

# A Study to Assess the Knowledge, and Practice on Health Seeking Behaviour of Mothers during Child Illness in Rural Areas of Bangalore, India

Mina Karki<sup>1,2,3\*</sup>, Lija Mathew<sup>1</sup>, Prof. Jayasree S<sup>1</sup>, Dr. Gehendra Mahara<sup>4\*</sup>

<sup>1</sup>Department of Community Health Nursing, Miranda College of Nursing, Bangalore, India,

<sup>2</sup>Alka Institute of Health Science, Lalitpur Nepal

<sup>3</sup>Mental Hospital, Lagankhel, Lalitpur, Nepal

<sup>4</sup>NAMS, Bir Hospital, Kathmandu, Nepal

\*Corresponding Author: Dr. Gehendra Mahara, Mina Karki

## ABSTRACT

**Objective:** To assess the knowledge and practice regarding the health seeking behavior of mothers having under five children during an illness in rural areas of Bangalore, India.

**Methods:** A community based descriptive study was conducted using the self-structured questionnaire to collect the data. The inferential and descriptive statistics along with the chi-square test ( $\chi^2$ ) was carried out to determine the influencing factors of knowledge and practice of mothers.

**Results:** Among the total 60 respondents, about one third 32% respondents had inadequate, where more than half 60% had moderate, and only 8% of respondents had sufficient knowledge. More than one third 42% respondents had inadequate, while less than half 45% respondents had moderate and only 13% respondents had an appropriate practice regarding health seeking behavior of mother during the illness of under-five children. Age, occupation, education, the source of health information of mother, and family income were found a significant positive association, whereas positive correlation found between knowledge and practice score of a mother having under-five children's regarding health-seeking behaviors ( $r=0.74$ ,  $P=0.05$ ).

**Conclusion:** A moderate level knowledge and practice estimated among the respondents, and age, education of mother, per month family income, and source of health information were found to be the affecting factors of a mother having under-five children during childhood illness. To encourage individual mothers and accept healthy behavior, educational and behavior change approaches should be applied through mass media campaigning or communications.

**Keywords:** Knowledge, practice, health seeking behaviour, under-five children, mothers

## INTRODUCTION

Health seeking behavior is the behavior of a person towards seeking health care during illness. [1] It also defined as a sequence of treatment actions or decision-

making process or power that further affect individually or household's behavior or perception during illness towards health service. [2-3] The health-seeking behavior of the mother determined by her personal

health behavior and that behavior influenced by the physical, social-economic, cultural or political condition of that existing society.<sup>[1]</sup> Therefore, indeed the utilization of health care facility or service can influence by the level of educational, economic status, tradition, cultural beliefs and practices of the mother. Likewise, other associated factors such as environmental conditions, socio-demographic factors, knowledge about the health facilities, gender, political, and the health care system of existing place.<sup>[3-5]</sup>

WHO estimated that 6.3 million children died in 2017 among them 5.4 million were under five children, this means that 15,000 under-five children have been dying each day and these deaths could be prevented or treated.<sup>[6]</sup> Pneumonia, birth asphyxia, diarrhea, malaria, and preterm birth complications are the leading causes of above casualty.<sup>[7]</sup> Above circumstances could be prevented by simply increase the breastfeeding approaches for up to 23 months' after childbirth.<sup>[8]</sup> Because breastfeeding is an important source of energy and nutrients of children up to 23 months, which is also an important source of energy and nutrients throughout sickness, and finally it helps to reduce the children morbidity and mortality due to nutrition.<sup>[9]</sup> Annual 823000 under-five children deaths could be prevented from only the scaling up of breastfeeding approach.<sup>[9]</sup> Moreover, malnutrition has been identified as the single most important cause of specific physical and mental disabilities across the world. Thus, nutritional disabilities have now become a major public health problem in India.<sup>[10]</sup>

Additionally, low-birth-weight or premature infants, malnourished, pneumonia, are the consequences of under-five children by which every year millions of children have been dying globally.<sup>[9]</sup> Although, maternal mortality rate has dropped out in India from 167 in 2011 to 130 per 100, 000 live births in 2016<sup>[11]</sup> According to the Press Information Bureau, Government of India, the under-five child mortality (U5MR) had

significantly reduced by 9% from 43 per 1000 to 39 in per 1000 live births from 2015 to 2016.<sup>[12]</sup> Similarly, infant mortality rate (IMR) of Karnataka is 24 per 1000 live births in 2016 which was 57/ 1000 live birth in 2000. MMR of Karnataka is 108/ 100,00 live births in 2016, and 213 per 100,000 live births was in 2004.<sup>[11]</sup> Notably, Karnataka state has achieved Millennium Development Goals along with Tamil Nadu, Kerala, Maharashtra, Punjab, Himachal Pradesh, and West Bengal in 2015.<sup>[13]</sup>

