



# An Analysis of Drivers of Health Care Seeking Sources Preferences in Selected Wards in Eastern Tanzania

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**Abstract:** Access, effectiveness, and utilization of healthcare services can affect the attainment of good health as healthcare services have a role in promoting the population's health and livelihoods of communities. Understanding factors that drive an individual's preference in seeking health care from a particular source(s) is an important aspect that has a profound contribution in facilitating the effective provision of health services. Though this aspect is generally known; very scanty information is available on what drives individuals' preference on health care service sources under One Health Approach in Tanzania. A cross-sectional study was conducted in Morogoro municipality and Mvomero district in Tanzania, inter alia, to analyse the determinants of individuals' health care service source preference. A structured questionnaire administered through a Computer-Aided Personal Interviewing (CAPI) electronic platform was used to collect data from 1440 respondents obtained through a multistage sampling procedure. IBM-SPSS v20 was used to analyse quantitative data. Binary logistic regression determined an individual preference for sources to seek health care. The results revealed that 41.2% of the respondents preferred to seek health care services from informal sources and 58.8% from formal sources. Marital status (Exp B= 0.001, 95% CI, .000 to .010),  $\beta=-6.946$ ,  $p=0.000$ , service characteristics (Exp B= 1.678,  $\beta=0.518$ ,  $p=0.000$ ), beliefs on the effectiveness of health services (Exp B= 5.268,  $\beta=1.662$  at  $p=0.001$ ) had significant influence on determining preference for a source of health care. It is recommended that health services should be improved from the formal health care sources since the majority of respondents had a preference for it.

Keywords: Health Care Seeking, determinants of health care seeking, health care utilisation, Tanzania

## 1. Introduction

Definitely, good health is a cornerstone of development in all societies (World Bank, 1993; Lennock and Ehrenpreis, 2003; URT, 2003a; URT, 2003b; IMF, 2004; URT, 2007a; WHO, 2010; WHO, 2012a; 2012b; Levin-Zamir *et al.*, 2017). This is due to the fact that health status of a society can affect all other sectors in that particular society; (i.e politics, social and the economic aspects) (Baruch and Clancy, 2000; Sayah and Williams, 2012; Edwards *et al.*, 2012; Sørensen, *et al.*, 2015). On the other hand, the society, politics and the economy of a particular society can impact health status in a given society respectively (Edwards *et al.*, 2012; Sayah and Williams, 2012). Good health determines the quality of a population. The quality population is a crucial parameter for economic development (URT, 2003b; URT, 2007a; Lutz, 2014). It is evident that good health boosts labour productivity, educational achievement and income, hence lessens poverty (Udoh and Ajala, 2001; Bloom, *et al.*, 2004). Ill-health and diseases are considered barriers to economic growth and subsequently to national development worldwide (Bloom and Canning, 2000; Bloom *et al.*, 2001; Strittmatter and Sunde; 2011; WHO *et al.*, 2013). It is therefore apparent that attaining development goal calls for improving health status of a nation's population, however it is obvious that there are a number of challenges in attaining good health

(Ratzen and Parker, 2000; Byrne, 2004; Mamdani and Bangser, 2004; Kaseje, 2006; Sanders and Chopra, 2006).

Access, effectiveness, and utilisation of healthcare service are among the factors that can affect the attainment of good health. Health services play an important role in promoting the population's health and livelihoods of communities (Ringo *et al.*, 2017). According to Montenegro *et al.*, (2011), health services result in improved community health status and its members regardless of age, gender, location, and occupational background. Access and utilization of health services ensure healthy society and results in minimal health problems such as reduced incidences of under-five mortality and resources which could otherwise be used for productive activities (Enwerem *et al.*, 2014). Health care can be sought in different sectors in society (Kleinman, 1980; Atwine *et al.*, 2015; Begashawet *et al.*, 2016). Understanding the factors which drive an individual's preference on seeking health care from a particular source(s) is an important aspect that has profound contribution in facilitating effective provision of health services, while this aspect is generally known (Tipping and Segall, 1995; Montenegro *et al.*, 2011; Phrasisombath *et al.*, 2012), very scanty information is available on what drives individuals preference on a particular health care service source in the context of One Health Approach.



