

**FACTORS ASSOCIATED WITH HEALTH SEEKING
AND UTILIZATION BEHAVIOUR AMONG THE
SOMALI COMMUNITY IN GARISSA COUNTY, KENYA**

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**Factors Associated With Health Seeking and Utilization Behaviour
among the Somali Community in Garissa County, Kenya**

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other University.

Signature..... Date

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This thesis has been submitted for examination with our approval as the University Supervisors.

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DEDICATION

This work is dedicated to my husband for his immense support and encouragement to attain completion. I also dedicate it to my parents whose constant support and prayer has been the root of my success.

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ABBREVIATIONS AND ACRONYMS

ANC	Antenatal Care
CI	Confidence Interval
CPHR	Centre for Public Health Research
FBO	Faith Based Organization
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome.
ICH-GCP	International Conference on Harmonization Guideline on Good Clinical Practice
IQR	Interquartile range
ITROMID	Institute of Tropical Medicine and Infectious Diseases
JKUAT	Jomo Kenyatta University of Agriculture and Technology
KDHS	Kenya Demographic and Health Survey
KEMRI	Kenya Medical Research Institute
KNBS	Kenya National Bureau of Statistics
MCH	Maternal and Child Health
MOH	Ministry of Health
NGO	Non-Governmental Organization
NHIF	National Hospital Insurance Fund
OR	Odds Ratio

SD	Standard Deviation
SID	Subject Identification
SPSS	Statistical Package for Social Sciences
TB	Tuberculosis
WHO	World Health Organization

ABSTRACT

Appropriate healthcare seeking could prevent a significant number of deaths and complications due to ill health. Unfortunately, healthcare seeking behaviors (HSB) differs according to place, the affected, disease types, beliefs and the opportunities to seek care. These decisions are not isolated to individuals but are embedded in a broader household and social organizational decision process and the capacity to allow seeking of care. It is important that health care is sought from a health provider who can accurately diagnose and initiate prompt treatment appropriately. Garissa is a geographical region marked by lack of one or more of the following five conditions: access to improved water, access to sanitation, durable housing, sufficient living area, and secure tenure essentially presents risk factors for morbidity and mortality. Evidence from studies in Kenya demonstrate that morbidity and mortality in Garissa and similar counties are much higher than the national averages. To mitigate these high rates of morbidity and mortality, this study set out to determine factors that influence healthcare seeking and utilization behaviour among the Somali Community in Garissa County, Kenya. This descriptive cross-sectional community-based study used a multistage cluster sampling method to enroll consenting adults from different households located in the seven (7) sub-counties in Garissa County. The data were collected by interviewing 405 adult population using pretested structured questionnaires. Descriptive statistics frequency (%), mean, standard deviation and median (interquartile ranges at 25% and 75%) were used to express quantitative data while logistic regression analysis was used to evaluate factors associated with health seeking behavior using STATA version 13 at the significance level of $P \leq 0.05$. Among the surveyed respondents, the mean age (\pm SD) was 35.17 (12.9) years, 68.1% had no formal education, 72.8% were female and 81.2% were married. Health care seeking during the latest illness was reported by about three quarters of the respondents ($n=293$, 72.3%). The treatment or advice during the latest illness was sought by the majority in the Government / public hospitals ($n=228$), followed by in the private hospitals ($n=37$) and among Traditional or homeopathic or spiritual healers ($n=28$). In multivariate analysis, household headship, possession of health insurance, reasons for choosing preferred healthcare facility, durations prior to seeking treatment and the perceived three common illnesses in the community were associated with seeking treatment during the latest illness both in any of the healthcare facility and in the government/public hospitals. Gender, occupation and reasons for choosing preferred healthcare facility independently influenced seeking treatment during the latest illness both in any of the health facility and in private hospitals. Durations prior to seeking treatment was the only independent factor associated with seeking treatment both in any of the healthcare facility and among Traditional or homeopathic or spiritual healers. Gender, occupation, household headship, possession of health insurance, reasons for choosing preferred hospital, availability and the preference of current health facility, duration with illness and perceived illnesses in the community are the predictors of HSB. Improvement in education, health facilities and medical services in the community, introduction of community based integrated management of common community illness are imperative to improve HSB among the Somali community in this Semi-arid region of Kenya.

CHAPTER ONE

INTRODUCTION

1.1 Background information

Improving the care pathway for patients regardless of the disease is a key component in reducing both the disease burden and mortality as well (United nation, 2017; WHO, 2018). Delays in seeking medical care from an appropriate provider are associated with a worse outcome (Kallander et al., 2008). A significant body of evidence demonstrates that access to quality healthcare services promotes population health independent of other social determinants (Rutherford et al., 2010). In particular, provision and subsequent utilization of quality healthcare is integral to improving health outcomes, enhancing user satisfaction and is pivotal in contributing to early childhood development (WHO, 2007; Lee et al., 2015). Effective care pathways for a sick household or population requires a caregiver to make the initial step of recognizing that one of the household members is unwell, take decision to seek care and have the capacity and means to acquire appropriate medical care (Kirolos et al., 2018).

Healthcare seeking behaviour therefore has been defined as any action undertaken by individuals who perceive themselves to have a health problem or to be ill for the purpose of finding an appropriate remedy (Bryce et al., 2005; Prosser, 2007). Health seeking behaviour is preceded by a decision-making process that is partly shaped by individual and/or household behaviour, community norms and expectations as well as health provider related characteristics and behavior (Kubaje et al., 2005; Abubakar et al. 2013). For this reason, the nature of care seeking is not homogenous and the variations have been attributed to both cognitive and non-cognitive factors (Prosser, 2007; Abubakar et al., 2013). However, the influence of these factors varies according to region, culture, time and socioeconomic status of the individual, household and community (Prosser, 2007; Abubakar et al., 2013; Gerald, 2015). Studies have shown that the ability of caregivers to recognize various diseases in low income countries is poor (Geldsetzer et al., 2014). Caregivers' poor knowledge of the symptoms and danger signs of various disease are also associated with delays or failure to seek care (Nonyane et al., 2016; Noordam et al., 2017).

Care may be sought for various diseases from a wide variety of providers including pharmacies, private care providers, government institutions, community health workers and more informal providers such as traditional healers (Geldsetzer et al., 2014). However, it is important that care is sought from a health provider who can accurately diagnose and initiate prompt treatment appropriately. Most of these interventions, such as standard case management of childhood conditions, are delivered within the healthcare system. However, optimal benefits of cost-effective child health interventions are not realized particularly by the disadvantaged population groups due to limited access to and utilization of health-care services (Nonyane et al., 2016). Ensuring adequate access to and utilization of healthcare therefore remains central to country's health, survival and development.

Both the Kenya's and Garissa county Government's Health Sector Strategic Plan indicate the need to improve healthcare facilities and recruit more Doctors and Nurses in the county in order to promote utilization of appropriate healthcare services (Garissa County Government, 2018). While these and other health strategy documents have identified the rural poor as a vulnerable population group (Lungu et al., 2018), evidence from elsewhere suggests the need to consider the urban poor residing in slums as an important group to target with child health interventions to improve health outcomes (Harpham, 2009; Lungu et al., 2018). Equating to a slum, Garissa is a geographical region marked by lack of one or more of the following five conditions: access to improved water, access to sanitation, durable housing, sufficient living area, and secure tenure essentially presents risk factors for morbidity and mortality (UN-HABITAT, 2006). Evidence from studies in Kenya and a multi-country study in India, Egypt, Kenya and Bangladesh demonstrate that morbidity and mortality in such areas are much higher than the national averages (Kimani-Murage et al., 2014; Bassiahi et al., 2014).

There is a paucity of epidemiological evidence on the burden of health conditions and utilization of appropriate health services in Garissa County. This study becomes necessary after the 2013 devolution of political power and economic resources from the Central government to the Country's 47 Counties. Garissa County is ranked top 10 among Counties receiving the largest share of budgetary allocation. In the 2016/2017

financial year (FY) Garissa County received KES 6.8 billion (about USD 67 million) which was increased from KES 6.3 billion (about USD 63 million) in the 2015/2016 FY, representing 2.22% of Kenya total revenue collection (Republic of Kenya, 2016). Several international communities have also contributed significantly to this region's health needs. These funds are allocated to mitigate the health challenges in this region; upgrade of existing hospitals and construction of others, increase supplies of both pharmaceutical and non-pharmaceutical items, increased health personnel, enable free maternal health care, public health education campaign, improve public education, service delivery, restore public confidence in public health facilities and improve service utilization (Garissa County Government, 2018). A focus on Garissa county health targeting the entire Somali Community is therefore imperative. Granted that the healthcare system is an important determinant of health (Rutherford et al., 2010), understanding preferences of household heads/caregivers in this County is integral to organizing healthcare services to be responsive to their needs and priorities.

1.2 Statement of the problem Prompt health-seeking is critical for appropriate management of illness. It is important that the populations in Garissa County are able to recognize symptoms early, present themselves at the health care facilities, and comply with effective treatment to reduce morbidity and thereby mortality. In addition, successful adherence to health care programmes is determined by the interactions of (ill) people with health care systems. Health seeking behaviour is preceded by a decision-making process that is further governed by individual and/or household behaviour, community norms and expectations as well as provider related characteristics and behaviour. For this reason, the nature of care seeking is not homogenous depending on cognitive and non-cognitive factors that call for a contextual analysis of care seeking behaviour. Understanding the determinants of health seeking behaviour for the Garissa County Populations will be critical in providing client-oriented services.

There is growing recognition, in both developed and developing countries where Garissa County is part, that providing education and knowledge at the individual level is not sufficient in itself to promote a change in behaviour. Most studies have focused almost exclusively on the individual as a purposive and decisive agent, and elsewhere

there is a growing concern that factors promoting ‘good’ health seeking behaviours are not rooted solely in the individual; they also have a more dynamic, collective, interactive element. In this context, individual, household and regional characteristics have a significant bearing on the health seeking behaviors. Although there have been in-depth studies on health seeking behavior in rural areas of Kenya, there is very little documented information in respect to the Somali Community in Garissa County. This information is key in designing health care policies and programmes so that possible difficulties with early diagnosis and effective treatment can be identified and so that appropriate interventions can be implemented. It is against this background that this study is aimed at establishing the way in which besides individual factors, the local dynamics of communities have an influence over the well-being of the inhabitants.

1.3 Justification

Garissa County is among the high-burdened Counties in Kenya. Geographically it is located near the Kenya-Somalia border, and is often plagued with incidences of insecurity. The unreliable rainfall affects the livelihoods of the community, mainly pastoralism, predisposing them to food insecurity and sub-optimal health. The poor infrastructure-transport network system- coupled with distant health facilities further complicate access to healthcare. The KDHS 2014 data indicate sub optimal utilization of health services (such as include maternal and infant health, nutrition, family planning, HIV/AIDS) in the Arid and Semi-Arid Lands including Garissa County, despite increased campaigns to raise education and awareness of these services. Inevitably therefore, understanding human health seeking behaviour is prerequisite to change behaviour and improve health practices. Health-seeking behavior studies acknowledge that health care services, where they exist, remain greatly under or inadequately used. Proper understanding of health seeking behaviour could reduce delay to diagnosis, improve treatment compliance and improve health promotion strategies in a variety of contexts including Garissa County. This study is expected to bridge existing gaps on other dynamics that contribute to health seeking behaviour besides individual factors.

1.4 Research questions

The study will be based on the following research questions

1. What are the demographic characteristics of the Somali community in Garissa County?
2. What is the healthcare seeking and utilization practices among the Somali Community in Garissa County?
3. What are the factors that affect healthcare seeking and utilization practices among the Somali community in Garissa County?

1.5 Objectives of the Study

1.5.1 General Objective

To determine the factors that influence health care seeking and utilization behaviour among the Somali Community in Garissa County, Kenya.

1.5.2 Specific Objectives

1. To determine the demographic characteristics of the Somali community in Garissa County
2. To determine healthcare seeking and utilization practices among the Somali Community in Garissa County
3. To determine the factors that affect healthcare seeking and utilization practices among the Somali community in Garissa County

1.6 Conceptual Framework

Health-seeking behaviour has been defined as a “sequence of remedial actions that individuals undertake to rectify perceived ill health (Ahmed *et al.*, 2000). Influences upon people’s behaviour in relation to their health have been a subject of interest for quite a long time. This has seen the design and development of various social models in an attempt to understand the pathways taken by people when ill, and the determinants that affect the selection of these pathways, eventually leading to actual

service use or the lack thereof. This particular study did not focus on the health behavior seeking models and how the Somalia community in Garrisa County relate to them, but rather synthesized these models with a focus on ‘end point’ (utilization of the formal system, or *health care seeking behaviour*); and secondly on the ‘process’ (illness response, or *health seeking behaviour*).

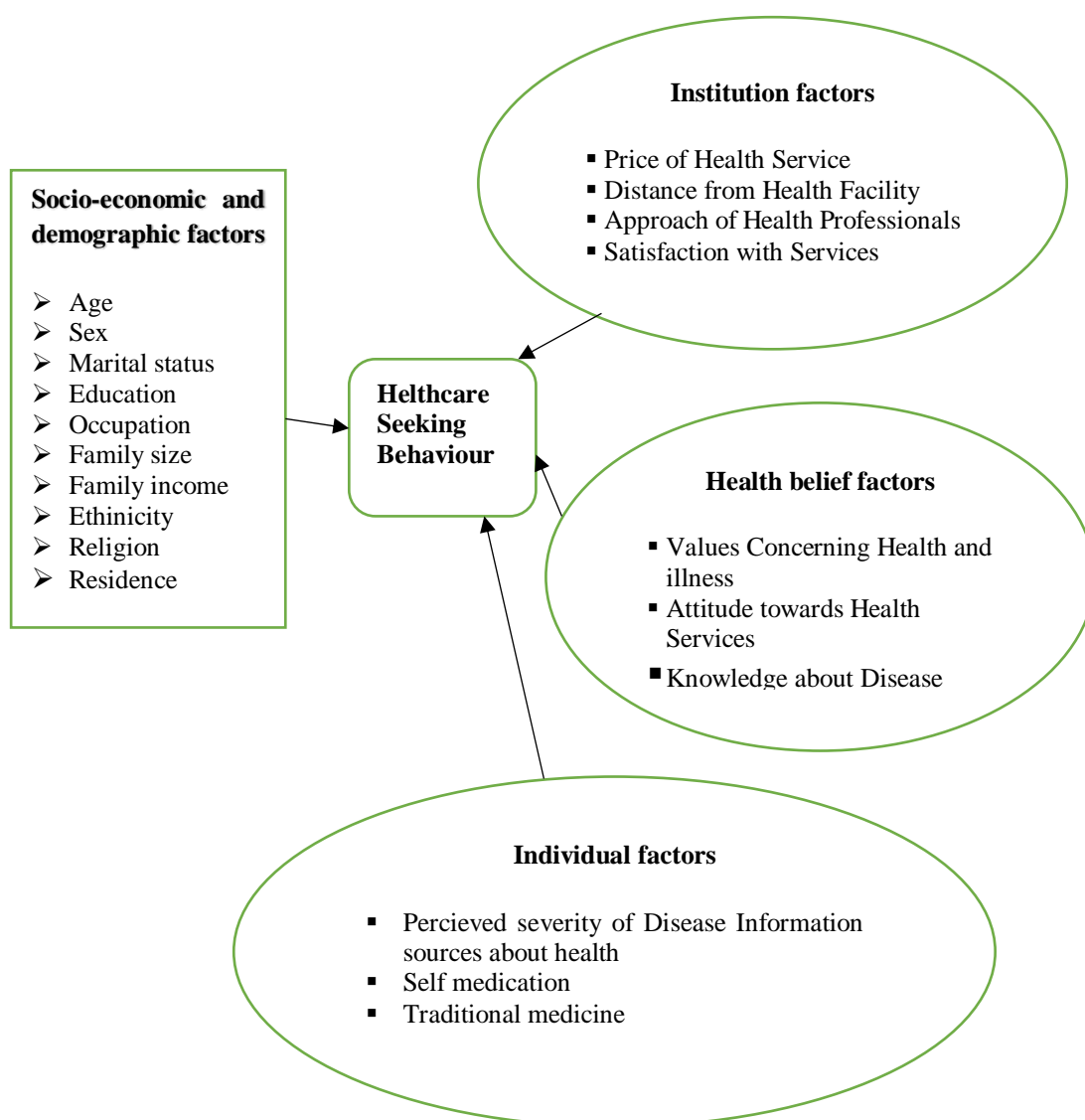


Figure 2.1: Analytical Framework Modified from Healthcare Utilization Model

CHAPTER TWO

LITERATURE REVIEW

2.1 Healthcare seeking behaviours: utilisation of the system

There is often a tendency for studies to focus specifically on the act of seeking ‘health care’ as defined officially in a particular context. Although data are also gathered on self-care, visits to more traditional healers and unofficial medical channels, these are often seen largely as something which should be prevented, with the emphasis on encouraging people to opt first for the official channels (Ahmed, et al., 2005). These studies demonstrate that the decision to engage with a particular medical channel is influenced by a variety of socio-economic variables, sex, age, the social status of women, the type of illness, access to services and perceived quality of the service (Tipping & Segall, 1995). In mapping out the factors behind such patterns, there are two broad trends. Firstly, there are studies which categorizes the types of barriers or determinants which lie between patients and services. In this approach, there are as many categorizations and variations in terminology as there are studies, but they tend to fall under the divisions of geographical, social, economic, cultural and organizational factors as shown in the table 2.1 below.

Table 2.1: An illustration of categorization of health care seeking factors across studies

Author	Geographical	Social	Economic	Cultural	Organization
Kloos(1990)	Geographical	Social-Economic		Cultural	
Yesudian(1988)		Demographic	Economic	Cultural	Organization
Leslie (1989)		User factors			Service factors
Anderson(1995)	Environmental	Predisposing and enabling factors			Health system

These categorizations can be further broken down to illustrate the types of measures frequently used. These can be grouped under reoccurring determinants, and placed into key spheres of influence: informal infrastructure and formal as shown in the table 2.2 below.

Table 2.2: Breaking down determinants of health care seeking behaviour

Category	Determinant	Details	Sphere
Cultural	Status of women	Elements of patriarchy	Cultural propriety
Social	Age and sex		Informal
Socialeconomic	Household resources	Education level Marital Occupation Marital status Economic status	
Economic	Costs of care	Treatment Travel Time	Physical Infrastructure
	Type and severity of illnesses		
Geographical	Distance and physical access		
Organizational	Percieve Quality	Standard of drugs Standard of equipment Competence of staff Attitude of staff Interpersonal process	Technical of Staffing of Interpersonal Formal

2.2 Health seeking behaviours: the process of illness response

The second body of work, rooted especially in psychology, looks at health seeking behaviours more generally; drawing out the factors which enable or prevent people from making ‘healthy choices’, in either their lifestyle behaviours or their use of medical care and treatment. Thus, whilst in the former literature health care seeking behaviour is conceptualized as a ‘sequence of remedial actions’ taken to rectify

‘perceived ill-health’ (Ahmed et al., 2000), in the second approach the latter part of the definition, responding specifically to perceived ill-health, may be dropped, as a wider perspective on affirmative, health promoting behaviours is adopted. A number of ‘social cognition models’ (Conner & Norman, 1996a) have been developed in this tradition, to predict possible behaviour patterns. These are based on a mixture of demographic, social, emotional and cognitive factors, perceived symptoms, access to care and personality (Conner & Norman, 1996b). The underlying assumption is that behaviour is best understood in terms of an individual’s perception of their social environment.

2.2.1 The health belief model

A number of genres of model exist, and variations have been developed around them. One of the most widely applied is the ‘health belief model’. Sheeran and Abraham (1996) categorize the range of behaviours that have been examined using health belief models into three broad areas: preventive health behaviours, sick role behaviours and clinic use. In this type of model, individual beliefs offer the link between socialization and behaviour. Health belief models focus on two elements: ‘threat perception’ and ‘behavioural evaluation’ (Sheeran & Abraham, 1996). Threat perception depends upon perceived susceptibility to illness and anticipated severity; behavioural evaluation consists of beliefs concerning the benefits of a particular behaviour and the barriers to it. The health belief model has been criticized for portraying individuals as asocial economic decision makers, and its application to major contemporary health issues, such as sexual behaviour, have failed to offer any insights (Sheeran & Abraham, 1996).

