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**THE UNIVERSITY OF HULL**

**How Country of Origin, Consumer Ethnocentrism and Consumer Xenocentrism Impact  
upon Risk and Involvement in the Malaria Medication Decision Making Process in  
Tanzania**

**Being a Thesis submitted for the Degree of Doctor of Philosophy**

**in the University of Hull**

**By**

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**July, 2015**

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## DECLARATION

I **Blandina Kisawike**, hereby declare that this work submitted is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree of the university or other institute of higher learning, except where due acknowledgement has been made in the text.

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July 2015

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## **DEDICATION**

This work is dedicated with love, to my beloved husband Amani, for his enduring support towards my achievement; to our lovely son Israel for making me smile every single day; my parents Phillip and Atusunguche for their love and guidance and to all my relatives for their support and prayers.

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## ABSTRACT

The aim of this study was to examine how Country of Origin, Consumer Ethnocentrism and Consumer Xenocentrism impact upon risk and involvement in the malaria medication decision making processes in Tanzania. An exploratory research design was adopted which helped to discover ideas and insights underlying consumers' decisions on malaria medication. The inductive research approach was adopted which helped to get a deep understanding of the underlying factors that influenced consumers in decision making when seeking malaria medication in Tanzania. Non-probability sampling specifically purposive sampling was used to select the participants in this study; clinical officers, laboratory technician, traditional medical practitioners, Tanzania Food and Drug Authority (TFDA) key informants and consumers.

The findings from the study revealed that consumers have good knowledge on the causes and treatment of malaria disease. However, consumers were shown to differ in making the decision on malaria medication based on availability, affordability, performance and quality of the malaria medication. Risk in the consumption of the anti-malarial remedies influenced some consumers to be highly involved in making the decision, especially when purchasing anti-malarial remedies. The level of involvement was determined by opinion leaders, self-decision making and past experiences. Country of Origin, Consumer Ethnocentrism, Consumer Xenocentrism and product knowledge were found to be the strategies used by consumers to evaluate anti-malarial remedies in order to reduce risk.

The findings of this study are expected to provide health professional bodies with knowledge about the decision making process consumers' use while purchasing anti-malarial remedies. This will help them to boost the standard of the different domestic medical products and hence increase ethnocentric tendencies among Tanzanian consumers. Also the findings are expected to provide useful knowledge to policy makers such as TFDA and government in general which will help them to have a productive conversation with traditional medical practitioners about how the traditional medicines are produced. Hence more research could be undertaken to find out the efficacy and standards of the traditional medicines. In addition, these findings are expected to educate Tanzanian consumers on the consequences of applying self - medication in treating malaria.

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Hull, United Kingdom, 2015

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## ABBREVIATIONS

|          |  |
|----------|--|
| ACT      | Artemisinin Combination Therapy                |
| ALU      | Artemether + Lumefantrine                      |
| CAM      | Complementary and Alternative Medicine         |
| CE       | Consumer Ethnocentrism                         |
| CETSCALE | Consumer Ethnocentrism Tendencies Scale        |
| CFO      | Chief Financial Officer                        |
| COO      | Country of Origin                              |
| CX       | Consumer Xenocentrism                          |
| DAR      | Domestic Anti-malarial Remedies                |
| DVCAA    | Deputy Vice Chancellor for Academic Affairs    |
| DVCRM    | Deputy Vice Chancellor for Resource Management |
| FAR      | Foreign Anti-malarial Remedies                 |
| HUBS     | Hull University Business School                |
| ITNs     | Insecticide Treated Nets                       |

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|       |   |
|-------|---|
| MoH   | Ministry of Health  |
| MRDTs | Malaria Diagnostic Tests                                    |
| MSD   | Medical Supply Department                                   |
| NCAPD | National Coordinating Agency for Population and Development |
| NIMR  | National Institute for Medical Research                     |
| NMCP  | National Malaria Control Programme                          |
| OTC   | Over the Counter  |
| PMI   | President's Malaria Initiative                              |
| R&D   | Research and Development                                    |
| RDTs  | Rapid Diagnostic Tests                                      |
| TFDA  | Tanzania Food and Drug Authority                            |
| TM    | Traditional Medicine  |
| THPs  | Traditional Health Practitioners                            |
| TMPs  | Traditional Medical Practitioners                           |
| TU    | Traditional Unit  |

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UTI            Urinary Tract Infections

UNEP         United Nations Environment Programme

VC            Vice Chancellor

WHO         World Health Organization



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## CHAPTER ONE

### INTRODUCTION OF THESIS

#### 1.1 Introduction

Malaria is an important cause of death and illness in children and adults, especially in tropical countries. Malaria control requires an integrated approach, including prevention (primarily vector control) and prompt treatment with effective anti-malarial medications (WHO, 2010).

Malaria is a leading public health concern in Tanzania, especially for children under the age of five and pregnant women (deSavigny *et al.*, 2014). Nearly all the residents of the Mainland and all residents of Zanzibar are at risk of infection. Prevalence is lower in Zanzibar. On the Mainland, more than 40 percent of all outpatient attendances are attributable to malaria, resulting in an estimated 10 to 12 million clinical malaria cases annually. It is estimated that 60,000–80,000 malaria deaths occur annually on the Mainland among all age groups. *Plasmodium falciparum* is the main source of infection in Tanzania; insecticide resistance has been documented on the Mainland (PMI, 2014). Control of malaria in Tanzania appears difficult, and prospects for a lasting solution have in the past decade diminished with the advent of widespread anti-malarial drug resistance (Schönfeld *et al.*, 2007). The principal objectives of malaria case management are to reduce vulnerability to malaria infections and morbidity/mortality among vulnerable populations and to ensure that all people with malaria

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have access to appropriate, timely treatment (PMI, 2014). Therefore we need to understand how people make choices about their malaria medication.

The aim of this study was to examine how country of origin, consumer ethnocentrism and consumer xenocentrism impact upon risk and involvement in the malaria medication decision making process in Tanzania. In this chapter the background of the research problem is explained and the research problem is defined. The research objectives, research questions and the thesis structure are highlighted.

## **1.2 Background of the Research Problem**

The treatment and control of malaria pose a serious challenge. Yet, access to prompt and effective malaria treatment, a foundation of any malaria control strategy, is sub-optimal in many settings. An important part of strategies for combating malaria is reducing mortality and morbidity through early diagnosis and prompt treatment (Ronn, 1998). This will, however, be influenced by factors related to cost, availability and cultural beliefs about the causes and effective cures (Oreagba *et al.*, 2005). The epidemiological, medicinal and entomological aspects of malaria and its consequences for the social and economic outlook of countries in which it is endemic are well documented (Rodriguez, 1993). People seek treatment for malaria from a wide range of providers, including pharmacies, formal health centres/hospitals/dispensaries and traditional medicines. However, there are many problems



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with the treatment provisions. Hence, factors influencing treatment seeking behaviour among consumers need to be investigated.

Reducing the human infectivity of the malaria parasite through early and effective treatment is still challenging. Different studies in Tanzania and other African countries on effective and prompt malaria treatment identified a number of challenges to malaria treatment in relation to health systems. The challenges identified were barriers to the successful malaria case management due to poor adherence to drug regimes, and underdosage in many households because of poverty and the fact that clinical cure of fever is what matters to many individuals (Mboera *et al.*, 2002); stock-out of the anti-malarial remedies especially in the public health centres (Lufesi *et al.*, 2007; Silumbe, 2010; Mikkelsen-Lopez *et al.*, 2014); drug sellers' knowledge on malaria medication (Nsimba, 2007; Okeke *et al.*, 2006; Brugha, 2002); shortage of qualified health workers (Maestad, 2006; Jensen, 2013; Naicker *et al.*, 2009; Kwesigabo *et al.*, 2012) and poor quality of the anti-malarial remedies (Martin *et al.*, 2008; Newton *et al.*, 2006).

Also the availability of different medications for malaria treatment such as domestic anti-malarial remedies, foreign anti-malarial remedies and traditional medicines has broadened choices of malaria treatments. Treatment seeking refers to a process by individuals and/or social groups for restoring health by using medical resources of all kinds (Muela, 2000). The

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decisions that patients make about health care have been shown to be influenced by many different factors. A study carried out by Gilson *et al.* (1994), in the Morogoro region of Tanzania, found that the highest ranked factors for treatment choices were availability of drugs, trust in the health care providers, high level of care, better follow up treatment and severity of problem. On the other hand, a study carried out by Wenzel (2011) in Shirati-Tanzania found that consumers valued both traditional and western medicine for treating their ailments. To Shirati people, western medicine was their first choice; however, consumers went for traditional medicine as their second alternative when the previous treatment given at the hospital did not cure them. The presence of different malaria medications, together with other factors such as geographical location, time and the availability of health facilities, have contributed to self-medication by a number of Tanzanians, which leads to resistance of malaria parasites to commonly-used drugs. Where there is drug resistance the use of anti-malarials can reduce parasite levels and eliminate symptoms without curing the patient (Warsame *et al.*, 1999). The remaining parasites accumulate again over time and the symptoms return (Ellman *et al.*, 1998). This reduction in parasites followed by their recurrence, when combined with a retrospective diagnosis, causes misjudgements and delays in treating people with malaria (Ellman *et al.*, 1998).

Various studies have been conducted on malaria in Tanzania on topics such as acceptability of artemether-lumefantrine (ALU) as a first line anti-malarial treatment (Kabanywany *et al.*,

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2010); adoption of the new anti-malarial drug policy (Eriksen *et al.*, 2005); improvements in access to malarial treatment in Tanzania after the switch to Artemisinin Combination Therapy (ACT) (Alba *et al.*, 2010); role of traditional healers in the management of severe malaria among children below five years (Makundi *et al.*, 2006); obstacles to prompt and effective malaria treatment leading to low community coverage in rural districts (Hetzl *et al.*, 2008); and other related studies. However, the impact of risk and involvement in the decision making process on malaria medication has not received attention. This study examined how Country of Origin (COO), Consumer Ethnocentrism (CE) and Consumer Xenocentrism (XE) impact upon risk and involvement in the malaria medication decision making process in Tanzania. The aim was to provide a better understanding of the decision making process used by Tanzanian consumers seeking malaria medication in order to develop better strategies which can reduce/eliminate the malaria burden on Tanzanian communities.

### **1.3 Problem Statement**

There are a number of problems facing Tanzania when dealing with malaria. One of the major programmatic challenges to malaria prevention and control in Mainland Tanzania is related to human resource constraints, including staff shortages, a lack of adequately trained malaria officers at the regional and district levels, and the very high turnover rate of Ministry of Health staff, particularly in more peripheral settings. In addition, the weak supply chain

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management system further jeopardizes the ability of the Ministry of Health and the National Malaria Control Program (NMCP) to deliver malaria prevention and treatment interventions to all health facilities across the Mainland. Finally, weak information systems hamper the ability of the NMCP to monitor malaria control activities and measure progress (PMI, 2014).

The challenges mentioned above together with other challenges such as drugs stock out, malaria misdiagnosis due to lack of laboratory facilities and distance from the health centres, has made most Tanzanians dissatisfied with the health service provided in the public health centres. As the result, they had to find alternative ways of malaria treatment, such as using traditional medicine or visiting the pharmacists for malaria treatment without a malaria test.

The impact of risk on the different malaria treatment choices made by Tanzanians in treating malaria has not yet been investigated. This study was carried out in order to fill the existing gap in knowledge by examining how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania.

#### **1.4 Aim of the Study**

The aim of this study was to explore how Country of Origin, Consumer Ethnocentrism and Consumers Xenocentrism impact upon risk and involvement in the malaria medication decision making process in Tanzania.

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### **1.4.1 Research Objectives**

1. To understand the Tanzanian consumers' motivations for purchasing anti-malarial remedies.
2. To explore if or how Country of Origin has an impact on consumers' evaluation of the anti- malarial remedies in Tanzania.
3. To investigate the ethnocentric tendencies of Tanzanian consumers when purchasing the domestic anti-malarial remedies.
4. To examine the extent to which demographic characteristics affect the level of xenocentric tendencies in the Tanzanian market.
5. To identify the dimensions of product involvement and perceived risk and their influences in consumers' decision making process.

### **1.5 Research Questions**

In achieving the above objectives the following research questions were formulated.

1. What are the motivating factors to Tanzanian consumers in purchasing anti-malarial remedies?
2. Does the Country of Origin have an impact on Tanzanian consumers' evaluation of anti-malarial remedies?

- 
3. What is the level of ethnocentric tendencies among Tanzanian consumers when purchasing domestic anti-malarial remedies?
  4. Is there any relationship between demographic characteristics and the level of xenocentric tendencies in the Tanzanian market?
  5. What are the dimensions of product involvement and perceived risk and their influence on consumers' decision making process?

The first question aims to understand factors motivating Tanzanian consumers in purchasing anti-malarial remedies in relation to risk and involvement in their decision making process.

Knowing the factors influencing Tanzanian consumers will help to determine the health needs and concerns that contribute to ethnocentric and xenocentric tendencies and their impact in the malaria medication decision making process.

The second question aims to explore the extent to which Country of Origin has an impact to Tanzanian consumers when evaluating anti-malarial remedies. Also the perception of the "made in" concept and its impact in the decision making process will be identified.

Identifying the impact of the country of origin on evaluation of anti-malarial remedies will help in future sourcing policies in development of the domestic industry, based on the features of foreign products that attracts Tanzanian consumers.

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The third question aims to examine the ethnocentric tendencies of Tanzanian consumers when purchasing domestic anti-malarial remedies. This will be possible through identifying if the characteristics of the ethnocentric consumers are in Tanzanians' minds when purchasing domestic anti-malarial remedies. The ethnocentric tendencies to Tanzanian consumers will help to determine the sustainability of the domestic pharmaceutical industry.

The fourth question aims to ascertain the influence of demographic characteristics on the malaria medication decision making process. Identification of the criteria used by different demographic segments when purchasing anti-malarial remedies will help health professionals and policy makers to target health education and services in relation to malaria more effectively.

The fifth question aims to identify the dimensions of product involvement and perceived risk and their impacts in the malaria medication decision making process. Identification of the dimensions of these constructs and how each contributes to the malaria medication decision making process will be valuable to inform future health policy and service provision with the aim of increasing involvement and reducing perceived risk.

## **1.6 Thesis Organization**

This study comprises seven chapters; the contents of each chapter are detailed below.

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The first chapter provides a general overview of malaria disease in Tanzania and the challenges hindering the control and prompt treatment of the disease. Also the chapter identified the gap in the literature by defining the background of the research problem together with highlighting the intention underlying the undertaking of this study in the statement of the problem. In addition, the chapter highlighted the aim of the study, the objectives of the study and the research questions.

The second chapter provides a general literature review on the consumer decision making process together with the five stages of the decision making process. Existing literature on perceived risk in relation to the consumer's decision making process is detailed. The literature on product involvement and factors influencing the level of involvement in the decision making process is discussed. Risk reduction strategies, which are product knowledge, Country of Origin, Consumer Ethnocentrism and Consumer Xenocentrism and their impact on decision making process are detailed.

The third chapter presents a literature review on malaria disease. An overview is given of malaria disease and impact of malaria on livelihood is discussed. Challenges of malaria treatment in relation to health care systems as identified by different researchers and the malaria treatment seeking behaviour of Tanzanian consumers are elaborated. Also the chapter details the practice of traditional medicine by Tanzanian consumers and worldwide, together



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with the factors influencing the practice of traditional medicine, its benefits and risks associated with the consumption of traditional medicines. In addition, this chapter provides a review of existing literature on self-medication and its impact to the consumer's health well-being.

The fourth chapter explains the methodology used in the study and reasons that governed the selection of the methodology. The adopted research design, research approach, research paradigm and philosophies together with the research strategy are explained. The population of the study and sampling techniques which were used to recruit twenty five participants in this study are detailed. Also the area of the study and data collection technique used in this study is explained in detail. In additional, the chapter discussed quality considerations, by highlighting how the trustworthiness of the study was taken into consideration. Lastly, the chapter explains how data was analysed and the ethical considerations of the study.

The fifth chapter details how the data was analysed and presents the results. The obtained data was analysed by the thematic data analysis. Emergent themes in each research questions directed the presentation of the findings.

The sixth chapter provides a discussion of the findings. The data presented in chapter five are discussed in the light of the themes that emerged in each research question. Also the chapter shows the contradictions and consistency of the present findings with those of other

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researchers. Lastly the theory development from the study is presented.

The last chapter concludes the thesis by highlighting the reflection on the research questions, managerial and theoretical implications and it gives the suggestion for future research.

The chapter structure is summarised in figure 1.

### **1.7 Contribution of the Study**

The findings from this study would significantly bridge the knowledge gap in existing literature specifically in the areas of consumer ethnocentrism, consumer xenocentrism, risk, involvement and malaria medication decision model. Also the information generated from this study would be vital to policy makers (such as the Ministry of Health and Social Welfare, Ministry of Trade and Industry, Tanzania Drug and Food Authority, and other health stakeholders) and to Tanzanian consumers at large. The theoretical contributions and managerial contributions will be addressed in more detail in chapter seven.

### **1.8 Conclusion**

In this chapter, a general overview of the malaria disease and the background of the research problem with regard to malaria medication has been provided. It was indicated that malaria continues to be a threatening disease in sub-Saharan Africa and Tanzania in particular.

Although patients are urged to seek prompt treatment in order to reduce the mortality rates

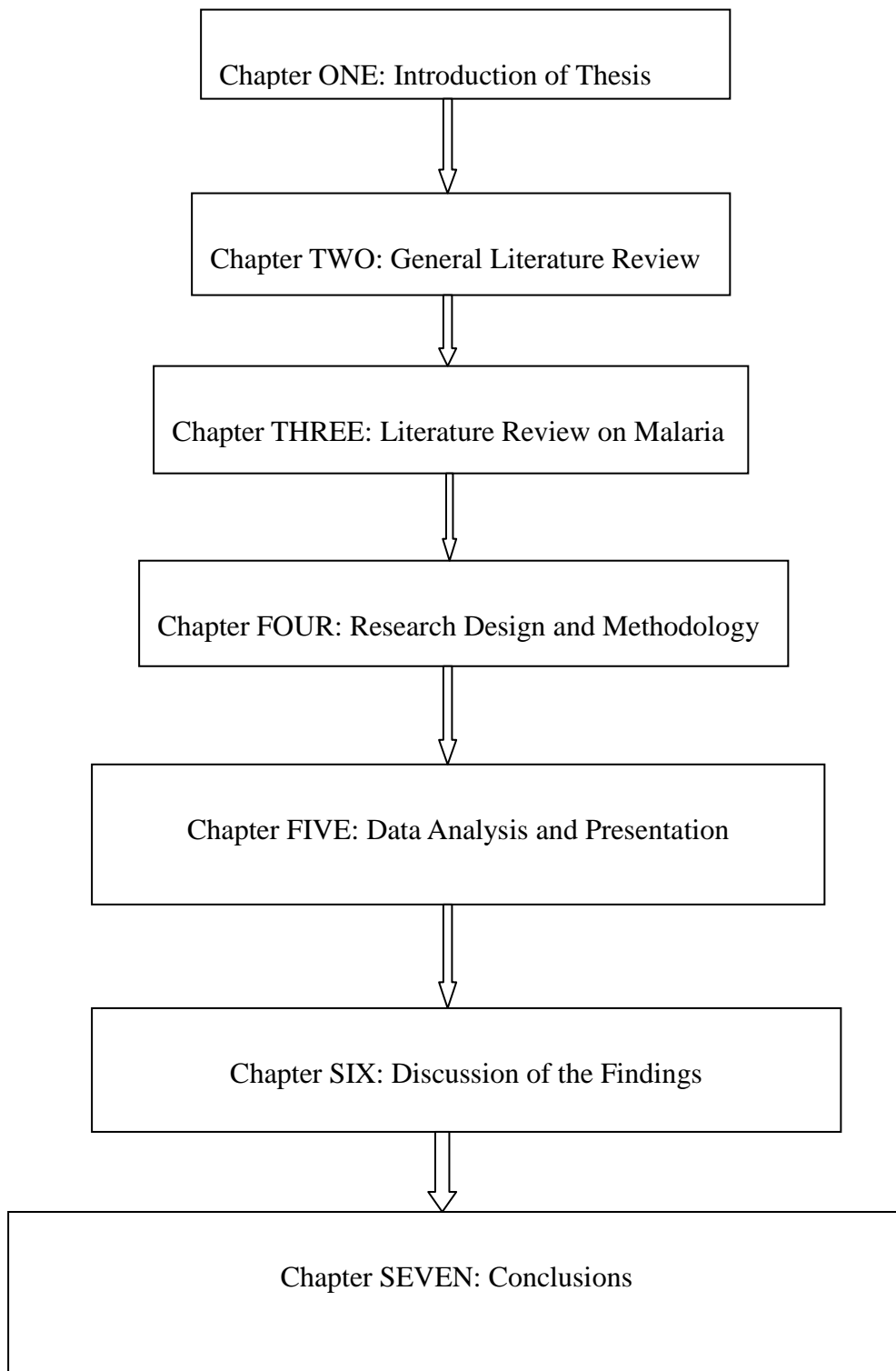
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and thereby increase the economic development of citizens, prompt seeking for treatment is associated with some challenges which need to be addressed. Also availability of different malaria medications widens the choice of the Tanzanian consumers while seeking for malaria treatment. Thus, the researcher focused on understanding how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania.

For this reason, the second chapter will begin with a literature review on the consumer's decision making process, perceived risk, product involvement, and product knowledge, COO, CE and CX and their impact on the consumer decision making process.

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**Figure 1: Thesis Structure**



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## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

The aim of the study was to explore how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania. A review of existing related literature was performed in order to identify the existing gap of knowledge to be addressed in this study. In this chapter, literature is reviewed on the consumer's decision making process, perceived risk, product involvement, product knowledge, COO, CE, and CX in relation to the consumer decision making process and product evaluation.

#### 2.2 Consumer Behaviour

Bennett (1995) defined consumer behaviour as the dynamic interaction of affect and cognition, behaviour, and environmental events by which human beings conduct the exchange aspects of their lives. Also Bakshi (2012) defined consumer behaviour as the study of when, why, how, and where people do or do not buy a product. As a research area it attempts to understand the buyer decision making process and studies characteristics of individual consumers as well as groups in an attempt to understand people's wants and needs. Solomon *et al.* (2006:7) defined consumer behaviour as "the processes involved when

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individuals or groups select, purchase, use, or dispose of products, services, idea or experiences to satisfy needs and desire”. On the other hand, Schiffman and Kanuk ( 2007 :3) defined consumer behaviour as the “behaviour that consumers display in searching for, purchasing, using, evaluation, and disposing of products and services that expect will satisfy their needs”. As far as this study is concerned, consumer behaviour will be defined as the actions that consumers use in seeking malaria medication after realizing their abnormal health condition.

Consumer behaviour is derived from various factors, as outlined by different authors. According to Bakshi (2012), consumer behaviour is influenced by a number of factors such as cultural, social (reference groups, family, social and role status), personal characteristics (gender, age, occupation, income, and lifestyle) and psychological factors (motivation, perception, beliefs and attitude). Blackwell *et al.* (2006) ascertained that consumer buying behaviour is influenced by two major factors which are individual (demographic, consumer knowledge, perception, learning, motivation, personality, beliefs, attitude and lifestyle) and environment (culture, social class, reference groups, family and household). Sata (2013) in a study on the factors affecting consumer buying behaviour of mobile devices, found that price, features incorporated in the mobile phone, social influence, durability of the mobile phone, brand name, and after sales service were the major factors that influenced consumers in purchasing the mobile phone. It can be observed that the nature of the product or service

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determines the criteria to be used by consumers while purchasing a particular product/service. However, consumer behaviour in purchasing anti-malarial remedies has not received attention. In this study, the decision making process used by Tanzanian consumers while seeking for malaria medication was examined.

### **2.2.1 Consumer Decision Making**

Consumer decisions are the decisions that consumers make in a marketplace as buyers, payers and users. In general, these decisions consist of whether to purchase, what to purchase, when to purchase, from whom to purchase and how to pay for it (Sheth *et al.*, 1999). The decision process begins with the consumer recognising a problem to be solved. Consumers search for information about various alternative ways of solving their problem. After the consumer has all the information he/she needs, he/she will think how to use this information to arrive at the choice. Then once the consumer has evaluated the alternatives he/she makes the purchase decision. Finally, the consumer's decision process does not end with the purchase, as the experience of buying and using the product provides information that the consumer will use in future decision making (Engel *et al.*, 1995; Sheth *et al.*, 1999; Schiffman and Kanuk, 2004). The consumer decision making process can be described as the process followed by an individual who has a specific need, and is evaluating alternative products or

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services with different brands and prices, in order to find the best solution to meet that need (Potgieter *et al.*, 2003).

Schiffman *et al.* (2008:71-74) identify the consumer decision making views used by consumers: the economic view, the passive view, the emotional view and the cognitive view.

In the *economic view*, consumers evaluate all the alternatives and choose the one with maximum utility/satisfaction. In the *passive view*, consumers are submissive to the self-serving interest and promotional efforts of marketers. That is to say, consumers do not make rational decisions based on utility but according to the manipulation of the marketers. The *emotional view* is where there are deep feelings or emotions attached to decisions, which mostly result in impulse buying. The last decision making view is the *cognitive view*.

According to this view, consumers make their decision based on how well the product /service will fulfil their needs and enrich their lives. Consumers actively search for products and services that will serve their goals. Out of the four views of consumer decision making, this study assumes that consumers are using the cognitive view of decision making, due to the nature of the study which deals with the impact of risk and involvement on choice of malaria medication.

There are factors influencing consumers in the decision making process. These factors include past experience (Juliusson *et al.*, 2005; Sagi and Friedland, 2007), demographic

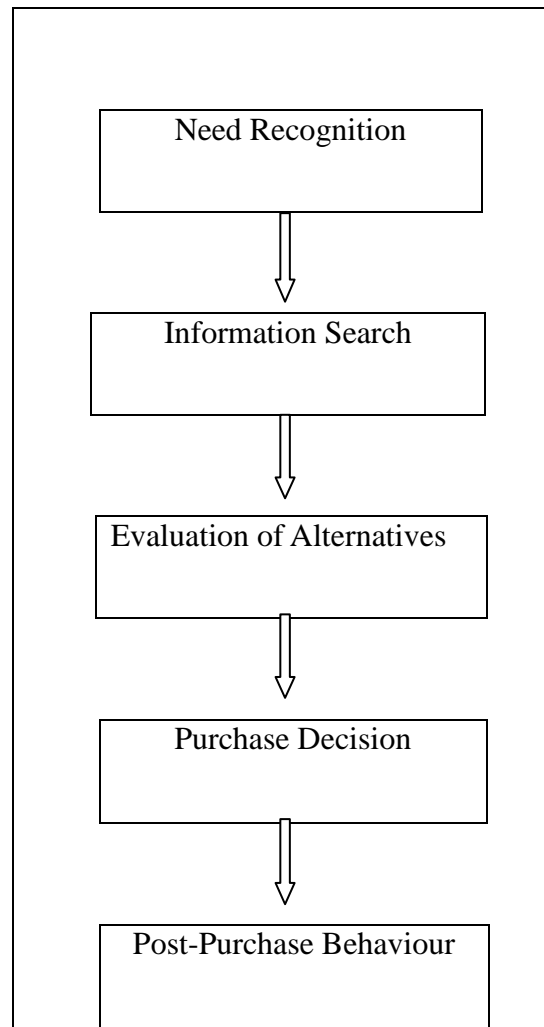


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factors/individual differences (de Bruin *et al.*, 2007; Reed *et al.*, 2008), cognitive biases (Shah and Oppenheimer, 2008), belief in personal relevance (Acevedo and Krueger, 2004); and escalation to commitment (Juliussen *et al.*, 2005). Five stages of the consumer decision making process are proposed (Schiffman and Kanuk, 2004; Engel *et al.*, 1995; Cant *et al.*, 2002; Blackwell *et al.*, 2003; Haokins *et al.*, 2003). The mentioned factors are general in meaning and apply to different products. In this study, factors influencing consumers in making decisions on malaria medication were examined. Below, the consumers' decision making process as shown in figure 2 and discussed by various authors is detailed.

