

Levels of Health Care Services Utilization and its Determinants among Household: Cross Sectional Study in Iringa Tanzania

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Abstract:-

➤ *Background:*

Health care services utilization refers to the use of health services by an individual who is ill or seeking health care services, such as screening services, family planning services, and/or looking for advice. The health care services utilization can be affected by a number of factors that comprise both social, such as traditional and cultural practices; economic, such as having health insurance and use of out-of-pocket; physical, such as infrastructure and accessibility of health care services; and biological factors, such as having disabled, under-five children and older people with health status, such as having chronic illness. All these factors can either facilitate or hinder health care services; therefore, this study aims to determine the level of the health care services utilization and its determinants among the households (HH) in Iringa.

➤ *Methods:*

A cross-sectional study design was employed using multistage sampling techniques, and self-administered questionnaires were used to interview 443 heads of households in Iringa, and the data analyzed were by descriptive and logistic regression were wined and presented using frequencies, tables, figures, chi-squares, p-values, Odds Ratio, and Adjusted Odds Ratios, respectively.

➤ *Results:*

The study out of 443 had respondent rate of 95.7% (424) whereby 67% among them who had the history of illness were utilizing the health care services in the previous 6 months. The high-income households were 2.0605 (AOR); $P < 0.01$ at CI of 95% (1.407, 4.822) more likely to utilize the health care services as compared to the very poor household. Regarding the household with the under-5 children, there were 3.294 (AOR); $P < 0.01$ at the CI of 95% (1.826, 5.943), more likely to utilize the health care services as compared to the household without under-5 children.

➤ *Conclusion:*

Income level and the presence of the under 5 were the determinant factors for the utilization of the health

care services. Consideration of the very poor household in contribution through waivers and exemptions should be offered in government health facilities to access the health care services.

➤ *Implication for Policy Makers*

The quality and accessibility of primary healthcare facilities should be improved to attract the health service users regardless of their socioeconomic status

➤ *Implication for Public*

The study found the income level and presence of the under 5 to be the driving factors for utilizing the healthcare services; this might affect equality in healthcare services due to the inability to pay for the services, as the fact that the low-income household as well as the under 5 are prone to disease will, in turn, lead to a shortage of medicines in most of the primary healthcare facilities.

Keywords:- Health care Services Utilization.

I. INTRODUCTION

Utilization of health services and health-seeking behavior are influenced by having a chronic health problem or by having more than one illness. This group tends to utilize the health services more in comparison to the people who do not have a chronic health problem. Some studies that have been conducted in different countries found that there is a relationship between perception and use of the health services. Poor health status is a determinant of utilizing health services. (1). There is insufficient information on understanding people's health care services utilizations among households in Tanzania (2).

The CBHI scheme has been doing well in providing coverage for the informal sector, rising utilization, and improving health results while greatly reducing the impact of out-of-pocket costs on individual well-being (3). This study has shown the importance of utilizing the community-based health insurance and its effect on the individual, although it has not explored much about the utilization of health care services. The effect of place of living on variation of use of health care services may have to do with the accessibility of health facilities(4).

Some studies have also proven that the place of living is one among the determinants that influence the people to utilize healthcare services, and having community health insurance. For example, town areas show significant use compared to the peri-urban areas, and the factors that facilitate the use of health care services include the presence and accessibility of health facilities (5).

There is an association among the cost sharing and the utilization of healthcare services. Thus the introduction of the cost-sharing reduces the overuse of the health care services, which makes people with health insurance overuse the health services compared to the people lacking the health insurance (6). It is very common to find that people with insurance will increase the health seeking behavior since the insurance will cover the cost while those who are paying Out Of Pocket are less likely to utilize the health services. Poor performance, mobilization and quality health care are some of the factors leading to poor performance of the HFs to some districts(7).

According to the Andersen (1968) model of health care utilization, there are 4 factors that enable the utilization of the healthcare services, as explained by (8).