Victoor, *et al.*, (2012) argue that different patients make different choices in different situations. It is against this argument that this study analyses context-specific drivers of health care seeking source preferences in selected sites in Eastern Tanzania in the interface of humans, animals, and the environment.

## 2. Theoretical Framework

### 2.1 Andersen's Behavioural Model of Health Care Use

This framework presupposes that the utilization of health care is influenced by the predisposition, the ability and the need to use health services (Andersen and Newman, 1973). An individual's access to and use of health services is considered to be a function of three characteristics, which are:- population characteristics, health care systems and the external environment (Andersen, 1995).

Predisposing factors related to the tendency to utilize health services and include individual characteristics that are not directly related to health care utilization but rather influence the likelihood of utilization. These characteristics can be categorized as: demographic characteristics (including age and sex), socio-cultural characteristics of individuals that exist prior to their illness social structure (the factors that determine the status of an individual in the society as well as the physical and social environment i.e education level, occupation, social networks, social interactions, culture and ethnicity) and health beliefs (attitudes, values and knowledge that an individual may have about health and health services) (Andersen, 1995).

Others are enabling characteristics/factors which describe the means that individuals have at their disposal with which they make it possible to utilize health services. This is based on the argument that even though an individual may be predisposed to utilize health services, certain factors must be in place to enable actual use. These are enabling factors or the logistical aspects of obtaining the care they could be personal/family-related means and know-how to access health services. These include income, health insurance status and availability of health services, source of care, travel, extent, and quality of social relationships are other enabling factors. Usually, residence (urban/ rural) and distance are used as proxy measures for the availability of health services. Community-related aspects including available health personnel and facilities, and waiting time. Others are possible additions that are made up of genetic factors and psychological characteristics.

Need characteristics are the direct determinants of health care use which include self-reported and evaluated morbidity (Andersen and Newman, 1973). Need Factors the most immediate cause of health service use, from functional and health problems that generate the need for health care services. "Perceived need will better help to understand care-seeking and adherence to a medical regimen, while evaluated need will be more closely related to the kind and amount of treatment that will be provided after a patient has presented to a medical care provider" (Andersen, 1995). Perception on how people view their general health and functional state, as well as how they experience symptoms of illness,

pain, and worries about their health and whether or not they judge their problems to be of sufficient importance and magnitude to seek professional help (Andersen, 1995).

### 2.2 Health Belief Model (HBM)

This model asserts that if individuals do not perceive a certain illness as serious, they will not seek treatment or preventive measures for themselves, for their household members or their livestock. The model predicts that individuals will take action to protect health if they perceive themselves to be susceptible to a problem and if they believe it will have serious consequences. Also, individuals need to believe a course of action is available that will reduce their susceptibility, and that the benefits of taking action outweigh the costs or barriers (Rosenstock, Strecher and Becker, 1994; Sheeran and Abraham, 1995, cited by Hausmann-Muela *et al.*, 2003). This established model explains health behaviour by promoting a better understanding of beliefs about health.

## 3.0 Methodology

This paper results out of a cross-sectional study conducted in Morogoro municipality and Mvomero districts both located in Morogoro region in Tanzania. Both qualitative and quantitative data were collected. According to Tanzania-NBS (2013), the population of Morogoro municipality and Mvomero districts are reported to stand at 315,866 and 312,109 people respectively. A structured questionnaire guide using a Computer Assisted Personal Interviewing (CAPI) electronic platform was used for data collection.

The population for the study included all households with livestock species at Mvomero district plus the medical, veterinary and environmental Officers. In Morogoro district, the population included all the households and medical, veterinary and environmental Officers in the study area.

