Highly Significant}$

Table 9: Association between housing condition and prevalence of Acute Respiratory Infections (ARI) in under-five children

Housing condition	ARI				Total	
	Present		Absent		No	%
	No	%	No	%		
Good	5	29.41	12	70.59	17	100.00
Satisfactory	40	42.11	55	57.89	95	100.00
Poor	103	55.38	83	44.62	186	100.00
Total	88	29.53	210	70.47	298	100.00

$\chi^2=10.89, p=0.004, \text{Highly Significant}$