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**Figure 2: Consumer Decision Making Process**



Source: (Schiffman and Kanuk,2004;Engel et al.,1995;Cant et al.,2002;Blackwell et al.,2003;Haokins et al., 2003)

### **2.2.1 Need Recognition**

Need recognition is the first stage of the consumer buying decision process. It occurs when the consumer realizes a need or want. This need arises when consumers recognize a

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difference between what they perceive as the current or actual state of affairs and the state of affairs they aspire to (Cant *et al.*, 2002). According to Hawkins *et al.* (1998) and Wyer Jr, (2008) as cited by Galalae and Voicu (2013), the need recognition process begins once an individual identifies a need as a result of his/her exposure to internal or external stimuli which might prompt him/her to go on a quest for information about a means to satisfy the need, in an active/passive, conscious/ unconscious manner (Galalae and Voicu, 2013). Hawkins and Mothersbaugh (2010) outlined factors that affect the problem recognition step, such as social factors, cultural factors, reference groups, and environmental factors. Need recognition for malaria medication was examined.

### **2.2.2 Information Search**

Once an initial need has been recognized, consumers will seek to obtain further knowledge in order to go through the purchasing process. At this stage, consumers will look for more information to underpin potential decisions. There are two types of information sources; internal and external information search. Internal search involves the consumer's memory about products, and external search includes word of mouth, store visits, trial and online social networking and social media (Kardes *et al.*, 2011). Kotler and Armstrong (2008) identified four sources of information, which are personal, commercial, public, or experience sources. Various studies indicate that once consumers have high involvement in the

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purchasing process, they are likely to conduct a more active information search, and will be more willing to seek out detailed information from different sources (Engel *et al.*, 1995; Cant *et al.*, 2005; Erdem *et al.*, 2005). Also Marks and Olson (1981) proposed that consumers with a high level of product knowledge are complex in making their purchase decisions. In the same vein, Kempf and Smith (1998) suggested that consumers with a higher level of product knowledge are more diagnostic and better informed than those who have a lower level of product knowledge. This study identifies the information search and its impact on the choice of malaria medication.

### **2.2.3 Evaluation of Alternatives**

Consumers evaluate the quality of the features of various products based on certain characteristics such as product attributes, degree of importance, brands, beliefs and expected satisfaction (Kotler and Armstrong, 2004). Given that there are a number of different brands in the marketplace, consumers have to create their own evoke set which consists of brands which are already in their minds (Solomon *et al.*, 2010). Jobber (2007) added that the brands that are included in consumers' evoke sets will have more opportunities to be selected by the consumers. In this stage, consumers consider which alternative would be the best to fulfil their need (Blythe, 2008). The criteria used by consumers in evaluating the anti-malarial remedies are identified in this study.

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#### **2.2.4 Purchase Decision**

Consumers have to choose one brand among several brands after evaluating their brand choices from the evaluation of alternatives stage (Bakshi, 2012). Consumers' product choices can be affected by various sources of information during the process of decision making (Solomon *et al.*, 2010). Different factors and anticipated conditions can influence the decision (Hisrich, 2000). One such factor is a certain amount of risk that may be perceived by the consumers (Ueltschy *et al.*, 2004; Chen and He, 2003). It can be said that when perceived risk falls below an individual's acceptance value, it has little effect on intended behaviour and is essentially ignored (Greatorex and Mitchell, 1993). On the other hand, an extremely high level of perceived risk can cause a consumer to postpone or avoid a purchase entirely (Dowling and Staelin, 1994). In this study, uncertainties in the purchase of the anti-malarial remedies were examined.

#### **2.2.5 Post-Purchase Behaviour**

The quality of the decision and how well the choice worked out becomes important in this stage of the process. Consumers start to compare their perceptions of the product with their expectations (Kardes *et al.*, 2011). Even though the buying decision has finished, consumers often still evaluate their decisions. This is because they want to feel confident about their choices and to ensure that the quality of product can solve their problems or satisfy their

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needs (Bakshi, 2012). Jobber (2007) added that the quality of the product is a main determinant in the post-purchase evaluation. Positive, post-purchase behaviour is critical to the success of any company. Each transaction should be viewed as a starting point toward building a continuous relationship with customers (Durkin and Howcroft, 2003). The post-purchase behaviour in relation to anti-malarial remedies is a determinant in subsequent cycles of need recognition up to the purchase decision.

However, consumers do not necessarily use all five elaborated stages while making the decision towards the certain good or service. The capacity of the individual consumer in making decision and the nature of the product determines the stages to be used by consumers while making the purchase decisions. However, the perceived risk is a major influence on the level of engagement of the consumer during the decision making process.

### **2.3 Perceived Risk**

The basic foundation of the perceived risk paradigm is that “consumers act to minimize any expected negative utility associated with the decision” (Barkworth *et al.*, 2002:911). According to Bauer (1960) as cited by Barkworth *et al.* (2002) asserts that, consumer behaviour involves risk in the sense that any action of a consumer will produce consequences which he cannot anticipate with anything approximating certainty. In general, perceived risk is viewed as arising from anticipated and uncertain consequences of an unpleasant nature

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resulting from the product purchase (Bauer 1960 as cited by Dholakia, 2001). Dowling and Staelin (1994) defined perceived risk as the consumer's perceptions of the uncertainty and adverse consequences of buying a product or service. Perceived risk is considered as an uncertainty regarding the possible negative outcome of using a product or service (Bauer, 1960). Different studies show that perceived risk is central to consumers' evaluation and purchasing behaviour (Dowling, 1999; Dowling and Staelin, 1994; Mitchell, 1999).

Perceived risk is the consumer's perception of the uncertainty and associated adverse consequences of buying a product or service (Dowling and Staelin, 1994). In extending perceived risk to different purchasing contexts, Dowling and Staelin (1994) proposed perceived risk as a situational and personal construct, which is closely related to the level of uncertainty and likelihood of negative consequences of purchasing a good or service in terms of the consumer's perception. In making a purchase decision, Schiffman and Kanuk (2004) indicated perceived risk as the uncertainty that consumers face when they cannot foresee the consequences of their purchase decisions. Oglethorpe and Monroe (1987) suggested that consumer researchers define perceived risk in terms of uncertainty and consequences; perceived risk increases with higher levels of uncertainty and/or the chance of greater associated negative consequences. However, Mitchell (1999) pointed to the lack of a universally agreed definition, giving researchers scope to use the definition appropriate to the research aims. However, the weight of empirical research has favoured a definition that has

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two components: the probability of a loss and the subjective feeling of unfavourable consequences (Cunningham, 1967). According to Barkwoth *et al.* (2002:911), “perceived risk is generally agreed to involve two major components which are; the existence of possible unwanted consequence or loss and an uncertainty in the occurrence of that consequences”

Jacoby and Kaplan (1972) refined the initial specification of Bauer (1960) and suggested that perceived risk should be considered a multidimensional concept entailing multiple types of risks, including psychological, financial, performance, physical, and social risk. Mitchell (1992) classified six types of perceived risk for services as social, financial, physical, performance, time and psychological risk. By using a step-wise regression approach, Stone and Gronhaug (1993) confirmed that six dimensions of risk (i.e. financial, performance, physical, psychological, social and time-related risks) explained a highly significant portion of overall risk. Their findings show that 88.8 percent of the variance in overall risk is captured by these dimensions.

Table 1 provides the definitions of six dimensions of risk and their impacts on medical products



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**Table 1: Types of Risks and their Impact on Medical Products**

| <b>Type of Risk</b> | <b>Meaning of the Risk</b>   | <b>Impact on Medical Products</b>  |
|---------------------|--|--|
| Physical Risk       | Physical risk relates to the safety and health of the individual (Ueltschy, 2004).   | Physical harm or injury after using a medical product.   |
| Performance Risk    | Horton (1976) defined performance risk as the loss incurred when a brand or product does not perform as expected.  | The medical product does not perform according to the patient's expectations                           |
| Financial Risk      | Financial risk is defined as a net financial loss to customer, including the possibility that the product may need to be repaired, replaced or the purchase price refunded (Horton, 1976). | When value for money is not reflected on the purchased medical products.                               |
| Time Risk           | Time risk results when the passage of time reduces the ability of the product to satisfy wants, such as when a product rapidly becomes obsolete (Ross, 1975).                              | This happens when patients are administered expired medical products.                                  |
| Social Risk         | Social risk reflects the disappointment in the individual by his/ her friends in case of poor product/ service (Ueltschy, 2004).   | Individual or family disappointment due to poor performance of the product or service he/she chosen.   |
| Psychological Risk  | Psychological risk is related to consumers' peace of mind and self-concept (Jacoby and Kaplan, 1972).  | Losing peace of mind if the experience on the purchased medical products falls below the expectations. |

Perceived risk has been shown to vary across product class (Chaudhuri, 1998; Hoover *et al.*, 1978) and between goods and services (Zeithaml and Bitner, 2003). Chaudhuri (1998) found that positive and negative emotional factors contribute as mediators of product class effects

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on perceived risk. Consumers are thought to have an inherent predisposition to avoid risk in purchasing situations (Dowling, 1986). Among the things that can help reduce the consumer's fear of risk is to have "product knowledge" (Rao and Sieben, 1992). Consumers need to know the intrinsic cues and extrinsic cues of the product before committing themselves to buy the particular product. Also marketers are responsible to make sure that the product is well known to the targeted consumers. Through this, consumers will have peace of mind in making their decision on what to buy, since they know the usefulness/harmfulness of the particular product in advance.

### **2.3.1 Perceived Risk and Consumer Decision Making Process**

Consumer perceptions of risk have been widely addressed in past literature and have been shown to shape all purchase decisions to varying degrees, and thereby influence consumer behaviour (Mitchell, 1992; Chaudhuri, 1997; Beaur, 1960; Mitchell, 1999). A purchase decision involves risk when the consequences connected with the decision are uncertain and some results are more desirable than others (Rapoport and Wallsten, 1972; Pollatsek and Tuersky, 1970). Kogan and Wallach (1964) described the concept of risk as having two dimensions: first, the chance aspect where the focus is on probability and second, the danger aspect where the emphasis is on severity of negative consequence. They argued that although many refinements to the definition of risk have been proposed, including expected value

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theory (Cunningham, 1967) and expected utility theory (Carrim and Sarin, 1983), risk remains a subjectively determined expectation of loss by the consumer.

Perceived risk plays a significant role in the consumer decision-making process (Stone and Gronhaug, 1993; Mitchell and Boustani, 1994; Erdem and Keane, 1996) and the higher the perceived risk, the more consumers must gamble in buying the product (Sweeney *et al.*, 1999). Consumers are always making decisions about what products to buy, where to buy them and how much to pay (Dodds, 1991). Consumers often perceive risk in making product decisions because of the uncertainty as to the consequences of their product decisions (Dodds, 1991). Oglethorpe and Monroe (1987) indicated that perceived risk increases with higher levels of uncertainty and/or the chance of greater associated negative consequences. Dowling and Staelin (1994) also closely related perceived risk to the level of uncertainty and likelihood of negative consequences of purchasing a good or service in terms of consumers' perception. Campbell and Goodstein (2001) proposed that perceived risk as an important situational factor that moderates the impact of congruity on evaluations. In addition, Dodds (1991) suggested that perceived risk may be a result of little or no experience with the product because consumers may never have used it, or it may happen that a consumer has had bad experience with other brands or previous purchases or maybe the product is new on the market.

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Generally, perceived risk is conceptualized as a typical influence that is addressed during the early stages of the consumer buying process (Zeithaml and Bitner, 2003; Dowling and Staelin, 1994; Murray, 1991). The consumer buying process is commonly described as a five-stage linear process (Blackwell *et al.*, 2003; Haokins *et al.*, 2007; Schiffman and Kanuk 2004); (stage one) need recognition, (stage two) information search, (stage three) alternatives evaluation, (stage four) purchase decision, and (stage five) post-purchase behaviour. In the need recognition stage, consumers first perceive risk when they recognize the need for a goods or service. In the presence of uncomfortable levels of perceived risk, consumers apply risk reduction strategies during the second and third stages, such as reliance on personal recommendations (Midgley, 1983), seeking additional information about a product or service (Beatty and Smith, 1987), a preference for national brands (Lutz and Reilley, 1973), and the security of warranties (Dowling and Staelin, 1994). The uncertainties in the decision making process due to risks that might be associated with the purchase of goods and services influence most consumers to be involved in the decision making in order to reduce the anticipated risks.

Different researchers in this area examined the impact of risk in the decision making process on different goods and services. However, the impact of risk on medical products, particularly anti-malarial remedies, remains unaddressed. This study was carried out to fill the existing gap in this area by examining the impact of risk and involvement in the decision making

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process on malarial medication in relation to COO, CE and CX.

## **2.4 Product Involvement**

Product involvement in the consumer behaviour literature has been studied by many researchers and offered a useful way of understanding the characteristics of consumers in the decision making process. Involvement originated from social psychology and the notion of “ego involvement”, which refers to the relationship between an individual and an issue or object. This conceptualization has been the basis for applying involvement in consumer behaviour (Sherf and Sherf, 1967 as cited by Michaelidou and Dibb, 2006; Bruwer and Huang, 2012). Consumers’ degree of involvement in products or issue is to only hold as a major mediating variable of consumer behaviour (Kapferer and Laurent, 1985). Involvement results in the customer’s ultimate concern with a purchase or consumption experience. Involvement includes experiencing a number of positive results that are inherent in the product and the product’s expressive value (Karbalaie *et al.*, 2013). Involvement is an unobservable state of motivation, arousal or interest. It is evoked by a particular stimulus or situation. It has driven properties; its consequences are types of searching, information processing and decision making (Kapferer and Laurent, 1985).

Product involvement reflects recognition that a particular product category may be more or less central to people's lives, their sense of identity and their relationship with the rest of the

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world (Traylor, 1981 as cited by Te'eni-Harari and Hornik, 2010). Zaichkowsky (1986) defined involvement as the perceived relevance of the objects based on consumers' interest, needs, values, goals and self-concept. Srivastava and Sharma (2011) summarized the definition of involvement from other researchers by suggesting that "involvement refers to the strength or extent of the psychological tie between an individual as a stimulus object (which can be also be a product or activity)". Levels of involvement vary continuously from very low to very high according to the magnitude of motivation (Sharma and Srivastava, 2011). The consumer involvement level in the purchase decision-making process has received great attention in general marketing literature both from its encouraging function and its influence on consumer attitude and behaviour (Mittal and Lee, 1989; Zaichkowsky, 1985; Joel *et al.*, 2009). Also, consumer involvement has shown itself as a key variable to explain some consumers' responses to marketing stimuli (Homer and Kahle, 1990; Greenwald and Leavitt, 1984; Joel *et al.*, 2009).

Several studies have shown the importance of involvement to perceived risk (Celsi and Olson, 1988; Chaudhuri, 2000; Dowling, 1986; McDougall, 1987); they found that involvement is significantly related to product evaluation. Also several researchers used involvement as a moderating variable to explain consumer behaviour. For instance, Xue (2008) found that when consumers are not highly involved with the product they make a decision merely based on situational variables, but when they are highly involved, the self- concept and

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consumption situation are determinant factors of the brand choice. In other words, highly involved consumers are more likely to consider the similarity between brand image and self-concept. Also, Baurer *et al.* (2006) show that the decision making style is also influenced by the involvement level of the consumer. The role of involvement may occur due to the different routes used to process information, whether in high or low involvement (Baurer *et al.*, 2006). According to Petty *et al.* (1983), people with low involvement use a peripheral route for evaluating products.

#### **2.4.1 Classification of Involvement**

Various authors identified two types of consumer involvement; enduring involvement and situational involvement (Zaichkowsky, 1985; Richins and Bloch, 1995; Celsi and Olson, 1988). To start with, enduring involvement is generally referred to as the relevance which a product category has for the consumer. Enduring involvement is an ongoing concern for a product class that is independent of specific purchase situations (Richins and Bloch, 1986), and essentially arises as a result of ongoing interest in the product class, and its association with the individual's self-concept, values and ego. Such enduring involvement results from the product's ability to satisfy consumers' enduring and self-identity-related needs, rather than from specific purchase or usage goals. In addition, Houston and Rothschild (1978) indicated that enduring involvement originated from two sources, which are the consumer's

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personal objective appreciation system in a product's meaning to the consumer or the consumer's experience of using the product in the past.

On the other hand, situational involvement is fundamentally different in origin, and refers to the raised level of interest arising from a specific situation, typically a purchase occasion (Richins and Bloch, 1986). Bloch and Richins (1983) define situational involvement as a temporary perception of product importance based on the consumer's desire to obtain particular extrinsic goals that may derive from the purchase and/or usage of the product. Situational involvement may result in the detailed evaluation of objective stimuli such as cost or performance features of the product, and/or the social and psychological environment surrounding its purchase and consumption (Parkinson and Schenk, 1980; Richins and Bloch, 1986). In addition, situational involvement refers to transitory involvement or a specific situation, which is clearly influenced by short-term change produced in the consumer's context (Zaichkowsky, 1985).

Bearing in the mind that distinction, the need to focus attention on the study of enduring involvement has been put forward, since it is relevant to all possible purchase situations and is related to the consumer's values (Joel *et al.*, 2009; Celsi and Olson, 1988; Houston and Walker, 1996). Petty *et al.* (1983), analysed the moderating effect of consumer involvement when evaluating products through the use of intrinsic and extrinsic signals. Different authors



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like Lee (1994); Celsi and Olson (1988) and Lee and Lou (1995) proposed to investigate consumer involvement on the basis of the role played by intrinsic attributes in quality evaluation. Thus, Lee (1994) proved that when a product is evaluated highly involved consumers use a step-by-step process which involves a complex analysis of the information attributes of the particular product, while less involved consumers simply categorize the product category. Similarly, Celsi and Olson (1988) showed that highly involved consumers exert greater cognitive effort than those with low involvement when processing product information. Finally, Lee and Lou (1995) proposed that when evaluating products consumers who are more involved with the evaluation process put more trust in the products' intrinsic attributes, which will make them perceive lower risk levels. It can be noted that, when highly involved consumers evaluate a product's intrinsic quality, they need to exert higher cognitive effort. In fact, such higher effort will lead to higher trust and lower perceived risk.

#### **2.4.2 Product Involvement and Perceived Risk**

Different researchers have examined the relationship between product involvement and perceived risk/ consumer risk perception (Venkatraman, 1988; Richins *et al.*, 1992; Dholakia, 2001). Through the use of descriptive research designs their interest was to ascertain the important role played by these variables as explanatory and moderating variables with regard to various aspects of consumer behaviour, as well as interesting similarities in their

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conceptualization (Kapferer and Laurent, 1985; Laaksomen, 1994). They looked at the relationship between risk and involvement for the following reasons: first, they thought that examining the relationship between risk and involvement would allow them to understand the specific role played by each variable in influencing different consumer behaviour. Second, they thought that an understanding of the causal linkages between the various dimensions of involvement and risk would provide rich insight into the psychological mechanism by which these motivational states occur and influence subsequent cognitive and behavioural responses as well as volitional processes that activate persistence in the case of difficult behaviour. Finally, they found that the knowledge obtained was of much practical value since it would be used for guiding strategic initiatives to benefit from these motivational states of consumers.

The similarity of product involvement and perceived risk in motivating consumer responses has been noticed by several consumer researchers. First, risk and involvement both incorporate the notion of “importance” of a product class to the consumer (Bloch and Richins, 1983; Dholakia, 2001). Perception of risk makes the importance of the product class an integral component of the enduring involvement construct from its definition as the extent of connections of a product class to a person’s self-concept and motives (Engel and Light, 1968). Another important similarity is that the level of involvement as well as the amount and nature of risk perceived by the consumer during purchase are always shown to determine the depth, complexity and extensiveness of cognitive and behavioural processes during the consumer

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choice process (Kapferer and Laurent, 1985; Celsi and Olson, 1988; Gemunden, 1985).

The constructs of product involvement and perceived risk have been extensively used as moderating or explanatory variables in consumer behaviour (Srivastava and Sharma, 2011).

Different studies have examined the conceptualization, importance, and relevance of each construct and its relationship to important consumer behaviour. However; Dholakia (1997) finds that the diversity in conceptualization and generalization of these constructs has led to conflicting and confusing findings, which poses quite a dilemma for researchers.

Kapferer and Laurent (1985) suggested perceived risk as an aspect of involvement. They found no distinction between the “perceived importance of a purchase” and the “perceived importance of the negative consequences of a mispurchase” and combined these constructs. However, they found the subjective probability of a mispurchase to have discriminant validity and concluded that involvement cannot simply be equated with perceived risk. Chaudhuri (2000) suggested that perceived risk determines product involvement, which is a tendency to make decisions for the product class with special care and deliberation, perhaps due to a high level of perceived risk. On the other hand, perceived risk has also been envisioned as a consequence of involvement. This is because hedonic and importance dimensions of product involvement constitute different types of knowledge and thus determine the level of perceived risk (Dholakia, 1997).

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Product involvement has received great attention by various researchers in consumer behaviour literature. The motivations of involvement and its impact on consumer's decision making process are well documented. However, the impact of product involvement on the malaria medication decision making process and its relationship to perceived risk, remain unaddressed. The literature shows that perceived risk in the purchase of different goods and services influences some consumers to be highly involved in their decision making process in order to reduce the risks that might be associated with the consumption of particular good or services. To reduce the risk, most consumers use various risk reduction strategies, such as product knowledge and COO. It should be noted that most of the literature on perceived risk and product involvement is dated, given that these areas are not often addressed. This study will be useful in bridging the gap existing in the literature.

## **2.5 Product Knowledge**

Product knowledge is defined as memories and knowledge that are in people's minds related to a product (Brucks, 1985 as cited by Munjal, 2014). Brucks classified product knowledge as: subjective knowledge and objective knowledge. Subjective knowledge is based upon the set of experiences and degree of familiarity a consumer has with the product. Objective knowledge, on the other hand, is what a consumer knows about a product's quality, features and performance level through various advertisements, or from the public and opinion leaders

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in the society (Brucks, 1985). Studies show that subjective knowledge has a strong effect on product evaluation. Consumers who have more objective knowledge make less use of subjective knowledge. As a consumer's objective knowledge with regard to a product increases, his tendency to utilize country of origin information to formulate a quality judgement will decrease and there will be less scope of personal biases entering the consumer's evaluation process (Munjaj, 2014).

Product knowledge is vital in studying consumer behaviour, particularly the relationship between perceived risk and decision making processes. Various authors found that additional information on particular products consumers intended to purchase is shown to reduce the perceived risk, since the knowledge obtained for a particular product will reduce the uncertainty of the outcome (Cox and Rich, 1964; Laroche *et al.*, 2001). Lin and Zhen (2005) suggested that product knowledge depends on the consumer's awareness or understanding about the product or confidence about it. Product knowledge is also important in consumer behaviour research, because it has been found that if consumers are blind about the particular product, the entire decision making process will be affected (Forbes, 2012). It is found that consumers with high product knowledge will typically spend more time and effort when evaluating a product during the purchase process and they will undertake more extensive pre-purchase information search (Lin and Chen, 2006; Phillippe and Ngobo, 1999).

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Much evidence shows that product knowledge does have an impact on information processing by the consumer (Larkin *et al.*, 1980). For example, Zhu (2004) found in research on RV leisure vans that when consumers select a product, they usually rely on their product knowledge to evaluate it. Their product knowledge would also affect their information search procedure, attitude, and information search quantity. In addition, the level of product knowledge would determine the consumer purchase decision, and indirectly affect their buying intention.

Rao and Sieben (1992) point out that during purchase processing, a consumer's knowledge of the product would not only affect their search behaviour, but also affect the consumer's information treatment and decision-making processing, and would further affect their purchasing intention. This is to say, different levels of product knowledge would determine consumers' purchase decision and would indirectly affect their purchase intention. Moore and Lehmann (1980) in their empirical study discovered that consumer product knowledge has a significant positive impact on effort in information search. According to Cowley and Mitchell (2003), more knowledgeable consumers are more selective and also have a better comprehension of the attributes that will lead to an optimal choice. According to Cox and Rich (1964), additional knowledge and information lead to a reduction in perceived risk through reducing the uncertainty of the outcome. Marketers need to put more efforts into advertising their products; this will bring awareness to the consumers and hence reduce the

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perceived risk of the particular product Cowley and Mitchell (2003).

Dowling and Staelin (1994) have found that involvement and product knowledge are variables frequently used for studying perceived risk. Engel *et al.* (1993) defined prior knowledge as “the information stored within the memory”. This construct is considered as an important variable to influence customer behaviour and in many cases as a moderator. For instance, Josiassen *et al.* (2008) found that the importance given to the image of a product’s Country of Origin is moderated by the level of knowledge that consumers have about the product. Consumers with low knowledge rely more on the Country of Origin image to evaluate the product’s performance (Laroche *et al.*, 2001). Also, Shehry and Hunt’s (2005) findings show that the degree to which a consumer relies on procedural fairness is related to the consumer’s level of familiarity with the product. They said that the consumers who are not familiar with the product are more likely to rely on procedural fairness to form a purchase intention.

Product knowledge plays a vital role in the consumer decision making process. The literature evidenced that the level of the product knowledge a consumer has, the more the engagement in the information search. Product knowledge has found to have a positive relationship with the COO. Consumers with low product knowledge are found to use COO cues in judging the quality of the product. The next section will discuss COO in detail.

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## 2.6 Country of Origin (COO)

Country of origin (COO) refers to information pertaining to where a product is made (the “made in” concept) (Zafar *et al.*, 2004). It is also defined as the positive or negative influence/associations that a product’s country of manufacture may have on consumers’ judgment processes or consequent behaviour (Elliot and Cameron, 1994). Also Roth and Romeo (1992) defined COO as the overall perception consumers form about products from a particular country, based on their prior perceptions of the country’s production and marketing strengths and weaknesses. On the other hand, Samiee (2007) suggested that COO represents the country with which a firm is associated. In addition, Munjal (2014) argued that COO refers to the country in which the product has been developed or the country to which a product belongs and is identified with; it is called the motherland of a product.

Various studies have been conducted to determine the impact of COO on the evaluation of different products and services (Verlegh and Steenkamp, 1999; Bhaskaran and Sukumaran, 2005). Different studies conducted on developed countries revealed that consumers from these countries favour products from their own countries over products from developing countries (Wang and Lamb, 1983; Jaffe and Martinez, 1995). On the other hand studies which were conducted in developing countries revealed that consumers in those countries tend to prefer products from developed countries, as well as assuming that products from developed



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countries are of higher quality than their native products (Okechuku and Onyemah, 1999; Opoku and Akorli, 2009; Agbonifoh and Elimimian, 1999). Always, consumers have a tendency of preferring the domestic products in countries where there is strong xenophobia, national arrogance, or consumer ethnocentrism (Heslop and Papadopoulos, 1993). The effect of COO on product evaluation is very important to be identified.