The multi-stage sampling procedure was used in selecting study units, involving four (4) stages (in choosing districts, wards, villages/streets, and HHs). Identification of the districts, wards and villages/streets for the study was made through purposive sampling, whereas respondents from the study areas were selected using simple random sampling. The inclusion criteria for the wards at Mvomero was those wards that pastoralists were mostly residing, and for the households are those having animals being kept and selling of livestock products to Morogoro urban, while those wards which were included in the study from Morogoro were those from areas products from Mvomero districts were sold, these are the wards where meat (particularly *offals; utumbo in Kiswahili*) and milk vending by Maasai from Mvomero district has been taking place<sup>1</sup>. Four wards were purposely selected to participate in the study, two from each district after meeting the criterion. The selected wards were Doma and Melela wards in Mvomero districts also Mazimbu and Kihonda Maghorofani in Morogoro municipality. Thereafter two villages/streets were purposively selected from the four wards making a total of eight villages/streets. The

<sup>1</sup> These traders are popular in the area as *Wang'ombe* and *Baba Yeyo*



reconnaissance visits identified these vendors mostly in Reli and Mazimbu Darajani streets in Mazimbu ward also at Msamvu B and Maghorofani in Kihonda Maghorofani. Patton (2002: 230) argues that "The logic and power of purposeful sampling lies in selecting information-rich cases for study in-depth", which have the potential to yield insights and in-depth understanding rather than empirical generalizations. This form of participant selection focuses on selecting information-rich cases whose study will clarify the questions under study.

For sample size estimation, a 95% confidence interval (CI), a margin of error of 5%, and a design effect of 1.5 were assumed. The design effect was used since the multistage sampling method was employed. A minimum adequate sample size was calculated based on the statistical estimation method of Kelsey et al. (1996). A sample size of 1440 respondents was determined by using the formulae:-

$$s = X^2 NP (1 - P) \div d^2 (N - 1) + X^2 P (1 - P)$$

Where:-

$s$  = required sample size.

$X^2$  = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).

$N$  = the population size.

$P$  = the population proportion (assumed to be .50 since this would provide the maximum sample size).

$d$  = the degree of accuracy expressed as a proportion (.05).

The sample size for this study was calculated from the total population of each 2 purposive selected streets/ villages from a ward. After obtaining the total sample for each ward, the proportions of each street/village from the total sample was calculated. The sample size was then distributed in the identified study streets/ villages. The sample size allocated for each village/ street was considered adequate since Bailey (1994) and Field (2009) claim that a sub-sample of 30 respondents being the bare minimum for studies in which statistical data analysis is to be done regardless of the population size.

Using a cross-sectional design both qualitative and quantitative data were collected. A structured questionnaire guide using a Computer Assisted Personal Interviewing (CAPI) electronic platform was used for data collection. The local leaders were involved in preparing the sampling frame. IBM-SPSS v20 was used for computing frequencies, percentages, mean and maximum scores. All statistical tests were considered significant at  $p$ -value= <0.05.

Binary logistic regression (BLR) determined the predictors of individual preference of a particular source to seek health care (expressed as Health Care Seeking Behaviour). A BLR model was used to analyse factors influencing the preference of a particular health care source (referred to as HCSB in this study). The choice of this particular model was based on the fact it is ideal for the dependent (response) variable that is measured on a dichotomous scale with one or more independent variables (predictors), which can be either

continuous (i.e., an interval or ratio variable) or categorical (i.e., an ordinal or nominal variable) (Pallant, 2007). In this study, the dependent variable (HCSB) is dichotomous; distributed into informal health care source /facility (IHCSF) and formal health care source /facility (FHCSF) respectively.

### Measurement of HCSB

In the study, HCSB was operationalized as Health care service source preference. The sources from individuals seeking health care services were collapsed into a dummy variable containing 0=informal health care services/facilities (IHCSF) and 1=formal health care services/facilities (FHCSF). The sources of health care under FHCSF included pharmacy/veterinary and medical /veterinary personnel sources while no treatment, self-treatment, and traditional healer were under IHCSF.

## 4.0 Findings and Discussion

### 4.1 Socio-demographic characteristics of the respondents

Table 1 presents the socio-demographic characteristics of the respondents.