However, this achievement has not dispersed in each community, villages, sub-districts, and districts in India. Although few studies have dealt with the different behavior change approaches associated to care-seeking behavior during under 5 children sickness, quantitative information is lacking on the inequalities that exist in developing countries like India in terms of health status or health care utilization especially for under 5 children. Therefore, this study provides information on knowledge and practices of mothers having under five children during child illness of rural areas of Bangalore, which will be an important baseline for further planning and proper implementation of strategies and programmes by concerned authorities with an aim to reduce under-five morbidity and mortality in communities of the rural area.

## **MATERIALS AND METHODS**

**Study settings and sampling:** A community based descriptive study was carried out to explore the knowledge and practice regarding health seeking behaviour of mother having under-five children during illness at Bettahallusur rural village having 3573 populations with 1817 (51%) male and 1756 (46%) female, which lies in the North sub-districts of Bangalore district in state of Karnataka in India. The population density of the village is 597/ person/ km<sup>2</sup> with population growth increased by 32.7% in last decay. The majority of the populations of this village 73.04% (2610) are illiterate.<sup>[14]</sup>

**Inclusion criteria:** Mothers having under-five children: and math following criteria such as can read and write English and Kanda, willing to participate in the study, and presented during the data collection.

**Exclusion criteria:** a mother who was not willing to participate in the study, couldn't read and write in English and Kannada, were not available during data collection and who did not sign on the consent form for study.

#### **Data collection:**

The data was collected based on the purposive sampling technique. A structured questionnaire was utilized to collect information as a tool for data collection. The questionnaire was distributed to the participants after adequate instructed and immediately clarified the doubts about the question during data collection. Each participant was given 45 min to complete the survey. There were three parts in the questionnaire e.g., *section A* consisted of seven items related to socio-demographic variables (age, education of mother, occupation of mother, religion, dietary pattern, and dietary habits), *section B* consisted of 35 closed-ended multiple choice questions with a single correct answer regarding knowledge of health seeking behavior of mother during illness. Every correct answer was accorded a score of one 1 and every incorrect or unanswered item was accorded zero 0. The maximum score on the knowledge questionnaire was thirty-five. Scoring of the key item was prepared by using the following formula with item numbers and correct responses.

$$\text{Percentage} = \frac{\text{Obtained score}}{\text{Total score}}$$

The different levels of knowledge are categorized as follows:

Inadequate Knowledge = <50.  
Moderately adequate Knowledge = 51-75%.  
Adequate Knowledge = >75%.

Likewise, *section C* consisted 30 Yes/No questions regarding the practice of mother regarding health-seeking behavior of the mother during illness, where each correct answer carried one (1) score and zero (0) for incorrect answer and maximum would be 30. The different score of practice are categorized as follows:

Inadequate practice score = 0-10 (0-33%)  
Satisfactory practice score = 11-20 (34-66%)  
Adequate practice score = 21-30 (67-100%)

#### **Ethical Consideration:**

Ethical approval was obtained from the Miranda College of Nursing, Bangalore, affiliated to Rajiv Gandhi University of Health Science, India. Formal written consent was reserved from the community center to conduct the study. Informed consent was taken from each individual participant before data collection.

#### **Data analysis**

Collected data were interned into MS Excel database and later transferred to the SPSS software (SPSS V-19) and missed and error questionnaire were rectified. The descriptive statistics was carried out to know the basic characteristic of the respondents, which is presented as frequency, percentage, mean and standard deviation and score level of knowledge and practice of the respondents. Similarly, Chi-square  $\chi^2$  test was applied to explore the association between the knowledge and practice level of mothers having under-five children with socio-demographic factors.

## **RESULTS**

Table 1 describes the basic characteristics of the respondents. The result indicated that a higher proportion (40%) women were 25-30 years old aged group followed by 28% aged between 31-35 years. The distribution of the Education among mothers showed that 27% have had secondary level education followed by 22% have had illiterate, where 38% participants worked for the private company and 26%

were as housewives. Nevertheless, 18% of participants were working as a coolie, these proportions might be illiterate. With regard of family income, more than half 52% respondents had 25,000 to 50,000 thousand Indian Currency (IC) per month, and 38%

respondents had received information regarding health-seeking behavior through a health professional, where 28% participate from mass media and 20% through family members (Table 1).

