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Health Literacy of Mothers and Their Care Behaviours in Preventing Respiratory Tract Infections Among Under-Five Children

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ABSTRACT

Introduction: In children under five, acute respiratory infections (ARI) account for over 20% of all pediatric mortality globally. ARI is the leading cause of morbidity and disease in under-five children. The ongoing burden of child mortality is a significant loss of life; in 2020 alone, five million children passed away before turning five, even in the absence of a rise in mortality linked to COVID-19. The Indian Academy of Paediatrics estimates that 2.36 million cases of ARI were recorded in India in 2020. The objectives of the study are:

- to assess the health literacy of mothers of under-five children.
- to assess the care behaviours in preventing respiratory tract infections among mothers of under-five children.
- to find the correlation between health literacy and care behaviours of mothers of under five children.
- to find the association between health literacy and care behaviours of mothers with selected variables.

Material and methods: A descriptive cross-sectional design was used. Consecutive sampling method was used to select 100 mothers of under-five children. Data was collected using modified health literacy scale (HLSMQ-18) and Care Behaviour Rating Scale.

Results: Findings show that 49% of mothers had excellent health literacy, 38% had sufficient health literacy and 13% had limited health literacy. Among the sample, health care domain revealed the highest score (15.27±2.46), followed by disease prevention (14.32±2.90) and health promotion (12.12±2.07). With regard to care behaviours 88% had very good care behaviour, 11% had good and 1% had average care behaviour with a mean score of (65.22, SD±6.917). A positive correlation was found between health literacy and care behaviour (r=+0.26, p=0.009).

Conclusion: The study concluded that as the health literacy increases, care behaviours of mothers also increase in preventing respiratory tract infections. The study recommends executing more programs in hospital as well as in community which aim to improve the health literacy of care givers of children to enhance the care behaviours in preventing the respiratory tract infections.

Keywords: Health literacy; Care behaviours; Prevention of respiratory infections; Under-five children.

INTRODUCTION

A person in poor health is unable to fully enjoy life. Since children are more susceptible to disease and health issues due to their vulnerability, their right to health is extremely important. When children are protected from illness, they can develop into healthy adults and help create vibrant, productive societies.[1] In children under five, acute respiratory infections (ARI) account for over 20% of all pediatric mortality globally.[2] ARI is the leading cause of morbidity and disease in children under five. The ongoing burden of child mortality is a significant loss of life; in 2020 alone, five million children passed away before turning five, even in the absence of a rise in mortality linked to COVID-19.[3] The Indian Academy of Paediatrics estimates that 2.36 million cases of ARI were recorded in India in 2020. According to the National Family Health Survey-5, which was carried out in 2019–2020, the prevalence of ARI was 2.7%. In NFHS–4, however it was 2.4% in urban areas and 3.8% in rural areas, making up 2.8% of all cases in India.[4] According to the NFHS-5 information sheet, the overall prevalence in Kerala was 2.4%, while in NFHS 4, it was 2.8%.[5] According to NFHS 5, 2.4% of ARI cases were reported in the Ernakulam district.[6]

Study of health literacy levels and care behaviour pattern in prevention of respiratory tract infections among parents in the hospital setting as well as in the community gives us new ways to reduce the prevalence of respiratory infections in the community. Even though it can be prevented, the incidence and prevalence of respiratory infections is high among children. The prevention of respiratory infections in children is essential for safeguarding their health, minimizing the spread of illness to others, reducing healthcare costs, and promoting overall well-being. All nations' healthcare systems should incorporate efficient respiratory tract infection prevention and control strategies. Mothers are regarded as a link between medical professionals to teach kids the value of proper hygiene, diet, immunizations, and housing conditions. Furthermore, when the children are ill, the mothers are thought to be the ones who are most distressed. Consequently, the mother typically makes the decision to care for the children.[7] They play a crucial role in maintaining adequate health status of their children

The study aims to assess the health literacy of mothers and their care behaviours in preventing respiratory tract infections among under-five children. The objectives of the study were to assess the health literacy and care behaviours of mothers in preventing respiratory tract infections among mothers of under-five children, to find out the correlation between health literacy and care behaviours and to find out the association between health literacy of mothers and care behaviours in preventing respiratory infections with selected variables.