### **2.6.1 Country of Origin Effects**

An imported product's COO label provides simplified information for consumers (Cox, 1962). Such cues will be used when consumers perceive them to accurately contribute to the assessments of product attributes and the outcome associated with purchase (Cox, 1962). Consumers from a variety of national settings have been shown to view COO labels as valid information cues (Han, 1989; Kaynak and Cavusgil, 1983). Samiee (1994) defined COO effects as any pressure, positive or negative, that the country of manufacture may have on consumers' preferences decision process or succeeding conduct. COO effects sometimes are created from consumers' practices when consumers are exposed to awareness concerning the country, political attitude or general ethnocentric tendencies (Elliott, 2006). The COO effect is usually understood to stand for the impact that overview and opinion about a country have on a person's assessment of the country's products and/or brands (Nebenzahl *et al.*, 1997). The overview of attitude and opinion about specific products from a country on a number of

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aspects is known as country image (Bilkey and Nes, 1982).

Dichter (1962) suggested that the “made-in” concept should be recognized as an additional element of the marketing mix, since a product’s COO frequently influences its acceptability. Consumer perceptions of image and quality associated with imports may actually be stereotyped based on the goods’ COO (Bannister and Saunders, 1978). Consumers frequently use such markings as heuristic devices when choosing products (Wall, *et al.*, 1990). Historically, examples of such heuristic reasoning have involved worldwide consumer preferences for “Scotch” whisky, “Chinese silk”, “Italian” leather goods, or “American” entertainment (Turner, 1993). Regardless of their nationality, consumers continually seek to streamline their market place decisions (Belonax and Javalgi, 1989). Yet, in virtually all modern or emergent nations; consumers are facing an ever-growing number of purchase alternatives (Netemeyer *et al.*, 1991).

Jun and Choi (2007) used the deductive approach to examine COO effects on non-prescription drugs by using the concept of country brand attitude. They posed the questions, “Are these country effects generalisable to all products categories?” and “Specifically, is it effective when a consumer buys a medical product?” They found that the effect of COO varies depending on the product category. For example durable goods such as automobiles and agricultural products are regarded as more sensitive to COO. Also their findings reveal

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that country image has as important a role as COO information in the marketplace. In addition, they found that COO is one of the important components constituting a product's brand identity. Moreover COO was found to be an important factor affecting the product or company image, quality perception and purchase intention. However, COO influence is not always strong; there are some moderating factors like cultural issues and other factors that affect the COO.

The growth and continuation of domestic manufacturers in a free economy depends on the consumers' acceptance of the goods manufactured in that country. Domestic manufacturers are facing difficult challenges from goods or brands imported from the developed countries, which have already achieved enviable market positions worldwide. The development of the manufacturing sector in such economies is hampered by the fact that consumers in those economies view domestic products less favourably than products from more advanced countries (Papadopoulos *et al.*, 1990). COO has an effect on domestic products since it drives consumers to prefer the foreign products and hence discourages domestic manufacturers.

Tanzanian consumers, like other consumers from developing countries are likely to engage in similar types of cognitive simplification processes or heuristics in an effort to manage the product options available for consideration. For instance, Tanzania imports anti-malarial remedies from countries such as Kenya, China, USA, India, Switzerland and other European

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countries. The influences affecting Tanzanians' purchase of anti-malarial remedies, as far as COO is concerned have not yet been examined. This study was carried out to fill the gap in the existing literature. The next section will elaborate the COO beliefs and stereotyping state.

### **2.6.2 COO Beliefs and State Stereotyping**

COO effects have been explored in other studies on overall customer beliefs and behaviour and it has been concluded that customers' buying intentions are influenced by factors such as the source country's economic and political maturity, historical events and relationships, traditions, level of industrialization and economic development and degree of technology skills (Maheswaran,1994). Customers stereotype the quality, suitability and attractiveness of products coming from certain countries and regions (Lotz and Hu, 2001). Besides that, they associate product quality with images of the economic and social conditions of the COO (Klein *et al.*, 1998). Consequently they show stronger purchase intentions for goods coming from countries of which they have favourable images (Knight and Calantone, 2000). Thus, customers evaluate differently products that are identical in all aspects except for COO (Verlegh *et al.*, 2005; Orbaiz and Papadopoulos, 2003).

### **2.6.3 Country of Origin Studies and Africa**

In Africa, COO effects have been investigated in a variety of countries to ascertain their impact in decision making processes. For instance, studies conducted by Agbonifoh and

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Elimimian (1999) and Okechuku and Onyemah (1999) in Nigeria revealed that Nigerian consumers prefer products from developed countries over products from less developed countries. Opoku and Akorli (2009) examined Ghanaian consumers' attitude towards local and imported products and their findings reveal that COO is more significant than price and other product elements. The Ghanaian consumers assume that 'made in Ghana' labelled products are of low quality compared to foreign made products. In addition the researchers find major reasons for Ghanaian consumers favouring foreign products are based on quality and consumer taste. Mitgwe and Chikweche (2008) and Safu and Walker (2006) observed the impact of COO effects and consumer attitude towards "buy local" campaign initiatives. The findings show that consumers prefer foreign brands to their local brands.

A variety of studies have been carried out to ascertain the impact of COO on product evaluation in both developed and developing countries on different goods and services. However, the COO effect on malaria medication remained unaddressed. This study was carried out to examine how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania. The findings from this study will contribute to the body of knowledge on COO literature especially on malaria medication. In this study it should be noted that most of literature on COO is dated, because studies are rarely carried out in this area; this signifies that it was important for this study to be carried out. COO can be viewed from the differing perspectives of consumer ethnocentrism (CE) and

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consumer xenocentrism (CX). The next section will provide a detailed literature review on CE and its impact on consumers' evaluation of the goods and services.

## **2.7 The Concept of Ethnocentrism**

The general concept of "ethnocentrism" was introduced and used descriptively by Suniner in 1906 and remains a venerable concept in the fields of anthropology, sociology, and social psychology (Shimp *et al.*, 1993). Ethnocentrism was originally conceptualized as a purely sociological concept that distinguished between in-groups (those groups with which an individual identifies) and out-groups (those regarded as antithetical to the in-groups). It now, however, is recognized that ethnocentrism is a psycho-social phenomenon with relevance to individual-level personality systems as well as to more general cultural and social analytic frameworks (Shimp *et al.*, 1993).

According to Rahman *et al.* (2010), the concept of ethnocentrism had been derived from the discipline of anthropology; more specifically from the sub-discipline of cultural anthropology which consists of the study of humanity. Wei-Na Lee, *et al.* (2003) defined ethnocentrism based on the sociological definition which was offered by Summer (1990) as the view of things in which one's own group is the centre of everything, and all others are scaled and related with reference to it. Each group nourishes its own pride and vanity, boasts itself superior, exalts in its own divinities and looks with contempt on outsiders. Ethnocentrism is a

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universal phenomenon and is rooted deeply in most areas of intergroup relations (Shimp and Sharma, 1987). Ethnocentrism can be seen as related to social identity theory, where the social- identity group of interest is the nation (Lants and Loeb, 1996). Nonetheless, ethnocentrism is not only confined to tribes and nations but also reveals itself in all kinds of social groups, developing into family pride, sectionalism, religious prejudice, racial discrimination, and patriotism. Some authors have even argued that ethnocentrism is a part of human nature and it functions by helping to secure the survival of groups and their culture by increasing a group's solidarity, conformity, cooperation, loyalty and effectiveness (Rahman *et al.*, 2010).

Ethnocentrism is defined in terms of in group/out group orientation, where the in - group is preferred and is seen in opposition to others (Shimp and Sharma, 1987). Relating this to the COO effect, the nation is the in - group of interest and threat to the group is given in an economic context (Watson and Wright, 1999). A person may make a reasoned judgment to support domestic products because it is good for the collective health of the economy of the country or the person may make a moral judgment that it is a duty.

### **2.7.1 Consumer Ethnocentrism (CE)**

Sharma and Shimp (1987:280) defined consumer ethnocentrism as “the beliefs held by consumers about the appropriateness, indeed morality, of purchasing foreign- made products”.

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The concept of consumer ethnocentrism is intended to capture individual consumer cognitions and emotions as they relate to product offerings from other countries (that is "out - groups") (Sharma and Shimp, 1987). In the broad sense of ethnocentrism, product symbols from other countries may represent objects of disapproval to the ethnocentric consumer, whereas the products of one's own national group are objects of pride and attachment (Shimp *et al.*, 1993). The literature proved that consumers who are ethnocentric believe that purchasing imported products is unpatriotic, causes loss of jobs, and hurts the domestic economy (Sharma and Shimp, 1987).

The general applicability of ethnocentrism to the study of consumer behaviour has been acknowledged by different authors (Berkman and Gilson 1978; Markin, 1974). This concept of CE in this manner is used here to represent consumers' beliefs in the superiority of their own country's products (Altinaú and Tokol, 2007). This perception is postulated to go beyond mere economic and functional considerations, and, instead, to have a more noble foundation rooted in morality (Altinaú and Tokol, 2007). That is to say, the concept of CE is rooted in nationalism, which means in order for the country's GDP to grow; consumers must concentrate on consuming the domestic products and ignore imported products. By doing so the domestic industries will be sustained and hence increase the national income.

The consumer ethnocentrism concept is postulated to be one component of a complex,



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multifaceted construct involving consumers' *cognitive, affective, and normative* orientations toward foreign-made products (Shimp *et al.*, 1993). The domain of this general construct spans object-based beliefs and attitudes (such as perceptions of product quality, value and others), normative based beliefs and attitudes (such as perceptions of whether one should or should not purchase foreign-made products), and personalistic-based considerations of what mode of behaviour (product choice) is in the consumer's best personal interest (Shimp *et al.*, 1993).

Sharma *et al.* (1995) argued that consumer ethnocentricity has the following characteristics; first, consumer ethnocentricity results from the love and concern for one's country and the fear of losing control of one's own economic interests as a result of the harmful effects that imports may bring to oneself or one's countrymen. Second, it contains the intention or willingness not to purchase foreign products. For highly ethnocentric consumers, buying foreign products is not only an economic issue but also a moral problem. This involvement of morality causes consumers to purchase domestic products even though, in extreme cases, the quality is below that of imports. In the eyes of ethnocentric consumers, not buying foreign products is good, appropriate, desirable, and patriotic; buying them is bad, inappropriate, undesirable, and irresponsible. Thirdly, it refers to a personal level of prejudice against imports, although it may be assumed that the overall level of consumer ethnocentricity in a society system is the aggregation of individual tendencies (Sharma *et al.*, 1995).

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In particular, this ethnocentric attitude toward foreign-made products is rooted as a psychological symptom by certain types of consumers (Balabanis *et al.*, 2001). This psychological symptom explains why consumers prefer home country made products over foreign-made products even when the quality of foreign made products is better or the price is lower (Balabanis *et al.*,2001). Shimp and Sharma (1987) argued that a key reason for consumers to buy or not to buy imported products, regardless of the general conditions of product itself, such as quality, price and brand, is the consumer's patriotism. Out of loyalty, consumers faithfully refuse to buy imported products and punish fellow consumers for doing so, claiming that buying foreign goods puts one's country out of work, hurts the economy, or is disloyal. To measure consumer ethnocentric tendencies, Shimp and Sharma (1987) developed a well-known 17 item scale, the Consumer Ethnocentric Tendencies Scale (CETSCALE) to capture consumers' ethnocentric consistent tendencies toward foreign and domestic products and confirmed its validity in predicting consumers' buying behaviour. Such tendencies may precede attitudes, but they are not the equivalent of attitudes, which tend to be object specific. Herche (1992) showed that the CET scale can predict consumers' preferences to buy or own domestic as opposed to foreign products even better than demographic and marketing mix variables. This is to say, the ethnocentric level of consumers are determined at the point of purchasing the domestic product over foreign products. The impact of the ethnocentric tendencies on product choice is discussed in the next section.

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### 2.7.2 Consumer Ethnocentrism and Product Choice

To relate CE with consumers' product choice, the concept of CE brings awareness to individuals for them to understand what purchases are acceptable to the in-group, as well as feelings of individuality and belonging (Chang and Cheng, 2001). For consumers who are less ethnocentric, products are evaluated on their virtues apart from national origin, or possibly even viewed more positively because they are foreign (Chang and Cheng, 2011).

Consumer ethnocentrism (CE) begins its effect on the consumer's product choice when foreign-made products are allowed to be imported by governments into one's home country market (Sharma *et al.*, 1995). Under the trend of globalization and internationalism toward the world market, intense competition between different "made-in" products imported from foreign countries and one's home country made products, therefore, occurs (Sharma *et al.*, 1995). Such competition normally exists in various marketing aspects such as price, product quality, after-sale service, brand equity, placing channels, or even the country of origin of products (the "made-in" label) (Sharma *et al.*, 1995). From the perspective of home country consumers, CE has been previously confirmed to be a key factor that affects their buying preference for domestic rather than foreign made products (Shimp and Sharma, 1987).

However, CE's capability of predicting buying intentions varies from country to country (Balabanis *et al.*, 2001). For example, Good and Huddleston (1995) found it to be important

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for Poles' but not for Russians' intentions to buy foreign products. In the developing market, a study conducted by Nadiri and Tumer (2010) confirmed that CE is shown to be positively related to intention to purchase domestically produced goods. Wei (2008) conducted a study in China to examine the relationship between CE and purchase intention when considering brand sensitivity as a mediator and product cues as a moderator. The results of that study indicated that both brand sensitivity and product cues would significantly decrease the effect of CE on consumer's purchase intention through emphasizing brand image of products and taking advantage of specific product cues. Also Jimenez and Martin (2010) presented their empirical evidence from 202 automobile owners in a large Spanish region to support the view that the emotional and psychological effects of purchasing foreign products, such as animosity and ethnocentrism, may decrease due to strong reputations of firms associated with a COO. Knowing the impact of demographic characteristics on CE is important because it can help marketers in planning marketing strategies which will fit all segments in the market.

### **2.7.3 Consumer Ethnocentrism and Demographics**

The relationship between demographic variables and consumer ethnocentric tendencies has been extensively investigated by different researchers (Javalgi *et al.*, 2005; Schooler, 1971; Balabanis *et al.*, 2001; Good and Huddleston, 1995; Huddleston *et al.*, 2000; Sharma *et al.*, 1995). Findings have been contradictory about the effect of demographics on consumers'

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decision making processes in the light of ethnocentrism. Different studies found that males, highly educated consumers, younger consumers and high income earner consumers tend to be less ethnocentric (Balabanis *et al.*, 2001; Good and Huddleston, 1995; Sharma *et al.*, 1995). In contrast, Schooler (1971) found that there is a tendency among females to rate foreign-made products more favourably than men. Surprisingly, Javalgi *et al.* (2005) found that education and income have a negative relationship on CE. In comparison, only age has been consistently found to be related to ethnocentric tendency. This is because younger consumers are more positive towards imported products compared to older ones (Schooler, 1971; Balabanis *et al.*, 2001; Javalgi *et al.*, 2005).

Josiassen *et al.* (2011) examined how demographic consumer characteristics influence and interact with CE in willingness to buy. They analysed the role of three demographic consumer characteristic; age, gender and income. Their findings revealed that consumer tendencies for ethnocentrism are directly influenced by characteristics of the consumers. The authors also find that the strength of the relationship of CE and willingness to buy is influenced by customer characteristics. Age and gender specifically are found to be important moderators of the consumer ethnocentrism-willingness to buy relationship.

Erdogan and Uz Kurt (2010) investigated the relationship among Turkish CE tendencies and their product attitudes, and demographics. The findings showed that ethnocentric tendencies

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are strongly associated with demographic characteristics. For example, as the level of education increases, ethnocentric tendencies decrease. Also the findings of the study show that younger and higher income earners are less ethnocentric than older and lower income earners, and also those men are less ethnocentric than women. It was also found that high levels of CE were significantly associated with strong negative perceptions of foreign products and very positive perceptions of domestic products. Moreover, other factors such as beliefs, intentions, attitudes and consciousness level may determine CE (Luque-Martinez *et al.*, 2000). McIntyre and Meric (1994) argued that highly ethnocentric consumers are more likely than the less ethnocentric to accord more importance to the place of manufacture of goods and to prefer local products. They said that the importance of a product to the consumer also influences ethnocentric perceptions. Based on the observed empirical findings above, demographic variables are found to be a good predictor of ethnocentric tendencies. However, geographical location as one among the demographic characteristics has been overlooked by most researchers. The relationships between consumer ethnocentrism and country of origin are detailed in the next section.

#### **2.7.4 Consumer Ethnocentrism and Country of Origin**

A number of researchers have examined various aspects of Country of origin (COO) influence on the product evaluation, and they reached the general conclusion that COO is an

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overall perception of a country (Nagashima, 1977; Wall and Heslop, 1986; Papadopoulos and Heslop, 1993). There is also evidence that COO is contingent on a specific product category (Gaedeke, 1973; Cattin *et al.*, 1982 and Han and Terpstra, 1988). That is to say, the consumer's judgments of product quality are thought to be influenced by the country associated with the product (Klein *et al.*, 1998). There is a substantial body of research on consumers' evaluation of products based on the COO (Papadopoulos and Heslop 1993; Maheswaran, 1994; Hamin and Elliott, 2006). People tend to have stereotypical notions concerning products and people of other countries, and real product evaluations are almost always influenced by country stereotyping (Bilkey and Nes, 1982; Cordell 1992; Tse and Gorn, 1993). Different researchers find that products from more developed countries are generally found to receive more positive evaluations from consumers than products from less developed countries (Gaedeke, 1973; Papadopoulos and Heslop, 1993 and Okechuku and Onyemah, 1999).

It can be found that the different combinations of products, samples and countries where studies are conducted sometimes revealed mixed and contradictory results obtained while examining the influence of COO effects in the evaluation of various products by consumers. The majority of surveys underline the multidimensionality of COO-effect. Reference to the COO of a product made on its label influences consumers perceptions regarding its quality (country specific), yet the magnitude of the effect depends on the product category (product-

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specific) (Balabanis and Diamantopoulos, 2004; Lantz and Loeb, 1996; Sharma *et al.*, 1995 and Cordell, 1992).

Moreover, several other studies suggested that the influence of COO-effect depends not only on the COO or the product category, but also on specific product attributes (Supphellen and Rittenburg, 2001; Johansson *et al.*, 1985, and Ranjbarian *et al.*, 2010). Within the area of consumer decision making, COO has been defined as an extrinsic cue that acts as a risk mitigator or quality cue for consumers (Cordell, 1992). Such extrinsic cues (others include price, brand name, warranties) serve as intangible product traits that contrast with intrinsic cues (e.g., taste, design), which are tangible aspects or physical characteristics of the product itself (Bilkey and Nes, 1982). Although some studies have questioned the importance of COO for much consumer decision making (Elliott and Cameron, 1994; Hugstad and Durr, 1986; Mitchell and Greatedorex, 1990; Schooler and Wildt, 1968), recent research has demonstrated that the COO has a substantial effect on attitudes toward products and the likelihood of purchasing these products, often demonstrating effects that are as strong or stronger than those of brand name, price, or quality (Ahmed and d'Astous, 1996; Lantz and Loeb, 1996; Okechuku, 1994).

Watson and Wright (1999) have linked the COO effect to levels of CE. They found that CE focuses on the responsibility and morality of purchasing foreign-made products and the



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loyalty of consumers to products manufactured in their home country. Sharma *et al.* (1995) suggested that CE may result in an overestimation of the attributes and overall quality of domestic products and an underestimation of the quality of foreign products.

The relationship between country similarity and the COO effect has been researched widely (Johansson *et al.*, 1985; Lantz and Loeb, 1996; Shimp and Sharma, 1987). Wang and Lamb (1983) found a positive bias towards products from countries regarded as culturally similar to the USA (i.e., some European countries, Australia, and New Zealand), and Crawford and Lamb (1981) found a greater willingness to purchase products from source nations that are politically and economically similar to the home country. With regard to CE, Sharma *et al.* (1995) suggest that cultural similarity between countries is one factor that may influence the effect of consumer ethnocentric tendencies on attitudes toward foreign products. Also Lantz and Loeb (1996) examined the relationship between CE and evaluation of foreign products. In support of their hypotheses, Lantz and Loeb (1996) found that highly ethnocentric consumers, in comparison to individuals with low levels of CE, have more favourable attitudes toward products from culturally similar countries.

Despite the fact that both CE and COO may influence consumer attitudes and buying intentions towards a foreign brand, research findings on the relationship between CE and COO are inconclusive. Kaynak and Kara (2002) found that ethnocentric biases influenced

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Turkish consumers' evaluations of a foreign product. Similarly, a study of Korean and US consumers found that the level of CE attenuated the effect of COO on perceived product quality (Steenkamp *et al.*, 2003). Nevertheless, Batra *et al.* (2002) found that although Indian consumers prefer foreign brands to brands seen as local, CE had no significant impact on their evaluations of foreign brands. In addition, a study carried out by Klein *et al.* (1999) found that their military and economic rivalry reduced the willingness of Chinese consumers to buy Japanese products. Their results concluded that both CE and COO have an effect on Chinese consumers' buying decisions toward Japanese products, but the study failed to measure Chinese consumers' level of consumer ethnocentrism.

In a developing country such as Tanzania, consumers are shown to perceive foreign products made in developed countries as of higher quality due to COO effect and they perceive products domestically produced to be of low quality. Thus, in this study it was important to identify the ethnocentric tendencies of Tanzanian consumers in purchasing the anti-malarial remedies as far as COO is concerned. Also the nature of the product in relation to ethnocentric tendencies was examined.

### **2.7.5 Consumer Ethnocentrism and Necessity of the Product**

While some studies indicate that consumer ethnocentrism determines consumers' attitudes towards purchasing imported goods (Shimp and Sharma, 1987; Herche, 1992), Sharma *et al.*

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(1995) found that, for Korean consumers, the perceived necessity of a product moderated the effect of ethnocentrism on attitudes towards imports. The authors examined ten products in their study and found that Korean consumers rated medicine, kitchenware and beef as the most necessary products in the study and golf clubs, insurance and bananas as the least necessary. Specifically, Sharma *et al.* (1995) found that the less necessary a product is perceived to daily life, the greater the impact CE has on attitudes toward importing that product. In addition, the more those consumers perceive imports to threaten their economic welfare, the greater the role ethnocentrism plays in determining consumer attitudes towards importing products. In a country such as Poland, which is experiencing a pro-domestic movement, familiarity with the moderating effect of product necessity may be useful to marketers who are considering the Polish market as a distribution outlet (Huddleston *et al.*, 2001). In this study the effect of ethnocentric tendencies on choice of anti-malarial remedies was examined. The findings of this study will be a useful contribution to knowledge on the relationship between the choice of anti-malarial remedies and ethnocentric tendencies among Tanzanians.

Despite the number of researches undertaken in this area, the impact of risk and involvement in decision making as far as CE is concerned has not received attention. This study was carried out to examine how COO, CE and CX impact upon risk and involvement in the medication decision making process on malaria. However, most of the literature on CE is

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dated, like that on COO. This is because few studies are carried out in this area. This study will contribute to the body of knowledge in the area of CE at large. Consumer xenocentrism, which is a negative aspect of COO, and its impact on consumer decision making process, will be covered in the next section.

## **2.8 Consumer Xenocentrism (CX)**

Kent and Burnight (1951) defined consumer xenocentrism (CX) as person's preference for a society other than their own and a tendency to rate and scale everything in reference to it and not their own. CX offers an alternative way of examining and understanding foreign product bias (Kent and Burnight, 1951). In the field of consumer behaviour, CX appears to result in favouring foreign products over domestic products, even if the domestic products are of high quality compared to foreign products (Mueller and Broderick, 2009).

CX is found to have negative effect on domestic industries; this is because consumers build up a negative attitude towards the locally-made products (Mueller and Broderick, 2009). For example, the study conducted by Okechuku and Onyemah (1999) found that Nigerian consumers prefer wearing, driving and using different foreign products over local products. Hence, domestic industries and other producers are challenged to improve the quality of their products, reduce their prices and even change their promotional strategies. On the other hand, other researchers suggested other reasons for consumers in emerging markets to prefer

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foreign products. They said that those consumers are attracted to foreign products because of underlying socio-psychological factors that automatically accord a status of prestige to foreign countries and, by association, their products (Howes, 1996 and Drazin, 1991). CX has been found to be influenced by demographic characteristics such as age, gender, level of income etc. These effects will be detailed in the next sub-section.

### **2.8.1 Consumer Xenocentrism and Demographics**

Various researchers investigated the extent to which demographic variables can serve as moderators in consumers' decision making processes (Batra *et al.*, 2000; Nam, 1998; Belk, 2000; Taylor *et al.*, 1987, Bullis, 1997). They looked at a variety of demographic variables such as age, economic differences and urban versus rural differences, with regard to xenocentric tendencies toward foreign products. The findings revealed that younger consumers are more xenocentric compared to older consumers (Batra *et al.*, 2000). Based on economic differences, the findings show that foreign products are more often purchased by consumers who are well off economically (Belk, 2000; James, 1993). That is to say, wealthier consumers are more xenocentric when it comes to favouring foreign products.

Nevertheless, the findings based on urban versus rural differences revealed that urban consumers are more xenocentric consumers compared to rural consumers, because urban consumers are exposed to or have knowledge of foreign products. For instance Bullis (1997)

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noted that urbanite consumers in India were first to hold prestige-enhancing foreign products. The study conducted by Shultz *et al.* (1994) suggested that old and rural consumers are less xenocentric consumers because they have more traditional values and modes of behaviour, which are highly resistant to change (and, therefore, are less likely to prefer foreign products). They concluded by saying that urban consumers have more knowledge, exposure and access (both economic and physical) to foreign products.

It can be seen that demographic variables have impact on CX as they do on CE. The empirical evidence reviewed above generally showed that consumers differ in the decision making process when choosing a product to purchase, depending on the unique character of the person in his or her purchasing intention. Consumers in developing countries have been shown to favour foreign products over their own produced products. It can be said that consumers in developed countries are highly xenocentric although they differ in demographic characteristics as discussed above. Few studies are carried out in this area, which shows that there was a need for this study to be carried out. This study investigated how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania.

## **2.9 Conclusion**

The second chapter has presented a literature review on the consumer decision making

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process, perceived risk, product involvement, product knowledge, COO, CE, CX and their impact on the consumer's decision making process. The existing literature highlights that the mentioned concepts have an influence on the decision making process. The risk in the consumption of different goods and services influences some consumers to find ways of reducing risks associated with the purchase of the particular product. Product involvement is used by consumers in the process of reducing risk; however, the level of involvement differs from one consumer to another, from low level to high level. Product knowledge is also used by consumers to reduce risk especially by consumers who have knowledge on a particular product. Consumers who do not have knowledge of a particular product use COO, CE and CX as risk reduction strategies. Risk and involvement in the decision making process on goods and services are given attention by various authors. However, the impact of risk and involvement in the decision making process on medical products, particularly anti-malarial remedies has not yet been examined.

In an attempt to fill these gaps this study mainly focused on examining how COO, CE and CX impact upon risk and involvement in the specific context of the malaria medication decision making process in Tanzania. Therefore, the next chapter will present a literature review on malaria diseases, challenges in malaria treatment, malaria treatment seeking behaviour, traditional medicines and self-medication.

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## **CHAPTER THREE**

### **MALARIA DISEASE**

#### **3.1 Introduction**

The aim of this study was to examine how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania. This chapter presents a literature review on malaria disease; specifically it covers the following sub topics; a general overview of malaria disease, the impact of malaria on livelihood, challenges of malaria treatment in relation to health systems, malaria treatment seeking behaviour, traditional medicines and self-medication.