2.2.3 The social cognitive model

A second genre of model is linked to the general assumption that those who believe they have control over their health are more likely to engage in health promoting behaviours (Norman & Bennett, 1996). The ‘health locus of control’ construct is therefore utilized to assess the relationship between an individual’s actions and experience from previous outcomes. However, this approach to social cognition models has been criticized for taking too narrow an approach to health and because the

amount of variance explained is low (Norman & Bennett, 1996). The figure below represents a visual summary of the approach of social cognition models.

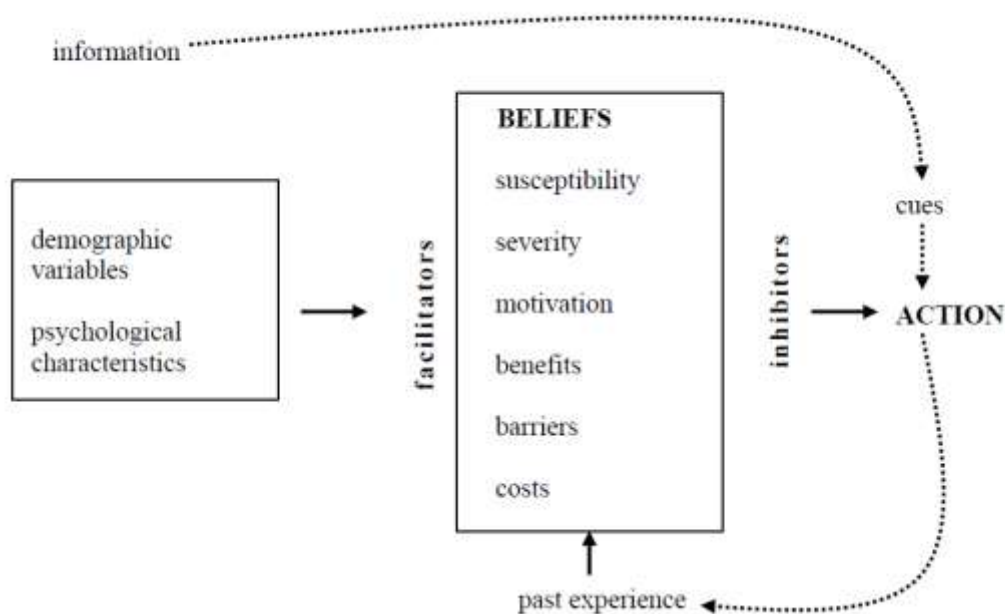


Figure 2.2: The Social Cognitive Model of Health Seeking Behaviour

(Adopted from Sheeran and Abraham, 1996)

These models, attempting to predict health behaviour through a variety of means, are predicated on two assumptions central to classic health promotion: health is influenced by behaviour; behaviour is modifiable (Conner & Norman, 1996b). The downfall of these models is that most view the individual as a rational decisionmaker, systematically reviewing available information and forming behavior intentions from this. They do not allow any understanding of how people make decisions, or a description of the way in which people make decisions. Fazio (1990) proposes an alternative to this ‘deliberative processing model’ in the form of a ‘spontaneous processing model’ which takes greater account of the unpredictable nature of the actual process of decision making. However, the central problem remains that these models focus on the individual and the centrality of cognitive processes (‘I know, therefore I act’). This loses the sense that we are all rooted in social contexts that affect, in a far more complex manner, the way we process and act on information.

Among the widely used models are the psychosocial models, explanatory models, and behavioural models. Psychosocial models e.g. pathways model (Nyamongo, 2002), and health belief model (Anderson & Neuman, 1975) are based on motivating forces and assess the cost-benefit of an action in relation to illness. Explanatory models on the other hand look at how the signs and symptoms of a particular illness are labeled, then consequently interpreted based upon individual experience, and community norms and expectations, to arrive at a decision (Prosser, 2007). Given the cognitive nature of interpretation and decision making which renders them less predictable, we also rely on non-cognitive contextual factors like economic and socio-cultural factors which may influence health-seeking. These are often referred to as determinants and are the basis of the behavioural models.

2.2.4 The behavioural model

Behavioural models consist of predisposing factors such as sex, age, occupation, education; enabling factors such as income, household materials; and need factors like perception of illness and service indicators. These models consider determinants that affect decision making such as economic circumstances, travel distances, level of education, previous consumer satisfaction and perceived quality of service. These determinants are examined at three levels - individual, household, and health systems levels (Sheeran & Abraham, 1996). Thus, based on this, cues for health seeking and health service use are determined by social, cultural, political and economic factors as perceived by the individual and as defined by the community.

Differing models of health seeking behaviour are still debated, but the growth of operational research into health service delivery has sponsored a more pragmatic approach to the area. In recent years the dichotomy of the "qualitative" versus the "quantitative" approach has been in part superseded at the level of measuring health seeking behaviour by a combined approach associated with "rapid assessment" methods (Tipping & Segall, 1995). The different models of health seeking behaviour can be studied to produce a broad framework to inform investigation and intervention, particularly in the context of looking at use and non-use of "modern" medical services in developing countries.

The framework includes the following categories of factors: characteristics of the subject, characteristics of the disease, and characteristics of the health service. Axel Kroeger suggests a summary of these in the table below.

Table 2.3: The choice of healer in relation to various possible explanatory variables

	Subject characteristics	Disorder characteristics	Services characteristics	
Explanatory variables	Age Sex Marital status & position in household Ethnicity Formal education Occupation Resources (land & cash etc) Interaction with family, community etc	Chronic or acute service or trivial Etiological model expected benefits from treatment psychosomatic VS somatic	Accesibility Appeal (opinion and attitude towards traditional and modern healer) Acceptability Quality Communication Cost	
CHOICE OF HEALTHCARE RESOURCES				
Dependant variables	Traditional healer	Modern healer	Drug seller	Self treatment or no treatment

All the factors included in the model above as "explanatory variables" can interact, leading to differences in individual behaviour for different conditions and on different occasions. The important questions for any investigation to cover include the recognition of particular symptoms; the perception of those symptoms and the threat of disease; the extent to which symptoms disrupt family, work and other social activities; availability of treatment resources, physical proximity, psychological and monetary costs of taking action (including costs, time, money, effort, stigma, social distance, feeling of humiliation and the like); beliefs in the efficiency of recommended

health care (itself related to beliefs about the cause of the disease). Most empirical work in this field has identified the importance of lay networks for determining health seeking behaviour.

2.3 Factors influencing health

It is perhaps important at this point to highlight the difficulty of compartmentalizing factors influencing care seeking, which reinforces the fact of their interconnectedness, the need to view them from a wider context, and as part of a process. Further, there is the lingering question as to whether an association between a factor and care seeking is in itself enough to infer causation on the part of the eventual health outcome or decision arrived at considering that many of the processes involved in the determination of health or health care seeking are not visible (Buckley, 1997). An in-depth review of the literature about causation and related factors is beyond the scope of this study. The main focus for this review and by extension proposed study is on determinants of health that have been investigated in previous studies for their influence on health care seeking with a bias on other dynamics outside the individual. These determinants have often been investigated in combination with one another and variously labeled as socio-economic or access variables. Though this study seeks to investigate them separately, the variables will be grouped into socio-demographic characteristics and factors related to accessibility.

2.4 Health Services and Disease Pattern

The under-utilization of the health services in public sector has been almost a universal phenomenon in developing countries. On the other hand, the private sector has flourished everywhere because it focuses mainly on 'public health goods' such as antenatal care, immunization, family planning services, treatment for tuberculosis, malaria and sexually transmitted infections (Bannette *et al.*, 1994). Still higher is the pattern of use of private sector allopathic health facilities. This high use is attributed mostly to issues of acceptability such as easy access, shorter waiting time, longer or flexible opening hours, better availability of staff and drugs, better attitude and more confidentiality in socially stigmatized diseases (Bhattia & Cleland, 2001). However, in private hospitals and outlets, the quality of services, the responsiveness and

discipline of the provider has been questionable (Andaleeb, 2000). Client-perceived quality of services and confidence in the health provider affect the health service utilization. Also, whether medicine is provided by the health care facility or has to be bought from the bazaar has an effect. In Pakistan for example, the public health sector by and large has been underused due to insufficient focus on prevention and promotion of health, excessive centralization of management, political interference, lack of openness, weak human resource development, lack of integration, and lack of healthy public policy (Meng *et al.*, 2000). Lack of health education, non-availability of drugs and low literacy rate in rural areas and in this case Garissa County could contribute to decreased use of services like MCH dispensaries among others. The communication factor also creates a barrier due to differences of language or cultural gaps and it can also affect the choice of a specific health provider or otherwise. The type of symptoms experienced for the illness and the number of days of illness are major determinants of health seeking behaviour and choice of care provider. In case of a mild single symptom such as fever, home remedies or folk prescriptions are used, whereas with multiple symptoms and longer period of illness, biomedical health provider is more likely to be consulted (Islam & Aman, 2001). Traditional beliefs tend to be intertwined with peculiarities of the illness itself and a variety of circumstantial and social factors. This complexity is reflected in the health seeking behaviour, including the use of home prescriptions, delay in seeking bio-medical treatment and non-compliance with treatment and with referral advice. The attitude of the health provider and patient satisfaction with the treatment play a role in health seeking behaviour.

2.5 Physical accessibility

Access to a primary health care facility is projected as a basic social right. Dissatisfaction with primary care services in either sector leads many people to health care shop or to jump to higher level hospitals for primary care, leading to considerable inefficiency and loss of control over efficacy and quality of services. In developing countries including Kenya, the effect of distance on service use becomes stronger when combined with the dearth of transportation and with poor roads, which contributes towards increased costs of visits. Availability of the transport, physical distance of the facility and time taken to reach the facility undoubtedly influence the

health seeking behaviour and health services utilization (Fatimi & Avan, 2002). The distance separating patients and clients from the nearest health facility has been remarked as an important barrier to use, particularly in rural areas. The long distance has even been a disincentive to seek care especially in case of women who would need somebody to accompany. As a result, the factor of distance gets strongly adhered to other factors such as availability of transport, total cost of one round trip and women's restricted mobility (Moazam & Lakahani, 1990). Women's restricted mobility is likely to be a major factor in Garissa County which is predominantly a Muslim community where culture requires a woman to be accompanied by a male whenever they move out of the homestead.

2.6 Women's autonomy

Men play a paramount role in determining the health needs of a woman. Since men are decision makers and in control of all the resources, they decide when and where women should seek health care. Women suffering from an illness report less frequently for health care seeking as compared to men (Rani & Bonu, 2003). Women are usually not allowed to visit a health facility or health care provider alone or to make the decision to spend money on health care. Thus, women generally cannot access health care in emergency situations. This certainly has severe repercussions on health in particular and self-respect in general of the women and their children. Despite the fact that women are often the primary care givers in the family, they have been deprived of the basic health information and holistic health services. Having a subjugated position in the family, women and children need to seek the permission of head of the household or the men in the family to go to health services. Women are socially dependent on men and lack of economic control reinforces her dependency. The community and the family as institutions have always undermined her prestige and recognition in the household care. The prevailing system of values preserves the segregation of sexes and confinement of the women to her home (Fatimi & Avan, 2002). Empowering women through educating them can bring respect, social liberty and decision-making authority in household chores.

2.7 Socio-demographic characteristics

2.7.1 Gender

Studies in gender and health-seeking behaviour mainly centre on the differences in access to health care between men and women due to gender inequalities. To a higher or lesser extent, inequalities exist in all societies and social classes, but in developing countries and among the poor, they are assumed to have more negative impact on women's health. While many have sought to use 'Gender' interchangeably with 'sex', the former is a social construct based upon the different roles, expectations, behaviours, and constraints placed upon an individual by society, by virtue of their sex. Many health indicators for adults exhibit considerable gender differences according to an individual's social position and role (Moazam & Lakahani, 1990). An understanding of the social and biological differences in men's and women's health issues is fundamental for health practitioners. In developing countries like Kenya, this understanding is yet to be reflected in how a majority of health problems are addressed, with women's often lower status persisting, leading to socioeconomic disparities that frequently cause women to suffer. The Ojanuga & Gilbert (1992) systematised the obstacles which women face into four categories: Institutional barriers- unequal treatment by health providers-, Economic barriers- different access to resources-, Cultural barriers- social status of women which situates them in socially inferior positions, male doctors who attend women with sensitive health problems, etc. -, Education barriers- women having less access to education e.g. seen in literacy rates.

Although attempts have been made at addressing these disparities, like the Third World Conference on Women in Nairobi that committed to improve access of women to health and social services, education, credit facilities and other resources that might enhance their own well-being, (World Health Organization, 1998), the assumption has always been that women are somehow passive recipients of whatever it is felt should be good for them. The general view is that there still remains inadequate understanding in developing countries of how gender influences health (AbouZahr et al., 1996), access to health information and services, and health-seeking behaviour. Given that health is biologically, ecologically, culturally and socially determined, then gender

must be seen in the same light as these determinants due to its interconnectedness with biology and the socio-cultural factors that affect health (Vlassoff & Garcia Moreno, 2002). With this recognition of the importance of gender, the focus then should shift from 'gender' per se towards the social divisions of the sexes, or what is generally called 'gender relations'.

Some gender differences in health care seeking may be greater during a woman's reproductive years and some of the results from earlier studies that concluded women were more frequent service-users may be attributable to this. In Central Asia for example, it was found that women of reproductive age use health services one and a half times more than men of a similar age. Although for some issues this does not seem to be the case, it has been found that women are more likely to delay health-seeking and treatment, particularly for health conditions that are more prone to carry social stigma, such as tuberculosis, sexually transmitted infections and leprosy (Birungi et al., 2001).

Building upon the experience that certain conditions that may affect health care seeking and gender differences, a growing body of literature in the United States suggests that men are less likely than women to seek help from health professionals for conditions such as stress, depression, substance abuse and physical disabilities. Earlier research in the United Kingdom shows men are more likely to feel reluctant to seek any type of health services and therefore delay longer. This reluctance on the part of males is little understood and the authors concluded that 'traditional masculine behaviour' was the cause (Andaleeb, 2000).

Gender is reported to affect the utilization of health and medical services in some developing countries. In researching the literature, it is often difficult to separate gender from other interrelated factors such as literacy, education and socioeconomic status. These studies generally show an association with gender and health seeking, including differences in seeking treatment for other family members, such as female and male children.

In terms of access, it has been noted that lack of available time may also impede women from seeking care. Responsibilities for childcare and household tasks often

make it difficult for them to leave home, particularly if they also have wage-earning activities. Moreover, cultural practices that do not allow women to be seen in public during the day, as in many Muslim communities, limit access. In Nepal, for general health issues gender has been shown not only to affect illness reporting, but also the decision to choose a health care provider and how much to spend on a sick child (Rani & Bonu, 2003).

Studies in Africa show mixed patterns of health seeking. In Ghana, women are more likely to seek health care than men while in another study in Zambia women were more likely to delay in seeking treatment, particularly if their education level was low. There are other issues as to how the introduction of user fees affects the use of health services by women, where one of the main issues for women is consideration of household income (Fatimi & Avan, 2002). The studies on gender, implicitly or explicitly, depart from the idea that health behaviour not only depends on a person's knowledge, will and capacity, but also on the position which they occupy in society.

2.7.2 Education

A key socio-cultural determinant of health is education. Available data in all countries points to the relationship between the risk of disease and lower levels of education. Occurrence of illness is significantly lower in groups with higher education, especially among men. A study in Ghana found that “higher education resulted in higher utilization...” of health facilities (Rutherford et al., 2010). While there has been an increase in formal education levels in sub-Saharan Africa in recent years, levels of education are generally lower for women than men.

Education is tied to gender, culture, social status, occupation and economic wellbeing. It is difficult to make any definitive statements about education without including socio-economic status. The World Bank views the two as interlinked and regards the “economic and social benefits of education for girls and women as a form of human capital investment”. Secondary or higher education consistently correlates with modern family planning practices and contraceptive use and negotiation of these with a partner (WHO, 2007).

Education may be the single most important factor to influence women's health. According to the National Council for Population and Development in Kenya, "one of the most important determinants of a woman's social and economic status is her education level". It is evident that education level and socioeconomic status are related, as is gender. Therefore, it is not surprising to find that education and socio-economic status directly affect women's access to healthcare, specifically in developing countries, and that education and economic status of the household are positively related with choosing to act and seek health care when ill in Zambia (Bulatao & Ross, 2002)

2.7.3 Regular Income

Income will be used in this study as a determinant for health care seeking behaviour, and has been used in previous studies to determine not just health seeking behaviour, but risk factors associated with health outcomes, barriers to seeking health care, types of treatment and delays in service use. Income is one of the factors used as a measure of socio-economic status (Dressler, Balieiro, & dos Santos, 1998) (Pavlova, Groot, & van Merode, 2003) and it is socio-economic status that is often used as an indicator of health. There is a large body of literature regarding health status and health outcomes as relates to socio-economic status. Literature regarding income, separate to the category which is socio-economic status is sparse. How low income affects health, and what the relative importance of different pathways related to low income is far from clear (Fazio, 1990).

Many studies identify economic status as the most significant predictor of service use. More often than not, the decision to seek health care is based upon the cost as compared to the perceived benefit. The ability to pay determines the use of health services. A lack of finances seriously affects health care seeking. As such, although the willingness to pay for services may be there, the means to do so may not. Not surprisingly low income has been found to be a barrier to health seeking and can create an overwhelming financial burden for some. Income, as a limiting factor to seeking health care is not just relative to the cost of the actual treatment. It is also the cost of physically accessing treatment, or the tradeoff between loss of income as a result of being ill

versus seeking treatment (WHO, 2000). The major reason given for self-treatment in a study in Zambia was that people did not have enough money to seek health care and this included not only the cost of the treatment from hospital outpatient departments, but the fact that people had to travel there one time to make the appointment and return for the actual appointment at another time hence incurring the costs of transport and loss of income (Collins et al., 1996).

An interesting phenomenon from a number of studies again returns to the idea of perception of quality of health services. In Guinea and Benin, it was found that although expense was an obstruction to people seeking preventive care, even the lowest income groups would use curative services significantly more and even pay more, if access became easier or if the perceived quality of service improved. These findings were also replicated in Mali, Ghana, Cameroon, Rwanda, Guinea-Bissau and Liberia (Moazam & Lakahani, 1990). Even those in the lowest income bracket in Sri Lanka were likely to bypass the free option and attend a low-cost private facility with the belief that the quality of service would be better.

2.8 Factors related to accessibility

2.8.1 Communications

Ownership and access to a radio, television or telephone is often considered as an asset calculation for the measurement of socio-economic status (Kekovole et al., 1997). However, with more focus on technology and what can be done with this technology from a public health perspective, especially in developing countries, this would be a narrow view of the information that can be gained from the ownership or access to such items. There are two ways to look at communication: what comes in and what goes out. Therefore, different methods of communication can be used to bring information to people such as public health and educational messages, while others can be used to access resources and send messages out like when someone is ill or educational health information.

Mobile phones, for example, can be very useful especially when other forms of communication roads, postal systems or fixed-line phones- may be limited. The impact

of mobile phones in the developing world has been significant and is the fastest growing means of telecommunications in Africa today (Kekovole et al., 1997). The possibilities opened up by the more reliable mobile technology include better access to employment opportunities, health and emergency services. A mobile phone provides an individual with a point of contact including within a neighborhood or community. There is a different attitude to mobile phones which can become a community resource as messages are passed along and individuals pay to use the service, while someone can supplement their income by being the owner of that mobile phone.

Communication is considered to have an impact on the health of populations (Good, 1987). This has been shown in Safe Motherhood programs which depend upon health information and the referral process which relies upon formalized communication and transport arrangements. Even the financial status that is assumed to come with the ownership or lack of ownership of certain items such as radio, television or telephone can have an effect on access to health services.