MATERIALS & METHODS

Present cross-sectional study was conducted among 100 mothers of under-five children availing services from paediatric OPD of Lourdes Hospital and Kristu Jayanthi hospital, Ernakulam. The samples were selected using consecutive sampling technique. The study included mothers who were, the primary care giver of the child and willing to participate in the study and excluded mothers who can't read or write Malayalam. Data regarding the health literacy of mothers were collected using modified HLSM Q-18 and the care behaviours were assessed using Care Behaviour Rating Scale. The data were collected from mothers of under-five children availing services from pediatric OPDs of selected hospitals. From each hospital 50 samples were selected using consecutive sampling technique making a

total of 100 samples. Approximately eight to ten sample were collected each day during morning and evening OPD. General instructions regarding the data collection were given to the study participants. The subjects were informed that the confidentiality would be maintained throughout the study and can withdraw from the study at any point of time. Participant information sheet was given and obtained informed consent from the samples. Administered Tool 1, 2 and 3 and the data collection was carried out for approximately 20 minutes for each participant.

STATISTICAL ANALYSIS

Data analysis was done using SPSS version 20. Frequency, percentage, mean and standard deviation were used as descriptive statistics. To find the correlation between the variables, Karl Pearsons correlation co-efficient was used. Fisher's exact test was used to find association between research variable and demographic variables. All the null hypotheses were tested at 0.05 level of significance.

RESULT

Sociodemographic proforma of mother

(n=100)

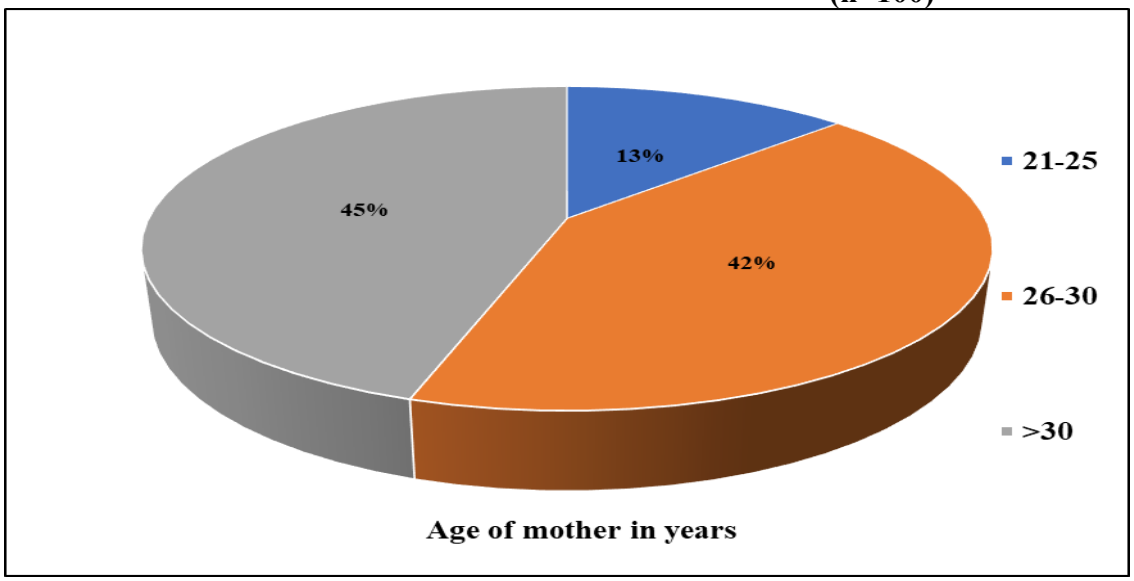

Figure 1: Age of mother in years

The data reveals that among the sample 45% belongs to the age group of >30 years, 42% of them belongs to age between 26 and 30 years and 13% of them are aged between 21 and 25.