#### **3.2 General Overview of Malaria Disease**

Malaria is an important cause of death and illness in children and adults, especially in tropical countries. Malaria control requires an integrated approach, including prevention and prompt treatment with effective anti-malaria medications (WHO, 2010). Malaria hinders human development and thus has social consequences and is heavy burden on economic development (Omole and Onademuren, 2010). The problem of controlling malaria has become more complex over the last few years with the increase of resistance to the drugs normally used to combat the parasites that causes the disease (Mboera *et al.*, 2007; Omole



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and Onademuren, 2010). Malaria risk in Tanzania is heterogeneous with malaria prevalence rates, parasite densities and entomological inoculation rates varying from one area and season to another (Mboera *et al.*, 2013; Bousema *et al.*, 2010 and Mboera *et al.*, 2011). The impact of malaria on livelihood is detailed in the next section.

### **3.3 Impact of Malaria on Livelihood**

According to Mboera *et al.* (2007), there are both direct and indirect costs related to malaria. Directly, malaria causes illness, death and disability. Indirectly, it causes loss in terms of time spent with sickness and treatment costs in terms of family time spent to care for the sick, loss of productive time, time spent by families and communities to grieve for the deceased, and funeral costs. As the foremost cause of illness in many rural areas of sub Saharan Africa, malaria undermines agricultural productivity and incomes, especially because the peak period of transmission often coincides with the peak period of agricultural activity and labour operations (Mboera *et al.*, 2007; Ukoli, 1990). The combined effects of malaria cause mortality, morbidity, and debility among household labour force and community members as a whole, manifested in reduced quantity and quality of labour inputs, reduced economic output, and resource underutilization (Sherpad *et al.*, 1991). The economic impact of malaria is so high that, in developing countries, it is considered the major cause of poverty.

The burden of malaria in countries where it is endemic extends beyond the direct health

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impact. Malaria imposes economic costs on households and states. Repeated malaria attacks contribute to prolonged absence from school and work. Consequences are poorer school performance and the loss of workdays and income. Furthermore, evidence suggests that repeated disease episodes may impair intellectual development (Fernando *et al.*, 2003b). In addition to income loss, household economies can be overburdened by expenditures for the prevention and treatment of illness episodes, sometimes leading to cases of catastrophic household expenditures (Xu *et al.*, 2003). It should be noted that, therefore, malaria not only causes ill health and death, but also has great impact on the economic development of the household in several ways. It is important that households realise the economic impact of malaria as this will motivate them to protect themselves from the disease and increase productivity. Identification and better understanding of potential risk factors for malaria are important for targeted and cost-effective health interventions (Mboera *et al.*, 2013). Despite the burden of malaria disease on governments and households in general, the treatment of malaria has been faced with challenges which lead to delays in malaria treatment.

### **3.4 Challenges of Malaria Treatment in Relation to Health Systems**

Delivering public health services requires functional and effective health systems including capable innovative health leadership, qualified healthcare providers, effective human resources system, reliable data and adequate physical infrastructure (Anyangwe and Mtonga,

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2007). To date, access to health interventions is still a major challenge for a large portion of the rural population. Despite national and international efforts to support malaria interventions in terms of anti-malarial drugs and distribution of insecticide treated nets (ITNs), the health system in Tanzania continues to be weak and suffers from inadequate mechanisms for delivering primary healthcare services to individuals and communities in need (Mboera *et al.*, 2013). For instance, the increase in death attributable to malaria increased from 34.3% in 2003 to 37.3% in 2004 is mainly attributed to use of less effective anti-malarial drugs, delayed health seeking, and reliance on clinical judgement without laboratory confirmation in most peripheral health facilities (Ministry of Health, 2006).

Support for malaria control at both national and district levels has increased considerably over the past few years. However, a substantial impact on the disease burden has not yet been observed. Serious obstacles in the control of malaria remain, which include poor access to health care and poor performance of health service delivery, poor availability of proper diagnosis and treatment, increased drug resistance, high cost, under-utilization of health facilities, high use of the non-formal private sector (including traditional medical practitioners) for case cerebral malaria as well as lack of a malaria surveillance system (Mboera *et al.*, 2007).

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### 3.4.1 Malaria Case Management

Effective management of malaria requires that the recommended anti-malarial medicines are available and used appropriately in the correct formulation, dose, and frequency and for an adequate duration (Kamuhabwa and Silumbe, 2013). Also, malarial diagnostic tests need to be highly accurate because false negative and false positive diagnoses have medical, social and economic consequences such as prolongation of illness, increase in morbidity and mortality and loss of credibility of health services (Moonsar *et al.*, 2007; Annexo *et al.*, 2004; Reyburn *et al.*, 2004). Prompt and accurate diagnosis is an essential component of malaria control strategies and enables the effective management of febrile patients (Kahama-Maró *et al.*, 2011; WHO, 2006). For several years, it has been common practice in health facilities across Africa to base diagnosis of malaria mainly on clinical signs and symptoms due to the scarcity of laboratory facilities (Mboera *et al.*, 2007; Hamer *et al.*, 2007). However, the use of microscopy and rapid diagnostic tests (RDTs) has managed to solve the problem to a large extent.

Malaria case management in Tanzania has encountered number of problems, which need to be addressed. For instance, the introduction of malaria rapid diagnostic test (MRDT) is facing a number of challenges. It has resulted in over-prescription of antibiotics, which pose a threat of drug resistance (Kahama-Maró *et al.*, 2011). There are also a number of shortcomings

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related to the performance and accuracy of the tests, which depend on test preparation and interpretation (Harvey *et al.*, 2008). Incorrect preparations and interpretation of test results could result in incorrect diagnosis, leading to unnecessary use of anti-malarial treatment and therefore failure to address the real cause of fever in patients who do not have malaria (Rennie *et al.*, 2007 and Moonsar *et al.*, 2007).

Most malaria diagnoses in Tanzania are based on clinical grounds. Only a few facilities are equipped with basic laboratory services to provide confirmatory diagnoses (Mboera *et al.*, 2007). Recently, in addition to the problem of lack of laboratory services, where these services are available, malaria is commonly over-diagnosed. For example, the proportion of malaria-attributable fevers in health facilities in Dar es Salaam is low suggesting that patients presenting with fever are much more prone to suffer from diseases other than malaria (Wang *et al.*, 2006). It has been reported that 87% of patients who received anti-malarial treatment at the Muhimbili National Hospital in Tanzania for presumed severe malaria did not have detectable parasitaemia, resulting in over-treatment for malaria and neglect of other potentially threatening conditions (Makani *et al.*, 2003). This has important implications for the management of febrile illness, and over-diagnosing malaria patients may also distract from other causes of fever, some of which may be fatal (Wang *et al.*, 2006).

The major barriers to successful malaria case management are poor adherence to drug

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regimens, under - dosage to many households because of poverty and the fact that clinical cure of fever is what matters to many individuals ((Mboera *et al.*, 2007). In South Africa, in primary health care settings, RDTs are most appropriate; they are easy to use, do not require sophisticated technology and give rapid results (Mood, 2002). It has been identified that the functioning and accuracy of RDTs can be affected by factors such as manufacturing defects, storage, transportation, and end-user performance (WHO, 2003). Therefore, they are all factors taken into consideration in this study.

### **3.4.2 Prompt Malarial Treatment**

Prompt access to effective malaria treatment is central to the success of malaria control worldwide, but few fevers are treated with effective anti-malarial drugs within 24 hours of symptoms' onset (Hetzl *et al.*, 2008). Most African countries are far below these targets, with only a minority of fevers being treated promptly and effectively (Hetzl *et al.*, 2008; Chuma *et al.*, 2009). The last two decades saw an upsurge of initiatives to improve access to effective malaria treatment in many parts of sub-Saharan Africa. Nevertheless, evidence suggests that the poorest populations remain least likely to seek prompt and effective treatment (Chuma *et al.*, 2010). According to WHO (2008), the 2008 World Malaria Report states that between 2006 and 2007, only 38 percent of fevers reported among children under five were treated with anti-malarials, and only three percent were treated with artemisinin-

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based combination therapy (ACT) , the official first-line anti-malarial for uncomplicated malaria in over forty African countries (Bosman *et al.*, 2006). The number of fevers treated promptly and effectively prior to the policy change from monotherapies to ACT was equally low (Yeung *et al.*, 2004).

In Kenya, the study carried out by Chuma *et al.* (2010) revealed that multiple factors related to affordability, acceptability and availability interact to influence access to prompt and effective treatment. Regarding affordability, about 40 percent of individuals who self-treated using shop-bought drugs and 42 percent who visited a formal health facility reported not having enough money to pay for treatment, and having to adopt coping strategies including borrowing money and getting treatment on credit in order to access care. Other factors influencing affordability were seasonality of illness and income sources, transport costs, and unofficial payments. Regarding acceptability, the major interrelated factors identified were provider patient relationship, patient expectations, beliefs on illness causation, perceived effectiveness of treatment, and distrust in the quality of care and poor adherence to treatment regimes. Availability barriers identified were related to facility opening hours, organization of health care services, drug and staff shortages (Chuma *et al.*, 2010).

In Tanzania, especially in rural areas, various factors such as geographical access to the health facilities (Armstrong *et al.*, 2008), variety of different providers of malaria treatment

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such as the service provided by the traditional healers (Gesseler, 1995) and cash availability were found to be key barriers to seeking prompt treatment of malaria illness. Availability of cash may influence the choice of treatment provider (Hausmann *et al.*, 2000). The authors found evidence that people may be willing but not able to pay for biomedical health care, even when they can afford costly traditional medicine. They suggest that the ability to pay for traditional treatment can differ from the ability to pay for hospital attendance since many healers offer alternatives to cash payments (i.e. compensation in kind or work, or payment on a credit basis).

Also, studies on quality of services of health facilities in Tanzania found many shortcomings in the diagnoses and treatments provided (Eriksen *et al.*, 2007). In another study, 30% of confirmed malaria cases were not prescribed any anti-malarial drug (Font *et al.*, 2001). While problems with supplies are frequent, a further concern is inefficiencies in service delivery, such as irrational use of drugs, polypharmacy, and excessive use of injectables (Dillip *et al.*, 2007). In addition, poor inter-personal skills of health workers, such as rude behaviour, long waiting times and concerns about a lack of diagnostics and drugs are common reasons for a lack of trust in health services (Gilson *et al.*, 1994), which hinders Tanzanians from seeking for treatment in the formal health facilities.



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### 3.4.3 Stock-out of Anti-malarial Remedies

In most countries, availability of the anti-malarial drugs at the health facility level depends on the availability of such medicines in their Central Medical Store (Silumbe, 2010). A study that was conducted in Kenya and Uganda to assess stock outs of Artemether +Lumefantrine (ALU) in 2008 showed that, despite the fact that the countries were receiving drugs from the Global Funds to fight against AIDS, tuberculosis and malaria, they faced stock outs of ALU (Tren *et al.*, 2009 as cited by Silumbe, 2010). In addition, the study conducted in Kenya to address this problem revealed that, out of 164 surveyed facilities, one of every four facilities had none of four ALU weight-specific treatment packs in stock; and three of the four facilities studied were out of stock of at least one weight-specific pack, leading health workers to prescribe a range of inappropriate alternatives (Kangwana *et al.*, 2009).

The main reasons for anti-malarial stock outs were mentioned to be the weak reconciliation between the health information system and the medicine ordering system which made it impossible for health systems to assess whether health facility workers are ordering sufficient quantities to cater for the disease profile of the community they serve (Mikkelsen-Lopez *et al.*, 2014). Also poor knowledge of quantification and procurement needs, poor management of stock flows with limited information from the periphery and funding shortages were found to be other reasons for the shortage of ALU in health facilities (Silumbe, 2010). An

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insufficient delivery from the medical stores was a reason for drug shortage in Malawi (Lufesi *et al.*, 2007).

#### **3.4.4 Drug Sellers' knowledge on Malaria Medication**

Malaria is a major public health problem in sub Saharan Africa. Prompt access to early diagnosis and effective antimalarial treatment are major strategies for reducing morbidity and mortality from malaria (WHO, 2000; Chuma *et al.*, 2010). However, most of the early treatments for fever in most developing countries occur through self-medication with antimalarial drugs bought from private drug stores (Nsimba and Rimoy, 2005). The reasons for preferring drug shops include geographical accessibility, shorter waiting times, more reliable drug stocks, longer opening hours, greater confidentiality, more personable social interaction, ease of seeking advice, lower cost and flexible pricing policies and no separate fee charged for advice (Okeke *et al.*, 2006; Brugha, 2002). However, one of the problems associated with home management and self-medication with drugs from these sellers is that in most cases, neither the drug seller nor the consumer is aware of the correct dosage and duration of treatment (Okeke *et al.*, 2006; Gomes *et al.*, 1998). Also, the risks of poor quality treatment may be high, in view of the fact that uncomplicated malaria can proceed rapidly to severe disease and death, especially among young children who have yet to develop immunity (Greenwood *et al.*, 1987).

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Throughout Africa, the private retail sector has been recognised as an important source of anti-malarial treatment, complementing formal health services. However, the quality of advice and treatment at private outlets is a widespread concern, especially with the introduction of artemisinin-based combination therapies (ACTs). As a result, ACTs are often deployed exclusively through public health facilities, potentially leading to poorer access among parts of the population (Hetzl *et al.*, 2007).

In most places, the private retail sector has been identified as an important source of drugs close to people's homes (Foster, 1991; Snow, 1992; Goodman *et al.*, 2007). However, patients obtaining drugs from private retailers may not receive an anti-malarial drug, even if it would be appropriate (Kachur *et al.*, 2006). If anti-malarials are dispensed, dosages are often inappropriate, especially for more complex dosage regimens (Slutsker *et al.*, 1994; Abuya *et al.*, 2007). In order to improve community-wide effectiveness of anti-malarial treatment, the popularity of home-management and the quality of treatment obtained from commercial shops need to be better addressed. Considerable improvement in case-management has been shown to be possible as a result of training private retailers in general shops (Marsh *et al.*, 2004) and in drug stores (Hetzl *et al.*, 2007).

In sub Saharan Africa, malaria is endemic and public health facilities are not very accessible; about 50% to 80% people visit private drug store/shops or traditional practitioners for malaria

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treatment (Nsimba and Rimoy, 2005; Ruebush *et al.*, 1995). However the majority of private sellers in private facilities have inadequate knowledge. According to Nsimba and Rimoy (2005), in Tanzania, drug stores/shops are numerous and they may be beyond the Tanzania Food and Drug Authority's (TFDA) capacity. Thus, monitoring these drug shops may be difficult because of lack of trained staff and poor infrastructure to reach all these places, especially during the rainy season. Also, Kamuhabwa and Silumbe (2013) in their study of knowledge among drug dispensers and anti-malarial drug prescribing practices in public health facilities in Dar es Salaam, Tanzania found that the majority of drug dispensers had poor knowledge regarding the basic information required from patients before dispensing anti-malarial drugs. For example, 61% of the dispensers dispersed anti-malarial drugs for children without prescription and about half of them did not consider body weight when determining doses. In addition, most drug dispensers also showed limited knowledge about the dosage and contraindications for anti-malarial drugs such as ALU. The researchers recommended that job-training and continuing education should be provided to drug dispensers and prescribers in public health facilities (Kamuhabwa and Silumbe, 2013).

#### **3.4.5 Shortage of Qualified Health Care Workers**

Health workers everywhere are exposed to a number of challenges and force that impact on their wellbeing, as well as on their ability to deliver high-quality care (Jensen, 2013). The

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availability of health workers in sufficient numbers, with adequate skills, and with the motivation needed in order to provide high quality services is a crucial factor for the functioning of any health system (Maestad, 2006). Shortage of health personnel and poor health worker performance are among the most pressing problems of health systems in low-income countries. Lack of personnel with relevant skills is a threat to the success of programmes intended for scaling up health services in order to reach the Millennium Development Goals (Maestad, 2006). In 2006 the World Health Organization (WHO) estimated a global shortage of 4.3 million health workers, with poorer countries in the Global South particularly hard-hit (WHO, 2006). Among the 57 countries identified with a critical health worker shortage, 36 were in sub-Saharan Africa (Jensen, 2013).

The health systems of sub-Saharan Africa have been badly damaged by the migration of their health professionals. The consequences for some countries of losing health workers are becoming increasingly recognized and aired widely in public media; 1.3% of the world's health workers care for people who experience 25% of the global disease burden (Naicker *et al.*, 2009). A study carried out in four countries in Africa, namely, Cameroon, South Africa, Uganda and Zimbabwe, revealed that a number of professional health workers are migrating from their countries to other countries because of living conditions, lack of facilities, lack of promotion, no future, heavy work load, and other factors (Jensen, 2013). In sub-Saharan countries, the rate of loss of doctors, nurses, and other health professionals by

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migration has exacerbated the severe shortage; usually migration is to a country better provided with health workers. The problem is that the rate of loss often outstrips production, and production itself is inadequate to meet the countries' needs (Naicker *et al.*, 2009).

Shortages of professional health care workers in Tanzania are caused by lack of equipment and unreliability of supplies (Kahabuka *et al.*, 2012); lack of supervision and low motivation (Manzi, 2012); poor transportation and communication infrastructure (Mubyazi *et al.*, 2012). Kwesigabo *et al.* (2012), found that taken together, population growth, too few health workers and their poor morale, lack of equipment and medical supplies, and increasing health burdens from chronic and emerging diseases have overwhelmed the capacity of the health system. The overall performance of health service delivery is unsatisfactory at all levels, especially in the public sector. Also Kamuhabwa and Silumbe (2013) found that, due to the number of challenges facing public health facilities in Tanzania, including shortage of qualified health care workers, it is not known if anti-malaria drugs are rationally prescribed or dispensed in these facilities. The shortage of qualified medical personnel and heavy patient loads are more likely to affect rational prescribing and dispensing in public health facilities at the lower levels, including district hospitals, health centres and dispensaries (Kamuhabwa and Silumbe, 2013).

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### 3.4.6 Poor Quality of Anti-malarial Remedies

In order to ensure the provision of safe and high quality care for patients, the healthcare industry requires clinically effective and well-designed medical services (Martin *et al.*, 2008). The health of people living in the developing countries is critically dependent upon the availability of good quality medicines (Newton *et al.*, 2006). Safety, quality, and efficacy of medicines are the three most important criteria used by governments to regulate pharmaceuticals (WHO, 1999). Quality of drugs is especially important and is one of the earliest to come under government scrutiny (Amin and Kokwaro, 2007). A major problem with the treatment of malaria is the high level of treatment failures resulting in large part from the high prevalence of counterfeit drugs bought by the patients (Hall *et al.*, 2006; Newton *et al.*, 2006).

According to Cockburn *et al.* (2005) about 15% of all drugs in circulation worldwide are believed to be counterfeit, with the figures rising to as high as 50% in some parts of Africa and Asia. Counterfeit ranitidine (an anti-ulcer drug) and tadalafil (an anti-impotence drug) have been reported in the United Kingdom in 1994 and 2004 respectively (Gibson, 2004); sub-standard thyroxine has also been reported in the United States (Dong, *et al.*, 1997), but such reports are usually sporadic and not commonplace. It is largely acknowledged that sub-standard and counterfeit drugs are a problem of the developing world (Shakoor *et al.*, 1999 as

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cited by Amin and Kokwaro, 2007).

For diseases like malaria where progression from mild to severe disease is rapid, especially in young children, giving drugs with little or no active ingredient has been said to be “tantamount to murder” (Newton *et al.*, 2006). Giving drugs with no active ingredient or with the wrong active ingredients means the patient will not be cured of malaria and there is a good chance such a patient will die. Giving patients anti-malarial drugs with sub-therapeutic levels of the drug means drug-resistant parasites will be selected in a given population. This, in turn, means a switch to using newer and more expensive drugs. In sub-Saharan Africa therefore, a balance has to be struck between the need to make affordable anti-malarial drugs available close to where the majority of the people live, and ensuring that in the process the quality of the drugs is not compromised (Amin and Kokwaro, 2007). Over the past decade, the massive public health problem of counterfeit and substandard drugs has become more manifest, leading to serious clinical consequences to patients, such as increased morbidity, mortality, and drug resistance, which leads to spurious reporting of resistance and toxicity and loss of confidence in healthcare systems (Onwujekwe *et al.*, 2009; Minzi *et al.*, 2003). Other studies looking at a broader range of diseases in Nigeria found widespread inappropriate drug use, low quality of treatment, and ineffective regulation (Uzochukwu *et al.*, 2002; Chukwuani *et al.*, 2002).



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There has been relatively little apparent interest in the quality of medicines used to treat common life-threatening diseases, despite the logical implication that poor-quality medicines will reduce the effectiveness of therapy and encourage drug resistance (Amin *et al.*, 2004). Evidence suggests that a significant proportion of drugs consumed in the developing world are of poor quality (Shakoor *et al.*, 1997; Amin *et al.*, 2007). Translating evidence on drug treatment outcomes into treatment policy is useless if the medicines actually used have substantially inferior efficacy compared with the medicine originally evaluated (Newton *et al.*, 2006).

In Tanzania, as in other African countries, malaria case management is facing a number of challenges in terms of the quality of anti-malarial drugs. It was revealed that almost a third of anti-malarial drugs sold in Tanzania are substandard (WHO, 2010). Substandard ACTs are among the threats driving clinical failure of malaria treatment (Dondorp *et al.*, 2004; Hall *et al.*, 2006). In a study on anti-malarial drug quality in Africa it was observed that 35% of the tested samples were substandard (Bate *et al.*, 2008). The availability of counterfeit drugs in the market is likely to be due to the fact that governments in Africa lack the ability through customs and policing to stop these medicines entering the private market, where most people buy their treatment (Goodman *et al.*, 2007; Mboera *et al.*, 2013). Also, lack of knowledge of counterfeits and appropriate preventive measures, together with poor dissemination of information among health workers and the public, make their detection difficult (Newton *et*

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*al.*,2006; Onwujekwe *et al.*, 2009). Due to the challenges to malaria treatment detailed above, malaria treatment seeking behaviour was investigated.

### **3.5 Malaria Treatment Seeking Behaviour**

Consumers to date are exposed to a variety of health information which is transmitted by radios, television programme and well-designed health posters. These give them a wide choice of treatments when they are found with malaria parasites. According to Oberlander and Elverdan (2000), health-seeking behaviour is best seen as a process during which the beliefs and actions of the people in the immediate social environment of the sick person initiate treatment and subsequently evaluate the perceived outcome of the therapeutic actions. Treatment seeking refers to a process by individuals and/or social groups for restoring health by using medical resources of all kinds (Muela, 2000). The decisions that patients make about health care have been shown to be influenced by many different factors. A study carried out by Gilson *et al.* (1994), in the Morogoro region of Tanzania, found that the highest ranked factors for treatment choices were availability of drugs, trust in the health care providers, high level of care, better follow up treatment and severity of problem. A study in Kenya which was carried out by Mwabu (1986) divided factors into two categories: personal characteristics/demographic and qualities of health care providers. Personal /demographic characteristics included age, education, income, sex and religion. Quality of the health care

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providers was associated with the quality of treatment, accessibility; money and time spent for treatment and personal relationship.

In addition, the treatment seeking behaviour of patients was shown to be influenced by the nature of the disease. In a study conducted by Gilson *et al.* (1994) in the Morogoro Region of Tanzania patients stated that for certain diseases such as convulsions and measles, one should seek treatment from a traditional healer, whereas if one suffers from a fever or a headache he or she should go to the hospital. Similar results were found in a study of treatment seeking behaviour of patients with malaria; those with symptoms such as fever visited the hospital for western medicine, while those suffering from convulsions more often went to traditional healers (de Savigny *et al.*, 2004).

A study carried out in Uganda by Tabuti (2006) shows that consumers differ in treatment seeking behaviour; there, consumer used modern anti-malarial remedies when they were found with malaria, by visiting the drug shops and buying the medicine (self-medication with modern anti-malarial medicine). A variety of reasons were stated by these respondents as to why they preferred modern medicine over traditional medicine. Some cited lack of relevant traditional knowledge to exploit herbal medicines for the treatment of malaria, while others believed that modern medicines are more effective. On the other hand, some consumers' preference was for self-medication with herbal medicine. Their attitudes were determined

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mainly by the fact that herbal medicines were free, readily accessible and/or were also more effective than modern medicines. However, consumers who preferred herbal medicine reported that if the first line of treatment was not effective, then the preferred option was to visit health facilities for modern medicine (Tabuti, 2006).

According to Onwujekwe *et al.* (2009), people seek treatment for malaria from a wide range of sources ranging from itinerant drug sellers to hospitals, but they often resort to the unregulated private commercial sector, where treatment may be inappropriate, although access costs may be lower. The choice of multiple providers is also common, and patients often begin with self-treatment using drugs purchased through the commercial sector, and then seek care from formal health providers. If a patient is very ill, the public sector may be preferred because of the presence of more sophisticated equipment and a greater range of staff (Ronn, 1998). Patients may feel that private providers charge very high prices and are often unconvinced about the motivation of private providers, believing them to be primarily interested in generating income for themselves rather than in the welfare of their patients (Rosenberg *et al.*, 1990). Also the level of knowledge of different providers about malaria may strongly influence malaria treatment practices (Onwujekwe *et al.*, 2009). In a study carried out in South- East Nigeria to determine patent medicine dealers' perspectives on malaria, it was found that although the providers had fairly good knowledge about the causes and treatment of malaria, their treatment provision practices were sub-optimal (Cattani, 1991).

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Also it was found that there is a lack of knowledge about the factors that influence the type of treatment that healthcare providers provide for the treatment of malaria and how the information can be used to improve treatment provision (Onwujekwe *et al.*, 2009). Due to limited accessibility of health centres and performance of the modern anti-malarial remedies, patients find another alternative: using traditional medicines (TMs).

### **3.6 Traditional Medicines**

Traditional medicines (TMs) refers to health practices, knowledge, and beliefs incorporating plant/animal/mineral-based medicines, spiritual therapies, and manual techniques and exercises, applied to treat, diagnose, and prevent illnesses or maintain well-being (Luedke and West, 2006). WHO (2011) defined TM as the sum of total of the knowledge, skills and practices based on the theories, beliefs, and experiences indigenous to different cultures whether explicable or not, used in the maintenance of health, as well as in prevention, improvement, or treatment of physical and mental illness. TM does not regard human health as a purely physical entity but takes into consideration patients' social and cultural environment, whether living (family, community), passed away (ancestors), or the intangible forces of the universe (spirits, God/Gods) (Gessler *et al.*, 1995). Traditional forms of healing are attractive to people because of their holistic approach to health. Traditional healers are expected to take a personal interest in their client's social situation and to let the patient's

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input guide their diagnosis over repeated consultations (Gessler *et al.*, 1995; Green, 2000; Kirmayer, 2004; Bruchhausen, 2004). TM has a long history, and while for many traditional medicinal products scientific, documented evidence of safety, efficacy and quality is scarce, these products have been “field tested” for centuries by thousands of people; much empirical knowledge has thus been accumulated in communities and has been passed on by generations of healers (WHO, 2010). The World Health Organization (WHO) therefore advocates a critical, but open minded attitude to TM (WHO, 2010).

For Africans, traditional medicine is a form of healthcare that is more accessible and it symbolizes an ancestral belief system that is uniquely African; often cheaper than western medicine (Iwu, 1993; Neba, 2011). Research findings have revealed that traditional medicines are more effective than conventional modern medicines in some patients suffering from chronic diarrhoea and herpes (Shenton, 2004). Also, some positive results have been reported when traditional medicines were used against incurable diseases such as cancer, HIV, and other diseases, especially those caused by virus (UNEP, 2007 as cited by Kira and Komba,2012).

According to Adewunmi and Ojewole (2004), herbal products are often promoted to the public as being natural and safe. Herbal preparations are produced by subjecting herbal materials to extraction fractionation, concentration, or other physical or biological processes.