2.8.2 Motorized Transport

There are few studies specific to types of transport and their relationship to health care utilization. In the majority of discussions regarding access to health care facilities, types of transport, the time taken to travel to the nearest health facility, transport cost and the condition of roads are assessed as a single variable such as physical or geographic access or socio-physical environment. The failure of health care referrals and follow up due to lack of finances, time and mode of transport is also one of the factors to be included in the overall discussion of health care utilization and barriers to health care for populations in South Africa and Kenya (Nyambane, 2013). Individuals that were sick and given the option of seeking health care or self-medicating would decide based on the cost of accessing health care and the perceived benefit of receiving health care. Individuals were “influenced by income, insurance, type of illness and access variables such as distance and owning a vehicle”. It has also been noted that specifically “women’s use of services is affected by cost, time, mobility, and distance in different ways than men’s” (Fatimi & Avan, 2002).

In developing countries, lack of transport in remote areas, coupled with poor road conditions; make it difficult for women to reach relatively nearby health facilities. The same problem holds for ageing men. It would seem reasonable to suggest that those with access to transport, particularly more efficient transport, would use it, especially to access a health or medical facility if they, or a member of their household were ill. This, however, becomes more complicated in reality for the reasons discussed in the literature such as availability, cost and condition of the road (Moazam & Lakahani, 1990).

2.8.3 Closest Facility Type

This determinant is concerned with which type of health facility is more available to prospective users. This would include the level of expertise and treatment that could be assumed from the type of facility i.e. a hospital versus a dispensary, or if public facilities are limited and not accessible, private facilities have filled the gap (Moazam & Lakahani, 1990).

A number of factors influence the choice of a health service including distance from the health facility, availability of transportation, and the condition of the roads. The distance separating potential patients from the nearest health facility is an important barrier to its use, particularly in rural areas. According to a study in Western Kenya, the reasons given by respondents for the choice of the health service they accessed ranged from proximity to the health facility, lack of funds, convenience and lack of adequate services at the health facility (Nyamongo, 2002).

2.8.4 Travel Time

As with type of transport and closest health facility, time taken to travel to a health facility is often discussed in terms of geographic or physical access. This makes comparison with other study results difficult “as most of the available literature has focused on the influence of physical accessibility on the use of health services in general”. The determinant ‘travel time’ seeks to include a number of issues addressing access to health and medical services. Actual distance in Kilometres or miles is an easier measure, but does not seem an accurate representation of what logistical barriers

may be involved. That is, the distance to travel to a health or medical facility may be 50 Kilometres, but on a surfaced road using motorized transport this may take 30 minutes and be far more achievable than 5 Kilometres on a donkey over rough terrain (Muriithi, 2013).

‘Travel time’ in this context is used as part of a combination of determinants to better understand the patterns influencing health care seeking. The assumption is that the longer the travel time to a health care facility, the least likely individuals are to use it. While income, service cost, education, waiting time and transport cost seemed to be the main variables in order of importance, for a research in Ghana, it also found that between transport cost and travel time, it was travel time that showed the greatest correlation with distance and utilization. In Uganda, distance, cost, quality of service and health workers’ attitudes influenced people’s choices of a health service (Nash Ojanuga & Gilbert, 1992). In Bangladesh, travel time was important to couples seeking family planning as it was demonstrated they were less likely to use contraception or choose methods if the travel time to fixed clinics was greater than 30 minutes (Islam & Aman, 2001).

2.8.5 Culture

Culture is a complex term referring to values, practices, meanings, and beliefs which are transmitted from one person to another through the process of enculturation. Culture, often considered a barrier to health services, can influence knowledge and beliefs of illness as well as the course of treatment for illness. If a person lacks confidence in the ability for a healer to treat their illness, they may be unlikely to visit this healer for further treatment. As such, belief in the efficacy of treatment, influenced by cultural categories of illness, can shape adherence to prescribed treatment and ultimately the use of health care services. Previous studies have documented the influence of cultural beliefs and customs on health seeking behaviour. A study in Kisii, Kenya, to determine socio-cultural factors that affect health seeking behaviour on malaria, found that local people believed in the efficacy of indigenous herbs and used them (Nyamongo, 2002).

Cultures can have differing notions of the self which may influence health services utilization. For instance, in the United States as well as many other western nations, there are two main conceptions of self, one that is autonomous and one that is heteronomous (Fazio, 1990). If an individual is a member of a culture that considers the self as heteronomous, they are likely to have their course of treatment determined by people within their social network. Conversely, if a culture considers the individual as autonomous, the decisions for treatment are more likely to be made by the individual. In those cultures that consider the self as heteronomous, an ill individual's treatment may be delayed as persons within their social network discuss treatment options. Yet, even in cultures that stress autonomy, the individual may consult social networks for illness advice. Social networks can provide an impetus for health care utilization but may also press an individual to abstain from accessing health services (Solomon, 2005).

Suchman's concept of parochial and cosmopolitan networks is useful in considering the effects of social networks. According to Suchman, parochial networks are those that are traditional, close in affiliation, and reluctant to accept new information. Because of their emphasis on tradition, these networks are theoretically likely to utilize home based treatments before scientific based health care such as professional biomedicine. However, persons belonging to cosmopolitan networks are more progressive, willing to accept new information, and more likely to have a scientific approach to illness. As a result, cosmopolitan network members would be more likely to use biomedical health care. Therefore, social networks affect illness knowledge and patterns of health care utilization. As an individual experience's illness, he or she will often consult their network in an effort to identify the illness and the best course of treatment or prevention (Bhattia & Cleland, 2001).

CHAPTER THREE

MATERIALS AND METHODS

3.1 Study Area

Garissa County is located in North Eastern part of Kenya and covers an area of 34,389.7 km² and has an estimated population of 632,060 persons (KNBS, 2009 Projections). Currently, the county is subdivided into 7 administrative sub-counties, namely: Garissa, Balambala, Ijara, Fafi, Hulugho, Dadaab and Lagdera. It borders Wajir County to the North, Tana River County to the West, Isiolo County to the North West and Somalia to the East. The county has a flat topography with altitude ranging from 70 - 400 meters above sea level.

Garissa County is classified as semi-arid with annual mean temperatures ranging between 33C and 42C. The vegetation ranges from scrublands to thorny thickets. The county receives a bimodal rainfall with a long-term average of 250-300mm. The main sources of livelihoods are primarily pastoral activities (keeping camels, goats, most common with cattle and sheep less frequent), agro-pastoral work, and formal employment or casual waged labour.

The county is characterized by poor infrastructure network which complicates access to health care services. Its geographical location further exacerbates the marginalization experienced by the communities. Bordering Somalia also predisposes the county to insecurity episodes from across the border which have further negatively affected potential investments in various sectors that could have improved infrastructure systems and overall service delivery to the community.

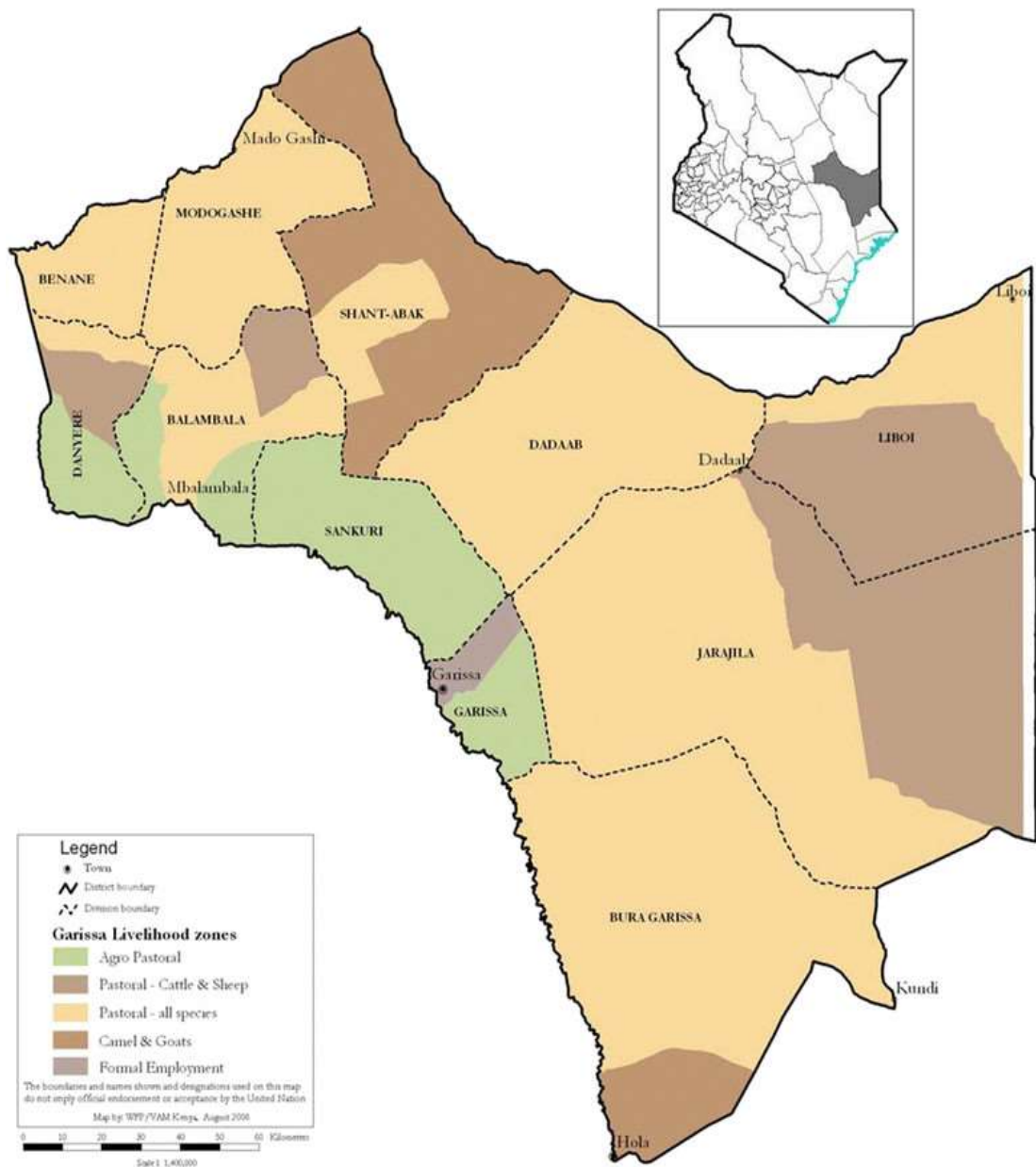


Figure 3.1: The map showing the location of study (Sources. Google maps)

3.2 Study Design

This study used a population-based, cross-sectional design to investigate the demographic and socioeconomic factors which influence the utilization of health services among the Somali community in Garissa County, Kenya.

3.3 Study Population

The study targeted the adult Somalis, both men, women living in the 7 Sub-Counties of Garissa County.

3.4 Eligibility Criteria

3.4.1 Inclusion Criteria

The target population in this study included:

1. Adult population of Somali origin
2. Households that have resided in Garissa County for the past 5 years
3. Have themselves or a member of their household been ill in the past 14 days. Within this 14-day period, the circumstances (social, economic, environmental etc) are likely to have remained the same as opposed to a member having been ill 2-3 months prior to interview whereby these factors may have changed and bring a significant variation in the outcome. Thus a 14-day period was deemed to be reasonable enough for the factors to remain constant. This reference period (14 days) is also used by other researchers.
4. Only one individual was interviewed per household; this was the head of the household. The mother or another adult member of the household would be interviewed in the absence of the head
5. Only respondents above 18 years old were included
6. Those who gave consent for a face to face interviews

3.4.2 Exclusion criteria

The study excluded:

1. Individuals who have resided in Garissa County for less than 5 years.
2. Non-Somali households
3. Younger than 18 years of age
4. Non-consenting households

3.5 Study Limitations

1. Culturally the man is assumed to be the head of the household; hence respondents were likely to refer to the man as household head even in cases where women were practically the household heads.
2. The low literacy levels (estimated at 86% illiteracy for women) of the respondents might have affected the responses (even when translation was done).

3.6 Sampling

3.6.1 Sample Size Determination

Sample size determination was achieved by the method of Fischer et al. (1998) (as shown below:

$$n = \left(\frac{z}{m} \right)^2 p(1 - p)$$

Where,

- n = desired sample size (population > 10,000)
- z is the critical value based on the desired confidence level (e.g., $z = 1.96$ for 95% confidence level);
- m is the margin of error or precision of the estimate in this case $m=0.05$.
- p the proportion in the target population estimated to have a particular characteristic. It shall be assumed that 50% of the population has been unwell (at least one member of the household in the last 14 days).

Substitution yields

$$n = \{1.96 \times 1.96 \times 0.05 \times 0.05\} / (0.05 \times 0.05)$$

$$n = 384$$

The estimated sample size of **384** was used

3.6.2 Sampling Procedure

Respondents were selected from each of the 7 sub-counties using a multi-stage cluster sampling technique. This had been determined to be the most economical and feasible sampling method. The relative advantage of cluster sampling in this study was its ability to cover a large geographical area, without losing the representational characteristics of the population. A representative sample of the adult population was therefore selected using a two-stage cluster sampling technique. Health and administrative services in Kenya are divided into counties, sub-counties, divisions, locations, sub-locations and villages. Seven (7) sampling frames were created with the primary sampling units being all of the sub-locations within the 7 sub counties. A list of sub-locations and their populations was obtained from the various sub-county offices. From each of these sampling frames, one sub-location was randomly selected.

The second stage sampling frame was then created for each of these seven sub-locations. The enumeration unit of these sampling frames was the villages within each sub-location. A list of the villages and populations was obtained from the chief. Again, using random selection, one village from each sub-location was selected. Therefore, seven villages were identified that represented the seven sub-counties. It is important to stress that villages and not households or individuals were the enumeration units in this study. Households which participated in the study were then selected randomly until the desired sample size was attained. A household was defined as people who live in the same dwelling and also share meals or living accommodation. Though the study particularly targeted household heads any consenting adult that was available in the household would qualify to respond to the questions in the questionnaire, if the household head was not available.

All eligible and consenting adults from each village were enrolled. The overall populations sourced were persons aged 18 years and above living within the geographic boundaries of any of the seven villages in the seven sub-counties who had been residing in the area for a minimum of five years.

3.6.3 Enrolment strategy

The village guide led the researchers to homesteads to be sampled and introduced the researchers to the household members. Upon explaining the reason for the visit and purpose of the study, the household members identified the household head.

Consent was sought from the household head and any concerns clarified by the research team. The respondents who could write were asked to sign the consent form while those who could not sign were asked to put a thumb print on the signature part of the consent form. Enrolment into the study was done at the homestead.

3.7 Pre-testing

Pretesting was conducted so as to ensure the reliability and suitability of the questionnaire. It was also used as a means of training and assessing research assistants who were involved in the main survey. Pretesting was conducted on a selected group of households who were randomly picked from the population the survey was to be conducted. A total of 30 respondents were sampled for the pre-test. This group was not included in the actual data collection exercise.

3.8 Data Collection

All participants were assigned a subject identification number (SID). The SID contained the patient's initials and a serial number. All data entered into the study databases were de-identified and only associated with a SID in password protected files. The study maintained a double entry system for the data. Interviewer administered questionnaires were used for the data collection after pre-testing. The main type of data collected included; demographic data (sex, income, education, age employment, marital status etc); preferred health services and barriers to access of health services.

3.9 Data Analysis

Descriptive statistics frequency (%), mean, standard deviation and medium (interquartile ranges) were used to express data to address objectives one and two. Chi-square or Fisher's exact test were used to test for significance where applicable. To address objective three was achieved using logistics regression analysis. The overall health seeking behavior was determined for all participants. In bivariate analyses, odds ratios (OR) and 95% confidence intervals (CI) for the association between health seeking behavior and socio-demographic, household related factors, healthcare accessibility, availability and healthcare related problems characteristics were calculated using Poisson regression. In multivariate analyses, a manual backward elimination approach was used to reach the most parsimonious model including factors that were associated with healthcare seeking behavior among Somali community in Garissa County at the significance level of $P \leq 0.05$. All statistical analyses were performed using STATA v 13 (StataCorp LP, College Station, TX, USA).

3.10 Ethical Considerations

The study was conducted according to the Declaration of Helsinki and International Conference on Harmonization Guideline on Good Clinical Practice (ICH-GCP). The protocol and informed consent form were reviewed and approved by the Centre for Public Health Research Centre's Scientific Committee (CPHR- CSC) and KEMRI Ethical Review Committee (Appendix II), prior to any protocol-related procedures being conducted. Written informed consent was obtained from each participant prior to any protocol-specified procedures being conducted. To maintain confidentiality, initials and coded numbers were used to identify the participants' documents, and study reports. Participation in this study was completely voluntary and the participants could have withdrawn even after accepting to participate.

CHAPTER FOUR

RESULTS

4.1 Socio demographic characteristics

In this study, all the 405 participants who consented and recruited responded to the structured face to face interview (100% response rate). Table 4.1 summarizes the socio-demographic characteristics of the study participants

Table 4.1: The socio-demographic characteristics of study participants

Variables	Frequency	Percentage
Age		
Mean (\pm SD)	35.17	\pm 12.9
Median(IQR)	32	13.0
Range	70	(14-83)
<20	28	6.9
21-30	157	38.8
31-40	130	32.9
41-50	36	8.9
>51	54	13.3
Gender		
Male	110	27.2
Female	295	72.8
Education Level		
Primary	14	3.5
Secondary	25	6.2
Tertiary	9	2.2
Non-formal	276	68.1
Religious classes	81	20
Marital status		
Single	24	5.9
Married	329	81.2
Divorced/Separated	27	6.7
Widowed	25	6.2
Religion		
Muslim	404	99.8
Christian	1	0.2
Occupation		
Employed	22	5.4
Self employed	74	18.3
Unemployed	309	76.3

4.1.1 Age: The mean age (\pm SD) of the study participants was 35.17 (12.9) years with median (IQR) of 32 (13) and a range of range 18 to 84 years. There were two age group peaks; 157(38.8%) of the participants were aged between 21 to 30 years and 130(32.1%) aged 31 to 40 years. Those aged \geq 51 years were 54(13.3%), while the least 28(6.9%) were aged $>$ 20 years (Table 4.1).

4.1.2 Gender: Generally majority of the participants 295(72.8%) were females compared to 110 (27.2%) male.

4.1.3 Educational level: Of the 405 study participants, the majority 276 (68.1%) had none- formal type of education, followed by 81(20%) who attended religious classes. There were 25(6.2%), 14(3.5%) and 9(2.2%) of the participants who had secondary, primary and tertiary level of education.

4.1.4 Occupation: The majority of the participants 309(76.3%) were unemployed followed by 74 (18.3%) in self-employment with only 22(5.4%) having formal employment.

4.2 Household characteristics

Table 4.2 describes the household characteristics with respect to income, structure, size and health expenditures.

Table 4.2: Household characteristics of study participants

Variables	Frequency	Percentage
Household Headship		
Yes	143	35.3
No	262	64.7
Household population		
Mean (± SD)	6.65	±3.02
Median (IQR)	6	3.0
Range	20	(1-21)
<4	95	23.5
5-10	270	66.7
>11	40	9.9
Major contributor to house Income		
Father	347	85.7
Mother	30	7.4
Child (brother/Sister)	25	6.2
Other relative	3	0.7
Healthcare Expenditure		
Mean (± SD)	1462.74	±1655.48
Median (IQR)	1000	1500.0
Range	14900	(100 -15,000)
<3000	370	91.4
3001-6000	28	6.9
>6001	7	1.7
Availability of healthcare Insurance		
Yes	30	7.4
No	375	92.6

4.2.1 Household headship: The majority of the respondents 262(64.7%) were not the actual head of their household compared to 143(35.3%) who were household head.

4.2.2 Household population: The mean number (\pm SD) of the household population was 6.65 (3.02) persons with median (IQR) of 6 (3) and a range of 1 to 21 persons. The majority 270(66.7) of the households had a population of between 5 to 10 people followed by 95(23.5%) household which had \leq 4 persons and 40(9.9%) households with \geq 11 persons.

4.2.3 Total monthly income: Out of the 405 respondents, 129(31.9%) had monthly income of \leq 4800 Ksh, followed by 112(27.7%) with monthly income between 4800 to 9600Ksh, 109(26.9%) 9601-19200Ksh and the least 55(13.6%) had \geq 19201 Ksh as their monthly income (Figure 4.1).