Table 1: Sociodemographic proforma of mother (n=100)

Variables	Category	Frequency(f)	Percentage (%)
Occupation	Home maker	55	55
	Private job/self-employed	36	36
	Govt. job	9	9
Education status	Highschool	6	6
	Higher secondary	10	10
	Diploma	14	14
	Graduation	50	50
	Postgraduation	20	20
Number of children	One	50	50
	Two	47	47
	Three and more	3	3
Monthly income	<10000	33	33
	10000-20000	33	33
	>20000	34	34

Marital status	Married	99	99
	Widow	1	1
Type of family	Joint family	42	42
	Nuclear family	56	56
	Extended family	2	2

The results show that among the sample 50% of the sample are graduated, 55% of the sample are home-makers, 50% of mothers have only one child, 34% of them have an income of >20,000, 99% of them are married, and 56% of them belongs to nuclear family

Table 2: Sociodemographic proforma and clinical variables of children (n=100)

Variables	Category	Frequency(f)	Percentage (%)
Age in months	24-36	37	37
	37-48	34	34
	49-60	29	29
Sex	Male	54	54
	Female	46	46
Birth order	First	63	63
	Second	35	35
	Third or more	2	2
Immunization status	Fully immunized	95	95
	Partially immunized	5	5
Gestational age at birth	Term	93	93
	Preterm	7	7
Breast feeding status	Exclusive	80	80
	Artificial feed	20	20
Vitamin A prophylaxis	Completely given	80	80
	Partially given	20	20
Episodes of respiratory infections in the past 6 months	One	65	65
	Two	16	16
	Three or more	19	19

Regarding the sample characteristics of children 37% of the children are aged between 24-36 months, 54% them are males, 63% of the children are first born, 95% of them are fully immunized, 93% of them are term, 80% of babies are exclusively breast fed, 80% of the children received vitamin A completely, and 65% of them had one attack of respiratory infections in the last six months.

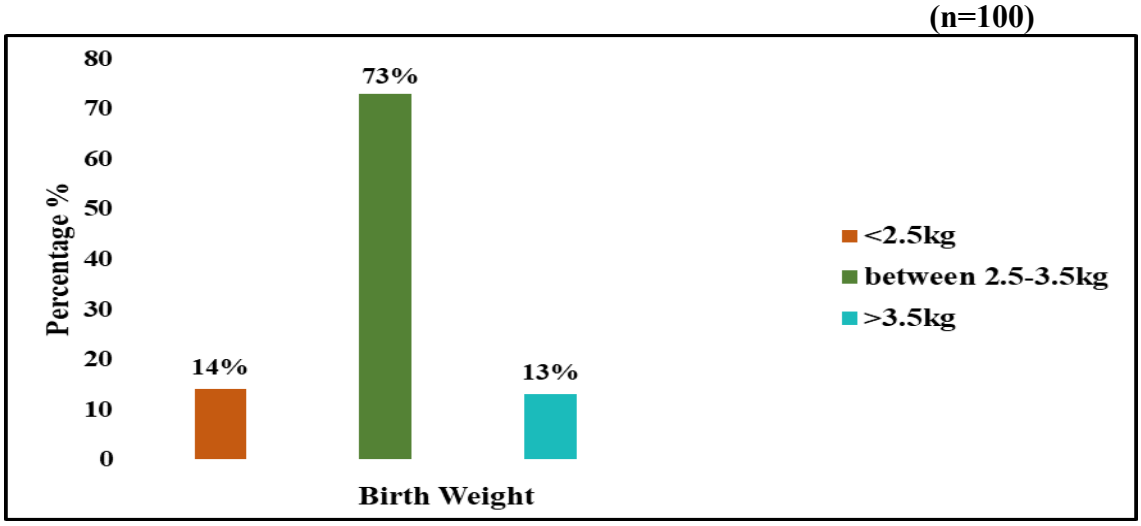

Figure 2. Birth weight of children

The birth weight data of children revelas that 73% of children weighed between 2.3-3.5kg, and 14% of them were <2.5kg and 13% of them were >3.5kg

Table 3: Health literacy score of mothers (n=100)

Variable	Category	Frequency (f)	Percentage (%)	Mean	SD
Health literacy	Excellent	49	49	41.77	5.99
	Sufficient	38	38		
	Limited	13	13		

Health literacy of mothers reveals that 49% of mothers had excellent health literacy, 38% had sufficient health literacy and 13% had limited health literacy.

