

## Comparison of health care seeking behavior in rural versus urban women in Uttarakhand

Akriti Gera<sup>1</sup>, Smita Ramachandran<sup>1</sup>, Rani Gera<sup>1</sup>, A P Singh<sup>2</sup>

From <sup>1</sup>Department of Pediatrics, Safdarjung Hospital, New Delhi, <sup>2</sup>National Institute of Administrative Research, Mussorie, Uttarakhand, India

**Correspondence to:** Rani Gera, Department of Pediatrics, Safdarjung Hospital, New Delhi, India. E-mail: rranigera@gmail.com

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### Abstract

**Background:** Epidemiologists and social scientists have devoted increasing attention to studying care seeking behavior associated with two leading causes of death namely acute respiratory infections and diarrhea. **Objective:** This study was planned to assess and compare the health care seeking behavior of urban and rural population in two districts, one with better and other with poor health parameters. **Materials and Methods:** A cross-sectional study was planned in the state of Uttarakhand to assess the differences in care seeking behavior in its urban and rural population. Data were collected from two districts namely Dehradun and Uttarkashi. Mothers (140) having children up to 5 years of age were interviewed in both the districts and questionnaire was administered to evaluate the care seeking behavior among mothers. **Results:** Children <1 year and more than 3 years were reported to fall ill more than children between 1 and 3 years in both Dehradun and Uttarakashi, with fever, cough, cold, diarrhea and vomiting, and pneumonia as the most common reported diseases. The average number of symptoms care seeking pattern and hospital treatment was higher in Dehradun despite a similar level of education of mothers in both the regions. **Conclusion:** Dehradun, having better health facilities, could address the concerns in health of children.

**Key words:** Acute respiratory infections, Diarrhea, Health care seeking behavior

In the recent years, there has been an unprecedented attention to maternal and child health in various summits held around the globe to realize the Millenium development goals - 4 and 5 for children and mothers, to reduce the under - five mortality rate by two-thirds; the maternal mortality ratio by three-quarters and to achieve universal access to reproductive health by 2015 [1].

India's burden of child health and nutrition is greater than that in other country [2]. In India, one million babies die every year out of 25 million births occurring every year, accounting for 25% of the mortality around the world [3]. About 70% of the childhood deaths under 5 are caused owing to prenatal conditions (33.1%), respiratory infections (22%), diarrhea (13.8%), and malnutrition (33%). Approximately, 2.4 million babies born per year are low birth weight babies. Only 25% of the newborns are put to the breast within 1 h of birth, and less than half of them (46%) are exclusively breastfed.

Only 33% Indian children receive any service from Anganwadi centers and <25% receive supplementary food through integrated child development scheme. With 1.8 million deaths among children age <5 years and 52 million children who are stunted, India's burden of child health and nutrition is greater than that in other country [4]. Women's low

socio-economic status can result in their own health outcomes being compromised, which can lead to lower infant birth weight and may affect the quality of infant care and nutrition.

The central government has come up with schemes such as the National Rural Health Mission to address this dire situation. The scheme give high priority to the issue of maternal and newborn health for marginalized communities, and seek to improve the availability of and access to quality health care for those at the lowest rung of the socio-economic ladder. With this background, we had planned this study to assess the care seeking behavior of mothers during childhood illness and to determine the predictors of mothers' care seeking behavior in the state of Uttarakhand.

### MATERIALS AND METHODS

This cross-sectional study was planned to assess the differences in health care seeking behavior of urban and rural population in the state of Uttarakhand. Data were collected from two districts namely Dehradun and Uttarkashi. The questionnaire was administered to evaluate the health care seeking behavior among mothers at the community level. Effect of socio-demographic, economic and disease related variables on mothers' care seeking behavior during childhood illness and

to assess the reasons for preferred care seeking behavior and mothers' knowledge of danger signs were assessed.

For conducting the study a multistage sampling was done. The state has two divisions (*viz.* Garhwal and Kumaon) with a population of over 1 lakh. Two districts were selected from the Garhwal region. For the selection of district, categorization done by Ministry of Health was used. As per the categorization, Dehradun was selected to represent as forward district while Uttarkashi represented backward district in Garhwal region.

In the second stage two blocks, one nearest to district headquarter and another having farthest distance from district headquarter were selected for the study. Mothers having children up to 5 years of age were interviewed in both the districts. Thirty five households per block were interviewed to capture the diverse situation as prevailing across the village. A selection of the households was done by stratified random sampling.