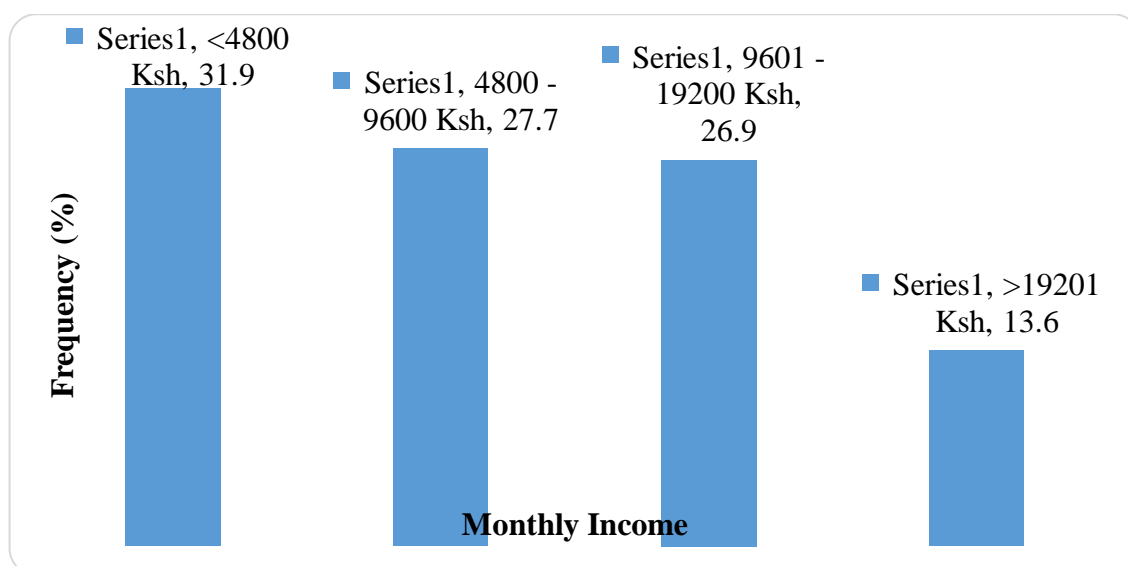


Figure 4.1: Distribution in participants' total monthly income

4.2.4 Major contributor to household income: The majority 347(85.7%) of the total monthly income was contributed to by the fathers. Mothers followed at 30 (7.4%), 25(6.2%) by children while only 3(0.7%) of the households' total monthly income contributed majorly by other relatives (Table 4.2).

4.2.5 Monthly healthcare expenditure: The mean (\pm SD) household monthly health care expenditure was 1462.74 (1655.48) Ksh with median (IQR) of 1000 (1500) and a

range of 100 to 15000 Ksh. The majority 370(91.4%) of the households spent \leq 3000 Ksh followed by a few 28(6.9%) spending 3001 to 6000 ksh (Table 4.2).

4.2.6 Major contributor to household healthcare expenditure: The majority 274(67.7%) of the total monthly healthcare expenditure was contributed to by the household fathers. This was followed by 55(13.6%) mothers, 73(18%) children and 3(0.7%) other relatives (Figure 4.2).

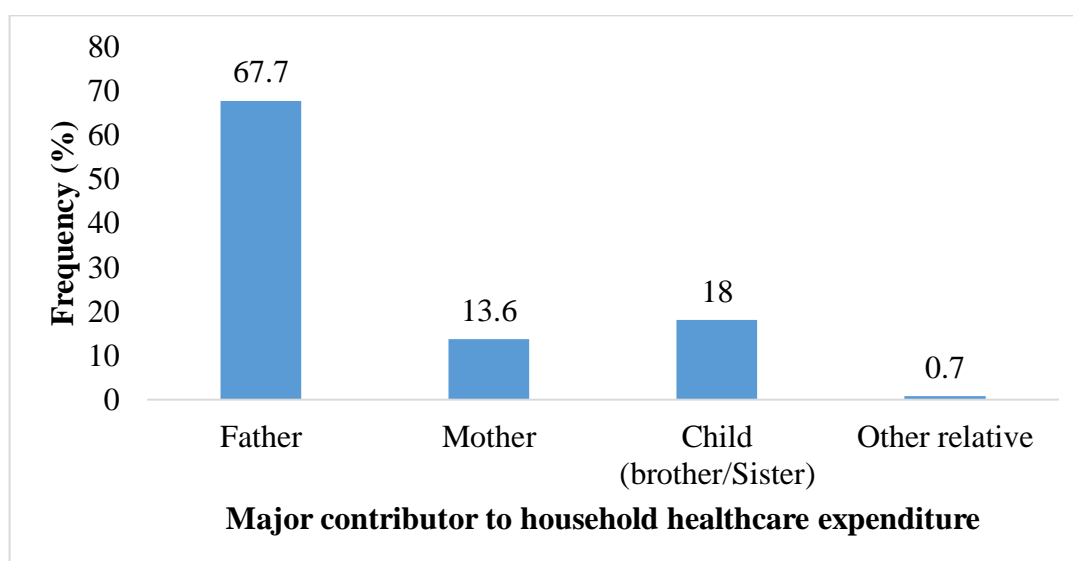


Figure 4.2: Distribution in participants' healthcare expenditure

4.2.7 Healthcare insurance: The majority 375(92.6%) of the respondents did not have any form of healthcare insurance cover compared to only 30(7.4%) who had National Hospital Insurance Fund (NHIF) as their insurance cover for medical needs (Table 4.2).

4.3 Healthcare seeking practices

The healthcare seeking practices among the Somali Community in Garissa County was categorized into; (i) those relating to accessibility (ii) availability of health facility in the community, (iii) treatment of various illness and (iv) deterrent to obtaining these health care by the Somali community.

4.3.1 Accessibility

In this study various attributes related to accessibility of medical advice or treatment among the Somali community in Garissa were probed as summarized in Table 4.3

Table 4.3: Healthcare accessibility characteristics of study participants

Variables	Frequency	Percentage
Distance to Hospital/Clinic		
10 Kilometres or less	224	55.3
11-20 kilometers	128	31.6
21-30 kilometers	34	8.4
More than 30 kilometers	19	4.7
Mode of transport to Hospital		
On foot	334	82.5
Motocycle	13	3.2
Bicycle	10	2.5
Donkey cart	12	3
Time taken to nearest Hospital		
30 minutes or less	161	39.8
More than 30minutes upto one hour	111	27.4
More tha one hour to two hours	72	17.8
More than two hours	61	15.1

4.3.1.1 Distance to hospital or clinic: Out of the 405 respondents, majority 224(55.3%) lived between 1 to 10 KM from the nearest health clinic or hospital. This was followed by 128(31.6%) who lived between 11 to 20KM away from nearest hospital while only 19(4.7%) lived > 30KM from the nearest hospital (Table 4.3).

4.3.1.2 Mode of Transport: When probed on the mode of transport used to the nearest health facility, the majority 334(82.5%) walked to the nearest hospital, and only a few

13(3.2%), 10(2.5%) and 12 (3%) used either a motor cycle, bicycle or a donkey cart respectively as a mode of transport to the nearest hospital (Table 4.3).

4.3.1.3 Time taken: concerning the time taken to reach the nearest health facility, there were 161(39.8%), 111(27.4%), 72(17.8%) and 61(15.1%) of the respondents who took \leq 30 minutes, 30 to 60 minutes, 1 to 2 hours and \geq 2 hours respectively (Table 4.3).

4.3.2 Availability of health facility in the community

The attributes related to availability of healthcare facilities among the Somali community in Garissa are summarized in Table 4.4.

Table 4.4: Health seeking behaviour among the study participants

Variables	Frequency	Percentage
Health providers available to Somali Community		
Government Clinic/Hospital	211	52.1
Private clinic	15	2.7
Government and private clinic/Hospital	33	8.1
Traditional or homeopathic or spiritual leader	24	5.9
Private/Government clinic/hospital/ Traditional or homeopathic healer	95	23.5
Private clinic/ Traditional or homeopathic healer	27	6.7
Hospital/Clinic preferred by somali Community		
Private clinic	53	13.1
Government Clinic/Hospital	320	79
Traditional or homeopathic or spiritual leader	32	7.0
Reason to visit formal health facility		
When self treatment does not work	37	9.1
Prolonged symptoms	81	20
Availability of adequate money	14	3.5
Desease severity	127	31.4
Immediately	164	36

4.3.2.1 Health service providers available to the community: The majority of respondents 211(52.1%) stated that Government clinic or hospital were the most common health service providers available to the Somali Community. Other 95(23.5%) participants stated the availability of three different health service providers to the Somali Community including Private clinic \ Government clinic or hospital and Traditional or homeopathic healer, followed by 33(8.1%) who stated the availability of Government and Private clinic or hospital while the least 15(3.7%) reported the availability of private clinics (Table 4.4).

4.3.2.2 Preferred health provider during sickness\ or general health problem: The majority 320(79%) of the participants preferred government hospital \clinics during their sickness or general health problem. There were others 53(13.1%) and 32 (7.9%) who preferred private clinics or Traditional or homeopathic or spiritual healer respectively (Table 4.4).

4.3.2.3 Reasons for the preferred health provider during sickness\ or general health problem: The majority 180(44.4%) of the participants chose health facility due to cost (cheaper than the others), this was followed by 42(10.4%) due to trust for the service providers' workers, 37(9.1%) due to proximity (near thus ease of transportation/distance to clinic) while only 16(4%) chose the healthcare facility because of different combined reasons: Cost/Proximity/Trust/Attitude/Time saver and availability of equipment (Figure 4.3).

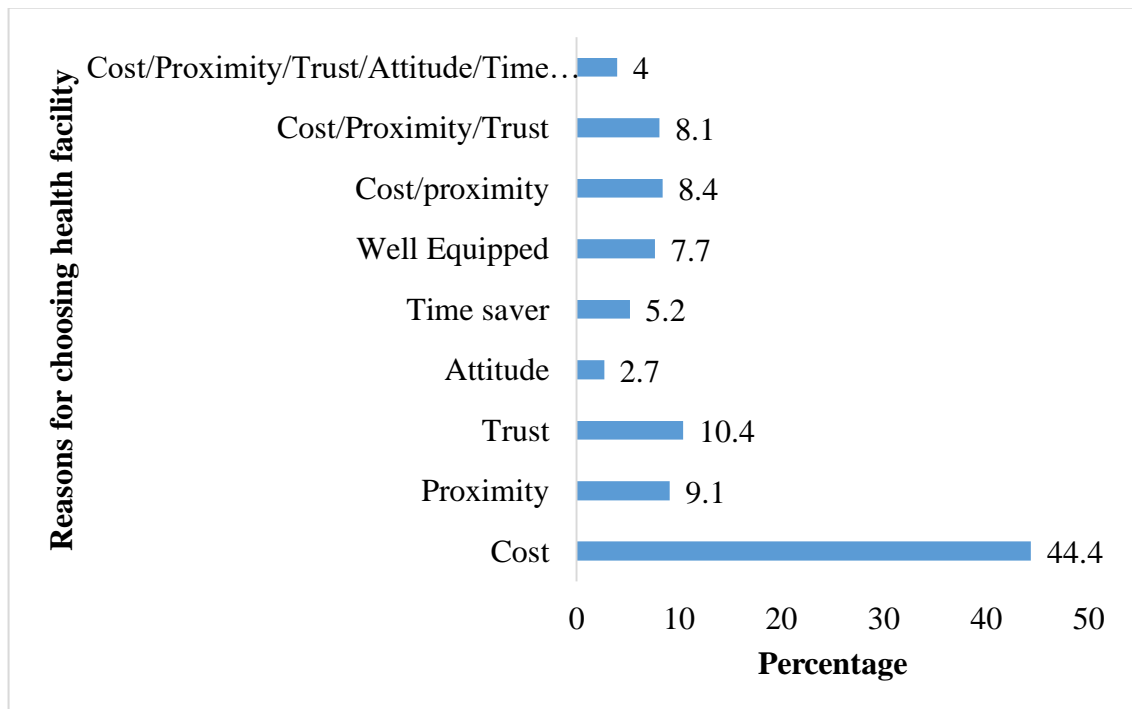


Figure 4.3: Distribution in participants’ reasons for choosing various health facilities

4.3.2.4 Time to visit formal healthcare facility: When probed at what time the participants would visit a formal health facility (Public private, NGO, FBO) during illness, the majority 146(36%) of the participants stated they would immediately seek medical attention during illness followed by 127(31.4%) who preferred visiting and healthcare facility when the disease becomes severe while only 14 (3.5%) stating they would visit healthcare facility when money becomes available (Table 4.4).

4.3.3 Treatment of various illness

The attributes related to treatment seeking behaviour among the Somalia community residing in Garissa are summarized in Table 4.5.

Table 4.5: Distribution in the attributes related to treatment seeking behaviour among the study participants

Variables	Frequency	Percentage
Treatment place for last illness		
Private clinic	37	9.1
Government Clinic/Hospital	228	56.3
Traditional or homeopathic or spiritual leader	28	6.9
Did not attend any	112	27.7
Adherence to medication during last illness		
Yes	366	90.4
No	39	9.6
Days after illness sought advice/ treatment		
Mean (\pmSD)	2.94	\pm 4.2
Median (IQR)	3	4.0
Range	30	(0-30)
Immediately	126	31.1
1-5 Days	203	50.1
>6 days	76	18.8
Taken medication during illness before seeking advice/ treatment		
Yes	141	34.8
No	264	65.2

4.3.3.1 Treatment for the latest illness. Evaluating the treatment during the last ailment, out of the 405 participants, the majority 293 (72.3%) sought treatment during their last illness compared to 112 (27.7%) who reported not being sick and did not seek any treatment (Figure 4.4) Should form the basis/One of the basis of analysis of health seeking behaviour).

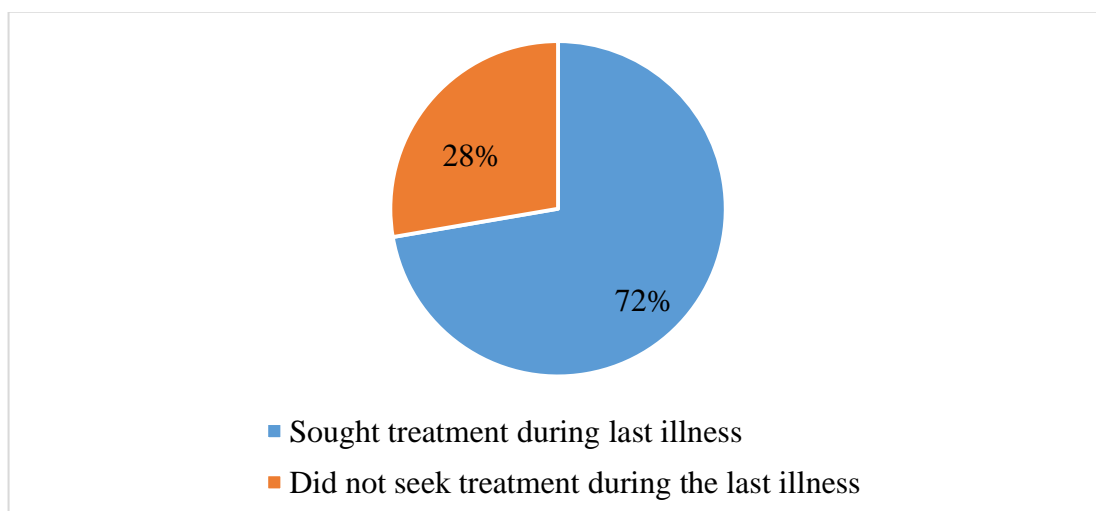


Figure 4.4: Distribution in participants' treatment seeking characteristics during the last illness

For those who sought treatment, the majority 228(77.8%) sought treatment in the Government clinics and hospitals followed by 37(12.6%) in private clinic and 28 (9.6%) among Traditional or homeopathic or spiritual healers (Table 4.5).

4.3.3.2 Adherence to medications: The majority 366 (90.4%) of the responders adhered to medication instructions during their last ailment compared to only 39(9.6%) who did not adhere (Table 4.5).

4.3.3.3 Number of days post illness before seeking advice or treatment: The mean (\pm SD) duration after the onset of illness that the participants sought treatment was 2.94 (4.2) days with median (IQR) of 3 (4) and a range of 0 to 30 days. The majority 203 (50.1%) of the participants sought treatment 1 to 5 days post the onset of illness followed by 126(31.1%) who sought treatment immediately and some 76(18.8%) participants sought treatment > 6 days post onset of illness (Table 4.5).

4.3.3.4 Uptake of any medication prior to seeking medical advice or treatment: The majority 264(65.2%) of the responders reported not taking any medication prior to seeking medical treatment or advice during their last ailment compared to 141 (34.8%) who self-medicated before seeking medical intervention (Table 4.5).

4.3.4 Deterrent and problems faced in visiting healthcare services

The attributes related to deterrents and problems when obtaining formal medical advice or treatment in public health facilities among the Somali community residing in Garissa are summarized in Table 4.6.

Table 4.6: Distribution in the deterrents during formal visit to public healthcare facilities among the study participants

Variables	Frequency	Percentage
Face problems when attending formal public health facility		
Yes	235	58
No	170	42
Three most common illnesses found within your community		
Diarrhea/Malaria	60	14.8
Diarrhea/Malaria/ Acute mulnilation	68	16.8
Diarrhea/Malaria/ Acute mulnilation/hypertation/ diabetes/ Anemia	75	18.5
Diarrhea/Malaria/ pregnancy complication/ anemia	107	26.4
Malaria	95	23.5
Differences in attending healthcare between men and women in the community		
Yes	40	9.9
No	365	90.1
Religious beliefs hindering aperson to access healthcare		
Yes	11	2.7
No	394	97.3
Healthcare services to be brought closer to the community by county Government		
More Health staff	12	3
More health facilities	157	58.8
Transport/Ambulance	21	5.2
Maternaty service	22	5.4
Drugs	169	39.5
Laboratoryservices	33	8.1

4.3.4.1 Problem faced while attending the formal public health facility: The majority 235(58%) of the responders reported facing problems and challenges when attending formal public healthcare facility during their last ailment compared to 170 (42%) who did not (Table 4.6).

4.3.4.2 Types of deterrents or problems faced during formal visit to public health facilities: While there were 169 (41.7%) of the participants who reported not experiencing any problem/ challenges during their last formal visit to public healthcare, the remaining 236(58.3%) participants experienced varied problems: The majority 94 (23.2%) of the participants cited drug unavailability followed by 87(21.5%) who faced the problem of cost and unavailability of healthcare workers. Others included 21(5.2%) who listed five different problems of cost / healthcare workers unavailable / Disrespectful healthcare workers /Drugs unavailability/Lack of proper communication. There were 14(3.5%) who complained about unavailable healthcare workers and the least 2(0.5%) who were worried about the cost of the services (Figure 4.4).

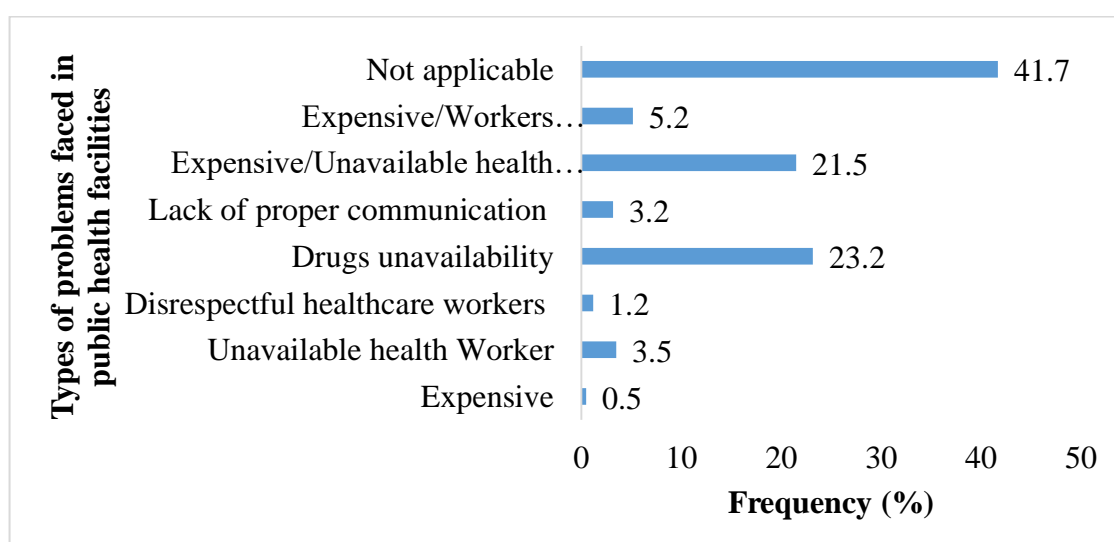


Figure 4.5: Distribution in participants' types of problems faced in public health facilities

4.3.4.2 Three most common illnesses found in the community: The types of illnesses listed varied across participants and included 107(26.4%) who listed four different illnesses including Diarrhoea\Malaria\Pregnancy complication and Anaemia. There were 95(23.5%) respondents who were concerned about Malaria, while 75(18.5%) were concerned about seven different illnesses including Diarrhoea\Malaria\ Acute malnutrition\ Hypertension\ Diabetes\ Helminths and Anaemia. The

least 60(14.8%) were only concerned about diarrhoea and Malaria as the main illnesses faced in the community (Table 4.5).