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Herbal medicines for malaria are in the form of concoction. Therapeutic synergies are produced by different plants species involved in preparation. Also one plant species may neutralize the toxic effects of other plant species, whilst allowing the active portion to alleviate fever and herbal medicine is considered to have limited side effects in the process of treatment (Adewunmi and Ojewole, 2004). WHO (2001) ascertained the reasons for some patients to use traditional medicine. They argued that most consumers, especially those from rural areas, together with consumers with a low level of income, are avoiding using modern health facilities because they perceive them as expensive, unfriendly, dangerous or ridden with corruption (WHO, 2001).

Generally, the frequency of use of herbal medicine is increasing worldwide and is well documented in the African region and other global populations to be between 20% and 80% (Osamor and Owumi, 2010). Factors that influence the choice and use of herbal medicine have long been unravelled. Researchers and policy makers have debated it but not explicitly understood it (Lorenc *et al.*, 2009). Patients may choose to use herbals because they are dissatisfied and uncomfortable with conventional treatments, which are perceived to be ineffective, expensive or have unpleasant side effects (Sutherland and Verhoef, 1994), while others find herbal medicine attractive because it is consonant with their personal values, religious and health philosophies (Bishop *et al.*, 2007).

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Recent studies in Tanzania have shown that there is increasing collaboration between traditional healers and modern health care providers and this has improved the management of severe malaria symptoms (Sofowora, 2008; Makundi *et al.*, 2006). Researchers argue that traditional healers form a natural extension of the formal health provision and there is great potential for improving both provision and access to modern medicines through their training and collaboration.

Studies in Zimbabwe examined the use of traditional herbal medicine to cure malaria; their findings revealed that traditional medicines have been used to treat malaria for thousands of years and are the sources of the two main groups (artemisinin and quinine derivatives) of modern anti-malarial drugs (Kezembe *et al.*, 2012). They identified that people continued to use the traditional herbal anti-malarial drugs with a good degree of success. They argued that consumers should value the presence of traditional medication in treating malaria in order to get rid of malaria infections. A study carried out in Uganda in 2006 revealed, conversely that many people preferred modern anti-malarial medicine to traditional anti-malarial medicine, the most common reason being ignorance of traditional knowledge necessary to exploit plants for the treatment of malaria. The second reason was the belief that modern anti-malarial medicines were superior to traditional anti-malarial medicines in the treatment of malaria and that they were easily accessible and administered in precise doses (Tabuti, 2006).



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### 3.6.1 Traditional Medicine Practices in Tanzania

Traditional healers and their role within health care systems in sub-Saharan Africa have been acknowledged for many years (Makundi *et al.*, 2006). Throughout sub-Saharan Africa, traditional healers are often the most accessible source of medical care, particularly in rural areas where access to biomedical care is limited to a large extent (Mbwambo *et al.*, 2007). Independent of costs and distance, socio-economic or education status, many African citizens consult healers in preference to or in conjunction with biomedical doctors (Makundi *et al.*, 2006). According to WHO (2000) approximately eighty percent (80%) of Africans have sought out traditional medicine as a critical aspect of their health seeking behaviour at least once in their lives.

In Tanzania, recognition of traditional medicine (TM) through the traditional health providers (THPs) started during the German colonialists' era (Kuelker, 2001). However, they suspected THPs as a threat to their ruling system and associated it with witchcraft and uncivilization. Nonetheless, some Christian missionaries accepted the use of traditional remedies from THPs in their medical services and showed interest in studying them (Kuelker, 2001). With the recognition of the importance of herbal remedies, in 1895, German military doctors were officially advised to collect plant specimens and send them for scientific investigation in Germany. By 1907, traditional medicine was incorporated in the health care system of the

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then “German East Africa” (Kuelker, 2001). THPs in Tanganyika were given certificates indicating their locations of practice and the illnesses they managed (Mbwambo *et al.*, 2007). However; the practice of TM in Tanzania is threatened by a lack of written documentation on traditional medical practices, which has made its promotion difficult, and by a decline in biodiversity, including traditional medical resources, in certain localities (WHO, 2001). In Tanzania traditional medicinal practitioners have acquired their knowledge in different ways, such as training through apprenticeship, inheritance from a member of the family, dreamed instructions from the ancestral spirits, or falling sick and becoming a healer on recovery (Makundi *et al.*, 2006).

A study carried out by Makundi *et al.* (2006) in Handeni- Tanga and Kilosa-Morogoro regions of Tanzania has identified that traditional medicine is highly practised in these areas. These communities used both traditional and modern/western medication for malaria treatment, but the traditional medicine was their first aid. In these studies it was revealed that traditional healers are an important factor in malaria treatment; they actually play a pivotal role by giving bio-medically accepted first aid which leads to reduction in body temperature, hence increasing the chances of survival. Also they found that an increasing collaboration between traditional healers and modern health care providers was shown to improve the management of severe malaria in the studied area. Thus, the researcher argued that traditional health care is not necessarily a significant impediment or a delaying factor in the treatment of

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severe malaria. There is a need to foster training on the management of severe cases, periodically involving both traditional health practitioners and health workers to identify modalities of better collaboration (Makundi *et al.*, 2006). Also Kayombo *et al.* (2007) identified that the collaboration between traditional healers and biomedical practitioners in African countries south of the Sahara is ever more important now in improving healthcare because it is likely to widen the scope of sharing and collecting information and allows for shared leadership and responsibility in the management of health problems.

In Tanzania, as in most of sub-Saharan Africa, prompt case diagnosis and effective treatment is the main control strategy for malaria. The government has made deliberate and successful efforts to make health care services accessible to the majority of rural communities. However, this does not guarantee that all patients utilize the services when they fall ill. Since malaria may present in different forms, like convulsions, altered consciousness and coma, community perceptions of underlying causes may differ. Consequently, many patients with these conditions turn to traditional healers prior to seeking modern health care, resulting in delay in receiving effective treatment (Makundi *et al.*, 2006).

Zanzibar took some initiatives in enhancing the collaboration between modern medicine and traditional medicine in their health systems. According to Niensted (2012), in 2008, the Ministry of Health (MoH) of Zanzibar announced a policy aimed at coordinating the

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activities of healers and developing traditional medicine in the private and public health sectors. This policy was expected to guide the contribution of traditional healers and to assure regulation and strict supervision in order to prevent malpractice. In 2009, the Zanzibarian government established a Traditional Unit (*Bazara la Tiba Asili*) (TU) as part of the Ministry of Health in order to register, monitor, and control traditional healers' practices. Since 2005, Dr. Tanja Nienstedt, one of the founders of the NGO 'Medici dell' Alto Adige per ill Terzo Mondo' (internationally referred to as World Doctors) initiated a dialogue between a few doctors and healers. This dialogue was supposed to create awareness among doctors, representatives of the Ministry of Health, and healers about the potential opportunities for health care provision that could be tapped through collaboration. This dialogue was highly appreciated by Ministry of Health representatives. In 2011, World Doctors financed three training workshops to assist traditional healers in performing their activities in accordance with governmental legislation. This training was facilitated by members of the TU and consisted of sessions in which healers were informed about the new Zanzibar Traditional and Alternative Medicine Policy Act, the registration process they are expected to undergo, and ethics/codes of conduct (Niensted, 2012).

### **3.6.2 Risk associated with Traditional Medicine**

Traditional medicines have been shown to have risks, as modern anti-malarial remedies do.

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The study carried by Furaha *et al.* (2000) found that most people believe that, because herbal medications are “natural” or have been used in some parts of the world for generations, they must be safe. But, like modern pharmaceuticals herbal medications can cause adverse effects. The uses of such adverse reactions are diverse; the use of inherently toxic herbal medicines or overdose of herbs, convectional drugs-herbal medicine interactions, and idiosyncratic reaction such as allergies (Furaha *et al.*, 2000).

According to WHO (2012) the risks associated with herbal medications include poor quality (lack of standard of production and manufacture of herbal medication can cause quality problems such as adulteration, misidentification of ingredients, substitution of one herb with another, inclusion of pharmaceuticals without identification on labels, contamination and variability in the amount of active ingredients); incorrect usage (incorrect usage of herbal medication therapies can have fatal outcome) and lack of information (many consumers in both developed and developing countries use herbal products to treat themselves without health practitioners’ advice because of the availability and relatively inexpensive cost of such products. Consumers who treat themselves, however, may be uninformed about potential adverse effects and the safe use of herbal medication). Limited accessibility of the health centres has caused a number of Tanzanians to practise self-medication in curing different diseases, malaria being among them. In the next section, the literature on self-medication is reviewed.

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### 3.7 Self-Medication

Self-medication is becoming an increasingly important area within healthcare. It moves patients towards greater independence in making decisions about management of minor illness, thereby promoting empowerment (Hughes *et al.*, 2001). Self-medication represents an area of healthcare in which the patient assumes a greater degree of responsibility for the management of minor ailments, using a pharmaceutical product that is available without prescription (Hughes *et al.*, 2001). Self-medication involves the use of medicinal products by the consumer to treat self-recognized disorders or symptoms, or the intermittent or continued use of medication prescribed by a physician for chronic or recurring diseases or symptoms. In practice, it also includes use of the medication of family members, especially where the treatment of children or the elderly is involved (WHO, 2000). The process may be supported by advice and counselling from a healthcare professional, in many cases, community pharmacists. This involvement of pharmacists extends the participation of pharmacy professionals in rational management of minor illness and as such may prevent unnecessary physician appointments (Hughes *et al.*, 2001). The concept of self-medication which encourages an individual to look after minor ailments with simple and effective remedies has been adopted worldwide (Afolabi, 2008). According to Awad *et al.* (2005) most people understand that medicine should be used in the event of any sickness or discomfort. The UK government encourages self-reliance in its people; this is reflected in the finding that an

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average of 50% of health care takes place within the realm of self-medication (Russel, 1999; Gordon, 1993). Moreover, agencies like the World Health Organization (WHO) promote individual family and community participation in primary health care (WHO, 2000).

### **3.7.1 Factors Influencing Consumers to Apply Self-Medication**

Different studies identify the factors influencing some consumers to engage in self-medication. Some of those factors are poor diagnostic ability compounded by a limited knowledge of appropriate management result, long waiting periods in hospitals (Major *et al.*, 2007), minor ailments (Schwenkglens, 2007), cost (to save money) and time (Saeed, 1988), shortage of doctors or a feeling that their ailment is beyond the knowledge of western trained doctors (Haak, 1988), and lack of accessibility of health facilities (Moral *et al.*, 1994). According to Muttel *et al.* (2009) the reasons for consumers to use non-prescribed anti-malarial drugs include lack of access to health facilities, cost of treatment in health facilities and social distance of health workers from patients. In addition, several socio-cultural factors, including people's beliefs, perceptions and knowledge about malaria and influence of peers on people's choice of malaria treatment have been shown to influence the use of non-prescribed anti-malarial drugs (Brieger, 2001; Ouedraogo *et al.*, 2008). In addition, drug sellers lacking adequate knowledge about malaria treatment contribute to use of non-prescribed anti-malarial drugs (Muttel *et al.*, 2009).

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### 3.7.2 Benefits of Self-Medication

According to WHO (2000), the social and economic benefits of self-medication reflect the fact that it is voluntarily chosen by consumers for conditions where it seems preferable to them. It will usually be selected for use in symptoms and conditions which the user regards as sufficiently troublesome to need medicinal treatment but not to justify consulting a physician. Only if the condition fails to respond, persists or becomes more severe, will professional medical help be sought (WHO, 2000). Self-medication also has advantages for healthcare systems as it facilitates better use of clinical skills, increases access to medication and may contribute to reducing prescribed drug costs associated with publicly funded health programmes (Hughes *et al.*, 2001). Consumers are willing and able to take more responsibility for their own health and by so doing a significant amount of resources could be utilized in more pressing areas than patients receiving consultations and prescriptions for minor ailments (Pankaj *et al.*, 2012). Consumer research has shown that people want to take responsible self-medication, know what illness they could treat themselves, use medicine with caution and know when to seek professional help (WHO, 1995). The importance of self-medication as a phenomenon has attracted the interest of health professionals including physicians and policy makers, especially when drugs become deregulated and change from prescription status to being sold over-the-counter (Hayran, 2000). Generally, it is accepted that self-medication has an important role in the care of minor ailments (Hayran, 2000).



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However, the benefits of self-medication might be applicable to the developed countries where patients know non-prescription (over the counter) drugs and drugs that need a doctor's prescription. In most developing countries, in contrast, self-medication is a major challenge since consumers apply it not only to minor diseases, as it was intended, but to major diseases such as malaria. This can cause the resistance of the malaria parasite, due to misdiagnosis.

### **3.7.3 Risk Associated With Self-Medication**

WHO (2000) ascertained the potential risks that are associated with self-medication practices; the ordinary user will usually have no specialized knowledge of the principles of pharmacology or therapy of the specific characteristics of the medicinal products used. This results in certain potential risk for the individual; incorrect self-diagnosis, failure to seek appropriate medical advice promptly, incorrect choice of therapy, failure to recognize special pharmacological risk and other risks (WHO, 2000). According to Hughes *et al.* (2001), self-medication is associated with risks such as misdiagnosis, use of excessive drug dosage, prolonged duration of use, drug interaction and polypharmacy. Also Lamikanra and Osemene (2012) identified the problems associated with self-medication such as masked diagnosis, use of excessive drug dosage, prolonged duration of use, drug interactions, polypharmacy which can occur to self-medicating individuals. In addition, self-medication can cause bacteria resistance to the human body and may precipitate the emergence of multiple resistance of

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organisms that would be difficult to treat and this caused an increased morbidity (Lamikanra and Osemene, 2012; Fadara, 2011). Also Okeke *et al.* (1999) identified that the traditional use of antibiotics and anti-malarial medications in self-medication without proper diagnosis of the disease leads to increased morbidity among the population and to emergence of multiple resistant strains of the causative organism, which are difficult and costly to treat, especially in immune-compromised individuals.

In order for self-medication to be useful, monitoring systems, a partnership between patients, physicians, pharmacists and the provision of education and information to all concerned on safe self-medication, are proposed strategies for maximizing benefits and minimizing risks (Hughes *et al.*, 2001). Also there is substantial variation in the prevalence rates of self-medication among developing and developed nations due to inherent differences in cultural and socio economic factors, disparities in healthcare systems such as reimbursement policies, access to health care, and drug dispensing policies (Lamikanra and Osemene, 2012).

### **3.8 Conclusion**

In this chapter a literature review on malaria disease was presented; the impact of malaria on livelihood was also discussed. In sub-Saharan Africa and Tanzania in particular, the treatment of malaria is challenged by factors such as stock out of anti-malarial remedies, drug sellers' knowledge on malaria medication, shortage of qualified health professionals, poor quality of

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the anti-malarial remedies and other factors. The existing literature also highlighted health treatment seeking behaviour. The utilization of traditional medicines together with the risks associated with the consumption of traditional medicines is highlighted. Finally the existing literature elaborated self-medication practices and the risks associated with them. Various studies related to malaria disease are documented. However, the impact of risk and involvement of the decision making process on malaria medication has not received attention. For this reason, this study examined how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania.

The following chapter will discuss the research design and methodology used in this study.

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## CHAPTER FOUR

### RESEARCH DESIGN AND METHODOLOGY

#### 4.1 Introduction

The aim of this study was to examine how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania. The participants in this study were Tanzanian consumers, clinical officers, pharmacists, key informants from the Tanzania Food and Drug Authority, laboratory technicians and traditional medical practitioners. A phenomenological research strategy was chosen as the most appropriate strategy to answer the research questions. The research design, paradigm, philosophy and methods used are described in this chapter. The following research questions were examined:

1. What are the motivating factors to Tanzanian consumers in purchasing anti-malarial remedies?
2. Does the Country of Origin have an impact on Tanzanian consumers' evaluation of anti-malarial remedies?
3. What is the level of ethnocentric tendencies among Tanzanian consumers when purchasing domestic anti-malarial remedies?
4. Is there any relationship between demographic characteristics and the level of xenocentric tendencies in the Tanzanian market?

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5. What are the dimensions of product involvement and perceived risk and their influence on consumers' decision making process?

#### **4.2 Research Design**

Ghauri and Grønhaug (2005) defined research design as the overall plan for relating the conceptual research problem to relevant and practicable empirical research. There are three basic types of research design: exploratory, descriptive and causal research designs (Ghauri and Grønhaug, 2005). The nature of the study, whether it is exploratory, descriptive, or hypothesis testing, depends on the stage to which knowledge about the research topic has advanced (Sekaran and Borgie, 2010:103). The design decision becomes more rigorous as we proceed from the exploratory stage, where we attempt to explore new areas of organizational research, to the descriptive stage, where we try to describe certain characteristics of the phenomena on which interest centres, to the hypothesis testing stage, where we examine whether or not the conjectured relationship has been substantiated or an answer to the research question has been obtained (Sekaran and Borgie, 2010).

This study was intended to discover ideas and insights on how COO, CE and CX impact upon risk and involvement in the malaria medication decision process in Tanzania; therefore, an exploratory research design was employed. According to Sekaran and Borgie (2010), exploratory studies are undertaken to better comprehend the nature of the problem since very

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few studies might have been undertaken in that situation. In such cases, extensive preliminary work needs to be done to gain familiarity with the phenomena in the situation, and understand what is occurring, before we develop a model and set up rigorous comprehensive investigation. Saunders *et al.* (2012) defined exploratory study as a valuable means to ask open questions to discover what is happening and gain insights about a topic of interest. It is particularly useful if a researcher wishes to clarify understanding of a problem, such as if the precise nature of the problem is uncertain. Exploratory studies are important for obtaining a good grasp of the phenomenon of interest and advancing knowledge through subsequent theory and hypothesis testing (Sekaran and Borgie, 2010:103). Exploratory research has an advantage of flexibility and adaptability to change. This helped the researcher to obtain useful responses from the participants as the researcher adopted the flexibility of the study to explore ideas and insights on the malaria medication decision making process to Tanzanian consumers. Since an exploratory research design was concerned, qualitative research was adopted in this study.

According to Hancock (1998:2), qualitative research is concerned with developing explanations of social phenomena. It aims to help us understand the world in which we live and why things are the way they are. Qualitative research has its roots in social science and is more concerned with understanding why people behave as they do; their knowledge, attitudes, beliefs and fears (Mays and Pope, 1995). Additionally, qualitative research can

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provide rich, flexible and intriguing information, which will allow researchers to get the data needed and thereafter meet the researcher's objectives and answer the research questions (Reason, 1999). Qualitative research is associated with an interpretive philosophy (Denzin and Lincoln, 2005) as cited by Saunders *et al.* (2012:163). It is interpretive because researchers need to make sense of the subjective and socially constructed meanings expressed about the phenomenon being studied. Such research is sometimes referred to as naturalistic, since researchers need to operate within a natural setting, or research context, in order to establish trust, participation, access to meanings and in-depth understanding (Saunders *et al.*, 2012). Also, another great strength of qualitative research is the ability to ask questions that are meaningful to participants and likewise receive responses in participants' own words and native cognitive constructs (Namey *et al.*, 2012).

The selection of this approach was motivated by the following reasons: firstly, the researcher was interested to understand in natural settings the extent in which COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania. Secondly, qualitative research is especially important in the behavioural sciences where the aim is to discover the underlying motives of human behaviour; this was very useful to the researcher as it helped to discover the hidden factors that influence consumers while seeking for malaria medication. Through qualitative research, the researcher was able to analyse the various factors that motivated Tanzanian consumers to behave in a particular manner.

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### 4.3 Research Approach

The extent to which a researcher is clear about the theory at the beginning of the research raises an important question concerning the design of the project (Saunders *et al.*, 2012). Ghauri *et al.* (2005) argued that, after outlining the aim and the type of the data needed in the research, the research approach can be constructed in two main ways: deductive and inductive reasoning. According to Ketokivi and Mentere (2010) as cited by Saunders *et al.* (2012), deductive reasoning occurs when the conclusion is derived logically from a set of premises, the conclusion being true when all the premises are true. In contrast, in inductive reasoning, there is a gap in the logical argument between the conclusion and the premises observed, the conclusion being judged to be supported by the observations made.

To undertake this study, the inductive research approach was adopted. Saunders *et al.* (2009) defined the inductive research approach as a type of research approach which moves from specific observations to broader generalization and theories. It is commonly known as the bottom up approach because the conclusions are solely based on premises (Saunders *et al.*, 2009). The inductive approach starts with investigating the problem by collecting data and proceeds to analysis of the data then building theory to show the relationship between the observed and identified results of the studied phenomena (Saunders *et al.*, 2012). The inductive approach enabled the researcher to get an in-depth understanding of the way COO



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impacts upon risk and involvement in the malaria medication decision making process in Tanzania. Through the use of the inductive approach, qualitative data was collected through in-depth interviews, analysed and presented ; thereafter the theory of the study was developed after discussing the findings.

#### **4.4 Research Paradigm and Philosophy**

A research paradigm is a perspective that is based on a set of assumptions, values, concepts and practices (Johnson and Christensen, 2005). Saunders *et al.* (2009) defined a paradigm as the way of examining social phenomena from which particular understandings of these phenomena can be gained and explanations attempted. In other words a paradigm can be defined as a function of how the researcher thinks about the development of knowledge. A research paradigm is a combination of two ideas that are related to the nature of the world and the function of the researcher; these ideas are research methods and research philosophies. This combination in research helps the researcher to develop understanding and knowledge about the topic of the research (Johnson and Christensen, 2005). Hughes (1997) argued that it is very important for researchers to understand philosophical issues concerning research, as this will give the right direction towards the study to be undertaken. The indirectness and circular nature of philosophical questioning in itself is helpful as it often encourages in-depth thinking, and generates further questions in relation to the topic under consideration (Smith,

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1998).

In addition, Proctor (1998) said that individuals rarely take time to do this in everyday life, but exploring basic personal beliefs could assist in understanding wider philosophical issues, notably, the interrelationship between ontological (what is the nature of reality?), epistemological (what can be known?) and methodological (how can a researcher discover what she or he believes can be known?) levels of inquiry (Proctor, 1998). For more emphasis, Easterby-Smith *et al.* (1994) identified three reasons why the exploration of philosophy may be significant with particular reference to research methodology: Firstly, it can help the researcher to refine and specify the research methods to be used in a study, that is, to clarify the overall research strategy to be used. This would include the type of evidence gathered and its origin, the way in such evidence is interpreted, and how it helps to answer the research questions posed. Secondly, knowledge of research philosophy will enable and assist the researcher to evaluate different methodologies and methods and avoid inappropriate use and unnecessary work by identifying the limitations of particular approaches at an early stage. Thirdly, it may help the researcher to be creative and innovative in either selection or adoption of methods that were previously outside his or her experience (Easterby-Smith *et al.*, 1994).

According to Denzin and Lincoln (1994), the researcher's experience, understanding of

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philosophy and personal beliefs may also have some bearing on the method adopted. Shih (1998) expanded this idea and lists four areas for consideration when deciding on a research method: the philosophical paradigm and goal of the research, the nature of the phenomenon of interest, the level and nature of the research and practical considerations related to the research environment and the efficient use of resources. Proctor (1998) considered that consistency between the aim of a research study, the research question, the chosen methods and the personal philosophy of the researcher are the essential underpinnings of the research to be undertaken. Saunders *et al* (2003) outlined three research paradigms which are Positivism, Interpretivism and Realism. They argued that these paradigms are different, if not mutually exclusive, views about the way in which knowledge is developed and judged as being acceptable. In this study, the interpretivist paradigm was adopted.

#### **4.4.1 Interpretivist Paradigm**

The interpretivist paradigm is based on the view that people socially and symbolically construct their own organizational realities (Beryer and Luckmann, 1967 as cited by Rowlands, 2005). Interpretivism provides an alternative to the traditions and foundations of positivism for conducting disciplined inquiry (Letournear and Allen,1999).The Interpretivist paradigm believes that the social world is too complex to be formulated in theories and laws such as in the natural sciences (Saunders *et al.*, 2009). According to this philosophy

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there are many truths and meanings of simple facts, and this applies to every situation and for every research problem (Johnson and Christensen, 2010). This research philosophy plays an important role in order to produce an end result from the collected data. In this research philosophy, the researcher does not only interact with the environment but also seeks to make sense of it through their interpretations of events and the meaning that they draw from these. Interpretivism recognizes that several factors, such as individuals' different living standards, difference in social cultural environment, personality and family groups etc. affect the nature of individuals and their perceptions of the social world (Saunders *et al.*, 2003).

The Interpretivist theoretical lens was adopted in this study. As the interpretivist paradigm seeks to understand the subjective reality of participants in a way that is meaningful for the participants themselves (Brand, 2009), the researcher acknowledged the different demographic characteristics studied and participants' subjective ways of deciding the malaria medication which suited their chosen criteria. By adopting an Interpretivist paradigm, the researcher assumed that the impact of risk and involvement in the decision making process on malaria medication is not an objective phenomenon with known properties or dimensions; hence, a subjective way of reasoning was needed. The adoption of the Interpretivist paradigm helped the researcher to recognize the wide interpretations of reality from the participants. In this study, respondents were viewed as peers or friends and an attempt made to discover hidden meanings, as opposed to measurement in the research (Proctor, 2003). The

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Interpretivist paradigm was appropriate to be used in this study because it helped to identify the factors that motivated the Tanzanian consumers while seeking for malaria medication. Also it helped to identify the hidden factors that influenced consumers in making decisions as far as risk was concerned. Also it was easy to get an in-depth understanding of human behaviour and their reasons that govern such behaviour (Proctor, 2003).

#### **4.4.2 Ontology**

Ontology is the branch of philosophy concerned with the nature of being, existence, or reality (Saunders *et al.*, 2009). Ontology concerns the idea about the existence of and relationship between people, society and the world in general; ontological assumptions embrace all theories and methodological positions (Eriksson and Kovalainen, 2008). The conception of knowledge as a ‘mirror of reality’ is replaced by the conception of the social construction of ‘reality’, where the focus is on the interpretation and negotiation of the meaning of the social world (Kavale, 1996). Berger and Luckmann (1966:13) defined reality “as a quality appertaining to phenomena that we recognize as having a being independent of our own realities”. One question in ontology is whether social entities can be considered as having an objective existence or are constructions built up from the perceptions and actions of social actors (Hollis, 1994). Ontology raises questions of the assumptions researchers have about the way the world operates and their commitment to particular views (Saunders *et al.*,

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2012). Saunders *et al.* (2012) described ontology as divided into two perspectives, which are objectivism and subjectivism. The objectivist view of ontology presents the position that social entities exist in reality external to and independent of social actors. On the other hand, the subjectivist view of ontology holds that social phenomena are created through the perceptions and consequent actions of affected social actors (Saunders *et al.*, 2012:131).

To undertake this study, the subjectivist view of ontology was adopted. By adopting the subjectivist view of ontology, the researcher was able to explore the subjective meanings that motivated consumers in the malaria medication decision making process. The researcher believed that social interactions between actors are a continual process and social phenomena are in a constant state of revision. Therefore, it was necessary to study the details of the situation in order to understand what is happening or even the reality occurring behind what is happening (Saunders *et al.*, 2012). In order to understand the way COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania, the participants were studied individually. The researcher believed that each participant had his or her own ways of reasoning, interpreting and making judgement on the malaria medication before committing to purchase. Participants were viewed as having different ways of perceiving and understanding the world. Through the identification of the malaria medication decision model, the researcher learned that Tanzanian consumers interpreted and made their own meanings of the malaria medication. Hence it was not possible to generalize

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the criteria used by all consumers in selection of malaria medication because there were multiple perspectives which guided their decision making processes. Therefore, studying the way each individual made the decision on malaria medication helped the researcher to understand the studied phenomenon as it naturally occurred.