**Table 1: Socio- demographic variables of under-five mothers.**

Socio demographic variables.	Frequency (n)=60	Percentage (%)
<i>Age of the mother in year:</i>		
20-25	07	12
26-30	24	40
31-36	17	28
Above36	12	20
<i>Education of mother:</i>		
a. Illiterate	13	22
b. Primary education	09	15
c. Secondary education	16	27
d. PUC	13	22
e. Graduation and above	09	15
<i>Occupation of mother:</i>		
Govt employee	11	18
Private employee	23	38
Housewife	15	26
Coolie	11	18
<i>Religion of the mother:</i>		
a. Hindu	29	48
b. Muslim	10	17
c. Christian	18	30
d. Others	03	5
<i>Number of Under-five children in the family:</i>		
01	25	42
02	27	45
03	06	10
More than 3 children.	02	03
<i>Dietary pattern of the family:</i>		
Vegetarian	09	15
Non vegetarian	23	38
Mixed	28	47
<i>Total family income:</i>		
25,000-50,000/ month	31	52
50001 - 75,000/ month	17	28
75001 -100000/ month	06	10
Above 1,00,000/month	06	10
<i>Source of previous knowledge regarding health seeking behaviour:</i>		
News paper	8	13
Mass media	17	28
Health professionals	23	38
Family members	12	20

PUC= Pre-University course

**Table 2: The score and correlation between Knowledge and Practice of under-five children's mother regarding health seeking behaviour**

Score level	Frequency (n=60)	Percentage (%)	Mean	SD	Correlation	
<i>Knowledge</i>						
Inadequate knowledge	19	32	16.7	5.38	r=0.74	
Moderately knowledge	36	60%				
Adequate knowledge	05	08%				
<i>Practice</i>						
Inadequate practice	25	42	12	5.86		
Moderately practice	27	45				
Adequate practice	8	13				

Table 2 shows that the more than half 60% respondents were a moderate knowledge, in which 45% respondents were moderate level practice about child care

during sickness. Likewise, still 32% respondents were poor or inadequate knowledge and 25% of respondents had poor level practice established during child

sickness. The mean level of knowledge is 16.7 and a standard deviation is 5.38, and mean level of practice is only 12 and SD is 5.86. Therefore, overall knowledge and practice of women were poor (adequate) and

the correlation between knowledge and practice score of mothers regarding health seeking behavior during illness was positive ( $r=0.74$ ) established by our study.

**Table 3: An association between knowledge and their demographic variables.**

Variables	Knowledge score level			Total	$\chi^2$ - value
	Inadequate	Moderately	Adequate		
Mother' age in years					
20-25	6	11	0	17	$\chi^2 = 9.9$ df = 6
26-30	6	13	2	21	
31-35	4	11	1	16	
>36	3	1	2	6	
Education of mother					
Illiterate	17	01	0	18	$\chi^2 = 37.9$ df = 6
Primary edu	9	02	1	12	
Secondary edu	2	3	2	7	
PUC	1	5	5	11	
Graduation and above	0	6	3	9	
Occupation of mother					
Gov. employee	0	10	4	14	$\chi^2 = 33.2$ df = 6
Private employ	3	11	3	17	
Housewife	10	4	1	15	
Coolie	13	1	0	14	
Religion of the mother					
Hindu	12	9	3	24	$\chi^2 = 0.92$ df = 6
Muslim	9	10	2	21	
Christian	6	7	1	14	
Others	1	0	0	1	
Number of Under-five children in the family					
1	11	9	3	23	$\chi^2 = 1.63$ df = 6
2	5	8	5	18	
3	3	11	2	16	
>3 children.	2	0	1	3	
Dietary pattern of the family					
Vegetarian	8	12	3	23	$\chi^2 = 0.769$ df = 6
Non vegetarian	9	12	2	23	
Mixed	6	5	3	14	
family income/month					
a. 25,000-50,000	9	8	1	18	$\chi^2 = 6.01$ df = 6
b. 50001-75,000	8	6	5	19	
c. 75001-100000	6	9	4	19	
d. > 1,00,000	1	1	2	4	
source of previous knowledge					
News paper	5	13	1	19	$\chi^2 = 4.57$ df = 6
Mass media	4	8	3	15	
Health profess	5	11	4	20	
Family members	3	3	0	6	

PUC= Pre-University course

The association between knowledge and its influencing factors. The results showed that age, education, occupation, sources of health information of mother having under-five children were found to be statistically significant at 5% level. The observed  $\chi^2$  value is more than the table value at a 5% significance level. Hence, the research hypothesis was accepted and the null hypothesis was rejected (Table 3).