Table 4: Domain wise score of health literacy among the sample (n=100)

Domain wise score of health literacy of mothers	Mean(M)	SD	Minimum score	Maximum score
Health care	15.27	2.461	6	18
Disease prevention	14.32	2.902	6	18
Health promotion	12.12	2.076	7	14

The health literacy scale has three domains. Among them health care domain has the high score with a mean 15.7±2.461.

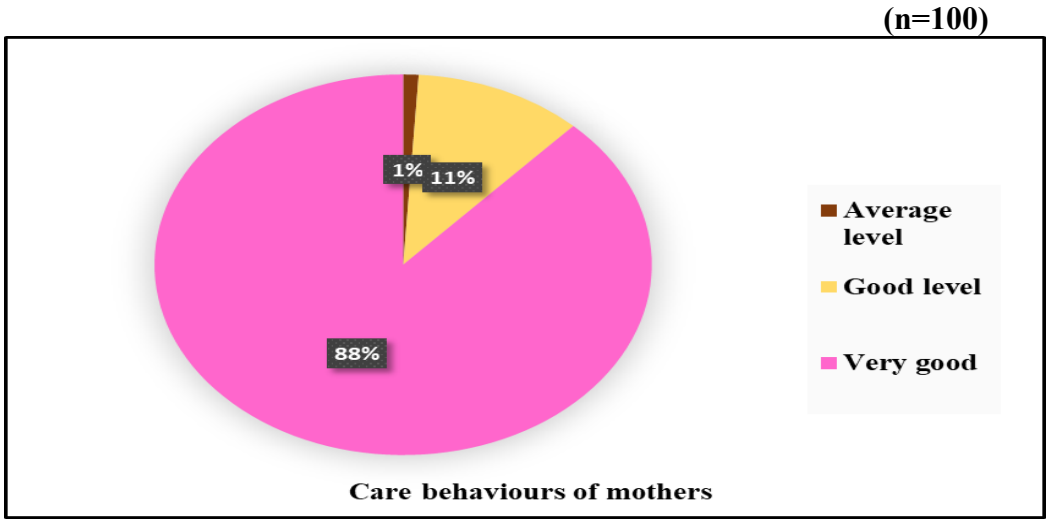

Figure 3: Care behaviours of mothers

Regarding the care behaviours of mothers in preventing the respiratory tract infections, 88% have very good level of care behaviour, 11% of mothers have good level of care behaviours and only 1% of mother have average level of care behaviour.

Table 5: Correlation between health literacy and care behaviours (n=100)

Variables	Mean	Pearson Correlation	p Value
Health literacy	41.71	0.261	0.009**
Care behaviours	65.22		

***Significant at 0.01 level**

The study reveals that there is a positive correlation between health literacy and care behaviours which indicates that when health literacy of mothers increase the care behaviours in preventing respiratory tract infections improves.

Table 6: Association of care bahviours with Vit. A prophylaxis and Birth weight (n=100)

Variables	Category	Care bahviours (%)			Fisher's Exact	p value
		Average	Good	Very good		
Vit. A prophylaxis	Completely given	0	7	7	5.59	0.04*
	Partially given	1	4	15		
Birth weight	<2.5kg	0	4	10	9.52	0.02*
	Between 2.5-3.5 kg	0	7	66		
	>3.5 kg	1	0	12		

***Significant at 0.05 level**

While considering the association between the research variables and demographic variables, there is association between care behaviours of mothers and vitamin A prophylaxis and birth weight. Other variables related to mother such as age of mother, education status, occupation, family income, number of children, marital status and type of family does not have any association with health literacy of mother and care behaviours in preventing respiratory infection. And also, variables related to child such as age, sex, birth order, gestational age at birth, immunization status, birth weight, breast feeding, vitamin A prophylaxis and number of respiratory infections does not have association with health literacy level of mother.