#### **4.4.3 Epistemology**

Saunders *et al.* (2009) defined epistemology as a branch of philosophy that is concerned with the nature of knowledge that can be acquired through different methods of inquiry. An epistemological issue is concerned with the question of what is (or should be) regarded as acceptable knowledge in a discipline (Bryman and Bell, 2010). Berger and Luckmann (1966:13) defined knowledge “as the certainty that phenomena are real and that they possess specific characteristics”. The epistemological assumption also focuses on the relationship of the researcher and research (Brand, 2009); this involves an examination of the relationship between the researcher and that which is being researched (Collis and Hussey, 2003). Positivists believe that only phenomena which are observable and measurable can be validly regarded as knowledge; they try to maintain an independent and objective stance. On the other hand, phenomenologists attempt to minimize the distance between the researcher and which is being researched (Collis and Hussey, 2003).

Epistemology is logically related to ontology. Researchers who have objectivist ontology (a

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single, fixed “reality”, independent of the researcher) tend to adopt a positivist epistemology, i.e. focus on what can be observed and measured and keep a distance from what is researched. Researchers who have subjectivist ontology (multiple, subjectively created “realities”) focus on exploring perceptions and experiences. Because they seek to understand meanings from participants’ viewpoint, they try to get as close as possible to the participants. In order to understand how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania, the researcher defined the world from the consumer’s point of view and this focuses on the epistemological stand of the association between researcher and research (Burrell and Morgan, 1994). The researcher believed that engaging with the phenomenon under study would help in understanding the perceptions and interpretations Tanzanian consumers have on malaria medication, which lead them to make the decisions. Being close to participants during data collection helped the researcher to understand their experiences and motivations on malaria medications and the obstacles they faced while seeking for malaria treatment. The study was not only interested in knowledge construction, but also aimed to contribute to a better understanding of the impact or risk and involvement in the decision making process on malaria medication in relation to COO,CE and CX in Tanzania.



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#### 4.4.4 Axiology

Saunders *et al.* (2012:137) defined axiology “as the branch of philosophy that studies judgement about value”. Heron (1996) stresses that values are guiding reasons for all human action including research. He argued that researchers demonstrate axiological skill by being able to articulate their values as a basis for making ethical judgements about what research they are conducting and how they go about doing it. Saunders *et al.* (2012) added that at all stages in the research process a researcher will be demonstrating his/her values. According to Collis and Hussey (2003:48), positivists believe that science and the process of research is value – free. Therefore, positivists consider that they are detached from what they are researching and regard the phenomena which are focus of their research as objects. Positivists are interested in the interrelationship of the objects they are studying and believe that these objects were present before they took an interest on them. Furthermore, positivists believe that the objects they are studying are unaffected by their research activities and will still be present after the study has been completed. On the other hand, phenomenologists consider that researchers have values, even if they have not been made explicit. These values help to determine what are recognized as facts and interpretations which are drawn from them. Also phenomenologists believe that the researcher is involved with that which is being researched (Collis and Hussey 2003).

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The aim of this study was to examine how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania. The researcher was interested to understand the perceptions and experiences Tanzanian consumers had on malaria medication and the decisions they made in relation to COO, CE and CX as far as risk and involvement were concerned. The researcher believed that there is no single definition of reality; hence, the researcher adopted the interpretivist research paradigm which helped to understand the subjective meaning of reality consumers had on interpreting the malaria medication. Also the researcher adopted the phenomenology research strategy which helped the researcher to understand the subjective perceptions and experiences Tanzanian consumers had on malaria medication. In this case, the researcher was an instrument for data collection, as it was through the researcher that the data was collected, analysed and presented. In this study, in-depth interview was used to collect the data. The researcher believed that personal interaction with the respondents would help her to get an in-depth understanding of the consumer's subjective decision making process on malaria medication.

Heron and Reason (1997) argued that to experience anything is to participate in it, and to participate is both to mould and to encounter. Also they added that, to know something, to experience something, always implies valuing it in some way or another. Therefore, the researcher valued the subjective opinions of the participants on the malaria medication decision making process and their impact on COO, CE and CX as far risk and involvement

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was concerned. Through the in-depth interviews, the participants expressed their perceptions and experiences of malaria medication and the factors influencing them in the malaria medication decision making process.

#### **4.5 Research Strategy**

Saunders *et al.* (2009) suggested that the choice of the research strategy should be guided by the researcher's research question (s) and objectives, the extent of existing knowledge, the amount of time and other resources researchers have, as well as the researcher's own philosophical underpinnings. In this study, the researcher adopted a research strategy which would enable her to get an in-depth understanding on the way COO, CE and CX impact upon risk and involvement in the malarial medication decision making process in Tanzania. Therefore, a phenomenological research strategy was employed in this study. Somekh and Lewin (2005) assert that phenomenology as the study of lived, human phenomena within the everyday social contexts in which the phenomena occur from the perspective of those who experience them. Phenomena comprise anything that human beings live/experience. The purpose of phenomenology as a strategy is to clarify the specific, to discover phenomena through how they are perceived by the actors in a situation (Moran, 2000) Phenomenology is a widely used approach in social research and it has been useful for researchers who do not rely on measurements to understand social reality (Denscombe, 2003).

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According to Creswell (2007), phenomenological study describes the meaning for several individuals of their lived experiences of a concept or a phenomenon. Phenomenologists focus on describing what all participants have in common as they experience a phenomenon (e.g., grief is universally experienced). The basic purpose of phenomenology is to reduce individual experiences with a phenomenon to a description of the universal essence. Phenomenologist tends to collect qualitative data in which the researcher seeks to understand the subjective meanings of participants (Saunders *et al.*, 2003). This is because epistemology assumes that reality is socially constructed; therefore, reality cannot be understood objectively. In phenomenological research, the researcher collects data from persons who have experienced the phenomenon, and develops a composite description of the essence of the experience for all the individuals. This description consists of “what” they experienced and “how” they experienced it (Creswell, 2002). The phenomena can be directly researched by exploring human knowing, through accessing consciousness, and indirectly by investigating human being, through accessing senses, shared background, meanings and practices (Somekh and Lewin, 2005).

The selection of this strategy was influenced by the nature of the study. The researcher was interested to examine how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania. The adoption of this strategy helped the researcher to get an in-depth understanding of the factors that motivated Tanzanians while

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seeking malaria medication. The researcher believed that the world is socially constructed and subjective; therefore, understanding the individual perceptions and experiences on malaria medication decision making process was vital. Through the purposive sampling technique, the researcher selected participants who could provide rich information that answered the research questions. This strategy was useful since it helped the researcher to get a deep understanding based on consumers' experience of consumption of different anti-malarial medications.

## **4.6 Population and Sampling**

### **4.6.1 Population**

Population refers to the entire group of people, events, or things of interest that the researcher wishes to investigate (Sekaran and Bourgie, 2010:266). Also McMillan and Schumacher (2001) described population as a group of elements or cases, whether individuals, objects, or events that conform to specific criteria and to which we intend to generalize the results of the research. In addition, Best and Kahn (2006) defined a population as a group of individuals who have some characteristics in common that are of interest to the researcher. Considering the nature of this study, the targeted population for this research were Tanzanian consumers, clinical officers, traditional medical practitioners, pharmacists, laboratory technicians and key informants from the Tanzania Food and Drug Authority.

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#### 4.6.2 Sampling Strategy

Sampling is the process of selecting a sufficient number of the right elements from the population, so that a study of the sample and understanding of its properties and characteristics make it possible for a researcher to generalize such characteristics to the population elements (Sekaran and Borgie, 2010). There are two major types of sampling designs; probability sampling and nonprobability sampling. In probability sampling, the elements in the population have some known, non-zero chance or probability of being selected as a sample subject. On the other hand, in nonprobability sampling, the elements do not have a known or predetermined chance of being selected as a subject (Sekaran and Borgie, 2010). This study examined how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania. Obtaining deep information on these issues required participation of people with specific knowledge and experience: consumers who had chosen and used anti-malaria remedies, policy-makers, practitioners involved in diagnosing and prescribing, pharmacists who stock and supply medication and traditional medical practitioners who offer alternative treatments. Therefore, nonprobability sampling, specifically purposive sampling, was used in selecting the participants. Purposive sampling permits the researcher to decide which cases to choose that will be best able to answer the researcher's research questions and meet the researcher's objectives (Saunders *et al.*, 2009). This strategy enabled the researcher to gain access to a variety of knowledge and

experience relevant to different aspects of the research phenomenon in order to address the research questions and meet its objectives. Profiles of individual participants are shown in Table 2. It should be noted that the participants' names listed in the table below are not the real names.

**Table 2: Participants' Profile**

| <b>Participant</b> | <b>Gender</b> | <b>Age</b> | <b>Education</b>  | <b>Location</b> | <b>Occupation</b>                 |
|--------------------|---------------|------------|-------------------|-----------------|-----------------------------------|
| Tula               | Female        | 75         | Primary Education | Rural           | Traditional Medicine Practitioner |
| Bupe               | Female        | 45         | Diploma           | Rural           | Pharmacist                        |
| Erick              | Male          | 25         | Diploma           | Urban           | Business man                      |
| Tumpe              | Female        | 40         | Certificate       | Urban           | Housewife                         |
| Furaha             | Female        | 22         | Certificate       | Rural           | Teacher                           |
| Alex               | Male          | 35         | Primary education | Urban           | Taxi Driver                       |
| Israel             | Male          | 37         | Bachelor degree   | Urban           | Clinical Officer                  |
| Ben                | Male          | 79         | Diploma           | Rural           | Retired Pastor                    |

|          |        |    |                        |       |                                      |
|----------|--------|----|------------------------|-------|--------------------------------------|
| Amba     | Male   | 43 | Diploma                | Urban | Pharmacist                           |
| Amy      | Female | 26 | Bachelor<br>degree     | Urban | Public Relations Officer             |
| Bariki   | Male   | 33 | Master                 | Urban | Assistant Lecture                    |
| Jane     | Female | 34 | Secondary<br>Education | Urban | Housewife                            |
| Bity     | Female | 37 | Master                 | Urban | Managing Director at<br>TFDA         |
| Anna     | Female | 38 | Master                 | Urban | Accountant                           |
| Frank    | Male   | 36 | Master                 | Urban | Assistant Lecturer                   |
| Peter    | Male   | 43 | Master                 | Rural | Teacher                              |
| Neema    | Female | 33 | Master                 | Urban | Assistant Lecturer                   |
| Isack    | Male   | 50 | Primary<br>education   | Rural | Farmer                               |
| Jacob    | Male   | 32 | Diploma                | Urban | Traditional Medicine<br>Practitioner |
| Emmanuel | Male   | 37 | Bachelor<br>Degree     | Urban | Pharmacist                           |
| Jesca    | Female | 64 | Primary<br>Education   | Rural | House wife & Farmer                  |



|       |        |    |                      |       |                       |
|-------|--------|----|----------------------|-------|-----------------------|
| Atu   | Female | 47 | Primary<br>Education | Urban | House wife            |
| John  | Male   | 25 | Bachelor<br>Degree   | Urban | Teacher               |
| Paul  | Male   | 49 | Diploma              | Rural | Clinical Officer      |
| David | Male   | 55 | Diploma              | Urban | Laboratory Technician |

#### 4.6.3 Sample Size

Wiersma (2000) defined a sample as a subset of the population to which the researcher intends to generalize the results. Also Kothari (1990) defined sample as a small group of participants drawn from a population in which the researcher is interested in gaining information and drawing conclusions. According to the nature of the study, the sample size studied was 25 respondents as depicted in table 3 below.

**Table 3: Sample Size**

| S/N | CATEGORY  | PARTICIPANTS |
|-----|---|--------------|
| 1   | Key informant from Tanzania Food and Drug Authority | 1            |
| 2   | Clinical Officers                                   | 2            |

|   |                                   |           |
|---|-----------------------------------|-----------|
| 3 | Traditional Medical Practitioners | 2         |
| 4 | Pharmacists                       | 3         |
| 5 | Laboratory Technician             | 1         |
| 6 | Consumers                         | 16        |
|   | <b>TOTAL</b>                      | <b>25</b> |

#### 4.7 Area of the Study

This study was carried out at Mbeya Region which is in the southern part of Tanzania. Mbeya is one of the regions that have high records of malaria suffering in Tanzania. In addition, Mbeya comprises consumers from different parts of Tanzania and it has the advantage of being close to two national borders, Malawi and Zambia which offers routes for importing medicines. The researcher found this city to be the best area to target as it helped the researcher to get answers to the research questions as well as meeting the research objectives.

Figure 3: Map of Study Area- Mbeya Region in Tanzania



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Source: Google search

## **4.8 Data Collection**

In this study qualitative data suitable for exploratory research was collected in order to understand how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania. Qualitative data are associated with the interpretivist philosophy because researchers need to make sense of the subjective and socially constructed meanings expressed by those who take part in research about the phenomenon being studied (Saunders *et al.*, 2012). Qualitative research looks for relevant answers to questions by examining the different social background of individuals (Ghauri *et al.*, 2005). Qualitative data are characterised by their richness and fullness, based on the researcher's opportunity to explore a subject in a real manner as possible (Saunders *et al.*, 2012). Qualitative data was obtained through in-depth interview.

### **4.8.1 In-depth Interview**

In-depth interviews are qualitative interviews that use open-ended questions and permit the researcher to discover the respondent's thoughts and perspectives on a subject (Kvale, 1996). According to Saunders *et al.* (2009) in-depth interviews are used to tap the knowledge and experience of those with information relevant to the problem or opportunity at hand. Collis and Hussey (2003) suggested that in-depth interviews are appropriate when it is necessary to

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understand the construct that the interviewee sees as a basis for his or her opinions and beliefs about a particular matter. In-depth interview is also appropriate if the aim of the interview is to develop an understanding of the respondent's world so that the researcher might influence it either independently or collaboratively (Collis and Hussey, 2003). In-depth interviews are optimal for collecting data on individuals' personal histories, perspectives and experiences, particularly when sensitive topics are being explored (Dey, 1993). The notion of open-ended questions and conversational inquiry, so typical in qualitative research, is founded on the principle that it allows research participants to talk about a topic in their own words, free of constraints imposed by the kind of fixed response questions typically seen in quantitative studies (Namey *et al.*, 2012).

Use of in-depth interview in this study helped the researcher to get an in-depth understanding on how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania. This method of data collection was appropriate in this study as the researcher believed that interviewing individual participants on the studied phenomena would help in collecting rich information which would be full of the individual's subjective perception and experiences on the malaria medication decision making process. An interview guide was prepared based on themes identified from the literature which the researcher believed would enable useful information to be obtained from the participants. Interviewees were informed about the aim of the interview session. The researcher obtained

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consent from the interviewees to participate in the study. Interviewees were given the consent form approved by the HUBS research ethics committee to sign before the interview session took place. The interview session was carried out in a quiet location free from disturbances to enable the session not be interrupted. The interview sessions were audio taped and notes were taken simultaneously.

During the interview session the researcher used inductive probing which allows the researcher to clarify expressions or meaning and further permits participants to tell their story. The researcher discouraged yes/no answers by asking probing questions which encouraged interviewees to provide more details on the identified themes. Participants were given enough time to express their experiences and views on malaria disease and medication. Interviews took between thirty minutes to and one and a half hours. In order to obtain the relevant information from the respondents, the researcher was open-minded, flexible and responsive, patient, observant and a good listener. This method of data collection was useful in this study as the rich information obtained helped to answer the research questions and meet the objectives.

#### **4.9 Trustworthiness of the Study**

According to Lincoln and Guba (1985) as cited by Shenton (2004), qualitative studies are evaluated in terms of trustworthiness. They outlined four criteria that determine the

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trustworthiness of the qualitative findings, which are credibility (in preference to internal validity), transferability (in preference to external validity/ generalisability), dependability (in preference to reliability) and confirmability (in preference to objectivity).

#### **4.9.1 Credibility**

Credibility refers to what extent the collected data reflects the reality (Lincoln and Guba, 1985 as cited by Chong and Yeo, 2015). Credibility is all about the confidence in the truth of the findings (Cohen and Crabtree, 2006). Credibility was enhanced by prolonged engagement, which means spending time in the field to learn or understand the culture, social setting or phenomenon of interest. This involves spending adequate time observing various aspects of the setting, speaking with a range of people and developing relationships and rapport with members of the culture. To ensure the credibility of the findings, the researcher used sufficient time in the field to understand the studied phenomenon through speaking with different Tanzanians reflecting all the demographic characteristics studied. The researcher learned in detail about the nature of the malaria disease and its impact on livelihood, together with the decision making process on malaria medication.

#### **4.9.2 Transferability**

Transferability refers to the degree to which the results of the qualitative research can be transferred to other context with other respondents (Bitsch, 2005 as cited by Anney 2014).

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Transferability is a decision made by the reader as to whether it is appropriate to transfer a study's conclusions to another setting, based on the degree of similarity between the research setting and the one where transfer is contemplated. Lincoln and Guba (1985) suggested that it is the responsibility of the investigator to ensure that sufficient contextual information about the fieldwork site is provided to enable the reader to make such a transfer (Cohen and Crabtree, 2006). According to Bitsch (2005), the researcher facilitates the transferability judgement by a potential user through thick description and purposive sampling.

To enhance the transferability of the findings from this study, the whole research process was detailed in the methodology chapter. Also, purposive sampling was used to obtain knowledgeable participants who enabled the researcher to get rich information which answered the research questions. The obtained findings based on the experiences of the participants are presented, analysed and discussed in a detail; also the conclusions are explained in detail.

### **4.9.3 Dependability**

Dependability refers to the stability of findings over time (Bitsch, 2005 as cited by Anney, 2014). Dependability involves participants evaluating the findings and the interpretation and recommendations of the study to make sure that they are all supported by the data received from the informants of the study (Bitsch, 2005). Shenton (2004) suggested that, in order to

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address the dependability issue more directly, the process within the study should be reported, thereby enabling a future researcher to repeat the work, if not necessarily gain the same results. To enhance the dependability of the findings, the researcher adopted the code-recode strategy. According to Cohen *et al.* (2011) as cited by Anney (2014), the code-recode strategy involves the researcher coding the same data twice, giving one or two weeks gestation period between each coding. The results from the two codings are compared to see if the results are the same or different. If the coding results are in agreement it enhances the dependability of the qualitative research. The information obtained from the field in-depth interview (recorded and notes taken) were coded twice by the researcher to see if the identified codes were the same. This helped the researcher to gain ideas and insights from the participants and to present the participants' narrations in accordance with a clear and consistent set of interpretations.

#### **4.9.4 Confirmability**

Confirmability is concerned with establishing that data and interpretations of the findings are not figments of the inquirer's imagination, but are clearly derived from the data (Tobin and Begley, 2004 as cited by Anney, 2014). Miles and Huberman (1994) argued that a key criterion for confirmation is the extent to which the researcher admits his or her own predisposition. According to Cohen and Crabtree (2006), confirmability is a degree of



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neutrality or extent to which the findings of a study are shaped by the respondents and not researcher bias, motivation, or interest. The confirmability of this study was enhanced through an audit trail and reflexivity. An audit trail is a transparent description of the research steps taken from the start of the research project to the development and reporting of findings (Cohen and Crabtree, 2006). Reflexivity is an attitude of attending systematically to the context of knowledge construction, especially to the effect of the researcher at every step of the research process (Cohen and Crabtree, 2006). According to Krefting (1991) as cited by Anney (2014), reflexivity is the assessment of the influence of the investigator's own background, perceptions and interests on the qualitative research process, which includes the researcher's personal history. To ensure the confirmability of the research findings, the procedures used in conducting this study were carefully detailed; meaning the selection of the adopted methodology and reasons governing such selection were explained in detail to enable the reader to understand how the research was carried out. Also in social interaction between the researcher and the participants, consideration was given to the role of the researcher in the sense that bias in the data collection was avoided.

#### **4.10 Data Analysis**

Qualitative research is similar in many ways to martial arts. Approaches to qualitative data collection and analysis are countless, representing a diverse range of epistemological,

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theoretical, and disciplinary perspectives (Namey *et al.*, 2012). This is to say, the research philosophies, approaches and data collection techniques chosen by the researcher determine the qualitative data analysis. They added that the theoretical or philosophical foundation provides a framework for inquiry, but it is the data collection and analysis processes and the outcome of those processes that are paramount (Namey *et al.*, 2012). According to Saunders *et al.* (2009) in qualitative research data analysis should be considered at the time of formulating a proposal. The process of analysing data is likely to begin at the same time as the researcher collects the data, as well as continue afterwards (Kvale, 1996). Dey (1993) defined data analysis as the process of resolving data into its constituent components, to reveal its characteristic elements of structure. Data analysis is more than describing, it deals with presenting, explaining and providing an understanding and perhaps even predicting (Dey, 1993).

The thematic data analysis technique was used to analyse the collected data. Braun and Clarke (2006) defined thematic analysis as a qualitative analytic method for identifying, analysing and reporting patterns (themes) within data. It minimally organizes and describes the data set in rich detail. However, frequently it goes further than this, and interprets various aspects of the research topic. According to Namey *et al.* (2012), thematic analyses, as in grounded theory and development of cultural models, requires more involvement and interpretation from the researcher. Thematic analyses move beyond counting explicit words

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or phrases and focus on identifying and describing both implicit and explicit ideas within the data, that is, themes. Although, the procedures of analysing data by using the thematic analysis has been said to miss the reliability component in the study, nevertheless thematic analysis is useful in capturing the complexities of meaning within a textual data set. It is also the commonly used method of analysis in qualitative research (Namey *et al.*, 2012).

In analysing the obtained information, the researcher adopted the Braun and Clarke's guide to thematic analysis. The components or steps of the process are; becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report (Braun and Clarke, 2006). A theme captures something important about the data in relation to the research question and represents some level of patterned response or meaning within the data set (Braun and Clarke, 2006).

Firstly, the researcher gained familiarity with the collected data by re-reading the field notes and listening the audio in an active way; the recorded interviews were transcribed into the written form. Secondly, the researcher generated initial codes by grouping the data in meaningful groups. Thirdly, the researcher searched for themes, the researcher sorted different codes into potential themes by considering how different codes could be combined to form overarching themes. Fourthly, the researcher reviewed the themes by identifying if there were enough data to support each identified theme. Also some themes were broken into

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sub-themes where it was necessary to do so. Fifth, the researcher defined and named the themes that were used to present and analysed the collected data. This was done by identifying the essence of what each theme was about and determining what aspect of the data each theme captured. In each theme the analysis was made in detail to provide the meaning. Also the relationship between the research questions and the identified themes was taken into consideration to see if the research questions were answered through the responses in each theme. Lastly, the report was drafted that detailed the findings by synthesizing and summarizing.

#### **4.11 Ethical Issues in Research**

Ethical decisions are the results of weighing up a myriad of factors in the specific complex social and political situation in which we conduct research (Somekh and Lewin, 2005). Oliver (2004) recommended that a researcher, while conducting a study, must bear in mind that he/she is required to keep in mind a sense of self-respect and value for respondents, since researchers sometimes have a tendency of overlooking the humanity of their research respondents, which in turn might cloud the ethical implications.

The research proposal of this study was submitted to the HUBS Research and Ethical Committee, which not only judged whether the research was sensitive to human subjects but also if the methodology was appropriate for the research in question. In this study the

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researcher abided by research ethics in the whole process of conducting this study. The participants were informed about the purpose of the study and given the written consent form approved by HUBS Research Ethics and Committee to sign before beginning the interview session. Also the participants were asked if they would be comfortable with audiotaping of the interview session, and the decision of each participant were respected. The researcher offered respect and protection to research participants through assurances of confidentiality of the information shared and anonymity by not revealing the identity of the individuals, pharmaceutical shops or other health stakeholders who were involved in the study. Participants were not paid in this study.

#### **4.12 Conclusion**

This chapter presents the research design and methodology used in this study. The study was intended to get an in-depth understanding on how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania. Due to the nature of the study, an exploratory research design was adopted which helped the researcher to discover ideas and insights about factors influencing consumers while making decisions on malaria medication. In order to understand the individual behaviours and their influences on seeking malaria medication, qualitative research was adopted. Through the adoption of an inductive research approach, the researcher was able to get an in-depth understanding of the

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impact of risk and involvement in the decision making process on malaria medication which leads to theory generalization, which will help the beneficiaries of this study to understand the phenomenon underlying the decision making process on malaria medication as far as risk is concerned.

Also, the philosophical approaches underlying the study were discussed. For the purpose of this study, the interpretivist research paradigm was adopted. As interpretivists believe that there is no single definition of reality, the researcher had to study individuals' perspectives on malaria medication. In this case the ontological position and epistemological position were taken into consideration. In order to understand the subjective meanings of participants in relation to their experiences on malaria medication, a phenomenological research strategy was employed in this study. In addition, the population of the study, sample size, sampling techniques, data collection, and trustworthiness of the study, data analysis and the ethical issues of the research are elaborated in this chapter.

The next chapter will analyse and present and the findings from the field. The findings will be presented based on the themes that emerged during the data collection.

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## **CHAPTER FIVE**

### **DATA ANALYSIS AND PRESENTATION**

#### **5.1 Introduction**

The aim of this study was to examine how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania. The objectives of this study were to understand the Tanzanian consumers' motivations for purchasing anti-malarial remedies; to explore if or how Country of Origin has an impact on consumers' evaluation of anti-malarial remedies in Tanzania; to investigate the ethnocentric tendencies of Tanzanian consumers when purchasing domestic anti-malarial remedies; to examine if demographic characteristics affect the level of xenocentric tendencies in Tanzanian consumers; and to identify the dimensions of product involvement and perceived risk and their influences in consumers' decision making process. This chapter presents the findings from the field based on the themes that emerged from each research question.

#### **5.2 Malaria and the Problems People in Tanzania Face**

Malaria is the most killing disease among Tanzanian communities; the proper medication is important in order to reduce the mortality rate. In this study, the knowledge of the malaria

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disease among Tanzanian communities and the factors hindering the proper medication of this disease were examined.

### **5.2.1 Tanzanian Community Knowledge about Malaria**

Malaria is an infectious disease that is caused by a parasite called Plasmodium. Patients get malaria from a bite of a type of female mosquito called Anopheles that carries the Plasmodium parasite to the liver then infects the patient's blood cells. In this study, Tanzanian consumers' knowledge concerning malaria was examined. It was found that most of the Tanzanian community had a good understanding of malaria causes, symptoms, treatment and preventive measures. However, the decision on how to get the malaria treatment was up to the individual consumer. Tanzanian consumers were shown to be capable of distinguishing malaria from other types of fever on the basis of signs and symptoms, which are high fever, headache, vomiting and flu-like symptoms.

*“Headache, lack of energy and loss of appetite and high temperature, to me, are the signs of malaria” (Erick)*

*“I perceive having malaria when the muscles ache, I get tiredness, and headache; sometimes I fail even to drive my car” (Alex).*

*“When one of my family is found with symptoms such as diarrhoea, vomiting, flu, fever and tummy ache we believe that the particular person has the malaria parasite” (Jesca).*

There is no doubt that Tanzanian consumers know the malaria symptoms. Their knowledge was compared with a description by the clinical officer.



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*“The common symptoms of patient with malaria are; fever, loss of appetite, headache, muscle aches, vomiting and diarrhoea (especially in children) and tiredness” (Paul).*

The response from the clinical officer above revealed that Tanzanian consumers have knowledge concerning malaria symptoms since their responses were the same. However, he emphasized that consumers who experience the mentioned malaria symptoms should visit the health centre for a malaria test.

*“If a patient is suffering from malaria-like symptoms, he must immediately get the malaria test done to confirm the infection” (Paul).*

Visiting the health centre for a malaria test is vital for all consumers who have malaria symptoms, as this will help them to identify the infection a patient has and provide the right medication at the right time. Despite the documentation of numerous health compromising factors, some studies have emphasized the value of adequate knowledge of malaria in order to ensure that people apply preventive measures, and seek prompt and appropriate treatment for themselves and their dependants (Hlongwana *et al.*, 2011; Tyagi *et al.*, 2005).

