

Statistical Analysis of Factors Affecting Healthcare Utilization in Haridwar District of Uttarakhand

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Abstract: For any individual to utilize the healthcare system falling sick is an entry point. But not every individual standing at this entry point is able to seek the facility provided. Despite of the government's commitment to provide equity in access to healthcare, the utilization of health services is still below the acceptable standard. This study investigates various factors associated with the utilization of healthcare services. This was a cross-sectional study conducted in Haridwar district of Uttarakhand. A total of 450 samples were selected. A descriptive research design was employed for the study. The study indicates that 70.4% of the respondents agreed that they had utilized the health facility while 29.6% of the respondents failed to utilize the health facility. This study further explores various factors responsible for the inequity in access to healthcare.

Keywords: Socio-economic, healthcare, utilization, chi-square.

1. INTRODUCTION

The utilization of healthcare services is one of the most important issues in the developing countries. The role of a healthcare facility is indispensable for a nation's progress which in turn is directly linked with the health of its citizens. Hence, it becomes a prime requisite that healthcare facilities should be available to every section of the society (Mandal, 2012,p.229). Development of community has a direct link with the health of people and to make the society strong and to enjoy a good quality of life, healthcare facility plays an important role and it should be available to everyone instead of a particular section of people (Mandal, 2012,p.229). In the developing countries, the healthcare utilization services form an important part of public health and policymaking. India's achievements in the field of health have been less than satisfactory and the disease burden among the Indian population remains high. Although an extensive primary healthcare system exists in India, it is inadequate in terms of coverage of the population especially in rural and grossly underutilized because of the dismal quality of healthcare provided (4).

There are various factors which influence the actual utilization of healthcare services. Hence, in order to ensure that the modern health services are not only provided but are actually utilized by the population, there is a need to study the factors which affect healthcare utilization. In a study undertaken by Roy and Chaudri (11) in India, it was found that there exists a statistically significant differential in socio-economic and cultural experiences of older men and women.

This paper seeks to explain the relationships between socio-demographic and socio-economic factors that influence the healthcare utilization among the people in Haridwar. The paper, therefore, intends to contribute to the elucidation of the socio-economic and demographic factors associated with the utilization of healthcare services for the development of effective management strategies.

2. Material and Methods

The present cross-sectional study was carried out in the Haridwar district of the Uttarakhand in the selected rural and urban areas using a pretested structured questionnaire for assessing the factors associated with the healthcare utilization. Since the present study is mainly based on the primary data. The total sample size comes out to be 450, where 225 are from rural area and 225 from the urban area.

Accessibility is not the only factor which influences healthcare utilization but it is also affected by the demand for the services largely determined by the socio-economic and demographic factors and personal beliefs. In this context, it becomes crucial to understand the socio-economic inequalities affecting utilization of healthcare services.

The following variables were included in the study: Place of residence (Rural/ Urban), age, sex, education, religion, caste, type of family, family size, employment status, distance to public facility, distance to private facility, socio-economic status, utilization of healthcare services in last 12 months. Although, all the other variables except the socio-economic status are fairly straightforward to understand. The socio-economic status needs further explanation. It is a composite variable, the information on which is based on the data collected from the household questionnaire including the questions concerning the family income, ownership of the house and consumer items, type of drinking water source, toilet facilities etc.

Data were analyzed using the statistical packages such as SPSS and Statistica. Descriptive statistics and frequencies were computed for each item included in the study. For examining the bivariate relationship between the dependent and independent variables simple cross-tabulation and chi-square test were employed.

3. Results

The study was conducted on 450 households with 225 each from the rural and urban area of the Haridwar district. One respondent from each household was selected for filling up the questionnaire. The background characteristics of the respondent are shown in Table 1. Out of the total respondents, 269 were males and 181 were females with the mean age of 41.34 years. Most of the respondents were married in the age group 25-45 years. Majority of the study population was literate consisting of 67.35%. Farming/ labourer and professional/private jobs were the two common source of earning the livelihood. Majority of the respondent belonged to the Hindu community (60.7%). More than half of the households 56.2% lived in a Nuclear Family System with the average household family size of 5.45 (Table 3).

Tab. 1 Characteristics of the Respondent

Variables	Frequency	Percentage
Place of Residence		
Rural	225	50
Urban	225	50
Age		
15-25	68	15.1
25-35	142	31.6
35-45	108	24
45-55	49	10.9
55-65	60	13.3
Greater than 65	23	5.1
Sex		
Male	269	59.8
Female	181	40.2
Marital Status		
Unmarried	83	18.4
Married	326	72.4
Widow	40	8.9
Divorced	1	0.2
Religion		
Hindu	273	60.7
Muslim	124	27.6
Sikh	46	10.2
Others	7	1.6
Caste		
SC/ST	78	17.3
OBC	160	35.6
General	212	47.1



Employment Status		
Ag./Farmer/Lab	172	38.2
Prof./ Pvt.	194	43.2
Govt. Job	54	12
Others	30	6.7

Tab. 2 Distance from the Nearby Health Facility

Variable	Frequency	Percentage
Distance from Pvt. Health Facility		
Less than 1 km	164	36.4
1-5 km	149	33.1
Greater than 5 km	137	30.4
Distance from Public Health Facility		
Less than 1 km	106	23.6
1-5 km	209	46.4
Greater than 5 km	135	30

Tab. 3 Characteristics of the Family

Family Type		
Nuclear	253	56.2
Joint	197	43.8
Family Member		
Less than 5	167	37.1
Equal to 5	95	21.1
Greater than 5	188	41.8
SES of the Family		
Lower	28	6.2
Upper Lower	98	21.8
Lower Middle	110	24.4
Upper Middle	152	33.8
Upper Class	62	13.8

From time to time it has been acknowledged by many researchers and policymakers that the distance of the healthcare centre affects the magnitude and frequency of the utilization of the healthcare facilities. So, as such, it becomes necessary to study the effect of the utilization pattern in relation to the distance. Table 2 exhibits the distance-wise the samples ranged from the healthcare facility centre. The types of healthcare facility have been broadly grouped under the private and public facility. Majority of the samples (63.6%) were located at a distance of less than 5 km. from the private health facility while more than two-thirds of the study population reported that the public healthcare centre was at a distance of less than 5 km.