DISCUSSION

The present study investigated the health literacy of mothers and their care behaviours in preventing respiratory infections among 100 mothers of under-five children.

The present study findings revealed that 49% of mothers had excellent health literacy, 38% of mothers had sufficient health literacy and 13% of mothers had limited health literacy.

The study results were consistent with the study conducted by Tran T P et al. (2008) on health literacy among parents of pediatric patients among 181 parents or guardians. The data were collected using s-TOFHLA. The study reveals that 89.5% parents had adequate health literacy and 10.5% had marginal or inadequate health literacy.[8]

The study findings were inconsistent with the study conducted by Jirengna B et al (2022) on women health literacy and associated factors on women and child health care, in Ilu Ababor public health facilities, among 411 mothers in Ethiopia. The average maternal health literacy score was (28.5 +/- 10.3). Most of the mothers had inadequate health literacy level (71.3%) while some had adequate health literacy (28.7%). [9]

While considering the care behaviours of mothers in the present study in preventing the respiratory tract infections, 88% of mothers had very good level of care behaviours with a mean score of (65.22, SD±6.46). Mothers with good level of care behaviours is 11% and only 1% mother had average level of care behaviours.

The results were inconsistent with a study carried out by Abdellatty R H et al. (2022) on mothers' measures regarding prevention of upper respiratory tract infection and its occurrence for their children. The results showed that 62.6% mothers had satisfactory level of reported practices and 37.4% had unsatisfactory practices. There was a weak significant correlation between mother's knowledge and reported practices (r=0.328).[10]

The obtained result is inconsistent with the study conducted by Thaw S et al. (2019), on factors related to preventive behaviours among 116 parents of under-five children with acute respiratory infections in Myanmar. Results showed that parent caregivers' perception was at a moderate level, and preventive behaviours were at a poor level during wellness and sickness conditions. The average score of the preventive behaviours in ARI was (23.57 ± 3.22).[11]

Considering the correlation between health literacy and care behaviours of mothers, there is a positive correlation between health

literacy and care behaviours among mothers of under-five children with Pearson correlation value of 0.26 and p value of 0.009.

The observed study findings were supported by Chailangka W et al. (2022), on health literacy and caring behaviour in preventing respiratory infections among 85 parents of under-five in a Child Development Centre. The results revealed that the health literacy of the sample was at high level ($\bar{x}$=42.94) and parental behaviour in preventing respiratory infection is also high level ($\bar{x}$=61.39). Health literacy and care behaviour in preventing respiratory infections were significantly correlated (r =.457, p <0.01).[12]

Considering the association between the care behaviours and selected demographic variables, there was association of care behaviours with birthweight (9.526, p=0.024) and vitamin A prophylaxis (5.590, p=0.049) and is statistically significant at 0.05 level of significance. The other demographic variables do not have any association with care behaviours of mothers. The obtained results were inconsistent with the study conducted by Pupitasari M D in 2021 on family health behavior: preventive measures against acute respiratory infections in under-5 children. The Chi-square test shows that the place of residence, household wealth index, bedroom dwelling, improved water supply, improved sanitation, tobacco smoke pollution, and child age are significantly correlated with ARI in children under-5 years of age (p value <0.05).[13]

CONCLUSION

The present study showed the health literacy of mothers and their preventive behaviour in respiratory tract infections among mothers of under-five children. The health literacy level was excellent among mothers. While considering the domain wise health literacy, health care domain had more mean value. The study found that as health literacy is increasing care behaviours also increasing. The study also found that majority of mothers had very good level of care behaviours in preventing respiratory tract infections. In the present study birth weight of the child and vitamin A prophylaxis were significantly associated with the care behaviour of mothers. Considering health literacy, it was not associated with selected variables.

Declaration by Authors

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