**Table 1: Socio-Demographic Characteristics of the Respondents (n=1440)**

Variable	Categories	Percentage
Age in Years	21-39	42.1
	40-49	26.3
	50-59	17.1
	60-69	10.7
	> 70	3.8
Level of Education	Not gone to school at all	39.2
	Universal adult education	2.5
	Primary school	30.0
	Secondary school	8.8
	Post-secondary /vocational	10.4
	University	9.2
Sex	Male	47.9
	Female	52.1
Marital Status	Never married/Single	30.4
	Married	57.5
	Separated	1.7
	Widow	5.4
	Widower	2.5
	Cohabiting	0.8
	Too young to marry	1.7
Household Size	1-3	21.7
	4-7	65.9
	> 8	12.4

The results reveal that the highest group 29.2% (95% CI: 23.3% to 35.0%) were between 30 to 39 years and the lowest group which formed 3.8% (95% CI: 1.7% to 6.2%) were above 70 years. The average age was 43.7 years (95% CI: 42.1 to 45.3 years), and the highest age and the lowest age were 21 and 72 respectively. It is indicated that 47.9% men (95% CI: 41.3% to 53.7%) and 52.1 % women (95% CI: 46.3% to 58.8%). Slightly more than one-third (39.2%; 95% CI: 32.9% to 44.6%) had no formal education, and 30.0% (95% CI: 25.0% to 36.2%) completed primary school education.



Of the interviewed respondents, the majority 57.5% (95% CI: 50.9% to 63.8%) of the respondents were married. The average household size was 5 (95% CI: 4.9% to 5.4%) members, the lowest household size (minimum) had 1 member and the highest household size (maximum) with 10 members. About 62.9% of the interviewed households had 1 to 5 members.

### Determinants of HCSB

Socio-demographic related characteristics have been reported to have a predictive effect on other dependent variables in other studies. Education attainment contributes to the transmission of the specific information, development of generic skills or proficiencies and is associated with individual beliefs, attitudes, and habits towards various social aspects. The sex of household head is considered to have a predictive effect on other dependent variables too. With regard to household size, it is argued that a household with a greater number of people is likely to have greater burden in terms of up keeping costs than those with fewer household members hence affecting household access to various services, health care services inclusive (Kaale and Muhanga, 2017; Muhanga and Malungo, 2018). Access to information about health is likely to promote knowledge on health hence increased use of certain healthcare sources, enhancing HL and exhibiting health-related practices that are likely to lead to good health outcomes. Social networking has been among others responsible to influence individuals' decisions on various social aspects and acted also as a source of information. A household participating in any social relationship or networking, such as participation in local organisations or having people to whom they can seek advice, is likely to have better access to information about Health practices, increasing household awareness and access to social support. Individuals' contacts/interactions with healthcare professionals play roles in maintaining or improving health literacy through health messages shared. Engagement in Health-Related discussions can contribute towards individuals' understanding of health-related matters and hence influencing health outcomes. Availability of health services options in a particular community are among determinants of access to health facilities (Leka and Jain, 2010; MIT, 2010; Rauschenbach and Hertel, 2011; European Agency for safety and health at work, 2012; Marinaccio *et al.*, 2013; Rivera-Torres, 2013; Ringo, *et al.*, 2017; Muhanga and Malungo, 2017; Muhanga and Malungo, 2018a; Muhanga and Malungo, 2018b; Muhanga and Malungo, 2018c).

**Table 2: Predictor Variables for HCSB in the BLR Models**

Predictor variable	Coding	Category
Marital status of the HH	0=not in a relationship, 1=in a relationship	Dummy
Occupation of the HH	0=informal, 1=formal employment	Dummy
Years of schooling	Number of years spent studying	Continuous
ScoreOneHealthConcern	Scores	Continuous
Awareness_OHEA	0=not aware, 1=aware	Dummy
Attendance SeminWorkshop	0=not attended, 1=attended	Dummy
EiHRD	Scores	Continuous
EiOHERA	Scores	Continuous
Scores in HB	Scores	Continuous
HL score	Scores	Continuous
CMIWP scores	Scores	Continuous
PKBPAD Scores	Scores	Continuous
BEOHAS	0=effective, 1=not effective	Dummy
Influence of politics on health	Scores	Continuous
SC-PEPMHS <sup>2</sup>	Scores	Continuous
LGAs initiatives on health promotion, health care and diseases prevention	Scores	Continuous