In the present study, the use of healthcare facility was 70.4% i.e. out of 450 households studied, 317 were utilizing the healthcare whenever they fell sick. Table 4 shows the bivariate relationship between the utilization of healthcare facility and the selected independent variables. The place of residence showed a statistically significant difference ($P < 0.01$). People living in the urban areas tend to utilize more of the healthcare facility. With the increase in the education level, the healthcare utilization also increased from 63.9 percent for illiterate to 85.9 percent for the above secondary education level. A statistically significant ($P < 0.05$) association was observed between age and healthcare utilization. With the increase in age, the healthcare facility utilization also increased from 57.4 percent for the age- group 15-25 to 91.3 for the greater than 65 years age – group.

The community also showed a statistically significant association with the seeking healthcare with more Muslims (80.6%) attending the health facility centre followed by Hindu (68.9). The family whose head is employed in private/professional jobs

tend to utilize more of the health facility (73.7%) followed by the government job employees (70.4%). A chi-square test revealed that this was the statistically significant difference.

Tab. (4) Bivariate Analysis of Healthcare Utilization and Explanatory Variables

Independent Variables	Healthcare Utilization		P value
	Yes	No	
	%	%	
Area			
Rural	64.4	35.6	0.005
Urban	76.4	23.6	
Age			
15-25	57.4	42.6	0.026
25-35	68.3	31.7	
35-45	71.4	28.6	
45-55	72.2	27.8	
55-65	78.3	21.7	
Greater than 65	91.3	8.7	
Sex			
Male	67.3	32.7	0.073
Female	75.1	24.9	
Education			
Illiterate	63.9	36.1	0.004
Primary	65.9	34.1	
Secondary	74.8	25.2	
Above Secondary	85.9	14.1	
Marital Status			
Unmarried	66.3	33.7	0.673
Married	70.9	29.1	
Widow	75	25	
Divorced	100	0	
Religion			
Hindu	68.9	31.1	0.005
Muslim	80.6	19.4	
Sikh	54.3	45.7	
Others	57.1	42.9	
Caste			
SC	74.4	25.6	0.405
OBC	72.5	27.5	
General	67.5	32.5	
Family Type			
Nuclear	66.4	333.66	0.033
Joint	75.6	24.4	
Employment Status			

Ag./ Farmer/ Labourer	63.9	36.1	0.00
Pvt./Prof.	73.7	26.3	
Govt. Job	70.4	29.6	
Others	66.7	33.3	
Distance_ Pvt			
Less than 1 km	78.5	21.5	0.002
1-5 km	73	27	
More than 5 km	61	39	
Distance_ Pub			
Less than 1 km	83.7	16.3	0.00
1-5 km	63.4	30.6	
More than 5 km	55.7	44.3	
Family Member			
Less than 5	77.2	22.8	0.007
Equal to 5	70.5	29.9	
More than 5	67.5	32.5	
SES			
Lower	57.1	42.9	0.00
Upper Lower	69.3	30.7	
Lower Middle	70.9	29.1	
Upper Middle	86.2	13.8	
Upper Class	80.6	19.4	

Distance to the nearest private health centre was found to be significantly associated with the healthcare utilization with those residing within 1 km. of the centre likely to use more of the health services (78.5%) compared to the ones residing at a distance of more than 5 km (61%).

Similarly, distance to the nearest public health centre was also found to be highly significant ($P < 0.01$) with the utilization. Respondents residing at a distance of less than 1 km from health centre utilize (83.7%) more of the services as compared to when the health centre is located at a distance of more than 5 km (55.7%).

A highly statistically significant association ($P < 0.01$) was observed between healthcare utilization and a number of members in the households. The household of family size was less than 5 utilized 77.2 percent of the healthcare facilities as compared to the 67.5 percent for the households of family size greater than 5. The utilization of healthcare facility was significantly ($P < 0.01$) higher for the upper middle class (86.2%) as compared to the lower class (57.1%).

4. Discussion

The current study focuses on the various socio-demographic and economic factors affecting the utilization of healthcare in the Haridwar district of Uttarakhand, India. The study evaluated the association between the utilization of health services and various factors.

Since the utilization of healthcare showed a significant association with the place of residence resulting in the fact that there is a need for the area wise planning for healthcare in rural and urban areas. Also, the study explores that focus should be laid on the educational levels of the people because literacy brings with it more awareness and thus better utilization of the services available. The study is similar to the research that laid stress on the importance of education in the utilization of healthcare services. (5,9).

The analysis illustrates that distance of healthcare facility also affects the utilization of health services. In the study conducted by Garima et. al. (2011) reported that cases who were at a distance of 10 km or greater from health facility centre did not utilize health services (26).

The poor and uneducated which constitute the lower socio-economic group were less likely to utilize the healthcare services as compared to educated people of higher socio-economic class. The result corresponds with the findings of Govindasamy et. al.

(1997) who suggested that apart from increasing the awareness education and wealth significantly affects the utilization maternal healthcare services.

On the whole, the present study has found a strong association between the variables that are proposed as determinants with the utilization of healthcare of healthcare services available in the area. The proposed determinants play an essential role in improving the healthcare services. Hence, policymakers must consider these factors when designing and implementing the health policies.

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