The association between the practice and socio-demographic variables such as

age, number of the child in the family, per month family income, mother's sources of health information were found to be significant at 5% level. The observed  $\chi^2$  value was more than the table value at 5% level. This means that these above factors may influence the knowledge and practice regarding the health seeking behavior of childbearing mother who had to have an under-five child during the study period (Table 4).

**Table 4: An association between practice score of mother and their demographic variables.**

Variables	Practice score level			Total	Chi-square value
	Inadequate	Moderate	Adequate		
<i>Age of the mother in years</i>					
20-25	11	08	01	20	df=3 $\chi^2 = 4.13$
26-30	9	9	2	20	
31-35	6	3	2	11	
Above36	2	4	3	9	
<i>Education of mother</i>					
Illiterate	10	5	0	15	df=4 $\chi^2 = 11.49$
Primary edu	6	9	3	18	
Secondary edu	4	7	3	14	
PUC	2	5	1	8	
Graduation& above	0	3	2	5	
<i>Occupation of mother</i>					
Gov employee	3	7	3	13	df = 3 $\chi^2 = 0.6393$
private employee	6	6	3	15	
Housewife	9	4	1	14	
Coolie	11	7	0	18	
<i>Religion of the mother</i>					
Hindu	9	7	2	18	df=3 $\chi^2 = 1.6$
Muslim	8	10	2	20	
Christian	9	8	3	20	
Others	1	1	0	2	
<i>Under-five children in the family</i>					
1	10	7	1	18	df=3 $\chi^2 = 0.15.$
2	6	8	0	14	
3	6	10	3	19	
> 3 children.	2	5	2	9	
<i>Dietary pattern of the family</i>					
Vegetarian	9	11	3	23	df= 2 $\chi^2 = 0.25$
Non vegetarian	9	9	2	20	
Mixed	7	9	1	17	
<i>Family income per month</i>					
25,000-50,000	11	9	1	21	df = 3 $\chi^2 = 0.008$
50001 - 75,000	8	8	1	17	
75001 -100000	4	10	2	16	
> 1,00,000	2	3	1	6	
<i>Source of Health Information</i>					
News paper	9	7	1	17	df = 3 $\chi^2 = 0.25$
Mass media	7	5	4	16	
Health profe	4	5	4	13	
Family members	5	7	2	14	

PUC= Pre-University course

## DISCUSSION

This study assessed the knowledge and practice regarding health seeking behavior of mothers having under-five children during the study period in the rural area of Bangalore India to provide a piece of scientific evidence to make a long-term mechanism to reduce the child morbidity and mortality.

In this study, the overall knowledge level of participants regarding health-seeking behavior towards neonatal or infant care during sick was at moderate (60%) level, which is quite constant (67%) with the previous study of Dongre, et al, [15] that was conducted at Tribal District of Maharashtra India. However, slightly poor (50.3%) seeking behavior observed by earlier study

while it was conducted in Lucknow, northern India. [16] This difference could be due to social, traditional, geographical distribution (slum, rural or urban) as well as the education level of mother, parents or household population and family income which is previously established by several studies. [5,16-19]

In addition, this study also established the moderate (32%) level of health seeking practice of mother during their child ill, which behaviour could be a contradictory to undergo a better and a quality health care service. A previous study conducted at Assam, India also found poor health seeking practice of mothers during illness of their under five children. [17] In fact, the poor health seeking practices of

mother is one of the leading reasons of the high infant and child mortality morbidity and mortality rate. [20] In other hand, majority of mothers (83%) sought care at health facility centre during child illness revealed by previous study, [16] where 51% mothers firstly consulted with doctors, and 17.5% consulted to health worker during stated by study of Hiyeswar Borah, et al, [17,21]

This study found that age, education, occupation, sources of information may impact to perceive the knowledge regarding health-seeking behavior of the mother during child sickness. Likewise, this study also establishes that age, no of children in the family, per month income, source of information of mother influence to enhance the practice of health seeking behavior during childhood illness. Several pieces of evidence have shown that health-seeking behavior of women can influence by various internal and external factors such as age, socio-demographic, education level of mother, household income, decision power of house, available affordable and acceptable health facilities and so on. [5,22-24] Similarly, most of the previous studies indicated that utilization of health care services provided by the state or government is depending upon mother's knowledge and perception towards health and well-being. Because, socio-demographic factors (age, sex, ethnicity, education level, income, type of person, geographic location, employment) are the social determinants of health which are the most important conditions where people are born, grow, live work and age and these factors impact extensively in varied range of people's health, and quality of life outcome and risk. [25] These determinates factors are molded by the circumstances of money, power, and resources at local, national as well as international levels. WHO clarifies that these social-economic condition impact over people's lives and that determine our risk of sickness. [26]