### Abbreviations

*PKBPAD* -Prior Knowledge, Beliefs, perceptions, and attitudes towards diseases score

*BEOHAS* -Belief in the effectiveness of humans and animals health services

*SC-PEAMHS*-Service characteristics (Perceived Efficiency in accessing modern health services)

*CMIWP*- Community members' interaction with professionals

*EiHRD* -Engagement in Health-Related discussions

*EiOHERA*- Engagement in OHE related activities

The dependent variable (Y) used in this analysis was 'source of health care preference, which the study has categorised into IHCSF comprising of no treatment, self-treatment, traditional healer, and FHCSF which comprises pharmacy and medical personnel. These sources were categorized into 0=(IHCSF) and 1=(FHCSF). The model used is shown in the equation below:

$$\text{Log} [P_i / (1-P_i)] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_{16} X_{16} + \varepsilon$$

Where;

$\text{Log} [P_i / (1-P_i)]$  = Natural logarithm of the odds for the occurrence of a particular HB. The dummy for the dependent variable (performing a particular health behaviour under OHA) was coded as 1 = health-enhancing behaviour, 0 = health impairing behaviour.

$P_i$  = the probability that health-enhancing behaviour would be performed

$\beta_0$  = Constant

$\varepsilon$  = error term



$\beta_1$  to  $\beta_{15}$  = Logistic regression coefficients of the predictor variables.

Independent variables in the model are as follows:

- $x_1$  = HL points (score)
- $x_2$  = Education of the respondent (years of schooling)
- $x_3$  = Marital status of the respondent (0=not in a relationship, 1= in a relationship)
- $x_4$  = Main occupation of the respondent (0=formal employment, 1= informal employment)
- $x_5$  = Engagement in Health Related discussions (score)
- $x_6$  = Health Behaviour (Score)
- $x_7$  = Engagement in OHE related activities (score)
- $x_8$  = Community Members Interaction with professionals (score)
- $x_9$  = Awareness on OHA (0=no, 1=yes)
- $x_{10}$  = Perceived Service Characteristics (Score)
- $x_{11}$  = Attendance Seminars and Workshops (0=no, 1=yes)
- $x_{12}$  = Prior Knowledge ( Scores )
- $x_{13}$  = LGAs initiatives in health promotion, health care and diseases promotion (score)
- $x_{14}$  = Influence of politics on health (score)
- $x_{15}$  = Beliefs on effectiveness of humans and animals service

To analyse the determinants of HCSB of the respondents in the interface of humans, animals, and the environment, this study used binary logistic regression. This model was employed to estimate the likelihood of a binary response (IHCS/F=0, and FHCS/F=1) from several independent variables. The model contained a total of 13 independent variables (see Table 3). The full model containing all predictors was statistically significant,  $\chi^2$  (15,  $N=1440$ )=236.12,  $p < .001$  this is an indication of the fact that the model was able to distinguish between respondents who prefer seeking healthcare from IHCS/F and those who seek health care from FHCS/F. In its simplest form, this means that this predicts which of two categories a person's preference in terms of healthcare-seeking is likely to belong to given certain other information. The Omnibus Test of the model coefficient provides an overall clue of how well a particular model performs which is referred to as goodness of fit test (Pallant, 2007; Field, 2009). A highly significant value  $p \leq 0.05$  is normally required, from the results of this analysis the value was  $p \leq 0.000$ , while the chi-square value was 127.13 with 15 degrees of freedom. Hosmer Lemeshow Goodness of fit test indicates a poor fit by a significant value  $p \leq 0.05$ , hence to be able to support the model, there is a requirement for a  $p$ -value larger than 0.05. For the Hosmer Lemeshow test the chi-square value was 3.03 with a  $p$ -value of 0.93 were recorded in this study, it can be noted that the  $p$ -value obtained here is greater than 0.05, hence the model is supported. Other important aspects are the Cox and Snell R square and Nagelkerke R Square values. The Nagelkerke R Square value indicates the amount of variation in the dependent variable explained by the model ranging from 0 to 1. In this study the values for Cox and Snell R square and Nagelkerke R Square are 0.411 and 0.554 respectively, this is an indication that the model as a whole is explained between 41.1 % (Cox and Snell R square) and 55.4%