The study was mainly based on primary data collected from different households and secondary data from all the health authorities and published literature so as to strengthen the base for the primary survey. Three sessions were conducted to interview mother or caregiver, health worker, and medical personnel, respectively. Data were also collected from the following records of the government hospitals and health facility, and government health programs, and review of the national health program at Uttarakhand. We have also conducted focus group discussion with villagers to gather more information.

All the information generated was collected and accordingly analyzed. The outcome variables of the care seeking behavior were defined as follows: Prompt Care: Any type of care that was sought/given within 24 h from the recognition of the illness. Appropriate care: Care sought from qualified medical professionals in government health facilities and private hospitals/clinics. Inappropriate care: Others type of care not recognized by government.

Descriptive statistics was done calculating the median and interquartile range for continuous data and frequencies with proportions for categorical data. Predictors of care seeking behavior were determined by Binary Logistic regression analysis. Model fitting for multivariable models was tested by "Hosmer and Lemeshow Goodness of Fit test." A  $p < 0.05$  were considered as significant. All statistical analysis was performed using SPSS version 16.

## RESULTS

In our study population, children <1 year, more specifically <6 months in rural areas, and more than 3 years fell ill more as compared to children in the 1-3 years age group. Analysis also revealed that while during the initial years children at Uttarkashi were falling sick in lesser numbers as compared to

children in Dehradun district. However, as the age increases their susceptibility to fall sick increased and was widely spread from 18 months to 4 years.

There was a male preponderance (27-28%) in sick children in the age group between 18-24 months in both urban and rural population. The most common reported illnesses were fever, cold, and cough (55%) followed by diarrhea and vomiting (28.22%), and pneumonia (3.48%). Remaining cases were of jaundice, anemia probably due to worm infestation, and nutritional deficiency.

The average number of symptoms reported in district Dehradun was 3.69 while it was slightly lower in Uttarkashi standing at 3.46 (Table 1). Out of 140 children, 114 (81.42%) sought prompt care, 102 (72.90%) took appropriate care and 82 (59.90%) mothers sought both prompt and appropriate care. Details of the care seeking pattern have been described in Table 2.

80% of the mothers in both the districts are below 30 years age group. Evaluation of maternal qualification revealed that in district Dehradun, 81.4% of the mothers were educated

**Table 1: Number of symptoms**

Districts	Average number of symptoms	
	Area	Mean
Dehradun	Rural	3.76
	Urban	3.62
	Total	3.69
Uttarkashi	Rural	3.51
	Urban	3.40
	Total	3.46
Total	Rural	3.63
	Urban	3.51
	Total	3.57

**Table 2: Health care seeking pattern for childhood illness**

Type of care sought	Number of children	Percentage
Was sought/given prompt care*	114	81.42
Was taken for appropriate care**	102	72.90
Was taken for appropriate and prompt care both	82	59.90
Was taken to pharmacist for medical care	19	13.80
Was taken to medical doctor	2	1.40
Was taken to hospital (Government/Private)	116	84.10
Home treatment with traditional remedies	34	24.30

\*Any type of care that was sought/ given within 24 h from the recognition of the illness, \*\*Delivery of the child taken place at hospital

till intermediate or lesser classes, while 18.6% had been to college. On the contrary in district Uttarkashi, 78.6% of the mothers were intermediate or less, while 21.4% had been to college despite a hilly terrain. About 84.10% of the mothers made antenatal visits (Table 3). The Economic condition of the surveyed households revealed a lower economic status of rural people in Dehradun as against both the urban as well as rural population of Uttarakashi.

The average duration between reporting the present illness and first time they had a symptom was 1.99 h in Dehradun and 2.00 in Uttarkashi despite more than 90% mothers reported the severity of the illness as nonserious attributed to seasonal flu in both the Dehradun and Uttarakashi districts. In this study, all respondents initially sought for traditional/home remedies/other remedy and only 6.5% opted allopathic medicine as the first choice. For allopathic medicines, 98.5% parents in Dehradun went to the nearby hospital while only 70% went to a hospital in Uttarakashi and about 27% took medications from the pharmacists. Predictors of care seeking behavior determined by binary logistic regression analysis are presented in Table 3.

## DISCUSSION

The World Health Organization estimates that seeking prompt and appropriate care could reduce child deaths due to acute respiratory infections by 20%. In our study, maximum illnesses reported were due to respiratory cause in Dehradun and Uttarkashi. Some studies have shown that perceived illness severity, maternal recognition, symptoms of childhood illness, and mothers education were critical factors determining health care seeking behavior [5,6].