“Predisposing factors are social demographic factors which affect the use of health care services” (8). “Enabling factors are the determinants which affect the use of health care services” (8). “Health services factors are those factors which measure the results on use of health care services and add value in perceived satisfaction” (8). “The need factors are determinants the use of healthcare services in most cases they referred to chronic illness, physical impairment and body malfunctions” (8).

II. METHODOLOGY

➤ Study Area.

The study was conducted in the Iringa region which is in the southern highland part of Tanzania with area of 35,503KM², and total population of 1,192,728 (9) and has 5 districts which are: Iringa Municipal, Iringa Rural, Mafinga, Kilolo, and Mufindi. Iringa is found in central Tanzania in 6.54°-10° latitude and 33°-37° longitude east. This study was conducted in three district council which includes; Mafinga, Kilolo and Mufindi district Council.

➤ Study Design and Approach.

The analytical cross-sectional study, which employed a quantitative approach.

➤ Study Population.

The study population was household heads aged 18 years and above. Multistage sampling techniques were employed, which involved five stages: the first stage was purposive sampling techniques in the selection of the region; the second stage was selection of the district council, in which simple random sampling techniques were used; the third stage was selection of the wards, in which simple random sampling techniques were used; the fourth stage was selection of the village, in which simple random sampling

techniques were used; and the fifth stage was selection of the participant, in which systematic random sampling was used.

Household heads older than 18 years who were willing to participate were included in the study. Household heads who were not able to communicate, not ready to participate, and those having multiple health insurances were excluded in the study.

➤ Sample Size Determination and Sampling Techniques

This sample size was determined using the following formula: Cochran (1963:75) as cited by (10)

$$N = \frac{Z^2 \times P \times q}{E^2} \quad q = 1 - P$$

N=Minimal sample size

Z= Standard normal deviation set at 1.96 (corresponding to confidence level of 95%)

E=Marginal error is 5%

P=Prevalence rate 50% (11)

$$N = \frac{Z^2 \times P \times q}{E^2}$$

$$N = 1.96^2 \times 0.5 \times (1-0.5) / 0.05^2$$

N=385 +58=443 (15% of adjustment of non-respondent rate)

443 of participants were involved in the study

A multistage sampling technique was employed in obtaining the study sample; it involved five stages. A first stage was purposive sampling technique; this was used in selecting the Iringa region. Selection of the district councils was a second stage; this involved a simple random sampling technique. A third stage was wards selection; a simple random sampling technique was used under this stage. The fourth stage involved the selection of villages; under this stage, a simple random sampling technique was used. The last stage was the selection of participants, in which systematic random sampling was used.

➤ Data Collection Tool.

A structured questionnaire tool was used in assessing the demographic characteristics of the household and utilization of the health care services.

➤ Data Processing and Analysis.

Data were clean and checked for its comprehensiveness and uniformity based on the daily collection. They were entered in the computer using the SPSS version 25.0 software package, whereby it was run by descriptive (frequency and percentages) and inferential statistics (logistic regression whereby chi-square, p-value, CI, and AOR were presented).

III. FINDINGS

This study determined the level of the health care services utilization and its determinants among households in Iringa. Therefore, this chapter presents the research findings of the study.

➤ *Demographic Characteristics of Participants*

A total number of 424 heads of household were involved in the study, whereby a large number of participants were males, 254 (59.7%). The ages of the participants were grouped into five (5) groups, the largest group being 35-54, 193 (45.5%), and the smallest being 56 and older, 56 (13.2%); Mean age was 39.2, median age was 37±12.648, maximum and minimum age were 77 and 18, respectively, and variance was 159.965; kurtosis and skewness were 0.097 and 0.740, respectively; the majority of the participants were Hehe, 238 (56.1%), and the lesser was Kinga, 25 (5.9%); most of the participants were Christians, 316 (74.5%), and the lesser proportion was non-religious, 3 (0.7%); Most of the participants were married, 387 (91.3%), while the lesser was cohabiting, 1 (0.2%); The majority of the participants had primary school education, 303 (71.5%), hence the lesser had secondary school education and above, 43 (10.1%).