4.3.4.3 Gender and religious hindrance to access of public medical facilities: The majority 365(90.1%) and 394(97.3%) of the responded did not think that gender nor religious differences respectively were hinderance to obtaining public medical treatment (Table 4.5).

4.3.4.4 Healthcare services to be brought closer to community by the county government. When probed about the healthcare services they would prefer brought closure to them various responses were gathered including stocking the pharmacy with adequate drugs 160 (39.5%) while 157(38.8%) preferred building up of more health facilities. There were 33(8.1%), 22(5.4%), 21(5.2%) and 12(3%) of the respondents who preferred closer laboratory services, maternity services, transportation services and more healthcare workers respectively (Table 4.5).

4.4 Factors associated with healthcare seeking behaviour

4.4.1 Socio-demographic factors

The factors associated with health seeking behaviour among the study participants was determined based on the latest illness that the respondents had which was categorized into those seeking advice or treatment from (1) any health facility or intervention, (2) Government clinic or hospital (3) private clinic or Clinic run by nongovernmental organization or church and (4) Traditional or homeopathic or Spiritual healer.

Table 4.7 summarizes the socio-demographic characteristics associated with latest illness treatment and advice seeking behaviour from (1) any health facility or intervention (2) Government clinic or hospital (3) private clinic or clinic run by nongovernmental organization or church and (4) Traditional or homeopathic or Spiritual healer.

Table 4.7: Socio-demographic factors associated with health seeking behaviour among respondents during their last illness

Variables	Frequency	Percentage
Household Headship		
Yes	143	35.3
No	262	64.7
Household population		
Mean (± SD)	6.65	±3.02
Median (IQR)	6	3.0
Range	20	(1-21)
<4	95	23.5
5-10	270	66.7
>11	40	9.9
Major contributor to house Income		
Father	347	85.7
Mother	30	7.4
Child (brother/Sister)	25	6.2
Other relative	3	0.7
Healthcare Expenditure		
Mean (± SD)	1462.74	±1655.48
Median (IQR)	1000	1500.0
Range	14900	(100 -15,000)
<3000	370	91.4
3001-6000	28	6.9
>6001	7	1.7
Availability of healthcare Insurance		
Yes	30	7.4
No	375	92.6

4.4.1.1 All health facilities or interventions

In bivariate analysis, the male participants were more likely to seek treatment in any health facility for their last illness (OR= 1.1, 95% confidence interval (CI), [1.1 to 1.8], p = 0.003) compared to female counterparts. Participants who were self-employed were more likely to seek treatment in any health facility\intervention during their last illness (OR= 1.4, 95%CI [1.1to 1.8], p = 0.008) compared to those who were unemployed.

4.4.1.2 Government clinic or hospital

In bivariate analysis, participants who were self-employed were more likely to seek treatment in government clinic or hospital during their last illness (OR= 1.5, 95%CI [1.2 to 2.1], $p = 0.002$) compared to those who were unemployed.

4.4.1.3 Private clinic or hospital

In bivariate analysis, the male participants were more likely to seek treatment in private clinic or hospital during their last illness (OR= 2.2, 95%CI [1.2 to 4.3], $p = 0.01$) compared to female counterparts. Further, participants who were in formal employment were more likely to seek treatment in private clinic or hospital during their last illness (OR= 4.7, 95%CI [2.1 to 10.6], $p = 0.001$) compared to those who were unemployed.

4.4.1.4 Traditional or spiritual healer

In bivariate analysis none of the sociodemographic factors such as age, gender, educational level, marital status, religion and occupation were associated with seeking treatment or advice in traditional or spiritual healers during their last illness (Table 4.7).

4.4.2 Household related factors

Table 4.8 summarizes household factors associated with treatment seeking behaviour during the respondents' latest illness in (1) any health facility or intervention (2) Government clinic or hospital (3) private clinic or clinic run by nongovernmental organization or church and (4) Traditional or homeopathic or Spiritual healer.

Table 4.8: Household factors associated with health seeking behaviour among respondents during their last illness

Variables	Frequency	Percentage
Household Headship		
Yes	143	35.3
No	262	64.7
Household population		
Mean (± SD)	6.65	±3.02
Median (IQR)	6	3.0
Range	20	(1-21)
<4	95	23.5
5-10	270	66.7
>11	40	9.9
Major contributor to house Income		
Father	347	85.7
Mother	30	7.4
Child (brother/Sister)	25	6.2
Other relative	3	0.7
Healthcare Expenditure		
Mean (± SD)	1462.74	±1655.48
Median (IQR)	1000	1500.0
Range	14900	(100 -15,000)
<3000	370	91.4
3001-6000	28	6.9
>6001	7	1.7
Availability of healthcare Insurance		
Yes	30	7.4
No	375	92.6

4.4.2.1 All health facilities or interventions

In bivariate analysis, respondents who were the head of their household were more likely to seek treatment in any health facility or intervention during their latest illness (OR= 1.4, 95%CI [1.1to 1.8], p = 0.004) compared to those who were not household head. On the other hand, respondents who had healthcare insurance cover were less likely to seek treatment in any health facility\intervention during their latest illness

(OR= 0.5, 95%CI [0.3 to 0.9], p = 0.033) compared to those who did not have insurance cover (Table 4.8).

4.4.2.2 Government clinic or hospital

In bivariate analysis, respondents who were the head of their household were more likely to seek treatment in government hospital during their latest illness (OR= 1.4, 95%CI [1.1 to 1.8], p = 0.008) compared to those who were not household head. On the other hand, respondents who had healthcare insurance cover were less likely to seek treatment in government hospital during their latest illness (OR= 0.3, 95%CI [0.2 to 0.8], p = 0.009) compared to those who did not have insurance cover (Table 4.8).

4.4.2.3 Private clinic or hospital

In bivariate analysis, respondents who were the head of their household were more likely to seek treatment in private hospital during their latest illness (OR= 1.9, 95%CI [1.1 to 3.6], p = 0.04) compared to those who were not household head. On the other hand, respondents who had had monthly income of 9601 to 19,200 Ksh (OR= 0.3, 95%CI [0.1 to 0.7], p = 0.011), had household population of between 5 to 10 persons (OR= 0.2, 95%CI [0.09 to 0.6], p = 0.002) and those with > 11 persons (OR= 0.2, 95%CI [0.1 to 0.4], p = 0.001) were less likely to seek treatment in private hospital during their latest illness (Table 4.8).

4.4.2.4 Traditional or spiritual healer

In bivariate analysis, respondents who had the fathers as the major contributor of healthcare expenditures were less likely to seek treatment among traditional or spiritual healers during their latest illness (OR= 0.4, 95%CI [0.2 to 0.9], p = 0.035) compared to those who had the children and other relatives as the major contributor of healthcare expenditures (Table 4.8).

4.4.3 Healthcare accessibility related factors

Table 4.9 summarizes healthcare accessibility related factors associated with treatment seeking behaviour during the respondents' latest illness in (1) any health facility or intervention (2) Government clinic or hospital (3) private clinic or clinic run by nongovernmental organization or church and (4) Traditional or homeopathic or Spiritual healer.

Table 4.9: Healthcare accessibility related factors associated with health seeking behaviour among respondents during their last illness

Variables	Frequency	Percentage
Household Headship		
Yes	143	35.3
No	262	64.7
Household population		
Mean (± SD)	6.65	±3.02
Median (IQR)	6	3.0
Range	20	(1-21)
<4	95	23.5
5-10	270	66.7
>11	40	9.9
Major contributor to house Income		
Father	347	85.7
Mother	30	7.4
Child (brother/Sister)	25	6.2
Other relative	3	0.7
Healthcare Expenditure		
Mean (± SD)	1462.74	±1655.48
Median (IQR)	1000	1500.0
Range	14900	(100 -15,000)
<3000	370	91.4
3001-6000	28	6.9
>6001	7	1.7
Availability of healthcare Insurance		
Yes	30	7.4
No	375	92.6

4.4.3.1 All health facilities or interventions

In bivariate analysis, respondents who stayed 10 KM or less to the hospital or clinic (OR= 0.5, 95% CI [0.3 to 0.9], p = 0.015) and those whose mode of transport to hospital or clinic was by footing (walking) (OR= 0.7, 95% CI [0.5 to 0.9], p = 0.026) were less likely to seek treatment in any health facility or intervention during their latest illness (Table 4.9).

4.4.3.2 Government clinic or hospital

In bivariate analysis, respondents who whose mode of transport to hospital or clinic was by footing (walking) (OR= 0.6, 95% CI [0.4 to 0.8], p = 0.003) were less likely to seek treatment in government hospital during their latest illness. On the other hand, respondents who stated government hospital or clinic as the only hospital available in the community (OR= 2.5, 95% CI [1.2 to 4.8], p = 0.008) were more likely to seek treatment in government hospital during their latest illness (Table 4.9).

4.4.3.3 Private clinic or hospital

In bivariate analysis, respondents who stated government hospital (OR= 16.2, 95% CI [2.2 to 127.8], p = 0.008) and both government and private hospital (OR= 8.9, 95% CI [1.2 to 69.7], p = 0.035) as the hospitals available in the community were more likely to seek treatment in private hospital during their latest illness (Table 4.9).

4.4.3.4 Traditional or spiritual healer

In bivariate analysis, respondents who stayed 10 KM or less (OR= 0.05, 95% CI [0.02 to 0.2], p = 0.001) or between 11 to 20 KM to the hospital (OR= 0.3, 95% CI [0.1 to 0.9], p = 0.004), those who took 30 min or less (OR= 0.07, 95% CI [0.02 to 0.3], p = 0.001) and between 30 to 60 min (OR= 0.3, 95% CI [0.1 to 0.8], p = 0.018) and those who mentioned the availability of government hospital (OR= 0.09, 95% CI [0.2 to 0.4], p = 0.002) as the only available hospital in the community were less likely seek treatment among traditional or spiritual healers during their latest illness (Table 4.9).

4.4.4 Healthcare availability related factors

Table 4.10 summarizes healthcare availability related factors associated with treatment seeking behaviour during the respondents' latest illness in (1) any health facility or intervention (2) Government clinic or hospital (3) private clinic or clinic run by nongovernmental organization or church and (4) Traditional or homeopathic or Spiritual healer.

Table 4.10: Healthcare availability related factors associated with health seeking behaviour among respondents during their last illness

Variables	Frequency	Percentage
Household Headship		
Yes	143	35.3
No	262	64.7
Household population		
Mean (± SD)	6.65	±3.02
Median (IQR)	6	3.0
Range	20	(1-21)
<4	95	23.5
5-10	270	66.7
>11	40	9.9
Major contributor to house Income		
Father	347	85.7
Mother	30	7.4
Child (brother/Sister)	25	6.2
Other relative	3	0.7
Healthcare Expenditure		
Mean (± SD)	1462.74	±1655.48
Median (IQR)	1000	1500.0
Range	14900	(100 -15,000)
<3000	370	91.4
3001-6000	28	6.9
>6001	7	1.7
Availability of healthcare Insurance		
Yes	30	7.4
No	375	92.6

4.4.4.1 All health facilities or interventions

In bivariate analysis, among the factors that were more likely to influence the respondents seeking treatment in any health facility or intervention during their latest illness included choosing the preferred health facility because of close proximity (OR= 2.6, 95% CI [1.0 to 6.7], $p = 0.048$), trust of the health personnel (OR= 3.2, 95% CI [1.3 to 8.1], $p = 0.014$), attitude of the health personnel (OR= 3.2, 95% CI [1.1 to 9.2], $p = 0.031$), saving time at the facility (OR= 3.1, 95% CI [1.1 to 8.1], $p = 0.026$), adequate infrastructure in the facility (OR= 3.2, 95% CI [1.2 to 8.2], $p = 0.016$) and because of cost/ close proximity and trust of the health personnel (OR= 2.6, 95% CI [1.1 to 6.8], $p = 0.048$). On the other hand, among the factors that were less likely to influence the respondents seeking treatment in any health facility or intervention during their latest illness included prolonged symptoms of the latest illness (OR= 0.6, 95% CI [0.5 to 0.9], $p = 0.009$) and severity of their illness (OR= 0.7, 95% CI [0.6 to 0.9], $p = 0.023$) (Table 4.10).

4.4.4.2 Government clinic or hospital

In bivariate analysis, among the factors that were more likely to influence the respondents seeking treatment in government hospital during their latest illness included preferring government hospital over the rest (OR= 4.1, 95% CI [1.6 to 9.7], $p = 0.002$) and choosing the current health facility trust of the health personnel (OR= 3.8, 95% CI [1.3 to 10.6], $p = 0.011$), and attitude of the health personnel (OR= 3.6, 95% CI [1.1 to 11.6], $p = 0.029$). On the other hand, among the factors that were less likely to influence the respondents seeking treatment in government hospital during their latest illness included when self-treatment medication does not work (OR= 0.5, 95% CI [0.3 to 0.9], $p = 0.029$), prolonged symptoms of the latest illness (OR= 0.6, 95% CI [0.5 to 0.9], $p = 0.042$) and availability of adequate cash (OR= 0.2, 95% CI [0.4 to 0.8], $p = 0.025$) (Table 4.10) (Table 4.10).

4.4.4.3 Private clinic or hospital

In bivariate analysis, among the factors that were more likely to influence the respondents seeking treatment in private hospital during their latest illness included preferring private hospital over the rest (OR= 3.6, 95% CI [1.4 to 9.3], $p = 0.008$) and those who chose the current health facility because adequate infrastructure in the facility (OR= 7.7, 95% CI [1.1 to 58.6], $p = 0.048$). On the other hand, among the factors that were less likely to influence the respondents seeking treatment in private hospital during their latest illness included preferring Government hospital over the rest (OR= 0.08, 95% CI [0.02 to 0.3], $p = 0.001$) and choosing their current health facility due to severity of disease (OR= 0.2, 95% CI [0.05 to 0.5], $p = 0.003$) (Table 4.10).

4.4.4.4 Traditional or spiritual healer

In bivariate analysis, among the factors that were more likely to influence the respondents seeking treatment among the traditional or spiritual healers during their latest illness prolonged symptoms of the current disease (OR= 4.7, 95% CI [1.4 to 15.5], $p = 0.01$) and availability of adequate cash (OR= 10.4, 95% CI [3.1 to 36.1], $p = 0.001$). On the other hand, among the factors that were less likely to influence the respondents seeking treatment among traditional or spiritual healer during their latest illness included preferring Government hospital over the rest (OR= 0.03, 95% CI [0.04 to 0.3], $p = 0.001$) and choosing their current health facility due to severity of disease (OR= 0.05, 95% CI [0.03 to 0.1], $p = 0.001$), seeking treatment immediately (OR= 0.016, 95% CI [0.1 to 0.8], $p = 0.016$) or 1 to 5 days post the onset of illness (OR= 0.2, 95% CI [0.09 to 0.6], $p = 0.001$) (Table 4.10).

4.4.5 Healthcare problems related factors

Table 4.11 summarizes healthcare problem related factors associated with treatment seeking behaviour during the respondents' latest illness in (1) any health facility or intervention (2) Government clinic or hospital (3) private clinic or clinic run by nongovernmental organization or church and (4) Traditional or homeopathic or Spiritual healer.

Table 4.11: Healthcare problems related factors associated with health seeking behaviour among respondents during their last illness

Variables	Frequency	Percentage
Household Headship		
Yes	143	35.3
No	262	64.7
Household population		
Mean (± SD)	6.65	±3.02
Median (IQR)	6	3.0
Range	20	(1-21)
<4	95	23.5
5-10	270	66.7
>11	40	9.9
Major contributor to house Income		
Father	347	85.7
Mother	30	7.4
Child (brother/Sister)	25	6.2
Other relative	3	0.7
Healthcare Expenditure		
Mean (± SD)	1462.74	±1655.48
Median (IQR)	1000	1500.0
Range	14900	(100 -15,000)
<3000	370	91.4
3001-6000	28	6.9
>6001	7	1.7
Availability of healthcare Insurance		
Yes	30	7.4
No	375	92.6

All health facilities or interventions

In bivariate analysis, among the factors that were more likely to influence the respondents seeking treatment in any health facility or intervention during their latest illness included stating diarrhoea and malaria (OR= 3.2, 95% CI [1.9 to 5.2], p = 0.001), Diarrhoea\Malaria\Acute malnutrition (OR= 3.8, 95% CI [2.4 to 6.1], p = 0.001), Diarrhoea\Malaria\Acute malnutrition\Hypertension\Diabetes\Helminths\Anaemia (OR= 3.4, 95% CI [2.2 to 5.6], p = 0.001) and Diarrhoea\Malaria\Pregnancy

complication\Anaemia (OR= 3.2, 95% CI [2.1 to 5.2], p = 0.001) as the three most common illness found in the community. On the other hand, among the factors that were less likely to influence the respondents seeking treatment in any health facility or intervention during their latest illness included suggesting provision of drugs as one of the services to be brought in the community (OR= 0.5, 95% CI [0.3 to 0.8], p = 0.002) (Table 4.11).

Government clinic or hospital

In bivariate analysis, among the factors that were more likely to influence the respondents seeking treatment in the government hospital during their latest illness included stating diarrhoea and malaria (OR= 2.8, 95% CI [1.6 to 4.7], p = 0.001), Diarrhoea\Malaria\Acute malnutrition (OR= 3.4, 95% CI [2.1 to 5.6], p = 0.001), Diarrhoea\Malaria\Acute malnutrition\Hypertension\Diabetes\Helminths\Anaemia (OR= 2.3, 95% CI [1.4 to 3.9], p = 0.001) and Diarrhoea\Malaria\Pregnancy complication\Anaemia (OR= 2.3, 95% CI [1.5 to 3.9], p = 0.001) as the three most common illness found in the community. On the other hand, among the factors that were less likely to influence the respondents seeking treatment in government hospital during their latest illness included facing problems when attending formal public health facility (OR= 0.8, 95% CI [0.6 to 0.9], p = 0.042), expensive healthcare cost and unavailable health Worker (OR= 0.5, 95% CI [0.3 to 0.8], p = 0.001) and expensive healthcare cost /health workers unavailable/ disrespectful healthcare workers / unavailability of drugs and Lack of proper communication (OR= 0.07, 95% CI [0.01 to 0.5], p = 0.009) as some of the problems faced while attending public health facility and lastly respondents suggesting provision of drugs (OR= 0.3, 95% CI [0.1 to 0.8], p = 0.02) and transportation or ambulance (OR= 0.5, 95% CI [0.3 to 0.8], p = 0.001) as one of the services to be brought in the community (Table 4.11).

Private clinic or hospital

In bivariate analysis, among the factors that were more likely to influence the respondents seeking treatment in private hospital during their latest illness included stating diarrhoea\Malaria\Acute malnutrition (OR= 8.4, 95% CI [1.1 to 69.6], p = 0.049), Diarrhoea\Malaria\Acute malnutrition\Hypertension\Diabetes\ Helminths\

Anaemia (OR= 20.2, 95% CI [2.6 to 152.8], p = 0.004) and Diarrhoea\Malaria\Pregnancy complication\Anaemia (OR= 12.4, 95% CI [1.6 to 94.5], p = 0.015) as the three most common illness found in the community and those stated lack of proper communication (OR= 4.3, 95% CI [1.4 to 13.9], p = 0.011) as problem faced during attending public health facility (Table 4.11).