### **5.2.2 Prompt Malaria Diagnosis and Medication**

Prompt malaria treatment is done through malaria diagnosis and testing. The malaria parasites are not easily seen by the human eye; only special equipment can easily identify the malaria parasites. In this study it was found that there is a need for consumers to seek a malaria test since this process is more technical and it needs qualified people and equipment to diagnose the disease. Malaria tests are done to diagnose whether the individual is suffering

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for malaria and to determine the type of malaria parasite.

*“There are various diagnostic tests which can be done, but the most important one is a blood smear test. Thick and thin blood smears are prepared from the peripheral blood and are observed under microscope to check for malaria parasite. This test is known as a peripheral smear examination which provides information on the species, stage and the density of the parasites. This test is the most reliable one” (Paul).*

Malaria is a medical emergency and needs to be treated as soon as possible. It can be seen that it is not possible for an individual to conclude if he/she is suffering from malaria just based on the malaria symptoms. This shows that consumers need to visit the health centre for diagnosis in order to know their health status and get treated.

*“Your doctor will ask you about your symptoms and examine you. If your doctor suspects that you have malaria he/she may do a blood test. This is to find out what type of parasite you have been infected with and how much there is in your blood .If your blood test is negative, you will still need to have two further blood tests over one to three days. This is because the levels of parasite in your blood can vary. For example, if you have taken anti-malarial medicines, the level of parasite may be too low to detect” (Paul).*

Knowing the malaria symptoms is not a guarantee for an individual to be assured that he/she is suffering from malaria. This is because a person having malaria-like symptoms may not necessarily have malaria parasite, unless the blood test proves that. As noted by Kassianos (2001) malaria is sometimes misdiagnosed as influenza because of the symptoms of fever, headache and generalized aches and pains. Pyrexia is common, and some patients complain of nausea and vomiting, diarrhoea and abnormal cramps. Therefore, visiting the health centre for a malaria test is very important. Also Bell (1999) supported the findings above by saying that, “early diagnosis and treatment is lifesaving”.

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Moreover, while malaria can be treated with medicines, it is important that a patient start treatment as soon as possible.

*“A patient’s treatment will depend on a number of things including what type of malaria you have. Also the length of time that a patient’s treatment takes will vary depending on how severe the patient’s infection is” (Israel).*

There are a number of things to consider when treating malaria, such as the type of malaria and the patient’s infection. Treatment is possible for participants who are visiting the health centres early after detecting the malaria symptoms. According to Skeet (2005), malaria is treated with anti-malarial drugs and measures to control symptoms, including medications to control fever, anti-seizure medication when needed, fluids and electrolytes. The types of medication that are used to treat malaria depend on the severity of the disease and the likelihood of chloroquine resistance.

### **5.3 Decision Choice**

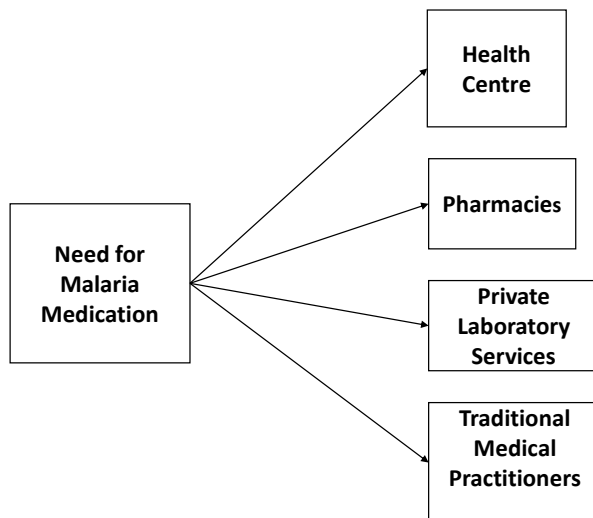
The decision making process on malaria medication was found to be associated with a numbers of uncertainties. Therefore, each consumer made the decision on where and how to get the malaria medication based on his/her chosen criteria. Health centres, pharmacies, traditional medical practitioners (TMPs) and private laboratory services were the sources found to be most used by Tanzanian consumers when seeking malaria treatment. In this study, the decisions made by Tanzanians while seeking for malaria treatment formed choices of advice seeking on malaria treatment, which will be discussed in the next section.

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### 5.3.1 Choices of Advice Seeking on Malaria Medication

Tanzanian consumers were shown to differ in advice seeking on malaria medication. The reasons governing the consumers' decision making processes while seeking for malaria medication were examined in this study. As mentioned in the above section, health centres, pharmacists, private laboratory services and traditional medical practitioners were utilized by Tanzanian consumers for malaria medication.

**Figure 4: Choices of Advice seeking on Malaria Medication**



#### 5.3.1.1 Health Centres

Health centres were utilized by the most of Tanzanian consumers for malaria medication.

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Consumers who visited the health centres were tested for malaria parasite and clinical officers prescribed the right medication for their illness.

*“When I feel I have malaria symptoms I usually visit the health centre to see the doctor for diagnosis, and when they find that I have malaria parasite the doctor prescribes anti-malarial drugs to use, then I go to the pharmacy to purchase the anti-malarial drugs” (Erick).*

*“In my family we used to suffer for malaria more than four times per year. So when we found malaria symptoms we go to the hospital for a check-up, and when we were found to have malaria parasites we go to the pharmacy to purchase the anti-malarial remedies” (Tumpe).*

It is evident that Tanzanian consumers know the procedure to be used when seeking malaria medication. Visiting the health centre for malaria diagnosis is vital because it helps a patient to be sure about his/her health status. Also it was found that malaria disease for most Tanzanians is a common disease since people suffer from it often; but despite its commonness, still some people were shown not to take it for granted; instead, they took appropriate measure for malaria treatment.

Surprisingly, it was found that even a family with relatives working as nurses in the district hospitals did not apply self-medication for malaria treatment; instead they went to see a physician for malaria diagnosis.

*“I am allergic to sulphur so when I have malaria symptoms I go to the health centre for diagnosis when a physician detects that I have malaria parasite, I ask the doctor’s advice about on anti-malarial remedy that shouldn’t contain an element of sulphur. After getting the advice from the doctor I go to the pharmacy to purchase the recommended anti-malaria remedies. Also when one of my family members has malaria symptoms we send him/her to the health centre for proper diagnosis since we cannot diagnose ourselves. My wife is a nurse serving in one of the government hospitals, but she always insist we see the physician for diagnosis when we find malaria symptoms” (Ben).*

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The findings above show that consumers know the role of health workers and their responsibilities in malaria treatment. These consumers are seen to value their health by utilizing the qualified personnel in treating their bodies. By doing so their health will be strong and they will be able to participate in their daily activities, since they are physically fit.

However; although Tanzanian consumers value the utilization of the health centres, it was found that there are number of challenges that hindered Tanzanians consumers from getting prompt malaria medication. The identified challenges were; cost of treatment, lack of malaria diagnostic tools, insufficient health care providers, drug shortage, malaria misdiagnosis and access to health centres.

### **Cost of Malaria Treatment**

Cost of treatment as a barrier to accessing malaria treatment was found among most of the rural consumers. High costs prevented most consumers with a low level of income from seeking effective malaria treatment, despite knowing that malaria should be treated immediately after recognizing its symptoms with anti-malarial drugs.

*“There are costs charged in the hospital such as doctor consultation fees, laboratory test fees, then after getting results from the doctor if you have malaria you need to buy the medicine. If you don't have such money you stay at home or you buy a Panadol (pain killer)” (Jesca).*

This shows that most consumers know the importance of visiting the health centres for malaria testing and treatment, but lack of money hinders them from getting such treatment in

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time.

*“Sometimes parents do not have money to take their children to the hospital. So to rescue the situation they give their sick children traditional medicine which they believe they will cure their children’s illness” (Atu).*

Lack of money to seek for malaria treatment in the formal health centres has attracted some consumers to look for alternatives ways of curing malaria such as the use of traditional medicine, which they found helpful, this option and the factors leading to its selection are discussed in more detail later.

### **Lack of Malaria Diagnostic Tools**

Lack of malaria diagnostic tools in the formal health facilities was a problem for most of the rural consumers. Consumers in rural areas complained about being diagnosed based on clinical symptoms.

*“In our health centre there is no electricity so even the malaria test is not done, so when you visit the health centre the doctor uses your symptoms to diagnose your illness then prescribes the medicine” (Peter).*

Lack of diagnostic tools in the health facilities in rural areas was found to discourage most consumers from visiting the health centres for malaria diagnosis and testing; as a result, they found it is better to visit the nearby pharmacy to purchase anti-malaria drugs when they experienced malaria symptoms. This encourages self-medication, which is very dangerous to their health.

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## **Insufficient Number of Health Care Providers**

The limited number of health providers in the health facilities was found to be a barrier to consumers in seeking malaria treatment. The small number of health workers compared to the population made the few available health workers work under stress and provide poor health services.

*“In our village we have only one medical doctor, and two nurses and the centre is serving more than three villages. Therefore, every day you may find a long queue which makes most patients take almost the whole day in seeking for malaria treatment” (Isack).*

*“Nurses in the health facilities do not care about the patients’ problems. It is like they do not have a human heart or blood. Their customer care is so poor” (Furaha).*

Shortage of health workers in health facilities gave customers the impression that the available health workers are not committed to their work. But in a real sense the poor ratio between population and the health care providers limits the provision of good health services to a large number of patients. As a result, most patients became unwilling to visit the health centres. This shows the need for health stakeholders through the Ministry of Health and Social Welfare to find the means to increase the number of health care providers in the rural areas to solve this problem.

## **Drug shortage**

Most consumers in both urban and rural area reported being discouraged by the shortage of anti-malarial drugs in most of the public health facilities.



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*“When you visit the health facility, first you queue and pay for registration, then you have to go to the laboratory where again they tell you to pay for the test, then you need to go to the pharmacy and you are told that there are no drugs. Then we decided another time to go to the pharmacy directly without being diagnosed as the drug sellers know the malaria medication” (Peter).*

*“Previously we visited the health centre but we found we were wasting money and time too as you may visit the hospital and be diagnosed but you cannot be given the medicine since they used to tell us that the medicines are out of stock or you can be given a pain killer while you have high fever. Then we decided to utilize the available pharmacies where we found the pharmacist very helpful to us, and forgo hospital where we use a lot of money for transport but we are not treated as we expected”. (Furaha).*

Also the clinical officer acknowledged the shortage of drugs in the health centre due to delays by the Medical Supply Department (MSD) in supplying the requested drugs. This made them give patients pain killers instead of the specific medication for a particular disease. This influenced consumers to use medicine from the pharmacy without a malaria test, because they found visiting the health centres a waste of time.

*“There is a shortage of drugs in our facility; we don't receive the requested orders on time. This discourages a number of patients from visiting our health facilities” (Paul).*

Persistent shortage of anti-malarial drugs in public health facilities discouraged most consumers from visiting the health centres for malaria diagnosis. A number of participants thought that the government should ensure the availability of the drugs in the public health facilities in order to help their citizens to get the right treatment on time. Consumers with low income are not able to visit the private health facilities because their charges are somewhat higher compared to the public health facilities services.

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## **Malaria Misdiagnosis**

Malaria misdiagnosis, like other factors in this study, was shown to hinder consumers from seeking prompt malaria treatment.

*“There was a time I visited the health facility with malaria symptoms for a malaria test, and the results came out that I didn’t have malaria parasite. Then I had to go to a private laboratory for another test. The results came out that I had a malaria parasite. Since then, when I have malaria symptoms I usually go direct to the private laboratory for a malaria test” (Amy).*

Most of the laboratory equipment in most health centres is not well serviced and equipped.

This led sometimes to incorrect results being given, which discourages consumers from utilizing the centres.

## **Access to Health Centres**

Health care in Tanzania is available depending on one’s income and accessibility. People in urban areas have better access to private and public medical facilities. In the rural areas, health services are often not accessible to many consumers because of long distance, inadequate and unaffordable transport and poor quality of care.

*“It is a long way from the health centre to our village. When we visit the health centre we find a long queue and poor health services because of the shortage of medical staff. Therefore the option is to buy the medicine for malaria from the drug sellers; and if the drugs don’t help us we decide to go to the health centre again for help” (Jesca).*

*“The hospital is far from our village; therefore, we simply buy the medicine from the drug sellers in our village. But if the situation gets worse we visit the health centre for more support” (Isack).*

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*“A few patients come for malaria diagnosis and testing when they are seriously sick, while some individuals buy the anti-malarial drugs from the pharmacy” (Paul).*

It can be revealed that consumers in the rural area have limited access to the health services. Distance from their residence to the health centre discourages them from seeking malaria medication from the hospital and they opt to buy the malaria medication without being diagnosed, which is very risky to their health. This shows that health services in the rural areas are not given enough attention; this could cause difficulty in controlling the mortality rate caused by malaria, because without prompt diagnosis and treatment for malaria patients it is difficult for patients to be cured of malaria.

This requires the Tanzanian Government to increase efforts to provide health care in the rural areas in order to enable rural residents to access the health centres in the easiest way and hence reduce the mortality rates in these areas. According to WHO (2011), lack of access to health workers in rural and remote areas often leads to relatively high mortality rates in such areas. It also leads to rural residents seeking care at urban facilities and thus to overcrowding and increased cost at urban hospitals.

### **5.3.1.2 Pharmacies**

Seeking advice from pharmacists on malaria treatment was found to be the most common treatment seeking advice for most of Tanzanian consumers. The geographical location of the health centres, drug shortage (*refer to Peter's and Furaha's responses on page 147*) in the

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public health facilities, and time used by consumers while waiting for malaria treatment were found to influence some consumers to visit the pharmacies directly when they found malaria symptoms.

*“I am living 5km far away from the health centre, and the transportation is a big problem in our village. So when I find one of my family members has malaria symptoms we visit the nearby small pharmacy in our village to ask for the drugs for malaria” (Jesca).*

The findings above show that the geographical location of the health centres, especially for consumers living in the rural areas, forced them to visit pharmacists for treatment for malaria since they could not manage go to the health centre, due to high transportation cost. The advice they received from the pharmacist was highly valued by those consumers living in particular areas since they did not have an alternative for their treatment needs.

Also some consumers were found to visit the pharmacy to purchase the anti-malarial remedies without being diagnosed, due to the time factor;

*“I am a taxi driver, so every a single minute is valuable. If I leave my car and go to the hospital to see the physician I will definitely lose my customers. If I have malaria symptoms, I know I need to buy malaria medicines. So why pay for transportation to and from the hospital, pay for consultation with the doctor, pay for laboratory services and then pay to buy the drugs? In this case I don't see the need of going to the hospital because I will be wasting my time. So I usually go straight to the pharmacy and ask for Metakelfin malaria medicine from Kenya. After taking it I go on with my work” (Alex).*

*“I am well familiar with the malaria symptoms, so when I find I have malaria symptoms I usually visit the pharmacy to purchase the Orodar anti-malarial remedy from Kenya. I find I lost a lot of time visiting the hospital for malaria check-up, because you may find a long queue waiting to see the doctor. After seeing doctor then you need to queue for malaria check up at the laboratory. It will take sometimes more than 3-6 hours just for malaria treatment. So to avoid this I decided to go to the pharmacy and purchase the said anti-malarial remedy.” (Amy).*

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It was found that some consumers thought it a waste of time to visit the health centre for malaria check-up, so when they found malaria symptoms they just visited the pharmacy to purchase anti-malarial remedies. However, the wastage of time was found to be caused by the insufficient number of professional doctors and pharmacists together with the procedures for malaria treatment. To a large extent these were shown to discourage many consumers from visiting the health centres, and so they sought advice from pharmacists.

However, despite the usefulness of pharmacists in providing health services to a large number of Tanzanians who cannot visit the health centres, it was found that some pharmacists are not knowledgeable enough to provide the right malaria medication, which causes some problems to the patients.

*I bought the ALU anti-malarial remedy for my daughter who is three years old, I went back home and administered the medicine to her. After three hour she started crying, her body temperature was raised up and she was covered with a rash all over her body. I took her to the hospital with the medicine, then the doctor after looking at the medicine noticed that the given anti-malarial remedy had expired. He injected her and I was given another medicine (Frank).*

Administering expired medicines is commonly practised in most pharmacies. Moreover, most Tanzanians do not look at the expiring dates on the medicines they are given by the pharmacists. This shows that Tanzanian consumers need to be advised on the importance of checking the expiry dates on the purchased medication before using it. Also pharmacists have to be well trained to avoid administering expired anti-malarial remedies and other medication to patients, since it might cause other serious problems for patients.

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*“Some people who own the pharmacy are employing sales persons with little knowledge concerning the medication; they are looking for cheap labour instead of looking for qualified persons. Those sales persons with little knowledge concerning the different medication are polluting our field. Hence some people speak negative word of mouth about the dug shops” (Emmanuel).*

It was found that regardless of the trust that consumers had in the pharmacists due to their availability and accessibility to most of consumers, some pharmacy owners employed drug sellers with no product knowledge. This resulted in administration of incorrect medication that harmed patients' health. Some consumers opted to use traditional medicine due to bad experiences with using the modern anti-malarial remedies, caused by misdirection by the pharmacists. Since drug stores/pharmacies are most trusted and helpful to a large number of consumers the pharmacy owners should hire qualified sales persons who will offer services effectively and ethically without harming the patients. In this way, more Tanzanian consumers would get the right treatment for malaria and so the mortality rates would be reduced.

### **5.3.1.3 Private Laboratory Technicians**

Private laboratory technicians, especially in the urban area, provide check-ups for various diseases without prescribing or selling the medicines for a particular disease. This has attracted most Tanzanian consumers to value them because they found they are not trying to sell their medicines; instead they are helping a patient to know his or her health status. In this study it was found that some consumers, when found with malaria symptoms, visited private

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laboratory technicians for malaria check-ups and when they were found with malaria parasites, some consumers went direct to the pharmacy to purchase the anti-malarial remedies, other consumers went to the health centre for consultations with their doctors while other consumers visited traditional medical practitioners for traditional medicines. The major reasons for visiting the private laboratory services were malaria misdiagnosis in the public health facilities and saving time.

*“When I feel malaria symptoms I visit the nearby laboratory service for malarial check-up. When the physician proves that I have malaria I visit the pharmacy to ask for orodar anti-malarial remedy from Kenya” (Amy).*

Some consumers, after recognizing that they had malaria symptoms, visited the health centres for a malaria check-up and the results from the laboratory showed that they had no malaria parasites. The persistence of bodily weakness, however, made them visit a private laboratory for further malaria check-up and they were found to have malaria parasites. After getting the results, they purchased anti-malarial remedies from the pharmacy and they recovered from their illness. Most of the public health facilities lack up to date laboratory equipment. As a result, the available laboratory equipment is yielding unreliable results, which discourages patients from using the public health facilities.

The other main factor in using laboratory services was time saving:

*“Because of the long queue in the hospital, when I find malaria symptoms I visit the private laboratory technicians for malaria check-up. If the result proves that I have malaria I visit the pharmacy to purchase Metakelfin malaria drugs from Kenya” (Bariki).*

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Long queues in both private and public health centres due to the insufficient number of health professional workers deter some consumers from utilizing health care facilities for malaria testing. As consumers know the importance of testing for malaria parasites before purchasing the malaria medication, they decide to visit private laboratory technicians for a malaria test then if they are found to have malaria parasites, they purchase the anti-malarial remedies from the pharmacies.

Malaria misdiagnosis, together with waiting time in the health centres, has encouraged most Tanzanians to utilize private laboratory services for malaria check-ups. It can be seen that some consumers are familiar with brands of anti-malarials but they find it is vital to know their malaria status before purchasing anti-malarial remedies.

In addition, some consumers who valued traditional medicines also recognized the importance of a malaria test before visiting the traditional medical practitioners for malaria medication.

*“For more than two years now I have been using the traditional medicines for various diseases including malaria. Therefore, when I have the malaria symptoms I visit the private laboratory services for a malaria check-up, and when I’m found with malaria parasite I visit the traditional medical practitioners for malaria medication”.* (John).

Some consumers faced some problems when using some brands of anti-malarial remedies, and decided to look for an alternative, whereby they found traditional medicines suited them.

Knowing the importance of malaria testing, they visited the private laboratory services, but



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after getting the results they went to traditional medical practitioners for malaria medication.

This shows that Tanzanian consumers know the importance of doing a malaria test before looking for malaria medicines.

*“I suffer from malaria often, I have been using different brands for malaria but after taking the medicine it takes me two to three months then I start feeling malaria symptoms. Last year my workmate introduced me to his mother in law who supplies traditional medicines. I was interested and I started using it. But before going for traditional medicines for malaria treatment I visit the private laboratory technicians for malaria test. After getting the results is when I ask for traditional medicine for malaria treatment.”* (Neema).

From the findings above it can be revealed that most consumers know the importance of testing for malaria parasites before seeking malaria medicines. Despite being discouraged by the performance of modern anti-malarial remedies, they still go for a malaria test, then after getting the results, look for traditional medicines for malaria treatment.

#### **5.3.1.4 Traditional Medical Practitioners (TMPs)**

Traditional medical practitioners in the Tanzanian communities are found to be helpful to a large segment of the population in curing variety of diseases to a large extent. This is because the ratio of TMPs to population outnumbers that of health professional workers. In this study, it was found that TMPs were helpful to most consumers; some consumers visited TMPs for traditional medicines after being diagnosed, others went directly to the TMPs after recognizing the malaria symptoms. Most consumers who had used and were still using the traditional medicines were influenced by discouragement with the poor performance of the

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modern anti-malarial remedies.

*“I lost my four children within one year because of malaria disease. They were administered with medicines from the hospital but it didn’t work. I was so sad since they were grown up and they were able to generate income through businesses they used to perform. From that period I started to learn how a traditional medicine can cure malaria. My grandparents used to cure different disease through traditional medicine, but I didn’t capitalize on their knowledge. Since then I went back home to seek advice on how I can prepare the traditional medicine, I started to practise and I managed. I have 30 years of experience in treating people suffering from malaria and other diseases. I, my husband, our remaining 3 children and our grandchildren, no one is using modern anti-malaria remedies. We all know the malaria symptoms so if any of us feel those symptoms they tell me and then I give them the medicines.”* (Tula).

Traditional medicines were found to be a solution to consumers who were discouraged by the poor performance of the modern anti-malarial remedies. The findings above show that some consumers decided to use traditional anti-malarial remedies due to bad experiences after using modern anti-malarial remedies. Those experiences caused them to build negative attitudes towards the modern anti-malarial remedies, and hence trust the traditional anti-malarial remedies.

*“It has been a long time since I suffered from malaria. Previously it was a normal issue for me to suffer from it. But three years back I was informed about the traditional medicine that is used to cure malaria. Then I visited the traditional medical practitioner who helped me with the traditional medicines and I was cured of malaria. Since then, when one of my family members has malaria symptoms we visit the traditional medical practitioner and for sure his treatment is so fantastic since once you are given a dose it will take you more than a year to suffer again from malaria”* (Atu).

*I use traditional medicines for malaria and typhoid treatment, I was suffering from malaria and typhoid often and I was given tablets which made me feel tired every time I took them. I met with my friend in the college who introduced me to a man from the Seventh Day Adventists (SDA) who prepares traditional medicines and he helped me with the traditional medicines. The medicines are good since I am not getting any trouble that I used to experience when I was using the modern medicines* (John).

Resistance of malaria parasites was common among Tanzanian consumers. Suffering from malaria every two to three months is normal to Tanzanian consumers. Taking anti-malarial

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remedies often made some consumers tired from using the medication; as a result, those who came across traditional medicines were found to be happy with this alternative way of curing malaria. Also the preparation of traditional medicines was found to be natural with no preservatives added to the medication. This made consumers using the traditional medicines feel sure that the medicines they used were free from chemicals and so they would not come to any harm through using them.

*“I use different plants together with food stuff materials such as garlic, ginger and other materials to prepare the traditional medicines. During the preparation of traditional medicine I clean all materials needed with clean water, then I expose them to the sun until they dry out. Thereafter I process them in traditional ways to get powder, then I decant the processed medicine into read made containers and other plastic bags ready for use. In taking the medicine patients are required to take one teaspoon of the powder and mix it with warm clean water. The solution should be left for 3-5 minutes for it to function well then the patient can drink it. The doses are taken 3 times a day. Patients are advised not to take any alcoholic drinks while taking medicine to function in a proper way. I also advise my patients to have a balanced diet in their meals together with taking enough water, at least 2litres per day. The reason behind that is; the medicines are very strong, so their bodies need to be strong too. The medicine I am preparing is completely free from chemicals since all processes are carried out in traditional ways. My patients enjoy the treatment without facing any side effects after using the medicine offered to them” (Jacob).*

*“While preparing these medicines I use roots, barks, and leaves. Some plants, we used to eat their fruits without knowing that their roots/barks/leaves are used as part of medication. In preparing these medicines I take those plants materials and wash them, then I boil them for a half an hour. When it's ready I leave it so that it can cool down. Then I filter the extract ready for use. In my house I have a small refrigerator which I use to keep the prepared traditional medicine. The medicine I prepare is natural and free from chemicals since I don't add any chemicals for preservation. My patients take it as a juice twice a day, half a glass in the morning and in the evening too. I advise my patients not to take any alcohol during treatment” (Tula).*

The materials used to prepare the traditional medicines are familiar to the users, since they are used as fruits and spices sometimes. Also the preparation of those medications does not involve any chemicals, which attracts more consumers to use them and put more trust in them

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From the findings above, it can be revealed that the traditional medical practitioners (TMPs) gave credence to the efficacy of TMs in the treatment of malaria as one major reason patients utilize them. Also it was reported that TMs have the potency to cure malaria directly from the blood if the patient carefully takes the doses prescribed. The responses from TMPs show that the TM are prepared in traditional ways without adding any chemicals, so consumers are assured that the consumption of the medicine will not affect their bodies compared to modern anti-malaria remedies, which have toxic components that can course some side effects to their health.

The findings above are consistent with Adewunmi and Ojewole (2004) who assert that herbal products are often promoted to the public as being natural and safe. Herbal preparations are produced by subjecting herbal materials to extraction by fractionation, concentration, or other physical or biological processes. These herbal medicines are produced by different plant species involved in preparation. Also one plant species may neutralize the toxic effects of other plant species, whilst allowing the active portion to alleviate fever and that is why herbal medicine is considered as having limited side effects in the process of treatment.

#### **5.4 Self – Medication**

Self- medication involves the use of medicinal products by the consumer to treat self – recognized disorders or symptoms, or the intermittent or continued use of a medication

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prescribed by a physician for chronic or recurrent diseases or symptoms (WHO, 2000). It may include the use of herbs, the retention and re-use of prescription drugs or direct purchase of prescription-only drugs without medical inputs (Awad, *et al.*, 2005). In this study, self-medication was defined as the use of modern anti-malarial remedies and traditional medicines without being diagnosed or getting advice from a health professionals.