(Nagelkerke R squared) of the variance in HCSB and correctly classified 78.8 % of cases. Table 3 indicates only three (3) of the independent variables to have made a unique statistically significant contribution to the model (marital status, service characteristics score, beliefs on the effectiveness of modern human and animals health services) The findings in Table 3 indicate that marital status (being in a relationship), service characteristics score, beliefs on the effectiveness of modern humans and animals health services had a significant influence on determining the preference of a source to seek health care from in the interface of humans, animals, and the environment.

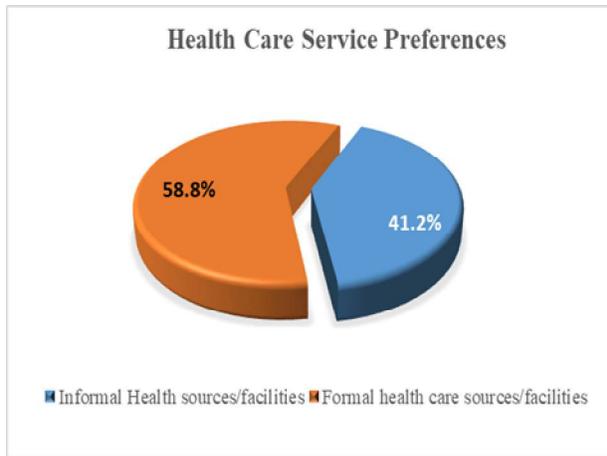
The results from the logistic regression presented in Table 3, indicate that Marital status being predictor on an individual's preference of source to seek health care from, recording an odds ratio of 0.001 (95% CI, .000 to .010),  $\beta=-6.946$ ,  $p < 0.000$ . This indicates that those in a relationship are more likely to choose formal health facilities than those who were not, controlling for all other factors in the model. The results further show that service characteristics score had a significant influence on the choice of health facility with an odds ratio of 1.678,  $\beta=0.518$  at  $p < 0.000$ . The findings imply that a unit increase in the score in the service characteristics signifies an increase in the likelihood of FHCS/F preference over IHCS/F by 1.65 (95% CI, 1.408 to 1.999) times.

Belief in the effectiveness of human and animal services is indicated to significantly influence the preference of health facility with an odds ratio of 5.268,  $\beta=1.662$  at  $p < 0.001$ . The odds of those who had belief in the effectiveness of human and animal health services to prefer formal was 5.268 (95% CI, 1.954 to 14.205) times that of those had no belief in the effectiveness of human and animal health services, a statistically significant effect, Wald  $\chi^2(1) = 10.781$ ,  $p = 0.001$ .

**Table 3: BLR results on predictors of Health care service preferences**

Variables	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower Bound	Upper Bound
Yearsofschooling	.437	.255	2.943	1	.086	1.548	.940	2.551
AttendanceSemiWorkshop(1)	-.229	1.209	.036	1	.850	.795	.074	8.495
Awareness_OHEA(1)	-1.538	1.122	1.878	1	.171	.215	.024	1.938
ScoreonLGA	.019	.159	.015	1	.904	1.019	.747	1.392
InfluencePoliticsOhealth_TotalScore	-.031	.052	.362	1	.548	.969	.875	1.073
PriorKnowlegTotalScore	.018	.034	.264	1	.607	1.018	.952	1.088
ScoresInteractMedicVetEnviron	-.098	.240	.168	1	.682	.906	.566	1.450
HealthBehaviorScore	-.054	.090	.366	1	.545	.947	.794	1.129
ScoresDiscussHealthRelated_Engagemnt	.013	.043	.086	1	.769	1.013	.930	1.103
HL_Scores	-.001	.004	.076	1	.782	.999	.992	1.006
ScoreOneHealthConcern	.020	.054	.128	1	.720	1.020	.916	1.135
TransformedMarital(1)	-6.946	1.188	34.183	1	.000	.001	.000	.010
TransformedOccu(1)	.131	.683	.037	1	.847	1.140	.299	4.350
BeliefHUMANandANIMAL.Services(1)	1.662	.506	10.781	1	.001	5.268	1.954	14.205
Service_Chrtcs Score	.518	.089	33.570	1	.000	1.678	1.408	1.999
Constant	-6.720	4.192	2.570	1	.109	.001		