Traditional or spiritual healer

In bivariate analysis, among the factors that were more likely to influence the respondents seeking treatment among the traditional or spiritual healers during their latest illness included: stating facing problems when they attending formal public health facility (OR= 3.3, 95% CI [1.3 to 8.6], p = 0.015), presence of disrespectful health workers (OR= 13.5, 95% CI [1.3 to 69.7], p = 0.002), expensive healthcare cost and unavailable health workers (OR= 13.5, 95% CI [1.3 to 69.7], p = 0.002) and expensive healthcare cost /health workers unavailable/ disrespectful healthcare workers / unavailability of drugs and Lack of proper communication (OR= 4.8, 95% CI [1.2 to 20.2], p = 0.031) and lastly the respondents who believed there was differences in accessing healthcare between men and women in the community (OR= 5.9, 95% CI [2.7 to 12.6], p = 0.001).

4.4.6 Independent Variables Influencing Healthcare Seeking Behaviour

As summarized in Table 4.12 the following variables independently remained significantly influential in health seeking behaviour during the respondents' latest illness in (1) any health facility or intervention (2) Government clinic or hospital (3) private clinic or clinic run by nongovernmental organization or church and (4) Traditional or homeopathic or Spiritual healer.

Table 4.12: Independent factors associated with health seeking behaviour among respondents during their last illness

Variables	Frequency	Percentage
Household Headship		
Yes	143	35.3
No	262	64.7
Household population		
Mean (± SD)	6.65	±3.02
Median (IQR)	6	3.0
Range	20	(1-21)
<4	95	23.5
5-10	270	66.7
>11	40	9.9
Major contributor to house Income		
Father	347	85.7
Mother	30	7.4
Child (brother/Sister)	25	6.2
Other relative	3	0.7
Healthcare Expenditure		
Mean (± SD)	1462.74	±1655.48
Median (IQR)	1000	1500.0
Range	14900	(100 -15,000)
<3000	370	91.4
3001-6000	28	6.9
>6001	7	1.7
Availability of healthcare Insurance		
Yes	30	7.4
No	375	92.6

All health facilities or interventions

In multivariate analyses (table 4.12), the following variables were independently associated more likely in seeking treatment in any health facility or intervention during their latest illness including: male gender 5% more likely (OR= 1.5, 95% CI [1.2 to 2.1], p = 0.002), self-employment, 3% more likely (OR= 1.3, 95% CI [1.0 to 1.7], p = 0.048), household headship 5% more likely (OR= 1.5, 95% CI [1.1 to 1.9], p = 0.003) trust as a reason for choosing health facility 9% more likely (OR= 2.3, 95% CI [1.1 to

7.4], $p = 0.027$), waiting 1 to 5 days before seeking advice (OR= 0.5, 95% CI [1.2 to 2.1], $p = 0.004$), stating Diarrhoea\ Malaria (OR= 2.8, 95% CI [1.7 to 4.7], $p = 0.001$), Diarrhoea\Malaria\Acute malnutrition (OR= 3.1, 95% CI [1.9 to 5.1], $p = 0.001$), Diarrhea\ Malaria\ Acute malnutrition\ Hypertension\ Diabetes\Helminths\ Anemia (OR= 2.8, 95% CI [1.7 to 4.6], $p = 0.001$), Diarrhea\ Malaria\ Pregnancy complication\ Anemia (OR= 2.7, 95% CI [1.6 to 4.3], $p = 0.001$) as the three common illness facing the community. On the other hand, respondents who had health insurance were 5% less likely (OR= 0.5, 95% CI [0.3 to 0.9], $p = 0.014$) to seek treatment in any health facility or intervention during their latest illness (Table 4.12).

Government clinic or hospital

Factors independently more likely to be associated with seeking treatment in the government hospital during their latest illness included: household headship (OR= 1.5, 95% CI [1.2 to 2.1], $p = 0.006$), stating Government clinic or hospital as the only available facilities in the community (OR= 2.3, 95% CI [1.2 to 4.6], $p = 0.016$), preferring Government clinic or hospital in the community (OR= 3.4, 95% CI [1.3 to 8.7], $p = 0.01$), trust as a reason for choosing health facility (OR= 3.1, 95% CI [1.1 to 8.7], $p = 0.036$), visiting health facility due to disease severity (OR= 1.7, 95% CI [1.2 to 2.4], $p = 0.002$), taking 1 to 5 days before visiting health facility (OR= 1.7, 95% CI [1.2 to 2.4], $p = 0.002$), stating Diarrhoea\ Malaria (OR= 2.5, 95% CI [1.4 to 4.3], $p = 0.001$), Diarrhoea\Malaria\Acute malnutrition (OR= 2.5, 95% CI [1.5 to 4.2], $p = 0.001$), Diarrhea\ Malaria\ Acute malnutrition\ Hypertension\ Diabetes\Helminths\ Anemia (OR= 1.8, 95% CI [1.1 to 3.1], $p = 0.024$), Diarrhea\ Malaria\ Pregnancy complication\ Anemia (OR= 1.9, 95% CI [1.3 to 3.1], $p = 0.016$) as the three common illness facing the community. On the other hand, respondents were independently less likely to be associated with seeking treatment in the government hospital during their latest illness included: Possession of health insurance (OR= 0.3, 95% CI [0.2 to 0.7], $p = 0.003$), spending > 3000 Ksh on healthcare (OR= 0.3, 95% CI [0.2 to 0.7], $p = 0.003$) and 3001 to 6000Ksh (OR= 0.3, 95% CI [0.2 to 0.7], $p = 0.003$) on healthcare expenditure and suggesting improvement in drugs within community (OR= 0.5, 95% CI [0.3 to 0.9], $p = 0.012$) (Table 4.12).

Private clinic or hospital

In multivariate analysis, male gender (OR= 2.5, 95% CI [1.4 to 4.9], p = 0.004), formal employment (OR= 2.5, 95% CI [1.5 to 9.9], p = 0.004), availability of private clinic (OR= 1.5, 95% CI [1.2 to 2.1], p = 0.006) and Government and Private clinic or hospital (OR= 12.9, 95% CI [1.5 to 109.4], p = 0.018) in the community, preferring private clinics (OR= 12.9, 95% CI [1.9 to 33.4], p = 0.004), seeking treatment when self-medication does not work (OR= 3.3, 95% CI [1.1 to 10.2], p = 0.031), Diarrhoea\Malaria\Acute malnutrition (OR= 9.7, 95% CI [1.1 to 84.9], p = 0.039), Diarrhoea\ Malaria\ Acute malnutrition\ Hypertension\ Diabetes\ Helminths\ Anaemia (OR= 28.8, 95% CI [3.5 to 235.1], p = 0.002) and Diarrhoea\Malaria\Pregnancy complication\Anaemia (OR= 12.4, 95% CI [1.7 to 106.7], p = 0.015) as the three most common illness found in the community.

On the other hand, independent factors that were less likely to be associated with seeking treatment in the private hospital during their latest illness included: monthly income of 9601 to 19200 Ksh (OR= 0.3, 95% CI [0.1 to 0.9], p = 0.027), spending > 3000 Ksh on healthcare (OR= 0.3, 95% CI [0.2 to 0.7], p = 0.003), household population of less than 4 persons (OR= 0.3, 95% CI [0.9 to 0.7], p = 0.008) and household population between 5 to 10 persons (OR= 0.2, 95% CI [0.1 to 0.5], p = 0.001) and visiting health facility due to disease severity (OR= 0.3, 95% CI [0.2 to 0.9], p = 0.046) (Table 4.12).

Traditional or spiritual healer

In multivariate analysis, the respondents who stated the existence of differences in the access of healthcare services between men and women in the community were more likely to seeking treatment among the traditional or spiritual healers during their latest illness (OR= 5.1, 95% CI [2.1 to 12.3], p = 0.001) compared to those who stated the lack of gender differences in accessing healthcare. On the other hand, independent factors that were less likely to be associated with seeking treatment among the traditional or spiritual healers during their latest illness included: mothers being the major contributor to healthcare expenditure (OR= 0.4, 95% CI [0.2 to 0.9], p = 0.045), stating the existence of only government hospital to the community (OR= 0.1, 95% CI

[0.02 to 0.5], $p = 0.006$), preferring private (OR= 0.06, 95% CI [0.005 to 0.8], $p = 0.036$) and government hospitals (OR= 0.1, 95% CI [0.04 to 0.4], $p = 0.001$) and visiting health facility 1 to 5 days post onset of current illness (OR= 0.3, 95% CI [0.2 to 0.8], $p = 0.014$) (Table 4.12).

CHAPTER FIVE

DISCUSSION

5.1 Socio - demographic characteristics

Studies have highlighted the importance of socio-demographic and economic characteristics of a population in determining the choice of health care providers that patients use. Demographic factors such as age, education levels, gender, and economic status) are associated with healthcare seeking behaviour (Thuan et al., 2008). Such factors can affect access to health care even when services do exist in a community (Musoke et al., 2014). With a mean age (\pm SD) of 35.17 (12.9) years, the majority of household heads in this community are still youthful as evident by about 70.9% were aged between 21 to 40 years. Our result agrees with the UNFPA report of 2016 which stated that the Somali population has a youthful structure, characterized by a wide base and declining numbers as age increases. The majority of the participants in this study were females, had none- formal type of education, were unemployed and were head of their household. Further, the majority of households had a large population of between 5 to 10 with low monthly income, low monthly healthcare expenditure of \leq 3000 Ksh and lacked any form of healthcare insurance. These characteristics are common in many African communities (Musoke et al., 2014), which clearly relates to the high poverty levels in this region particularly in rural communities. Such low-income levels can affect uptake and utilisation of health services particularly in communities with no public health facilities where services are supposed to be offered for free following abolition of user fees in many African countries (Xu et al., 2006; Kiwanuka et al., 2008).

5.2 Healthcare seeking practices among study population

The level of seeking healthcare intervention (treatment or advice) in this study was significantly high among this population at (72.3%). This was especially encouraging because most of participants sought medical treatment from modern or formal healthcare setting (55.5% Government and 9.1% in private hospitals) versus only (6.9%) seeking medical treatment\advices from traditional or homeopathic or spiritual

healers. Even though we did not specify the last disease or illness in which participant sought treatment for, the high level of seeking modern medical intervention is worth noting given that this county is known for five most prevalent diseases associated with morbidity and mortality in Kenya; including Upper Respiratory Tract Infections (30.9%), Urinary Tract Infection (15.2%), Diarrheal diseases (9.5%), Diseases of the skin (7.4%) and Pneumonia (6.7%) (Garissa County Government, 2018). Literature reports various level of health care utilization pattern some higher some lower than what we reported in the current study; In a Nigerian study, 22% of children with pneumonia sought care first from inappropriate health care providers (pharmacies/chemists, friends/relatives) (Kirolos et al., 2018). In Zambia, a household survey, mothers reported a high proportion of sick children sought skilled provider for care, including 76% of rural children and 62% of urban children (Carter et al., 2018). In Burkina Faso, Beogo et al. (2018) showed that participants who had severe medical conditions, almost equally sought care from for-profit or not-for-profit facilities, only 36.4% preferred nurses compared to MDs. In Uganda, Atwine & Hjelm, (2017), reported that persons with diabetes buy medicine from a drug shop or pharmacy and use home self-medication or search for help from private health facilities or from traditional healers, but to a lesser extent before they seek help from formal health facility. In Uganda a study by Musoke et al., (2014) showed that most of the participants (92%) did not have a regular medical worker to care for their health or to consult. Regarding what they had done the last time they were sick, the majority (65%) had gone to a health facility for treatment while 24% went to a pharmacy or drug shop for medication. Only 2% admitted to having sought treatment from a traditional healer. In Singapore Chan et al., (2018) showed that most participants relied on their own knowledge (52.6%) before seeking medical treatment and advice. More preferred alternative medicine practitioners (29.5%) to western-trained doctors in the primary care (11.1%). There was about 6.7% of them relied on their family/friends.

The current study and those in the literature, shows a significant difference in healthcare seeking behavior. The difference could be regional, cultural, and economic status, level of knowledge. These studies reiterate the need for continuous education on the importance of seeking appropriate medical intervention in tandem with the onset of symptoms and signs. Further, several studies report that engaging communities such

as the Somali community, improves care seeking behavior (Olayo et al., 2014; Sibley et al., 2014; Marston et al., 2016). Studies in Nepal, India, Uganda, Kenya and Eritrea reported that engaging communities had a largely positive impact in terms of increased use of ANC services, facility deliveries, reduced neonatal mortality and improved accountability of health care providers (Olayo et al., 2014; Sibley et al., 2014; Marston et al., 2016). Moreover, engaging communities in health programs can lead to improvements in client confidence, trust-building, credibility and, subsequently, to improved perceptions of health care quality (Olayo et al., 2014; Sibley et al., 2014; Marston et al., 2016). This may result in increased health care seeking behavior and uptake and quality of services, ultimately improving health outcomes (Rosato et al., 2008; Marston et al., 2016). Community engagement can also create accountability and promote a sense of ownership, acceptability of health policies by community members and sustainability of quality improvement interventions (Rosato et al., 2008; Marston et al., 2013).

5.3 Factors influencing healthcare seeking behavior

In this study, the predisposing and enabling factors (gender, employment, household headship, trust, waiting and turnaround time, common disease type, availability of health insurance) were generally associated with seeking treatment in any health facility or intervention during their latest illness. Overall, a wealth of existing literature concurred on similar findings. Andersen's (1995) behavioral model identifies three levels of factors that contribute to the decision to seek care or not. For Everett et al. (2009), predisposing and enabling factors (gender, age, metropolitan residence, or uninsured or on public insurance) were associated with seeking health care. For others, the drivers are related to efficiency (cost/quality, mother's level of education, Distance to the nearest health facility, Financial barriers) (Running et al., 2006; Sreeramareddy et al., 2006; Feikin et al., 2009; Getahun et al., 2010). Lastly, there are a number of factors that contributed to the perceived and evaluated need to seek care, including the perception of symptoms as severe or presence of easily identifiable symptoms have been shown to prompt care-seeking for sick infants and children (Shah et al., 2014). In addition, preference for seeking informal care, such as self-medication or traditional healers can also delay seeking formal care (Nonyane et al., 2016).

The unique feature of this study, was the ability to evaluate factors predisposing participants from visiting the formal (government and privately owned) versus informal health facility. Seeking care from privately owned formal healthcare facilities was generally marked by high socio-economic status and power indirectly shown by employment and male gender. The availability of healthcare insurance in Kenya generally known as National Hospital Insurance Fund (NHIF) a state operated scheme mandated to provide medical insurance cover to all its members and their declared dependents, was a less likely to influence seeking care from government facility. Further, health care involving payments even as little as >3000 ksh was associated with poor care seeking from government facilities. The importance of socio-economic scale as a driver for healthcare seeking behavior was also reported by other studies. Dhillon et al. (2012) noted that healthcare associated costs are often a barrier for care-seeking. In Rwanda Kagabo et al. (2018) noted that none of indicators of poor socioeconomic status were associated with care-seeking and for those who did not seek care, very few indicated limited finances as a barrier. This Rwanda studies may be explained by the focus of Rwanda's health policies on reducing social inequity (Kagabo et al., 2018) The community-based health insurance, called *mutuelle de santé*, has increased care-seeking by reducing financial barriers to care, with enrolled families having twice the healthcare utilization rates compared to uninsured families (Schneider & Hanson, 2007). This was on the contrary to our study where those who had the NHIF cover were unlikely to seek care from the government facility. This should be an avenue for rigorous investigation in this region, because the importance of NHIF in seeking treatment in other regions of Kenya has been observed (Maina et al., 2016).

The healthcare availability, individual preferences and the type of services offered were key in influencing care seeking in both government and privately own facilities. The WHO acknowledges that responsiveness to people's expectations is an essential intermediary goal of a health system and poor responsiveness can negatively affect utilization of services and the effectiveness of interventions (WHO, 2007). Arguably a well-functioning health system delivers quality health services that attain patient/caregiver satisfaction and ultimately elicits demand for the said healthcare services. Evidence from this study and others reiterate the need to strengthen child

healthcare systems and in particular to prioritize efforts in promoting access to pharmaceutical supplies, adequate clinical examination of the child, along with improving health worker attitudes towards caregivers and reducing time in waiting for child healthcare services.

The health provider characteristics such trustworthiness and health facility factors such as improvement in drug stocking were equally important in influencing the choice of health facility type. The dearth of evidence from various studies in health showed relative significance of attributes sometimes differed with some studies. For example, study to elicit people's preferences for attributes of public health facilities in South Africa also found availability of medicines to have the greatest marginal effect with other clinical attributes such as thorough examination and provision of expert advice being more valued than non-clinical quality care attributes including waiting time, staff attitude and treatment by doctors or nurses (Honda et al., 2015). Similarly, a study in rural Ethiopia on women's preference for obstetric care found availability of drugs and equipment as the most important attributes of a health facility, followed by provider type and attitude of health provider (Kruk et al., 2010). In Zambia, thorough examination was the most important health facility characteristic, followed by avoiding rude staff and availability of drugs (Hanson et al., 2005). In Malawi (Michaels-Igbokwe et al., 2015) and Tanzania (Kruk et al., 2009), provider attitude and reliable access to adequate quantities of drugs and equipment were the two most important utility features of a health facility for reproductive health services for young people and obstetric services for women, respectively.

In our study, longer duration of illness was a strong predictor of care-seeking in formal facility rather than in informal sectors. Household caregivers have reported quick death due to illness for not seeking care (Kagabo et al., 2018). There are several factors identified in other studies that could contribute to the delays in seeking care including lack of awareness of the severity of illness (Burton et al., 2011), first attempting traditional medicines or self-treatment (Diaz et al., 2013), as well as lack of access to timely transportation when an illness occurs quickly (Kassile et al., 2014). Further, strengthening the emergency transport system to facilitate urgent transfers from the community to a health facility is needed in this community.

The perceived differences in accessing healthcare between men and women in the community was a key driver for seeking care among traditional or spiritual healers. Studies have reported the importance of cultural beliefs and practice (Chibwana et al., 2009) and perception of the cause of the illness (Abubakar et al., 2013) in contributing to the delay for caregivers to access medical care for illness. Observations indicate that if caregivers perceive a certain illness to be unrelated to biomedical causes, they are less willing to go for biomedical care, or at the very least, may delay the speed at which they take up biomedical care (Dillip et al., 2012). These observations point to the central role of socio-cultural factors in determining health-seeking behaviour.

5.4 Study Limitation and Strengths

Our study findings need to be interpreted in light of some limitations.

1. The cross-sectional nature of our study only allowed us to describe associations between health seeking behaviors and the various correlates, not a causal conclusion. Such outcomes can be confirmed in a longitudinal study.
2. The study used in-depth interviews only in our data collection. Triangulating our results with focus group discussion, observations and surveys could have been used to increase validity of our data. However, the patterns of results closely mirroring earlier disease-specific studies (Winkler et al., 2010) attest to the validity of both our data and our conclusions.
3. Information about the care-seeking patterns during the latest illness was based on caregiver's recall. However, we tried to minimize recall bias by probing the caregivers who had been residing in the area for the last 5 years and have themselves or a member of their household been ill in the past 14 days. Within this 14-day period, the circumstances (social, economic, environmental) are likely to have remained the same and the event recall was feasible.
4. The use of a rigorous pre-tested methodological tool, conducting interviews in local dialect, and use of pictograms to aid comprehension of choice sets and the very high response rate, represent strengths for our study.

5.5 Conclusion

The following conclusions can therefore be drawn from this study

1. The socio-demographic and economic characteristics of the majority of study participants such as lack of formal type of education, unemployment, households with large population size of between 5 to 10, low monthly income, low monthly healthcare expenditure of ≤ 3000 Ksh and lack of any form of healthcare insurance are common characteristic in many African communities (Musoke et al., 2014), which clearly relates to the high poverty levels in this region. Such low-income levels can affect uptake and utilization of health services particularly in communities with no public health facilities where services are supposed to be offered for free following abolition of user fees in many African countries (Xu et al., 2006; Kiwanuka et al., 2008).
2. The advent of devolved government system in Kenya has seen Garissa County achieve remarkable progress in health indicators as evident by the significantly high proportion of the households seeking appropriate healthcare.
3. Gender, occupation, household headship, possession of health insurance, availability and the preference of current health facility, duration of illness and perceived illnesses in the community were independent predictors of health seeking behavior in this community.