Most of the participants were peasants, 390 (92%), while the lesser were employed, 9 (2.1%). The majority of the participants resided in rural areas, 419 (98.8%). The district that had the largest number of participants was Mufindi District Council, 172 (40.6%); the Kilolo District Council had the lowest number, 124 (29.2%). Most of the households had large family sizes, 289 (68.2%). 187 of the households had one child below the age of 5 (44.1%), and few households had none, 111 (26.2%); many households had no elderly aged 60 and above, 254 (59.9%), and few households, 35 (8.3%), had more than 2 elderly aged 60 and above. The majority of the participants were living within 5 km of health facilities, 262 (61.8%). (Refer to table 1)

Table 1 Social Demographic Characteristics (N=424)

Variable	Frequency	Percentage (%)
Age		
34<	175	41.3
35-54	193	45.5
55>	56	13.2
Sex		
Male	254	59.9
Female	170	40.1
Tribe		
Hehe	238	56.1
Bena	46	10.8
Kinga	25	5.9
Others	115	27.1
Marital status		
Married	387	91.3
Single	25	5.9
Widow/widower	11	2.6
Cohabiting	1	0.2
Level of education		
Informal education	78	18.4
Primary education	303	71.5
Secondary education and above	43	10.1
Occupation		
Peasant	390	92.0
Employed	9	2.1
Entrepreneur	19	4.5
Pastoralist	6	1.4
Social economic status		
Very poor	106	25
Poor	108	25.5
Middle	104	24.5
High	106	25
District Council		

Mufindi	172	40.6
Kilolo	124	29.2
Mafinga	128	30.2
Family size categories		
Average family size	135	31.8
Large family size	289	68.2
Number of under five children		
None	111	26.2
1	187	44.1
2 and above	126	29.7
Presence of elderly 60 and above		
None	254	59.9
1	135	31.8
More than 2	35	8.3
Distance from health facilities		
Within 5 km	262	61.8
5>	162	38.2
Presence of family members with disability		
Yes	63	14.9
No	361	85.1
Presence of family members with chronic diseases		
Yes	53	12.5
No	371	87.5
Total	424	100

➤ Health care Services Utilization

Regarding the utilization of the health care services, only 285 of the households (67%) who had the history of illness had utilized health care services in the previous six months. Refer to **figure 1**. The majority of the heads of household had their first consultation at health facilities: 354

(83.5%). Most of the heads of household had visited a health facility: 329 (77.6%), and about 303 (71.5%) were prescribed medicine in the previous six months, and only about 106 (25%) had been admitted as inpatients in the previous six months. Refer to **table 2**.

Table 2 Domains of the health care services utilization

Variable	Frequency	Percentage (%)
First consultation		
Traditional healers	6	1.4%
Pharmacy	64	15.1%
Health Facilities	354	83.5%
Visited Health Facilities in the previously 6 months		
Yes	329	77.6%
No	95	22.4%
Admitted as in patients in the previously six months		
Yes	106	25%
No	318	75%
Prescribed medicine in the previously six months		
Yes	303	71.5%
No	121	28.5%