The findings from this study show that 41.2% of the respondents preferred informal health sources/facilities (IHCSF) while 58.8% preferred formal health care sources/facilities (FHCSF) when seeking health care services for themselves and their animals.



**Fig.1 Health care service preferences**

Attending to FHCSF such as hospitals, health centers, dispensaries, and pharmacies when seeking health care service is similarly reported to dominate individuals' preferences in terms of health care service sources in other studies. In other parts of the world, almost a similar trend is reported on individuals' preferences in terms of health care service sources. A study by Atwine *et al.*, (2015) on health-care seeking behaviour and the use of traditional medicine among persons with type 2 diabetes in south-western Uganda revealed that health care was mainly sought from doctors and nurses in the professional health sector. Similarly in a study conducted in Ethiopia on Health Care Seeking Behavior by Begashawet *et al.*, (2016) it was found that the majority of the households sought health care from the public health center. Of the sampled household heads, 377 (97.2%) (119 urban and 258 rural) who were successfully interviewed. Among these, 58.4% (95% CI, 53.3–63.3%) of the households sought care from modern health care. Another study in Laos on Care seeking behaviour and barriers to accessing services for sexually transmitted infections among female sex workers by Phrasisombath *et al.*, (2012) show a similar preference on formal health care sources than informal, whereby the findings indicate that the source of treatment for the last RTI/STI episode was the drop-in centre (53%) followed by a public hospital (23%), private clinic (12%), private pharmacy (9%), and herbalist (2%).

During the FGDs the participants were asked on their preferences in terms of health care seeking sources in their area. Several responses were given including the following. A young participant to an FGD at Mazimbu Relini had this to share:-

*“For me to go to a hospital depends on my financial position at that particular time experiencing illness .....I may feel ill but if I don't have money to pay hospital bills then I opt for an alternative healthcare source(s). But sometimes I choose not to go to a hospital if I find that illness is not so serious!”*

Another participant at Kihonda Maghorofani said:-

*“The truth is that proper medication can only be found in hospitals, dispensaries, and health centers ....where professionalism is found. People do go to witch doctors and for prayers based on their beliefs on these other sources or sometimes in despair ....these have always been standing as alternatives ....one suffers for a long time ..s/he doesn't get healed then resort to such such .....*

An elderly person during an FGD at Melela claimed:-

*“These days, effective traditional healers are hard to find .....Most of the healers found are just on traditional medicine for the sake of meeting their daily needs. The knowledge of herbs is rare these days. In our times when the real healers were there..... Going to the hospital remained an alternative.....”*

A middle-aged male participant had this to comment during FGDs at Mazimbu:-

*“In our area, there are plenty of modern health facilities manned with professionals ....the distance to these facilities is walkable .....Sometimes we don't have even to have cash as some of us have enrolled in health insurance.....modern health facilities remain our option .....*

Another view came from an elderly woman at Mazimbu:-

*“My health is very prime .....It is my life .....I can't give a trial on it .....Going to a witch doctor or any other kind of treatment like going for prayers ....The trouble has always been getting with these sources is reliability ....We have witnessed the presence of a lot of fake traditional healers and pastors ....How can we trust these other sources?”*