5.6 Recommendations

1. Intensified efforts by the county government in economic development and improved food security will go a long way towards further improving the uptake and utilization of health services. This will specifically address the findings of this study in which lower socio-economic status is associated with poor health seeking behavior as also shown in other studies.
2. Although a high proportion of participants reported seeking healthcare from formal facilities, improvement in education, health facilities and medical services in the community, introduction of community based integrated management of common community illness are imperative to improving health seeking behavior among the Somali community in this Semi-arid region of

Kenya. The county government should adopt an integrated approach to addressing health issues by linking health sector activities to critical sector interventions such as education, water, sanitation, hygiene and nutrition.

3. Given that this study indicates a favourable health seeking behavior among the study population, the county government should specifically look into strengthening the health system with a view to improving the quality of services provided in order to further improve the health seeking behavior as well as improve the poor health indicators in the county.

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APPENDICES

Appendix I: Consent Form

Informed consent for study participants in determining the factors associated with health seeking behaviour among the Somali community in Garissa county

Research study title: factors associated with health seeking behaviour among the Somali community in Garissa county

Principal Investigator: Habiba Mohamed, Jomo Kenyatta University of Agriculture and Technology, P.O. Box 62000 00200, Nairobi, Tel: 0723318715,

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Co- investigators: 1. Dr. Peter Wanzala, Kenya Medical Research Institute (KEMRI), P.O. Box 54840 00200, Nairobi, Tel: 0721624374, E-mail: wanzap2003@yahoo.com

2. Prof. A.O. Makokha, Jomo Kenyatta University of Agriculture and Technology (JKUAT) P.O. Box 62000 00200, Nairobi, Tel: 0713817436, E-mail: aomakokha@yahoo.com

PART I: INFORMATION SHEET

Introduction: I am a student from the Institute of Tropical Medicine and Infectious Diseases (ITROMID) at Kenya Medical Research Institute (KEMRI) in collaboration with Jomo Kenyatta University of Agriculture and Technology (JKUAT). I am determining the factors associated with health seeking behavior among the Somali community in Garissa county.

Purpose of the project: The purpose of this study is to establish what factors influence your choice of health care services; services available to you and those that you prefer to have, as well as patterns of access to the health care services. The results are expected to inform policy makers and other stakeholders in the health sector to better plan health care for the Somali community. It will be used for inter-sectoral planning so as to improve access to healthcare. The research findings are expected to facilitate the design of health services that are appropriate and responsive to the needs of the community. This study will also add to the body of knowledge on health care seeking behaviour in developing countries. The intended outcome of the study is to better target health services for populations.

Participant selection: I wish to recruit 385 participants for this study. Equal opportunities are provided for everybody who wishes to participate in line with the study's inclusion and exclusion criteria below:

Inclusion criteria: You must be an adult aged over 18 years, resident in Garissa county for the past 5 years and also agree to participate in the study and sign the informed consent. Additionally, you or a member of your household should have been ill within the past 14 days.

Exclusion criteria: Individuals below the age of 18, those who have resided in Garissa County for less than 5 years, non-Somalis and those not willing to consent will be excluded from the study.

Voluntary participation: As a study participant you can choose to participate in this study or not to, without any consequences to you. All the regular services that you receive from the health facilities will be provided to you regardless of whether you choose to participate or not

Information on health seeking behaviour: Prompt health-seeking is critical for appropriate management and for this reason, understanding the determinants of health seeking behavior becomes critical in the bid to provide client-oriented services. In resource limited settings like Kenya, understanding these factors is critical in addressing the high mortality and morbidity occasioned by diseases. This study aims

to establish factors that influence health care seeking behaviour among the Somali Community in Garissa County, Kenya.

Description of the process, procedures and protocols: The study participants will engage in face to face interviews with research assistants. The study will employ structured questionnaires as the main tool for data collection, to capture data that will enable the establishment of the factors associated with health seeking behaviour among the Somali community in Garissa county

Duration; Each face to face interview will be completed in about 1 hour and the questionnaires cross checked for completeness in about 10 minutes.

Risks: The study poses no risks to the participants

Benefits; The study does not offer any benefits directly to the participants. However, the results of this study will be instrumental in informing the county on where to channel resources to improve health seeking behavior and hence improving the quality of life for the Somali community in Garissa County.

Incentives: The study does not offer any incentives to the study participants

Confidentiality: Participants' confidentiality with regard to individual identifiable information collected during this study will be available only to the study personnel and not made available to the public. Identifying information will not be entered into the electronic data sets and no participant names will be entered into analysis databases.

Sharing the results: The results of this study may be presented at scientific and academic forums and may be published in scientific journals and academic papers.

Right to refuse or withdraw: Your participation in this study is voluntary. As a participant, you reserve the right to refuse or withdraw at any point of the study without incurring any penalties or repercussions.

Whom to contact: This study has been reviewed and approved by the Kenya Medical Research Institute (KEMRI) Scientific Steering Committee, whose task is to make sure that study participants are protected from harm. If you have any questions about this study and / or you are unclear about anything, please contact Habiba Mohamed on 0723318715 or habibamohamed06@gmail.com.

If you have questions about this consent process or your rights as a subject, or if you feel harmed in any way by participating in this study, or you would like to know more about KEMRI, you may contact:

The Secretary, KEMRI Ethics Review Committee,
P. O. Box 54840- 00200
Nairobi, Kenya
Tel: +254 202722254 / +254 202713349
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Director, ITROMID
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PART II: Consent Form: I have read the foregoing information, or it has been read to me. I have had the opportunity ask questions about it, and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research and understand that I have the right to withdraw from the research at any time without incurring any penalties or consequences to myself.

Print name of participant _____

Signature/ Thumbprint of participant _____

Date _____

I have witnessed the accurate reading of the informed consent to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely

Print name of witness _____

Signature/ Thumbprint of witness _____

Date _____

I have accurately read or witnessed the accurate reading of the informed consent to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely

Print name of researcher _____

Signature of researcher _____

Date _____

A copy of this Informed Consent Form has been provided to participant

_____ (initiated by the researcher/ assistant)

Appendix II: Consent Form (Somali Language)

Ogolaanshaha/idam ka helidda ka qaybgalayaasha cilmi baarista ee lagu ogaanayo asbaabaha la xiriiro dabecadaha raadsashada adeegyada daryeelka caafimaadka bulshada Soomaaliyeed ee ku nool degmada gaarisa.

Ciwaanka daraasaadka cilmi baarista:asbaabaha la xiriiro dabecahada raadsashada adeegyada daryeelka caafimaadka bulshada soomaaliyeed ee ku nool degmada Gaarisa

Madaxa Baarayaasha: Xabiiba Muxammad, Jaamacadda Jooma Kenyaata ee Beeraha iyo Cilmiga Farsamada (Tignooloojiyadda), Sanduuqa Boostada 62000 00200, Nairobi, Tel: 0723318715, E-mail: habibamohamed06@gmail.com

Kaaliye-yaasha Baarista:

1. Dr. Peter Wanzala, Machadka Cilmibaarista Caafimaadka Kenya, (KEMRI) Sanduuqa Boostada 54840-00200, Nairobi, Tel: 0721624374, E-mail: wanzap2003@yahoo.com

2. Prof. A.O. Makokha, Jaamacadda Jooma Kenyaata ee Beeraha iyo Cilmiga Farsamada (Tignooloojiyadda) (JKUAT), Sanduuqa Boostada 62000-00200, Nairobi, Tel: 0713817436, E-mail: aomakokha@yahoo.com

QAYBPTA 1aad: XAASHIDA MACLUUMAADKA

Hordhac: Waxa aan arday ka ahay Machadka Dawooyinka Kulaalaha iyo Cudurrada Faafa (Institute of Tropical Medicine and Infectious Diseases) (ITROMID) ee hoos-yimaada Machadka Cilmi-baarista Caafimaadka Kenya, (Kenya Medical Research Institute) (KEMRI), iyada oo ay iskaashanayaan Jaamacadda Jooma Kenyaata ee Beeraha iyo Cilmiga Farsamada (Tignooloojiyadda) (JKUAT).

Waxa aan daraasayaa asbaabaha la xiriiro dabecdaha raadsashada adeegyada daryeelka caafimaadka ee bulshada Soomaaliyeed ee u nool Dedmada Garissa.

Ujeeddada Mashruuca: Ujeeddada looga gol leeyahay daraasaadkan waa in la ogaado arrimaha saamaynaya nooca dooqaaga ee adeegga daryeelka caafimaadka; adeegyada aad heli karto iyo kuwa aad door-bidi lahayd in aad hesho, iyo welibane qaababka helitaanka adeegyada daryeelka caafimaadka.

Natijoooyinka ayaa la filayaa in ay ku wargeliyaan jaangooyo-yaasha siyaasadda (policy makers) iyo daneeyeyaasha kale ee waaxda caafimaadka si loo wanaajiyo qorshaynta sare u qaadidda bixinta adeegga daryeelka caafimaad ee ummadda Soomaaliyeed. Waxa loo adeegsan doonaa qorshaynta ka dhaxaysa waaxaha si ay u wanaajiyaan helidda daryeel caafimaad. Natijada baaritaanka ayaa la filayaa in ay fududeeyso nooca adeegyada caafimaadka ee ku habboon ka jawaabidda/daboolidda baahida bulshada. Daraasadan waxay si doo kale siyaadin-doontaa heerka aqooneed ee dabeecadaha raadsashada daryeelka caafimaadka ee dalalka soo koraya. Natijada laga doonaya cilmi baaristan waa wanaajinta beegsashada adeeg bixinta caafimaadka ee la siiyo dadweynaha.

Xulashada ka-qaybgalaha: Waxaan doonayaa in aan cilmi-baaristan u diyaariyo 385 ka qayb-galayaal. Cid kasta oo doonayso in ay ka qaybqaadato fursad loo simanyahay ayaa la siinayaa iyada oo loo eegayo shuruudaha ka mid noqoshada iyo ka saaridda sida hoos ku qoran:

Shuruudaha ka mid noqoshada: Waa in aad tahay qaan-gaar da'diisu ka wayntahay 18 sano, degnaa Degmada Gaarisa shantii sana ee la soo dhaafay, isla markaana aad oggolaataa in aad ka qayb-qaadato cilmi-baarista oo aad saxiixdaa foomka ogolaashaha. Intaa waxaa dheer, adiga ama qof ka tirsan qoyskaaga waa in uu xanuunsaday 14kii beri ee la soo dhaafay gudahooda.

Shuruudaha diidaya ka qayb-qaadasho: Waxaan ka qayb-geli Karin cilmi-baarista qofka da'diisa ka yartahay 18 sano jir, dadka ku noolaa Degmada Gaarisa mudda ka yar 5 sano, dadka aan Soomaalida ahayn iyo kuwa aan diyaarka u ahayn in ay ka qayb-qaataan.

Ka Qaybgal Ikhtiyaari/iskaaga ah: Mar haddii aad tahay ka qaybgale, waxaad akhtiyaar u leedahay in aad ka qayb-qaadato ama aadan ka qayb-qaadan, adiga oo aanan wax dhib ah kaaga imaanaynin. Dhammaan adeegyada caadiga ah ee aad ka hesho goobaha caafimaadka weli sidii un baad uga helidoontaa, haddii aad ka qayb-qaadato iyo haddii kaleba.

Xog/macluumaad ku saabsan dabeecadaha raadsashada caafimaadka: In si degdeg ah caafimaad loo raadsado waa arrin daruuri u ah maaraynta cudurka, sidaas darteedna, in la fahmo arrimaha ay ku xirantahay raadsashada shaqsiga ee adeeg caafimaad waxa ay noqonaysa mid daruuri ah si loogu dadaalo bixinta adeegyo caafimaad oo ka tarjumaya baahida macaamilka. Aagagga khayraadka xaddidan sida Kenya, fahamka arrimahani waxa ay aad muhiim ugu tahay wax ka qabadka sare kaca heerka dhimashada loo tag-waayey oo ay sababeen cudurrada. Cilimi-baaristani waxa looga dan leeyahay in lagu xaqiijiyo asbaabaha saameeya qaabka dadka ay u raadsadaan adeegyada daryeelka caafimaadka ee ummadda Soomaaliyeed ee u nool Degmada Gaarisa, Kenya.

Tilmaamta habka, nidaamka iyo borotokoollada: Kalkaaliyayaasha xog uruutinta cilmi baarista ayaa fool ka fool u waraysan doona ka qaybqaatayaasha. Cilmi baadhistu waxay adeegsanaysaa warqado ay su'aalo ku qoranyihiin, waana waxa ugu muhiimsan ee ay xog uruurinta u adeegsanayso, in la helo xogtaas oo u sahli-doonta hay'adda sidii ay ku ogaanlahayd waxyaabaha saameeya raadsiga adeegga caafimaadka ee Soomaalida Degmada Gaarisa.

Muddada: Waraysi kasta oo fool ka fool ah wuxuu qaadanayaa taqriiban hal saac, ilaa toban daqiiqo oo kalena waxaa la isla hubinayaa wixii warqadda su'aalaha iyo jawaabaha lagu qoray iyo wixii ka qaybqaatuhu sheegay.

Halista: Cilmibaaristani wax halis ah uma keenayso ka qaybgalayaasha.

Dheef: Wax dheef oo toos ah oo ka qaybgalayaasha ay u leedahay ma jirto. Hase yeeshee, natiijada cilmi baadhistani ayaa waxay gacan ka gaysan-doontaa in

Maamulka Degmada si gaar ahaaneed ugu baraarugo meelaha ku habboon maalgelinta si loo wanaajiyo qaababka caafimaad raadsiga, taas oo nolosha dadka Soomaalida ah ee Degmada Gaarisa ka dhigaysa mid tayo leh.

Dhiirri-gelin dhaqaale: Cilmi baadhista ma siinayso ka qaybgalayaasha wax dhaqaale ah oo lagu dhiir-gelinayo ka qayb-qaadashada.

Sirta/Kalsoonida/Qarsoodi: Warbixinta ka qaybqaataha lagu garan karo ee la uruuriyey waxaa arki kara oo kali ah mas'uuliyiinta cilmi baarista, dadweynahana ma arki karaan. Ma jiro wax ruuxa lagu garan karo oo aaladda elektoronigga lagu keeydinayo, sidoo kale magacayada dadka lama gelinayo warbixinnada falanqaynta xogta/daatada.

Wadaagidda natiijad: Natiijooyinka cilmi baadhista waxa laga yaabaa in lagu soo bandhigo kulamada culuumta sayniska iyo tacliinta ama lagu soo daabaco joornaallada culuumta sayniska iyo waraaqaha tacliinta.

Qax u lahaanshaha diidmo ama ka noqosho: Ka qaybgalkaaga cilmi-baarista waa ikhtiyaari/iskaaga. Haddii aad tahay ka qaybgale, waxaad xaq u leedahay in aad ka qayb-gasho ama aad ka noqoto xaalad kasta oo cilmi-baarista ay mareeyo adiga oo aanan kasbanin wax ganaax ama cirib-xumo ah.

Yaa lala xiriirayaa: Cilmi-baarista waxa dib-u-eegay oo ansixiyey Gudhiga Hormuudka Culuumta Sayniska (Scientific Steering Committee) ee Machadka Cilmi-Baarista Caafimaadka Kenya (KEMRI), kuwaas ay shaqadoodu tahay in ay hubiyaan in ka qaybgalayaashu wax kasta oo dhibi kara laga ilaaliyo. Haddii aad qabto wax su'aal ah oo ku saabsan cilmi baarista iyo/ama ay jiraan wax mugdi kaaga jiro, fadlan kala xiriir Xabiiba Muxammad telefoon lambarka; 0723318715 ama habibamohamed06@gmail.com.

Haddii aad wax su'aal ah ka qabtid qaabka ogolaanshaha ka qaybgalka ama wax ku saabsan xuquuqdaada ka qaybgale ahaan, ama aad dareemaysid in ka qaybgalkaaga cilmi baadhista si uun waxyeello kaaga soo gaadhay, ama aad doonaysid in aad warbixin dheeraad ah oo ku saabsan KEMRI aad heshid, fadlan la xiriir:

Guddomiyaha, KEMRI Ethics Review Committee
Sanduuqa Boostada 54840- 00200
Nairobi, Kenya
Tel: +254 202722254 / +254 202713349
E-mail: ERCAdmin@kemri.org
Agaasimaha, ITROMID
Jaamacadda Jooma Kenyaata ee Beeraha iyo Cilmiga Farsamada (Tinooloojidda)
(JKUAT)
Sanduuqa Boostada 62000- 00200
Nairobi, Kenya
Tel: +254 6752711
E-mail: itromid@nairobi.mimcom.net

QAYBPTA II: Shahaadada Oggolaanshaha

Waan akhriyey warbixinta kor ku qoran ama waa la ii akhriyey. Waan haystay fursad aan su'aal kuwaydiiyo, wixii su'aal ahaa ee aan waydiiyeyna si i qancisay ayaa la iigu jawaabay. Akhtiyaarkayga/iskayga ayaan ogolaansho ku bixinayaa in aan cilmi baaristan ka qaybqaato, waxaana fahansanahay in aan xilli kasta oo aan doono aan ka noqon karo ka qaybqaadashada ayada oo aanay taas haba yaraatee wax ganaax ah ii soo jiidaynin ama dhib iga soo gaarayn.

Magaca ka qaybgalaha oo daabacan _____

Saxiixa/Suulka ka qaybgalaha _____

Taariqda _____

Waxaan markhaati ka ahaa in si sax ah loogu akhriyey ka qaybqalaha la filayo foomka ogolaanshaha, shaqsigana waxa uu fursad u helay in uu weydiiyo su'aalo. Waxaan xaqiijinayaa in shaqsigu uu si xor ah u bixiyey ogolaansha ka qaybgelidda.

Magaca marqaatiga oo daabacan: _____

Saxixa/ Suulka Marqaatiga _____

Taariikhda _____

Si sax ah ayan u akhriyey ama aan uga markhaati kacay u akhrinta si saxan foomka ogolaanshaha ka qaybgalaha la filayo, shaqsigane waxa uu helay fursad uu ku weydiiyo su'aalo.Waxaan xaqiijinayaa in shaqsiguu uu si xor ah u bixiyey ogolaanshaha ka qayb-gelidda.

Magaca cilmi-baaraha oo daabacan: _____

Saxiixa cilmi-baaraha _____

Taariikhda _____

Nuqul/koobi ayaa laga siiyey ka qaybgalaha foomka ogolaanshaha

(Waxa fuliyey cilmibaare/kaalliye)

Appendix III: Questionnaire English Version

Questionnaire on Utilization of Health Services: Factors Influencing Health Care Seeking Behaviour among the Somali Community in Garissa County, Kenya

Identification Details

Location: _____ Sub Location: _____

Village: _____ **Household Code** _____

Name of Interviewer _____

Sign _____ **Date** _____

Name of Supervisor _____

Sign _____ **Date** _____

Section I: General and demographic questions

1. How old are you? (Age in years) _____

2. Marital status

¹Single

²Married

³Divorced/Separated

⁴Widowed

⁵Other (specify) -----

3. Gender

¹Male

²Female

4. What is the highest level of education you have completed?

¹No school

²Elementary

³High school

⁴College

⁵Higher education (professional or post-graduate)

⁶Religious schooling only

⁷Literacy classes only

5. Religion

¹Muslim

²Christian

³Other (Specify) _____

6. Employment Status?

¹ Unemployed

² Regular skilled employee / professional

³ Regular unskilled employees

⁴ Casual skilled employees

⁵ Casual unskilled employees

⁶ Farmer

⁷ Self-employed, small business / home production

⁸ Unpaid family workers

⁹ Student/apprentice

¹⁰ Other Specify

7. What is your total monthly income? (This includes income earned by the person from all sources (income from employment, own production, received from other family members etc.)