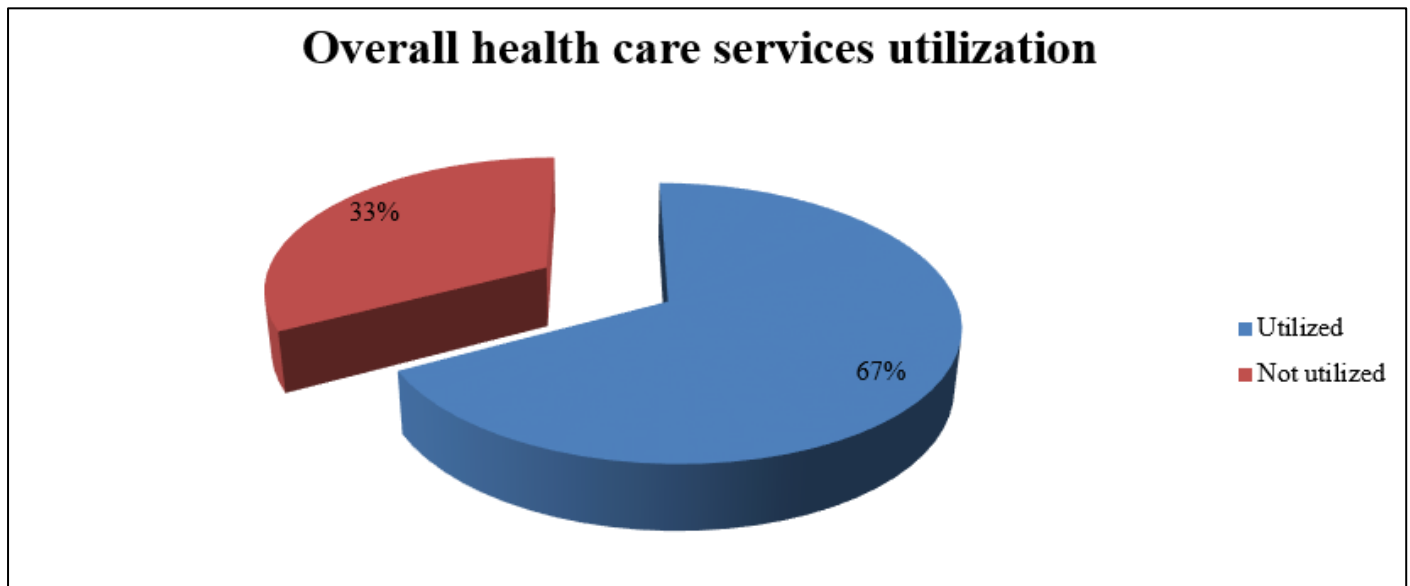


Fig 1 Overall Health care Services Utilization

➤ *Determinants of the Health care Services Utilization*

Factors that were statistically significant in the health care services utilization include occupation, which had a chi-square of 8.661^a and $P = 0.034$; district council, which had

a chi-square of 11.583^a and $P = 0.003$; under-five children, who had a chi-square of 22.001^a and $P > 0.001$; and the socio-economic status of the households, which had a chi-square of 10.479^a and $P = 0.015$. Refer to table 3.

Table 3 Relationship between the Determinants and Utilization of the HCs

Variable	Utilization		X ²	P-value
	Utilized	Not utilized		
Occupation				
Peasant	268(68.7%)	122(31.3%)		
Employed	4(44.4%)	5(55.6%)	8.661 ^a	0.034
Entrepreneur	8(42.1%)	11(57.9%)		
Pastoralist	5(83.3%)	1(16.7%)		
Wealth				
Very poor	81(76.4%)	25(23.6%)		
Poor	61(56.5%)	47(43.5%)	10.479 ^a	0.015
Middle	68(65.4%)	36(34.6%)		
High	75(70.8%)	31(29.2%)		
Under 5 children				
None	55(49.5%)	56(50.6%)		
1	134(71.7%)	53(28.3%)	22.001 ^a	0.000
≥2	96(76.2%)	30(23.8%)		
District council				
Mufindi	110(64%)	62(36%)		
Kilolo	98(79%)	26(21%)	11.583 ^a	0.003
Mafinga	77(60.2%)	51(39.8%)		

➤ *Association between Factors and the Health care Services Utilization*

Regarding the health care services utilization, the entrepreneurs were 5.607 (AOR) times more likely to utilize health care services as compared to the peasants. The middle class was 2.605 (AOR) times more likely to utilize the

health care services as compared to the very poor group. The households that had under five children were 3.294 (AOR) times more likely to utilize health care services compared to the households with no under-five children. Refers to table 4

