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## Affordability pattern of healthcare facilities and services among the rural communities of Kerala

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### Abstract

Health and human resource development are vital components of overall socio-economic development, thus national governments around the world are working to extend and improve healthcare services. In order to achieve the goal, a sample of 675 families from Kerala were chosen, with 225 sample proportions of Hindu, Muslim, and Christian in each district. In terms of healthcare affordability, Hindu, Muslim, and Christian households in Kerala spend 34.15 percent, 33.45 percent, and 33.38 percent of their income on healthcare, respectively. Due to poor income, 51.6 percent of Hindu homes, 53.3 percent of Muslim households, and 48.9 percent of Christian households in Kerala could not afford therapy. The unaffordability of treatment is due to the proportion of Hindu (32.7 percent), Muslim (27.5 percent), and Christian (28.1 percent) households that face the cost of services. That the 21% of the Hindu, 19% of the Muslim and 18% of the Christian householders' affordability levels are the free service. The own resources are the major sources of the cost of treatment among the householders.

**Keywords:** affordability, healthcare, households, community, treatment

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### Introduction

"Health is a state of complete physical, mental, and social well-being, not only the absence of disease or disability," according to WHO's 1948 constitutional principles. Without regard to ethnicity, religion, political beliefs, economic or social circumstances, each government should ensure the best feasible standard of health, which is one of every human being's fundamental rights. The health of all individuals is a fruitful condition for achieving societal peace and security, and this was achieved via flawless cooperation between society and the state. In the health-care industry, affordability refers to people's capacity to pay for services without going bankrupt. It is calculated by the cost of healthcare services, opportunity cost, transportation costs from and to healthcare institutions, and travel time. The cost of treatment, how a household handles its finances, and the state of its livelihood all influence the affordability of health services. The household's own resources and borrowings are the primary sources of funding for health-care expenses. Inequalities in health-care access are an obstacle to equity, as are disparities in the availability, affordability, and consumption of health-care services. The cost of treatment, how a household handles its finances, and the state of its livelihood all influence the affordability of health services. The household's own resources and borrowings are the primary sources of funding for health-care expenses. According to Jean- Frederic Levesque *et al.* (2013), the central aspect of health care systems is access to healthcare. This research looks at a conceptual framework for health-care access. In terms of supply and demand, there are five components of health care access. Approachability, acceptability, availability and accommodation, affordability, and appropriateness are the four characteristics. The ability to perceive, reach, pay, and interact are also included in these aspects. Inequalities in health-care access are an obstacle to equity, as are disparities in the availability, affordability, and consumption of health-care services. The cost of treatment, how a household handles its finances, and the state of its livelihood all influence the affordability of health services. The main sources of financing the health care expenditure are the household owns resources and borrowings.

### Objectives

1. To examine the mean expenditure for treatment and affordability status among the rural households.
2. To identify the reasons for unaffordability of the healthcare facilities and services.

### Methodology

Malappuram, Ernakulam, and Thiruvananthapuram are the three districts in Kerala where the household survey was done. The study is based on a cross-sectional analysis, with the primary data coming from a multistage stratified cluster random sample household survey. A total of 675 houses were chosen from the state of Kerala, with 225 sample proportions representing Hindu, Muslim, and Christian in each district.

### Findings of the study

The affordability of rural families' healthcare services in terms of mean treatment costs, cost affordability, causes for unaffordability of treatment costs, cost affordability level of treatment, and cost treatment sources.

### Mean expenditure for treatment among the households

The average expenditure for treatment is examined here to understand the affordability levels of the rural householders across the Kerala; are shown in the table 1.

**Table 1:** Mean expenditure for treatment

Households	Districts			
	Malappuram	Ernakulam	Trivandrum	Total
Hindu	3453.34	4048.00	4166.66	11668.00
Muslim	3906.66	3781.34	3742.66	11430.66
Christian	3252.00	3960.00	3852.00	11064.00
Total	10612.00	11789.34	11761.32	34162.66

**Source:** Analysis of Primary Data.

The mean spending for treatment is higher among Hindu householders in Kerala, as seen in table 1. In Kerala, the share of Hindu, Muslim, and Christian households spending on average is 34.15 percent, 33.45 percent, and 33.38 percent, respectively.

### Affordability of the cost of treatment

Households in Kerala's Hindu, Muslim, and Christian communities believe that they can afford the cost of care for acute illnesses but not for chronic illnesses. Table 2 shows how people feel about the expense of therapy and if it is affordable.

**Table 2:** Affordability of cost of treatment

Affordability of cost of treatment		Districts							
		Malappuram		Ernakulam		Trivandrum		Total	
		Count	%	Count	%	Count	%	Count	%
Hindu	Yes	31	41.3	41	54.7	37	49.3	109	48.4
	No	44	58.7	34	45.3	38	50.7	116	51.6
Muslim	Yes	43	57.3	32	42.7	30	40.0	105	46.7
	No	32	42.7	43	57.3	45	60.0	120	53.3
Christian	Yes	35	46.7	46	61.3	34	45.3	115	51.1
	No	40	53.3	29	38.7	41	54.7	110	48.9
Total	Yes	109	48.4	119	52.9	101	44.9	329	48.7
	No	116	51.6	106	47.1	124	55.1	346	51.3

**Source:** Analysis of Primary Data.

According to data in table 2, 51.6 percent of households in Malappuram, 47.1 percent of households in Ernakulam, and 55.1 percent of households in Trivandrum could not afford treatment. In Kerala, 51.6 percent of Hindu households, 53.3 percent of Muslim households, and 48.9 percent of Christian households could not afford therapy.