It is obvious that the choice to attend to FHCSFs is determined by an individual's financial capability at the time of illness plus the perceived seriousness of such disease among other factors. In this context the IHCSFs are being regarded as alternatives to the FHCSFs, this implies that an individual will only attend to IHCSFs after facing financial difficulties and after observing certain disorder characteristics. In the local communities, there have been beliefs that people have attached to certain symptoms accompanied with certain illnesses. Based on such symptoms local people prefer IHCSFs i.e going to traditional healers instead of hospitals or dispensaries. The failure of the IHCSFs to delivery is also another important factor that makes the FHCSFs dominate among health care source services as it was argued in the FGD, this is due to the fact people seem to have lost trust on sources that form the IHCSFs. A participant in FGDs at Melela pointed out that *“... effective traditional healers are hard to find .....* The knowledge of herbs is rare these days.....”. This view is shared by Cheikhoussef *et al.*, (2011) who are also attributing the possibility of relying more on traditional



treatments when that traditional knowledge of plant species as medicines and traditional views on causes of diseases exists. In the absence of such knowledge, a disregard of traditional medicine practices and products among the members of the society is very obvious. Also, despite little evidence on the quality of care provided by IHCSFs, there is a general acceptance that IHCSFs provide substandard care (Cross and MacGregor, 2010). During the FGDs, lack of trust and lack of professionalism on the services provided were among other factors pointed out as barriers towards IHCSFs preference. The participants to the FGDs pointed out that the IHCSFs have these days remained as alternatives to FHCSFs and particularly the participants claimed that those who have been using it have done so based on their beliefs or sometimes in despair or after suffering for a long time hence resorting to it. Ringo *et al.*, (2017:54) argue that: “In a situation where residents have challenges accessing health services, they are likely to seek traditional healers or traditional birth attendants or delay presenting themselves to appropriate health facilities”. What is argued by Ringo *et al.*, (2017:54) seem to support the arguments raised by the participants in the FGDs which concluded regarding IHCSFs as alternatives to FHCSFs. This implies that FHCSFs have always been preferred except where there are difficulties in accessing FHCFs, including the location of formal healthcare services, the inadequacy of resources to access FHF, costs involved in reaching the FHCSFs and treatments at FHCSFs, plus trust given to traditional healers, among others. The findings from this study were favoured by the fact that the area involved in this study had plenty of modern health facilities manned with professionals, located within walkable distance and having residents who are enrolled in health insurance schemes. Other studies have associated similar qualities as influencing factors on health care sources preferences; such as difficulty in accessing FHCSFs (Duba *et al.*, 2001; Caulfield *et al.*, 2016) ; due to location of the formal healthcare services (Mrisho *et al.*, 2009; Chauhan *et al.*, 2015); costs of treatment and medicines, lack of certain medicines at formal health facilities (Acacio *et al.*, 2015; Chauhan *et al.*, 2015), financial capability (Bloom *et al.*, 2001), and; cultural values and trust given to traditional healers (Chauhan *et al.*, 2015). In this study the challenges in accessing FHCSFs were found to be on the lower side hence discouraging the people to resort to IHCSFs as it has been found that most of the FHCSFs were located within walkable distance, some people residing in the area were members to health insurance schemes hence minimizing challenges related to costs of accessing FHCSFs. The experience of the majority of the community members found in the study area led to having low beliefs on the effectiveness of IHCSFs then discouraged to access it.

## 5.0 Conclusion and Recommendations

It is concluded that the majority of the people prefer using modern/formal medical sources than other sources like traditional healers, self-treatment, no treatment, and pharmacy when seeking health care services for themselves and their animals despite the challenges faced. Other sources were regarded as alternatives to FHCSF. The findings from

the study about the determinants of HCSCB showed that the factors that were most associated with preferences for sources of healthcare, according to the respondents' views, were marital status (being in a relationship), service characteristics score, beliefs on the effectiveness of modern humans and animals health services. Based on this finding, it is concluded that improvement in these factors would help increase the proportion of people preferring modern health care services and reduce that of people preferring getting health services from traditional healers. On the other hand, it is recommended that other health care services which have been considered as alternatives to modern health care sources where necessary should be improved to complement modern health care sources.

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