Table 4 The Logistic Regression on the Health care Services Utilization

Variable	OR	P-value	95% CI		AOR	P-value	95% CI	
Occupation			Lower	Upper			Lower	Upper
Peasant(ref)								
Employed	2.276	0.455	0.263	19.691	1.780	0.620	0.182	17.415
Entrepreneur	6.250	0.154	0.504	77.494	5.607	0.206	0.388	81.054
Pastoralist	6.875	0.105	0.664	70.816	5.878	0.161	0.495	69.843
Wealth								
Very poor(ref)								
Poor	2.496	0.002	1.387	4.495	1.076	0.827	0.555	2.086
Middle	1.715	0.080	0.938	3.137	2.605	0.002	1.407	4.822
High	1.339	0.351	0.725	2.473	1.412	0.275	0.760	2.626
Under 5 children								
None(ref)								
1	0.388	0.000	0.238	0.634	3.294	0.000	1.826	5.943
≥2	0.307	0.000	0.176	0.534	1.350	0.289	0.776	2.349
District council								
Mufindi(ref)								
Kilolo	0.471	0.006	0.276	0.802	0.932	0.783	0.565	1.537
Mafinga	1.175	0.502	0.734	1.883	0.495	0.022	0.271	0.903

IV. DISCUSSION

The determinants of the health care services utilization include the occupation of the head of the household, the socio-economic status of the households, and having under 5 children in the households. There was also a variation in the utilization of the health care services among the households. The household with under 5 children tends to utilize more health care services as compared to the household with no under 5 children; this is due to the fact that the children are prone to disease as compared to other groups of people in the household. The previous study done in Ethiopia found the significant determinants of the use of the health care services to be educational status, family size, occupation, marital status, travel time to the nearest health facilities, perceived quality of the health care services, first choice of the place of treatment during the illness, and the expected health care costs (8).

While another study done in Bangladesh found that the perception regarding skills and capability of the health care workers, interpersonal communication, and the attitudes of the health care providers were the key predictors for health care services utilization, (12).

On the occupation of the HHH, it was one of the factors of utilizing the health care services. The pastoralist and the entrepreneur tend to utilize health care services more as compared to the peasant, which could be attributed to the sensitivity and perception of the illness and cultural difference: the health-seeking behavior of the different groups of individuals differs from one place to another. Similarly, another study found that the occupation was the determinant factor of the health care services utilization(8)

The economic status of the HH was also found to have an effect on the utilization of the health care services: the middle- and higher-income HH tend to utilize more health care services as compared to the poor and very poor HH.

The reason behind this difference might be the responsiveness and health-seeking behavior; hence, having the money determined the prompt attention of the medical care. For the households whose economic status is stable, it is very easy to seek immediate medical care once a member of the HH is sick.

Also the access to health care services for the well-off HH is relatively easier, even if these health care services are found far away; on the other side factors such as lack of the ICHF card and the inability to pay hinder the very poor and poor HH to access health care services easily. For that reason they delay most of the time in seeking health care services. Most of the time they went to the health facilities with a greater number of the complications compared to the middle- and high-income households. Similarly, previous studies found that based on the income level, the groups that were most utilizing the health care services were the wealthiest as compared to the poorest households, who were utilizing the health care services less (4).

The households with under five children tend to utilize the health care services more compared to the HH with no under five children. This is because the children are more prone to diseases as compared to the other members of the household. Hence having under-five children influences the health-seeking behavior of the HH: usually having the under-five children requires them to be taken to the health facilities for the regular checkup, for vaccination and immunization, and for growth and development monitoring.

There was variation in the utilization of the health care services among the district councils: the councils with few numbers of health facilities, councils with a mixture of cultures, and councils with many immigrants from other regions were utilizing more health care services as compared to the district council with one culture, with few immigrants from other regions, with many health facilities. In the Kilolo district council, the households were utilizing

more health care services as compared to the Mufindi district council and the Mafinga district council.

V. CONCLUSION AND RECOMMENDATION

The determinant factors for the household's health care services utilization include the occupation of the head of the household, the wealth status of the households, and having under 5 children in the households. The very poor household should be assisted in accessing the health care services since their socioeconomic status hinders them from accessing the health care services in health facilities.

➤ Data Availability

Data will be freely available upon request.

➤ Conflict of Interest

There is no conflict of interest among authors and the institution regarding this study.

➤ Funding Statement

No specific fund was acquired from any institution or funding agency to carry out this study.

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