Similarly, such low levels of family income or mother's income are obviously

the leading cause of economic adversity [27] can influence to the utilization of available health services offered by the government. [3,4,28] A study about utilization of ANC and PNC service in Nepal revealed that economic condition and education level of the mother are the influencing factors to the utilization of health services provided by the government. [4] Because education of mother plays a vital role to enhance the knowledge and perception towards health-seeking behavior indicated by several studies [24,29] which is established by this study too. These studies more emphasis that education can not only enhance the knowledge and practice of women but also empower a mother's decision power by herself. [24,30]

Furthermore, this present study showed that the source of health information from newspapers, mass media, and through health professional or family member also impact the mother's health-seeking knowledge and practice. Most of the studies already established mother's direct involvement or participation in the health program help of empowering and enhance the health-seeking behavior. [30] A systemic review about mass media interventions and its effects on health services utilizations stated that mass media such as radio, television, newspaper, magazines, leaflets, posters and pamphlet) significantly influence the utilization of health services to patients or the public, [31] and this finding also supported by earlier study about the use of mass media campaigns to change health behavior. [32] Likewise, health professional e.g., doctor, nurse, health worker can potentially contribute to accumulating the mother's knowledge and practice regarding health seeking behaviour during child illness, which is consistent with the finding of a cross-sectional study of Arya Medhanyie et al, [33] about the role of the health extension workers in improving utilization of maternal health services in rural areas in Ethiopia. We strongly believe that direct contact with health worker or health personnel can significantly improve

the health seeking behavior of people and this is supported by earlier study too, which was conducted at Afghanistan. [34]

In addition, we also strongly agree that family members and their knowledge and perception regarding health are an important phenomenon for the house and their members. Because every household is bonded with religious, socio-demographical, traditional and cultural believes, and we firstly trust more rather than external household member's opinion. Therefore, information about knowledge and practice regarding health and well-being is accepted firstly those disseminate at home by household members. Thus, family members of the household are also key elements to increase the health seeking behavior of mother; therefore, each family member of society should participate in the health associated program in the community to promote the health of people. [2,5,24]

Eventually, the educational approach should be applied to improve the health seeking behavior of the mothers. [24,35-36] The behavior change approach is to encourage individual women to accept healthy behavior instead of unhealthy habit. [37] In fact, this approach supports to change the individual's attitude, behavior and believe towards the health which is a property of the people. [37-38] Moreover, people may improve their health by selecting his/her own lifestyle. Likewise, we earlier discussed that there is a close association between the individual behavior of people and the social environment. Additionally, the behavior of the mother can change by undertaking mass media campaigning or communication, face to face talk, group discussion, television, documentary, role play, drama and newspapers. [5,24,37]

Consequently, several theories and models of behavior change are there e.g., Theory of Planned Behaviour and Theory of Reasoned Action, The Health Belief Model, Tran Theoretical Model (Stage changes theory), Social and Technological Theories of Behavior Change and Integrated tools

and Frameworks of the Behaviour Change. [24,38-39] Among them, the theory of planned behavior is one of the broadly employed theory for behavior change, which adapt a cognitive approach to elucidate the behavior of an individual's attitude and beliefs. [39-40]

There were several strengths and limitations in this study. We used small population for this study due to the time constant, in which findings of this study is relatively limited in terms of generalization and impact since it was a population-based study conducted in one rural community. However, the data provides valuable information on the health seeking behavior of a mother having under-five children and challenges in utilizing health facilities in rural community Bettahallusur, Bangalore, India which can be a piece of evidence to stakeholders in the health sector in India and other low-income countries.

## CONCLUSION

This study found a moderate level knowledge and practice among the respondents, where age, education of mother, per month family income, and source of health information are found to be the influencing factors of a mother having under-five children during child illness in the study setting. Mothers having only secondary level education or illiterate and work at private organizations are found to be more vulnerable to have much less knowledge and practice. Therefore, further studies are needed to evaluate more extensively regarding the knowledge and practice of mothers and generalize the findings by covering a wide range of the population sample.

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