### Reason for the unaffordability of cost of treatment

Low income, high medical expenses, and the cost of services are among the causes for the unaffordability of treatment among Hindu, Muslim, and Christian households in the districts of Malappuram, Ernakulam, and Trivandrum in the state of Kerala. As a result, the causes for the data's unaffordability are listed in table 3.

**Table 3:** Unaffordability of the cost of treatment

Reasons		Districts							
		Malappuram		Ernakulam		Trivandrum		Total	
		Count	%	Count	%	Count	%	Count	%
Hindu	Low income	18	40.9	9	26.5	12	31.6	39	33.6
Muslim		8	25.0	13	30.2	16	35.5	37	30.8
Christian		16	40.0	7	24.1	14	34.1	37	33.6
Hindu	High Medical expenditure	12	27.3	13	38.2	14	37.4	39	33.6
Muslim		15	46.9	19	48.8	16	35.5	50	41.6
Christian		14	35.0	12	41.3	16	39.0	42	38.1
Hindu	Cost of	14	31.8	12	35.3	12	29.3	38	32.7

Muslim	Services	9	28.1	11	44.2	13	29.0	33	27.5
Christian		10	25.0	10	34.5	11	27.0	31	28.1

**Source:** Analysis of Primary Data.

Table 3 shows the many causes for the cost of treatments being unaffordable, revealing that 33.6 percent of Hindu, 30.8 percent of Muslim, and 33.6 percent of Christian homeowners have a low income. The high medical expenditure is indicated by the proportions of 33.6 percent, 41.6 percent, and 38.1 percent of Hindu, Muslim, and Christian households. The unaffordability of treatment is due to the proportion of Hindu (32.7 percent), Muslim (27.5 percent), and Christian (28.1 percent) households that face the cost of services.

#### Affordability levels of the cost of treatment among the householders across the Kerala

Test whether there is any association between the affordability levels of the cost of treatment among the Hindu, Muslim and Christian households across the Kerala are tested by using Chi-square, is shown in the table 4.

**Table 4:** Affordability levels of the cost of treatment - across the Kerala

Affordability level	Households			Total
	Hindu	Muslim	Christian	
Free	48(21)	42(19)	41(18)	131
< Rs.300	62(27)	63(28)	58(26)	183
Rs.300 – 600	71(32)	76(34)	81(36)	228
>Rs.600	44(19)	44(19)	45(20)	133
Total	225	225	225	675

**Source:** Analysis of Primary Data.

Table 4 shows that the free service is the most affordable option for 21% of Hindus, 19% of Muslims, and 18% of Christians. Around 27% of Hindus, 28% of Muslims, and 26% of Christians have an affordability level of less than Rs.300. Between Rs. 300 and Rs. 600, 32 percent of Hindus, 34 percent of Muslims, and 36 percent of Christians can afford it, while 19 percent of Hindus, Muslims, and 20 percent of Christians can afford more than Rs.600.

#### Sources of cost of treatment

The source of cost of treatments is important variable for the affordability of the healthcare facilities. They were classified in to Own resources, Borrowing and sold of assets; are presented in the table 5.

**Table 5:** Source of cost of treatment

Sources		Districts							
		Malappuram		Ernakulam		Trivandrum		Total	
		Count	%	Count	%	Count	%	Count	%
Hindu	Own resources	59	26.2	62	27.5	65	28.8	186	82.6
Muslim		66	29.3	60	26.6	59	26.2	185	82.2
Christian		63	28	68	30.2	63	28.0	194	86.2
Hindu	Borrowing	12	5.3	10	4.44	9	4.00	31	13.7
Muslim		7	3.1	13	5.77	13	5.77	33	14.6
Christian		10	4.4	7	3.11	11	4.88	28	12.4
Hindu	Sold of Assets	4	1.7	3	1.33	1	0.44	8	3.55
Muslim		2	0.88	2	0.88	3	1.33	7	3.11
Christian		2	0.88	0	0	1	0.44	3	1.33
Total		225	100	225	100	225	100	675	100

**Source:** Analysis of Primary Data.

Table 5 shows that the own resources is the major sources of the cost of treatment among the Hindu, Muslim and the Christian households in the districts of Malappuram, Ernakulam and the Trivandrum and sold asset is the least among the householders. About 5.3% of the Hindu households in Malappuram and 5.77% of the Muslim households among the Ernakulam and Trivandrum choose the borrowing to meet the cost of treatment.

#### Conclusion

The health of all individuals is a fruitful condition for achieving societal peace and security, and this was achieved via flawless cooperation between society and the state. In the health-care industry, affordability refers to people's capacity to pay for services without going bankrupt. The household's own resources and borrowings are the primary sources of funding for health-care expenses. The average cost of therapy is greater among Hindu homeowners in Kerala (Rs. 11668.00). Approximately 48.4 percent of Hindu, 46.7 percent of Muslim, and 51.1 percent of Christian households could afford treatment; in Kerala, it was 48.7 percent. The expense of treatment

was expensive for 33.6 percent of Hindu and Christian households and 30.8 percent of Muslim households due to poor income. That personal resources are the primary source of treatment costs, followed by borrowing and asset sales.

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