In our study, most parents reported the illness as not severe; however, their perceived severity could not be quantified. Care seeking behavior was dependent on factors like age of the child, sex (male predominance), birth order, and a number of

survived children, maternal education, and family income. Hill et al. argues that beliefs are important barriers to care seeking in addition to the maternal ability to interpret symptoms [7].

In our study, children <1 year, and more than 3 years fell ill more than children between 1 and 3 years of age. This can be attributed to poor knowledge of weaning practices before 1 year of age and increased exposure along with more susceptibility of infections after 3 years of age. Children in rural areas were more prone to infections than in urban areas suggesting the poor ability of the parents to care for their children in interior districts. This may be attributed to either poor medical facilities or less awareness of the parents because of their educational and economic status.

In this study, all respondents went for traditional/home remedies/other remedy initially and only 6.5% opted allopathic medicine as the first choice. Another study reported that 69% of the households sought health care when an illness occurred and 26% of them visited traditional dais exclusively whereas only 19% of them visited formal health care institution [8]. According to one study conducted at Singapore found that medical shop and traditional healers were the common source of medicines [9]. Respondents from low socioeconomic class from rural areas mostly used complementary medicines [10]. Self-medication and non-doctor prescribed drug use were commonly noted in a study from Nepal [11].

Most studies have identified economic status as the most determining factor for the number of visits to a health care facility [12,13]. Studies have also reported a positive association between maternal education and the care seeking behavior [14,15]. In our study also, poor education was correlated with the poor utilization of health services. However, Pillai et al. have found a negative relationship between maternal education and care seeking behavior [16]. According to authors, the possible explanation could be that educated mothers light

**Table 3: Predictors of care seeking behavior (appropriate care and prompt care) by binary logistic regression analysis**

Predictor variable	Number/mean (SD)	Appropriate care <sup>**#</sup>		Prompt care <sup>**@</sup>	
		Odds ratio (95% CI)	p value	Odds ratio (95% CI)	p value
Child age (months)	32.39 (18.05)	6.604 (0.917,0.988)	0.010*	0.083 (0.969,1.044)	0.773
Child sex		0.568 (0.235,1.902)	0.451	0.149 (0.281,2.345)	0.700
Birth\order	2.24 (1.51)	2.868 (0.108,1.176)	0.090	0.208 (0.389,4.559)	0.649
Age of mother	27.19 (3.97)	0.00 (0.868,1.149)	0.988	0.560 (0.901,1.263)	0.454
Mother's education		10.911 (2.3,26.144)	0.001*	0.259 (0.262,2.197)	0.611
Family income	2655.71 (3536.37)	0.418 (1,1)	0.518	0.219 (1,1)	0.640
Number of antenatal visits	2.89 (2.28)	0.032 (0.714,1.498)	0.859	5.597 (0.561,0.947)	0.018*
Number of symptoms	3.57 (0.64)	1.740 (0.732,4.920)	0.187*	0.971 (0.273,1.536)	0.324
Number of survived children	2.54 (1.62)	3.597 n (0.962,10.355)	0.058	0.317 (0.205,2.403)	0.573

\*Significant at 0.05 level of significance. \*\*Lack of the significance of the Chi-square test indicates that the model is good for fit (According to Hosmer and Lemeshow test), #The classification table shows that the model makes a correct prediction 81.50% of the time overall, @The classification table shows that the model makes a correct prediction 84% of the tie overall, SD: Standard deviation, CI: Confidence interval

have waited for the illness to subside spontaneously, and they had enough resources for treatment if the illness got worse.

The average number of symptoms was 3.69 at Dehradun and 3.46 at Uttarkashi, which indicate that the children with more than one symptom are more likely to receive early treatment. A study from Nepal [17] reported children having more than one symptom were more likely to receive appropriate treatment. Few studies have shown maternal perceived severity of illness as a factor influencing care seeking behavior [18,3]. Parental inadequacy in getting medical attention is attributed to poor accessibility, as well as poor awareness about utilization of the health care systems.

This is one of the few studies from India evaluating the health seeking behavior of mothers in rural and urban population; however, the study has a limitation, i.e., many remote villages, not connected by proper roads, could not be included in the study which might have given a better idea of care seeking behavior in areas with poor infrastructure and awareness.

## CONCLUSION

The field reflections of this study reveal that there has been an increase in the awareness among people about health related issues of children. Sensitizing the mothers for early assessment of children's symptoms and prompt hospital referral is the keystone to integrate the health programs and available medical facilities in the community, especially in the interiors or far to reach hilly state like Uttarakhand.

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