¹ Below 2400 Ksh per month

² 2401-4800 Ksh per month

³ 4801-9600 Ksh per month

⁴ 9601-19200 Ksh per month

⁵ 19201-38400 Ksh per month

⁶ 38401-76800 Ksh per month

⁷ Above 76800 Ksh per month

⁸ Don't know

⁹ Refused to answer

8. What is the average total monthly income of the household? This includes income earned by all members of the household and all sources (income from employment, own production, received from other family members etc.)

Interviewer: Ask respondent to indicate the income bracket

- ¹ Below 2400 Ksh per month
- ² 2401-4800 Ksh per month
- ³ 4801-9600 Ksh per month
- ⁴ 9601-19200 Ksh per month
- ⁵ 19201-38400 Ksh per month
- ⁶ 38401-76800 Ksh per month
- ⁷ Above 76800 Ksh per month
- ⁸ Don't know
- ⁹ Refused to answer

9. Are you head of household?

- ¹Yes
- ²No

10. If no, what is your relationship to the head of household?

- ¹ Wife
- ² Mother
- ³ Grandmother
- ⁴ Daughter (in law)
- ⁵ Other (write down.....)
- ⁶ Father

⁷ Grandfather

⁸ Son (in law)

11. How many people live in this household permanently including you?

.....

12. Who in the household contributes most to the household's income?

¹ Father

² Mother

³ Child (brother/sister)

⁴ Other relatives

13. How much does your household approximately spend per month on healthcare?

.....Ksh per month

¹ Don't know

14. Who in the household contributes most to the expenses on healthcare?

¹ Father

² Mother

³ Child (brother/sister)

⁴ Other relatives

15. Do you have a health insurance cover?

¹Yes

²No

16. If yes, which one?

¹NHIF

²Private Insurance cover

ACCESSIBILITY

17. How far do you live from the nearest health clinic or hospital?

¹0–10 kilometers

²11–20 kilometers

³21–30 kilometers

⁴More than 30 kilometers

18. What do you use as the mode of transport to the nearest health facility?

¹ On foot

² Matatu

³ Motor cycle

⁴ Bicycle

⁵ Donkey carts

⁶ Other (Specify) _____

19. How long does it take you to reach the nearest health facility?

¹< 30 mins

² 30mins-1hr

³ 1hr-2hrs

⁴>2hrs

HEALTH SEEKING BEHAVIOUR

20. Which health service providers are available to the Somali Community here?

¹Private clinic

²Government clinic or hospital

³Traditional or homeopathic healer

⁴ Spiritual Healer

⁵Clinic run by a nongovernmental organization or church

⁶Other (Specify) _____

21. Where do you usually prefer to go when you are sick, or to treat a general health problem?

¹Private clinic

²Government clinic or hospital

³Traditional or homeopathic healer

⁴Clinic run by a nongovernmental organizations or church

⁵Other (Specify): _____

22. What is the reason for choosing the above health service provider? (Please check all that apply.)

¹Cost- it is cheaper than others

² It is near thus ease of transportation/distance to clinic

³I trust the service providers' workers

⁴I like attitude of service providers' workers

⁵ The queues are shorter thus saves me time

⁶It has all the facilities I require

⁷My community culturally expects me to go there.

⁸Other _____

23. At what point do you go to a formal health facility (Public private, NGO, FBO)?

(Please check one.)

¹When treatment on my own does not work

²When symptoms last longer than I think is normal

³ When there is adequate money

⁴When the disease seems to be severe.

⁵When I am suffering from a modern disease.

⁶ Immediately

24. About the latest illness that you had, where did you visit for treatment?

¹Private clinic

²Government clinic or hospital

³Traditional or homeopathic healer

⁴ Spiritual Healer

⁵Clinic run by a nongovernmental organization or church

⁶Other (Specify) _____

25. During your last ailment did you adhere to the medication instructions

¹Yes

²No

26. If no why _____

27. How many days after the illness began did you first seek advice or treatment?

28. Did you take any drugs before looking for advice?

¹Yes

²No

29. If yes, did you already have the drugs in the house?

¹Yes

²No

30. When you attend the formal public health facility are there any problems you face?

¹Yes

²No

31. If yes, which ones?

¹They are expensive

²Health care workers are not always available

³ Health care workers are not respectful

⁴ Drugs are not always available

⁵I can't communicate well to the health care workers

32. Which are the 3 most common illnesses found within your community

¹ Diarrhea

² Malaria

³ Acute malnutrition

⁴ Hypertension

⁵ Diabetes

⁶ Helminths

⁷ Pregnancy complications

⁸ Anemia

⁹ Impaired vision

¹⁰Other _____

33. In your community, are there any differences in accessing healthcare between men and women?

¹Yes

²No

34. If yes, which ones?

35. According to your religion, are there any beliefs that do not allow a person to access healthcare?

¹Yes

²No

36. If yes, which ones?

37. What healthcare services would you like the county government to bring closer to you?

1

2

3

END

Appendix IV: Questionnaire Translated Into Somali Language

Qeybta I: Macluumaad guud iyo su'aalo la xiriira dadweynaha ku nool deegaanka

1. Meeqa sano ayaad jirtaa? (Sheeg inta sannadood tiro ahaan)

2. Xaaladda guurka

¹ Doob

² Xaasle

³ La furay/Aan wada-noolayn

⁴ Laga dhintay

⁵ Wax-kale (fadlan sheeg) -----

3. Jinsi labood-dheddiga

¹ Lab

² Dheddig

4. Waa maxay heerka ugu sarreeya ee aad ka gaartay waxbarashada?

¹ Iskuul ma dhigan

² Dugsi Hoose/Dhexe

³ Dugsi sare

⁴ Kuliyaad

⁵ Tacliin sare (mid xirfadeed ama wax-ka sarreeya jaamacad)

⁶ Madaraso diini ah oo kaliya

⁷ Fasalada lagu barto wax-qorista oo kaliya

5. Diinta

¹Muslim

²Kiristaan/masiixi

³Wax-kale (Fadlan sheeg) _____

6. Duruufaha Shaqada?

¹ Shaqo la'aan

² Shaqaale joogto ah oo xirfadle/takahsus leh

³ Shaqaale joogto ah oo aan lahayn wax xirfad ah

⁴ Shaqaale xirfadle oo xoogsade ah

⁵ Shaqaale xoogsade ah oo aan xirfad lahayn

⁶ Beeraley

⁷Qof iskii u shaqeysta, ganacsiga yar-yar/wax soo saarka guriga

⁸ Shaqaale qabta hawlaha qoyska oo aan qaadanin wax lacag ah

⁹ Arday/xirfadle uu heerkiisu billow yahay

¹⁰ Wax-kale, (fadlan sheeg)

7. Waa maxay dakhliga guud ahaaneed ee aad heshid bishiiba? (Waxaa ku jira dakhliga uu qofku ka helo meel-kasta (dakhliga laga helo shaqaalenimada, waxsoosaar gaar ahaaneed, dakhli laga helay xubno kale oo ka mid ah qoyska iwm.)

¹ Wax ka hooseeya 2400 Ksh Bishiiba

² Inta u dhaxaysa 2401-4800 Ksh Bishiiba

³ Inta u dhaxaysa 4801-9600 Ksh Bishiiba

⁴ Inta u dhaxaysa 9601-19200 Ksh Bishiiba

⁵ Inta u dhaxaysa 19201-38400 Ksh Bishiiba

⁶ Inta u dhaxaysa 38401-76800 Ksh Bishiiba

⁷ Wax ka sarreeya 76800 Ksh Bishiiba

⁸ Ma garanayo

⁹ Wuu diiday inuu ka jawaabo

- 8. Sheeg isku-celceliska dakhliga wadar ahaaneed ee bishiiba soo gala qoyska? Waxaa ku jira dakhliga soo gala dhamaan xubnaha qoyska iyo dhamaan ilaha uu ka yimaaddo dakhligaasi (dakhliga laga helo shaqaalenimada, waxsoosaar gaar ahaaneed, dakhli laga helay xubno kale oo ka mid ah qoyska iwm.)**

Qofka qaadaya wareysiga: Fadlan weydii qofka inuu calaamadiyo mid ka mid ah goobaha hoose ee uu dakhligu ku qoran yahay

¹ Wax ka hooseeya 2400 Ksh Bishiiba

² Inta u dhaxaysa 2401-4800 Ksh Bishiiba

³ Inta u dhaxaysa 4801-9600 Ksh Bishiiba

⁴ Inta u dhaxaysa 9601-19200 Ksh Bishiiba

⁵ Inta u dhaxaysa 19201-38400 Ksh Bishiiba

⁶ Inta u dhaxaysa 38401-76800 Ksh Bishiiba

⁷ Wax ka sarreeya 76800 Ksh Bishiiba

⁸ Ma garanayo

⁹ Wuu diiday inuu ka jawaabo

9. Adigu ma waxaad tahay madaxa/mas'uulka qoyska?

¹ Haa

²Maya

10. Haddii ay jawaabtu tahay maya, maxaad isu tihiin adiga iyo madaxa/mas'uulka qoysku?

¹ Xaaskiisa

² Hooyadii

³ Ayeeyo

⁴ Gabar (uu sodog u yahay/ay soddoh u tahay)

⁵ Wax-kale (qor waxa ay isu yihiin.....)

⁶ Aabbe

⁷ Awow

⁸ Wiilkiisa/wiilkeeda (wiilka uu sodog u yahay ama soddoh u tahay)

11. Tiro ahaan immisa qof ayaa si joogto/toos ah ugu nool gurigan kuwaas oo aad adiguna ku jirtid?

.....

12. Waa ayo qofka ka mid ah qoyskan ee bixiya dakhliga ugu badan qoyska?

¹ Aabbe

² Hooyo

³ Ilmaha/ubad (walaalkaa/walaashaa)

⁴ Qaraabo kale

13. Bil-kasta, kharash intee le'eg ayuu qoyskaagu ku bixiyaa arrimaha la xiriira daryeelka caafimaadka?

.....Ksh Bishiiba

¹ Ma garanayo

14. Waa ayo cidda ka mid ah qoyska ee bixiya kharashaadka ugu badan ee la xiriira daryeelka caafimaadka?

¹ Aabbe

² Hooyo

³ Ilmaha/ubad (walaalkaa/walaashaa)

⁴ Qaraabo kale

15. Miyaad haysataa ceymiska daryeelka caafimaadka?

¹Haa

²Maya

16. Haddii ay jawaabtu tahay haa, waa kee nooca ceymiska caafimaadka ee aad haysatid?

¹ NoocaNHIF

² Ceymis gaar ahaaneed

HELITAANKA DARYEELKA CAAFIMAADKA

17. Goobta aad ku nooshahay, fogaan/musaafa intee le'eg ayey u jirtaa shaybaarka caafimaadka ee ugu dhaw, ama cusbitalka?

¹ Inta u dhaxaysa 0–10 kiilomitir

² Inta u dhaxaysa 11–20 kiilomitir

³ Inta u dhaxaysa 21–30 kiilomitir

⁴ Wax ka badan 30 kiilomitir

18. Marka aad u safraysid xarunta daryeelka caafimaadka ee kuugu dhaw, waa maxay nooca gaadiidka ee aad adeegsatid?

¹ Waan lugeeyaa

² Waxaan raaca Matatu

³ Waxaan raaca Mooto

⁴ Waxaan raaca Baaskiil

⁵ Waxaan raaca Gaari-dameer

⁶ Wax kale (Fadlan sheeg) _____

19. Muddo intee le'eg ayey kugu qaadataa inaad gaartid xarunta daryeelka caafimaadka ee kuugu dhaw?

¹ Wax ka yar 30 daqiiqadood

² Inta u dhaxaysa 30 daqiiqadood ilaa 1 saac

³ 1 saac – 2 saacadood

⁴ Wax ka yar 2 saacadood

HAB-DHAQAN LA XIRIIRA RAADSASHADA CAAFIMAADKA

20. Waa kuwee bixiyayaasha adeegga caafimaadka ee laga heli karo bulshada Soomaaliyeed ee ku nool halkan?

¹ Shaybaar gaar ahaaneed

² Shaybaarka dawladda ama isbitaalka

³ Daaweeye-dhaqameed ama dawo kaalmaati guriyeed

⁴ Daaweeye boorane/wadaaddo la iska cuudiyo/cilaaj

⁵ Shaybaar hoos-tagay hay'ad aan dawli ahayn ama kaniisad

⁶ Wax-kale (Fadlan sheeg) _____

21. Sida caadiga halkee ayaad jeceshahay inaad aadid marka aad jirran tahay, ama inaad iska daaweysid marka aad la kulantid dhibaato guud ahaaneed oo la xiriirta arrimaha caafimaadka?

¹ Shaybaar gaar ahaaneed

² Shaybaarka dawladda ama isbitaalka

³ Daaweeye-dhaqameed ama mid kaalmaati guriyeed

⁴ Shaybaar ay maamusho hay'ad aan dawli ahayn ama kaniisad

⁵ Wax-kale (Fadlan sheeg) _____

22. Waa maxay sababta aad ku dooratay inaad aadid goobta daryeelka caafimaadka ee kor ku xusan? (Fadlan calaamadee/sax dhamaan jawaabaha ku habboon ee hoos ku qoran.)

¹ Kharashka- way ka rakhiisan tahay goobaha kale

² Waa goobta iigu dhaw waxaana ku doortay gaadiidk oo sahlan/dhowaanta shaybaarka

³ Waxaan ku kalsoonahay shaqaalaha ka shaqeeya daryeelka caafimaadka

⁴ Waxaan jeclahay hab-dhaqanka shaqaalaha bixiya adeegyada

⁵ Safka la galayo waa mid gaaban taasina waxay yareyneysaa waqtiga

⁶ Waxaa laga helayaa dhammaan qalabka aan u baahanahay

⁷ Dhaqan ahaan bulshadeydu waxay door-bidayaana inaan aado goobtaas.

⁸ Wax-kale _____

23. Waa waqtigee xilliga aad aaddid goobta daryeelka caafimaadka ee rasmiga ah (Mid guud ahaaneed, ama mid gaar ahaaneed, Hay'ad aan dawli ahayn, Hay'adaha Diiniga ah? (Fadlan calaamadee/sax hal qodob.)

¹ Marka aan wax natiijo ah ka gaari waayo qaabkeyga is-daaweynta iskayga ahaaneed

² Marka aan muddo dheer isku arko calaamadaha xanuunka ee aan u maleeyo inayna caadi ahayn

³ Marka aan heli karayo lacag igu filan

⁴ Marka uu cudurku u muuqdo inuu yahay mid aad u daran.

⁵ Marka uu igu dhaco xanuun cusub/caalami ah.

⁶ Sida ugu dhakhsaha badan/isla markiiba

24. Waa halkee goobta aad u doonatay daaweynta, kaddib markii uu kugu dhacay xanuunkii kuugu danbeeyey?

¹ Shaybaar si gaar ah loo leeyahay

² Shaybaarka dawladda ama isbitaalka

³ Daaweeye dhaqameed ama mid kaalmaati guriyeed

⁴ Daaweeye boorane/wadaado la iska cuudiyo/cilaaj

⁵ Shaybaar hoos-tagay hay'ad aan dawli ahayn ama kaniisad

⁶ Wax-kale (Fadlan sheeg) _____

25. Xanuunki kugudambeeye, daawoynta lagu qorey toos miyaad u qaadhatay?

26. Haddii ay jawaabtu tahay maya, sababtu waa mahay?

27. Immisa maalmood ka dib ayaad doonatay talo-bixinta ama daaweynta markii uu xanuunku kugu billowday?

28. Hore miyaad usoo qaadatay wax daawo ah intii aadan soo raadsanin talo-bixinta?

¹Haa

²Maya

29. Haddii ay jawaabtu tahay haa, daawooyinka aad isticmaashay ma guriga ayeey kuu sii yaalleen?

¹Haa

²Maya

30. Ma jiraan wax dhibaatooyin ah oo aad la kulantid marka aad joogtid xarumaha daryeelka caafimaadka ee dadweynaha?

¹Haa

²Maya

31. Haddii ay jawaabtu tahay haa, waa kuwee kuwaasi?

¹Waa qaali

² Shaqaalaha ka shaqeeya daryeelka caafimaadku ma aha kuwo mar-kasta la heli karo

³ Shaqaalaha ka shaqeeya daryeelka caafimaadku ma aha kuwo dadka ixtiraama

⁴ Inta badan lama heli karo daawooyinka

⁵ Luuqad ahaan si wanaagsan ma ula xiriiri karo shaqaalaha ka shaqeeya daryeelka caafimaadka

32. Waa maxay saddexda xanuun ee ugu badan ee ka jira deegaankan kuwaas oo u baahan raadsiga daryeel caafimaad?

¹ Shuban

² Kaneego

³ Nafaqa daro

⁴ Diig kar

⁵ Macaan

⁶ Goryaan

⁷ Xanuunada ladarso hooyada uurka leh

⁸ Diig yarida

⁹ Dibatada aragtida

¹⁰Kale

33. Bulshadiinna dhexdeeda, ma jiraan wax farqiyo ah oo u dhexeeya helitaanka daryeelka caafimaadka ee ragga iyo dumarka?

¹Haa

²Maya

34. Haddii ay jawaabtu tahay haa, waa kuwee kuwaasi?

35. Sida diintiinna ay qabto, ma jiraan fikrado dadku ay aaminsanyihiin oo ah in aan la helin daryeel caafimaad?

¹Haa

²Maya

36. Haddii ay jawaabtu tahay haa, waa kuwee kuwaasi?

37. Waa maxay adeegyada daryeelka caafimaadka ee aad jeclaan lahayd in dawlad-goboleedku (countiga) ay kuu keento ama kuu soo dhaweyso?

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2

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Appendix V: Translation Certification

I, **ABUKAR GAAL MOHAMED** of Kenyan Identity Card Number 22539880, of Post Office Box Number 71351-00622 Nairobi, do hereby certify that I translated the attached questionnaire and consent form from English into Somali and that to the best of my knowledge and experience in over nine years of translating/ interpreting English-Somali and Somali-English, the Somali version is exactly the same in context as the original English version of the document.

Signature_____

Date_____

I, **HABIBA MOHAMED** of Kenyan Identity Card Number 20321430, of Post Office Box Number 22953-00100 Nairobi, do hereby certify that I translated the attached questionnaire and consent form from Somali into English and that to the best of my knowledge as a native Somali speaker who is proficient in English, the English version is exactly the same in context as the Somali version of the document.

Signature_____

Date_____

Appendix VI: KEMRI Scientific and Ethics Review Committee Approval



KENYA MEDICAL RESEARCH INSTITUTE

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E-mail: director@kemri.org info@kemri.org Website: www.kemri.org

KEMRI/RES/7/3/1 **March 18, 2015**

TO: **HABIBA MOHAMED,**
PRINCIPAL INVESTIGATOR

THROUGH: **DR. CHARLES MBAKAYA,**
THE DIRECTOR, CPHR,
NAIROBI

Forwarded
19/03/2015

Dear Madam,

RE: SSC PROTOCOL NO. 2873 (RESUBMISSION 2 OF INITIAL): FACTORS ASSOCIATED WITH HEALTH SEEKING BEHAVIOUR AMONG THE SOMALI COMMUNITY IN GARISSA COUNTY, KENYA. (VERSION 1.1 DATED 23RD FEBRUARY 2015)

Reference is made to your letter dated February 23, 2015 of which KEMRI/Scientific and Ethics Review Unit (SERU) acknowledges receipt on 17th of March 2015.

This is to inform you that the Committee notes that the issues raised at the 232nd meeting of the KEMRI/Ethics and Review Committee (ERC) held on 21st October, 2014 have been adequately addressed.

Consequently, the study is granted approval for implementation effective this **18th March, 2015** for a period of one year. Please note that authorization to conduct this study will automatically expire on **March 17, 2016**. If you plan to continue data collection or analysis beyond this date, please submit an application for continuation approval to SERU by **February 3, 2016**.

You are required to submit any proposed changes to this study to SERU for review and the changes should not be initiated until written approval from SERU is received. Please note that any unanticipated problems resulting from the implementation of this study should be brought to the attention of SERU and you should advise SERU when the study is completed or discontinued.

You may embark on the study.

Yours faithfully,

EAB

PROF. ELIZABETH BUKUSI,
ACTING HEAD,
KEMRI/SCIENTIFIC AND ETHICS REVIEW COMMITTEE

In Search of Better Health