Self-medication in treating malaria disease is widely practised by Tanzanian consumers. In this study it was found that most of the participating consumers utilized pharmacies for purchasing the anti-malaria remedies and traditional medicines without seeing health professionals for a malaria check-up and prescription. The identified reasons for self-medication were discussed in the earlier sections; just to mention the few, time factor (*refer to Amy and Alex's responses on page 150*), insufficient numbers of health professional workers (*refer to Isack's and Furaha's responses on page 146*), drug shortage in public health facilities (*refer to Peter and Furaha's responses on page 147*), cost of malaria treatment (*refer to Jesca's and Atu's responses on page 144 and 145*), lack of malaria diagnostic tools in the public health facilities (*refer to Peter's response on page 145*), malaria misdiagnosis (*refer to Amy's responses on page 148*), access to health centres especially to consumers living in the rural areas (*refer to Jesca and Isack's responses on page 148*), poor performance of modern anti-malarial remedies (*refer to Atu and John's responses on page 156*) and convenience as explained hereunder;

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*“I receive many patients who come from health centres complaining that they are frustrated by the health workers right from the reception. They informed me that some nurses don't even show welcoming faces to the patients. Also some doctors do not pay attention to the patients while they explain their health problems. They were totally discouraged, then I served them with my traditional medicines. Since then they are good customers as they found that they are getting good customer care and they are well treated” (Tula).*

Customer care, especially in most public health facilities, was shown to be poor to a large extent. In Tanzania, public health facilities are cheaper in terms of cost of treatment compared to private health facilities. Most patients like to attend to public health facilities, as most Tanzanians are living below the poverty line, so it is more affordable for them. However, the poor customer care they get from the people in charge in those hospitals discourages them from using modern facilities. As a result, they visit the traditional medical practitioners who offer cheap medicine with high customer care.

From the findings above, it can be noticed that the application of self-medication in most cases was triggered by a number of factors as explained above. Consumers were shown to evaluate the pros and cons before choosing malarial treatment. Long waiting periods in hospitals is another factor influencing the consumers to practise self-medication. It was found that due to the increase in population in Tanzania; most of the health centres are flooded with a number of patients from different places. The large number of patients forms a long queue so it takes them a number of hours to get treatment. Some consumers' condition worsened because of the long waiting period. Also it was revealed that consumers living in the rural areas had limited access to the formal health centres compared to the urban consumers. Most

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of the physicians were shown to have limited time to deliver enough information to their patients during their visit to the health centres. Also it was revealed that there is a poor ratio between patients and the health care providers. This forced a large number of patients to be served by a few health care providers, which caused the care to be poor, since the few care providers could not manage to provide adequate services to all patients. On the other hand, poor customer care from the health centres influenced consumers to shift from using modern anti-malarial remedies to traditional medicines. However, other consumers were influenced to use traditional medicines after finding that the modern anti-malarial remedies were not suitable for them, due to poor performance.

Despite the strong reasons pointed out by the Tanzanian consumers for the application of the self-medication, consumers should bear in their mind that self-medication is very risky to their health.

*“Patients should visit the physicians for malaria check-up before taking the anti-malarial remedies to their bodies. Taking the medicine without knowing what the patients is suffering has a great effect on the human body as it may create another problem instead of curing the existing problem” (Israel).*

*“Some patients visit the health facilities when they find self-medication didn't work. Their delays in getting proper malaria treatment affected a number of people and some of them died” (Paul).*

*“Although ACTs are very effective in treating malaria, the continuous application of self-medication without prescription can lead to people taking lower dosage, which can speed up the development of resistance and treatment failure (Paul).*

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Fighting against malaria in Tanzanian communities will not succeed without tackling the problems that hinder Tanzanians consumers from utilizing the formal health facilities for malaria diagnosis and treatment.

### **5.5 Advice Seeking for Malaria Treatment and Demographic Characteristics**

Advice seeking for malaria treatment was found to differ among demographic segments. In this study it was revealed that some consumers valued opinion leaders such as professional doctors and pharmacists, while other consumers made their own decisions. For instance, older consumers, rural consumers and less educated consumers were found to value their opinion leaders. Those who were able to access the health centres utilized them for malaria check-up and they were helped by the doctors who prescribed anti-malarial remedies and other medications for their illness. Consumers who could not access the health centres due to the long distances, especially those living in rural area, were helped by the local pharmacist, who asked them about their symptoms and advised them on the anti-malarial to take when the pharmacist found that the customer's symptoms were consistent with malaria.

On the other hand, some consumers especially younger consumers, educated consumers and urban consumers, were shown to make their own decisions on the anti-malarial remedies to use. Consumers who visited the health centres for malaria check-up after getting the malaria test results confirming that they had malaria, informed the doctors of the anti-malarial



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remedies they preferred then the doctor prescribed them based on the patient's choice. Also some consumers who used private laboratory services for malaria check-up visited the pharmacy directly to purchase anti-malarial remedies based on the results. When purchasing anti-malarial remedies they specified the anti-malarial remedies they needed from the pharmacists.

However, the decision on seeking advice from traditional medical practitioners for traditional medicines was found to cut across demographic categories, since all consumers who were disappointed with modern anti-malarial remedies, regardless of their age, education and location, were shown to develop a positive attitude toward traditional medicines for malaria treatment. This shows that the performance of the traditional medicines made them trust those medications and hence abandon the modern anti-malarial remedies.

Therefore, it can be said that demographic characteristics have an influence in the decision making process on malarial medication. The capacity to decide which anti-malarial to purchase was based on the level of awareness about the function and performance of the particular anti-malarial remedy. Older consumers, rural consumers and less educated consumers valued their opinion leaders because they trusted them and since they had limited knowledge of the different anti-malarial remedies. Most of these consumers were found to utilize the ALU domestic anti-malarial remedies. In contrast, younger consumers, educated

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consumers and urban consumers were found to be exposed to foreign anti-malaria brands; therefore, they had greater choice of anti-malarial remedies to use. As a result they visited the pharmacies with requests for specific anti-malarial remedy to purchase.

## **5.6 The Pharmacists' View about Malaria**

The role of private pharmacies in providing health care services to Tanzanian community is highly appreciated. Most of the pharmacies are located in remote areas where there are no formal health facilities yet. Most patients utilize the available pharmacies for curing their diseases because of their availability and sometimes their providing their services even in the late hours. Also in the urban areas, private pharmacies are found to be helpful to the most of patients as due to the large population, in most of the public health facilities the drugs run out of stock; therefore, doctors just prescribe the medicines and patients use the available pharmacies to purchase the prescribed anti-malarial remedies. In this study three pharmacists were involved; two of them lived in urban areas and one in a rural area. The decision making process used by Tanzanian consumers while seeking for malaria medication was reflected in the responses provided by the pharmacists. For example:

*“In this village the health centre is a bit far from the indigenous, so there are a number of patients who are managing to visit the health centre for malaria diagnosis and they come with the doctor’s prescriptions. But also I receive patients who come to my shop without a doctor’s prescription. I ask them about the symptoms they feel and since I know the symptoms of malaria I give them the required doses for malaria. Patients are given directions on how to take the anti-malaria remedy and they obey”* (Bupe).

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The findings above show that most consumers like to visit the health centre for a malaria check-up before purchasing the anti-malarial remedies; but the distance to the health centre and the transportation cost make them rely on advice from a pharmacist. This shows that it is important for the pharmacy owners to employ salespersons who are well equipped with medical skills in order to help those patients who depend on their services in the right manner

*“My shop is in the city centre, so I receive different patients both with a doctor’s prescription and those without a doctor’s prescription. For those with a doctor’s prescription I administer doses to them based on their preferences or sometimes they seek advice from me. But for patients who come to my shop without a doctor’s prescription, I ask them about the symptoms they feel. For those whom I believe are suffering from malaria through their explanations I administer them a required dose, while for those who I notice might have other diseases other than malaria I advise them to go for a thorough check up in order to identify the patient’s exact disease” (Amba).*

It can be revealed that consumers who live in the urban area have opportunities of visiting the health centres, both private and public. Based on the factors explained in the earlier sections, such as time, and drug shortages in the public health centres, some consumers after recognizing that they had malaria symptoms visited the health centres / private laboratory technicians for a malaria test, while others visited the pharmacies directly to purchase the anti-malarial remedies, just based on their symptoms. The role of pharmacists was shown whereby some consumers were advised to visit the health centres or private laboratory technicians for a malaria test because the pharmacists found providing anti-malarial remedies to patients with contradicting symptoms might result in generation of other problems. This shows that the pharmacists should recognize themselves as potential health stakeholders to

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the Tanzanian community; therefore they need to be careful while providing the services by abiding by ethical issues pertaining to their field; by so doing the mortality rates to Tanzanian consumers due to malaria disease will be reduced.

*“I worked with the Government Hospital for more than 4 years in the medicine department before commencing my own shop. I am well experienced in this duty as for more than 7 years I have worked in the same field. I receive different patients some of them coming with a doctor’s prescription, others coming with the results from the laboratory while some of them come with nothing (neither a doctor’s prescription nor results from the laboratory). For those coming with a doctor’s prescription I know if they have any allergy to sulphur or other problems. So I serve them based on their preferences. On the other hand, for consumers who coming with the results from the laboratory asking for anti-malarial remedies I ask them if they have a specific brand or they need any brand. But for those who visit my shop with no doctor’s prescription I ask them about the symptoms they feel, if I find that based on the patient’s explanations there are signs of malaria I give him/her the required dose. For those whose explanations are contradicting I ask them to go for a further check-up” (Emmanuel).*

The findings above show that the pharmacists are well equipped with knowledge concerning their field and they are trying their best to serve their patients in the right way. Also it was revealed that consumers’ trust in the pharmacist’s increases day after day, the reason being that the advice they get from the pharmacists concerning their illness is helpful to them.

Table 4 below summarizes the participants’ views on anti-malarial remedies. In this study, three categories of anti-malarial remedies, namely, domestic anti-malarial remedies, foreign anti-malarial remedies and traditional anti-malarial remedies were studied.

**Table 4: Participants' Views on Anti-malarial Remedies**

| <b>Participant</b>          |  | <b>Traditional Medicines (TMs)</b>   | <b>Domestic Anti-malarial Remedies (DAR)</b>  | <b>Foreign Anti-malarial Remedies (FAR)</b>   |
|-----------------------------|--|--|---|---|
| Managing Director from TFDA |  | They argued that there are a number of people engaging in traditional medicine practice, but most of the traditional medical practitioners are not registered. They do not recommend the patients to use the TMs since this medication is not scientifically proved. | Domestically produced anti-malaria remedies are cheap so Tanzanians are advised to use the home produced anti-malarial remedies when available.             | Highly needed because Tanzanian domestic industries cannot afford to produce anti-malarial remedies which will satisfy all Tanzanians.  |
| Clinical Officers           |  | They did not recommend the patients to use TMs since they are not scientifically proved; by using them they will cause the malaria parasite to become resistant, hence increase the mortality rate in the country.   | They advised the Tanzanians to use domestically produced anti-malaria remedies, particularly ALU, since they are available and affordable to all consumers. | Recommended to be used if at all the domestic anti-malarial remedies are out of stock.  |
| Pharmacists                 |  | They did not recommend the use of TMs because, they are not scientifically proved.   | They advised Tanzanian consumers to use DAR because they are available and affordable to all patients regardless their level of income.                     | To a large extent consumers who opt for FARs are those with high level of income, highly educated and younger consumers, since they are highly priced and most of the lower income earners cannot afford to buy them. |

|  |             |  |   |  |
|--|-------------|--|---|--|
| Traditional Medical Practitioners (TMPs) |             | Highly recommended since they are free from chemicals, so they are not harmful to the human body. They are available and affordable to all consumers.  | Not recommended since the process of production and preserving involves some chemicals which are harmful to the human body.   | Not recommended since the process of production and preserving involves some chemicals which are harmful to the human body.  |
| Level of education                       | Lower level | Those who are traditional medically oriented are satisfied with this treatment. Others were not familiar with TMs' practices.  | Most of them are based on doctor's prescription. However; based on their level of income, low income earners preferred the domestically produced anti-malarial remedies because of their affordability.                       | Most of them are based on the doctor's prescriptions. Therefore, consumers with a high level of income preferred to purchase foreign anti-malarial remedies but lower income earners could not purchase them due to high price.  |
|  | High level  | Those who are not traditional medicines oriented have a negative attitude towards TMs, believing that they are of poor quality and are not scientifically proved. However; a few consumers who had negative experiences with modern anti-malarial remedies valued the TMs. | They believed that domestically produced anti-malarial remedies are of low quality, since the technological advancement is low; so they might not perform as expected and cause other problems instead of curing the illness. | They had a positive attitude towards foreign anti-malarial remedies. They believed that those anti-malarial remedies are of high quality since they are produced by countries that are highly advanced in technology. However, there are some brands from foreign countries that failed to cure malaria as expected. |
| Age                                      | Younger     | Most of them were found to have a negative attitude towards TMs. They were concerned with hygiene, quality, doses and performance.   | They were found to undervalue the domestically produced anti-malarial remedies since they believed that the medication is of  | They had a strong belief that FARs are of high quality since they are produced by the countries that are highly  |

|          |       |   |  |   |
|----------|-------|---|--|---|
|          |       |   | low quality, and so will not cure them accordingly.  | industrialized. Hence the anti-malarial remedies from foreign countries will cure them in the right manner.   |
|          | Older | Most of them were found to value the TMs as they acknowledged that during the colonial era TMs was the only medicine and they were cured by it.   | They valued the domestically produced anti-malarial remedies due to their affordability and availability.  | Most of the FAR are highly priced, so a few participants who were well off purchased them.  |
| Location | Urban | TMs were valued by consumers who had bad experience with modern anti-malarial remedies. However, for consumers who had been well cured by modern anti-malarial remedies perceived the TM as nonsense.   | Domestically produced anti-malarial remedies were valued by consumers with a low level of income since they are low priced and hence affordable. | Foreign anti-malarial remedies were preferred by consumers with high income as sometimes they judged the quality of the product based on the price (the higher the price, the higher the quality of the product). |
|          | Rural | TM is the preferred treatment for most consumers in this location as most of them are living far away from the formal health centres. Also the TMs are affordable to them as they are priced low and sometimes given freely, or they can be produced by themselves. | Domestically produced anti-malarial remedies were preferable because they are affordable to most consumers in this location.                     | Foreign produced anti-malarial remedies were less favoured since they are highly priced; hence not affordable to consumers in the rural area.   |

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## 5.7 Consumer Decision Making Process

The consumer decision making process used by Tanzanian consumers on malaria medication in relation to COO, CE and CE as far as risk and involvement are concerned was examined in this study. Based on the five stages of the consumers' decision making process developed by (Schiffman and Kanuk, 2004; Engel *et al.*, 1995; Cant *et al.*, 2002; Blackwell *et al.*, 2003; Haokins *et al.*, 2003), in this study it was found that some consumers used all stages in seeking for malaria medications while other consumers used some of the stages. Three demographic characteristics, age, level of education and geographical location (rural vs urban) and their influences on the decision making process were examined.

### 5.7.1 Need Recognition

Need recognition is the first stage of the consumer decision making process. It occurs when the consumer realizes a need or want. In this study recognition of the need for malaria medication was triggered by the symptoms of malaria patients had. Since all consumers have a body with similar functioning, the need recognition stage was found to be consistent for all consumers regardless of the demographic characteristics.

*"I plan to have anti-malarial remedies when I feel I have malaria symptoms such as joint pains, headache, sometimes I lose my appetite, vomiting and other signs of malaria illness. So when I detect the malaria symptoms I visit the private laboratory technicians or health centre for a malaria check-up; and when the physician proves that I have the malaria parasite I visit the nearby pharmacy to buy anti-malarial drugs"* (Erick).



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Malaria symptoms are the key determinants of consumers' demand for medication. This shows that Tanzanian consumers are familiar with the malaria symptoms and do not take those symptoms for granted; instead they find the solutions to overcome malaria suffering.

*“Taking any medication into my body is like a punishment, I really dislike taking either tablet or injections but since I am living in this world there is no way I can escape from it. As an accountant I need to be physically fit in order to make sure that all transactions are moving in the right directions as planned. So when my body has the malaria parasite I always feel tired, joint pains, headache and other malaria symptoms, then I visit the nearby health centre for diagnosis. When the results reveal that I have malaria parasites I go to the pharmacy to purchase the anti-malarial drugs” (Anna).*

Malaria disease has a strong impact in reducing productivity since, when a person is sick, their efficiency is reduced too. Most people would like to fulfil their goals by working hard but malaria suffering may hinder the achievement of the set goals. A number of people dislike taking medication but since they want to be in good health they are forced to take the right medication in order to be cured and hence go on with their daily activities. This shows that malaria disease is not accepted by consumers in Tanzania, so every consumer when they feel malaria symptoms thinks of looking for malaria medication.

*“In this village the generation of mosquitoes is so high due to the nature of the farming system, so for us malaria is a normal disease. So when I detect that I am weak, for example when I have a headache, joint pains and other symptoms of malaria I go to the pharmacy to ask for malaria medicines” (Isack).*

Being in a rural area does not hinder the indigenous from looking for good health. Regardless of the familiarity with the malaria disease due to the nature of farming, still consumers look for a solution to end the malaria suffering. For this reason when they feel malaria symptoms, they rush to the pharmacy to ask for anti-malarial remedies. This shows that good health is valued.

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*“I trust traditional medicine, so when I find I have malaria symptoms I visit the traditional medical practitioners for malaria treatment, and always get treated” (Atu).*

Nowadays consumers are free to look for better treatment for their health; but the freedom they have in deciding how to get rid of malaria disease does not arise without noticing the malaria symptoms. This is to say malaria symptoms trigger the need for medication.

It was noticed that the need recognition stage is the first stage which triggered the consumer decision making process in seeking for malaria medication. The findings above revealed that Tanzanian consumers are aware of the symptoms of malaria and the treatment procedures. However, the decision on which medication to use for malaria treatment was a matter of individual decision making.

### **5.7.2 Information Search and Evaluation of the Alternatives**

Once an initial need has been recognized, consumers will seek to obtain further knowledge in order to go through the purchasing process. At this stage, consumers will look for more information to underpin potential decisions. After getting the information, consumers evaluate the quality of the features of various products based on certain characteristics such as product attributes, degree of importance, brands, beliefs and expected satisfaction. In this study the information search and evaluation of alternatives stages will be discussed simultaneously.

In this study it was found that after recognizing the need of malaria medication based on

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malaria symptoms in their bodies, some consumers utilized these stages by searching for information about the varieties of anti-malarial remedies and evaluating the available information based on the given criteria before purchasing the anti-malarial remedies; while in the case of some of consumers, these stages were not utilized. Three demographic characteristics, age, level of education and geographical location and their influence on the malaria medication decision making process were examined. Based on the demographic characteristics, a number of consumers relied on opinion leaders to make the decision, while some consumers made their own decisions depending on the criteria they found appropriate.

In this study, less educated consumers, older consumers and rural consumers were found not to be much involved in making decisions on malaria medication. Most of these consumers relied on opinion leaders such as health care providers and pharmacists in deciding which anti-malarial remedy to use. Therefore, they did not engage much in either searching the information on different anti-malarial remedies or evaluating the alternatives while thinking of purchasing the anti-malarial remedies.

*“When I find I have malaria symptoms I visit the health centres for malaria diagnosis, and when the test shows that I have malaria parasites I ask the doctor to prescribe an anti-malarial remedy which is free from sulphur. I do not make my own decision because I am not familiar with the medical issues, so I trust the doctor’s advice.”*  
(Ben).

It was seen that older consumers strongly believed in the doctor’s advice; they understood that those doctors are well trained and they are experts in their field, so their advice is valuable to them. Another participant had this to say;

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*“When I feel I have malarial symptoms I visit the drug shops to ask for malaria medicines. The drug seller asks among the symptoms I have, and then she advises which anti-malaria medicine to take” (Isack).*

Older consumers, especially those living in the rural areas, have limited access to health centres so they get support from the local pharmacists in their villages, who advise on which anti-malaria remedies to use when they find malaria symptoms. This shows that older consumers are less concerned with the information search because they trust the advice from the health care providers such as clinical officers and the pharmacists.

The following comments were made by participants from rural areas.

*“I live far away from the health care facilities, therefore, when we find malaria symptoms we visit the pharmacy to ask for malaria medicines. The drug seller asks the symptoms and advises us on the malaria medication” (Jesca).*

*“When I find malaria symptoms I always rely on the doctor’s prescription to purchase the malaria medicines” (Furaha).*

From the findings it was revealed that consumers who live in rural areas are limited by the environment they live in. Most of them are not exposed to different environment, so their decision making process on malaria medication is determined by the advice from the health care providers, and because they live far away from the health centres they utilize the pharmacists to deal with their health issues.

From the findings above it can be revealed that consumers who trusted the advice of the opinion leaders were little involved in searching for information about which anti-malarial remedies to purchase. The doctor’s prescriptions and the advice from the pharmacists simplified their decision making process. That is to say their trust in their opinion leaders

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reduced the perception of risk in relation to the purchased anti-malarial remedies.

On the other hand, consumers who made their own decisions in purchasing the anti-malarial remedies were shown to be highly involved due to uncertainties about the consumption of the chosen anti-malarial remedies. Specifically, highly educated consumers, younger consumers and urban consumers were shown to engage in searching the information on the different anti-malarial remedies and they used different criteria such as Country of Origin (COO), brand, price and days of dosage in evaluating the anti-malaria remedies.

*“When purchasing anti-malarial drugs I am concerned with the country where a product is produced, the brand name of the anti-malarial drug and the price”* (Erick).

*“I always visit the private laboratory technicians to check for malaria. When the results show that I have malaria parasites I visit the pharmacy to purchase the anti-malaria medicines. I am concerned with the brand of the anti-malarial medicines, the country of the manufacture and days of dosage”* (Bariki).

The variety of anti-malarial remedies available in Tanzania has widened the choice of consumers in making decisions on the anti-malarial remedies to purchase. Some consumers are uncertain about the performance of different anti-malarial remedies; therefore, when thinking which anti-malarial remedy to purchase they try as much as possible to get enough information which will help them to make the right decision and so be satisfied with their purchase decisions. This is the reason for applying the criteria mentioned above in purchasing the anti-malarial remedies. Country of manufacture of the anti-malarial remedies was shown to be considered by consumers while thinking which anti-malarial remedies to purchase because there are different anti-malarial remedies from different countries. The level of

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technological and economic power of those countries differs from one country to another.

Consumers used the differences in those countries to evaluate the quality of the anti-malarial remedies. Also, brand of the anti-malarial remedies was found to be taken into consideration as different brands from different countries differ in terms of the content of the medicines.

*“When I find the malaria parasites I always look for anti-malarial drugs that will not make me feel tired while taking the doses. The main information I look for while thinking of purchasing the anti-malarial drugs are country of manufacture, brand name, price, side effects, days for dosage (few days are preferable), expiry date, the anti-malarial drugs that can enable me to work while still taking medicines, anti-malarial drugs which are less toxic and anti-malarial drugs that can kill all malaria parasites without making me restless and tired and cause less headache” (Frank).*

In addition to country of manufacture and brand of anti-malarial remedies, price, side effects and days of dosage of the anti-malarial remedies were found to be among the information looked for consumers in this category. Some consumers were shown to judge the quality of the anti-malarial remedies based on the price of the medicine. Their assumption was “the higher the price the higher the quality”. Hence, when they visited the pharmacy they asked the price of the anti-malarial remedy and a highly priced alternative was preferred. On the other hand, side effects of the anti-malarial remedies were given some weight when looking for the right anti-malarial remedies. Most consumers were seen to find out the side effects of the particular anti-malarial remedies before purchasing. In addition, they were concerned with days of dosage and most of them were interested in anti-malarial remedies that required fewer days of dosage. The information search and the criteria used in making the decisions on the anti-malarial remedies to purchase were meant to reduce the risk associated with the

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consumption of the anti-malarial remedies.

*“While purchasing the anti-malarial drugs, whether for my own consumption or for my family members I am very careful as I know that even the health sector is exploited since there are tendencies where you can find expired medicine are arranged in shelves for sale. So I look at the expiry dates, also the contents on the medicine as I have ulcers so any anti-malarial drugs containing sulphur I won’t take. But in addition I am very sensitive to the country manufacture of the product as there are countries which I have completely negative attitude toward based on their poor different practices in the business sector. Brand name and price are taken into considerations too. I am very interested to read health magazines and articles. Also the health programmes in television help me much as they broaden my knowledge concerning different medication” (Anna).*

Expiry date was among the information consumers used in evaluating the anti-malarial remedies. It was found that there are some unethical pharmacists who sell expired drugs to patients; this influenced some consumers to search carefully for information concerning anti-malarial remedies before they purchased. So most consumers looked for a variety of information that would help them to make the right decision on which anti-malarial remedies to buy, which would cure them and not cause other problems to their bodies.

*“To me good health is capital, as my source of income comes from my job (taxi driver) so when purchasing anti-malarial drugs I consider anti-malarial drugs that will not make me feel tired after taking it, also price and expiry dates are very important factors to me” (Alex).*

*“Performance of the anti-malarial drugs, brand name and country where a product is produced together with the days of dosage are the main criteria I use while thinking which anti-malarial remedies to purchase. I prefer purchasing anti-malarial drugs which will kill all malaria parasites without causing other problems to my body.” (Amy).*

The resistance of malaria parasite to some medicines drew the attention of consumers when purchasing anti-malarial remedies. Some consumers experienced problems after using some anti-malarial remedies and the performance of those medicines was poor since they did not cure the patient’s illness. For this reason, consumers were more careful in evaluating the anti-

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malarial remedies before purchasing in order to minimize the risk that might be caused by consuming those medicines. This shows that the performance of the anti-malarial remedies, like other criteria discussed above, is carefully considered by consumers when evaluating the anti-malarial remedies, since consumers are tried their best to avoid any disappointment after using the purchased anti-malarial remedies.

Generally it can be noticed that the decision making process on malaria medication by Tanzanian consumers involved fear of the uncertainties in consumption of the purchased anti-malarial remedies. Consumers were highly involved in searching for the right information concerning the different anti-malarial remedies and they evaluated the information before purchasing the anti-malarial remedies in order to reduce the risk that might be associated with the consumption of the purchased anti-malarial remedies. However, consumers who valued the advice of opinion leaders were found to be less involved in searching for information because they trusted the advice given by the health care providers in deciding which anti-malarial remedy to use.

The findings above were consistent with Engel *et al.* (1995); Cant *et al.* (2005); and Erdem *et al.* (2005) who noticed that consumers with high level of involvement are likely to conduct a more active information search in their decision making process. These consumers are willing to seek out detailed information from different sources in order to be assured with



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their purchase decisions. Also Marks and Olson (1981) proposed that consumers with a high level of product knowledge are found to be highly involved in making their purchase decisions. In the same vein, Kempf and Smith (1998) suggested that consumers with a higher level of product knowledge are more diagnostic and better informed than those who have a lower level of product knowledge. Also the findings above are consistent with Vinson *et al.* (1977), who reported that values vary according to age, income and education, and that these differences in values influenced the behaviour of consumers when choosing products and brands.

### **5.7.3 Purchase Decision**

In the purchase decision stage, consumers have to choose one brand among several brands after evaluating their brand choices from the evaluation of alternative stage (Bakshi, 2012). Consumers' product choices can be affected by various sources of information during the process of decision making (Solomon *et al.*, 2010). In this study consumers were assessed on how they make their purchase decisions on anti-malarial remedies. As in the information search and evaluation of alternative stages in previous section, the findings were grouped according to demographic characteristics. The findings from highly educated consumers, younger consumers and consumers living in urban areas showed that most of these consumers preferred foreign anti-malarial remedies, because they believed that those

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medicines are of higher quality compared to the domestic anti-malarial remedies.

*“When I am in need of anti-malarial drugs I do purchase the Metakelfin anti-malarial drug from Kenya, as I believe Kenya is technologically advanced compared to our domestic pharmaceutical industry, therefore, the medicines from Kenya will be of higher quality compared to domestic produced medicines.” (Erick).*

Technological advancement of some countries was shown to influence consumers in their decision making process. Consumers had formed negative perceptions of the domestic anti-malarial remedies, believing that “home-made medicines” were not effective in curing the malaria parasite.

*“To treat malaria I use Metakelfin anti-malarial drug from Kenya as when I take it I can go on with my daily activities. First its dose is short I take it once and it makes me feel okay, I don't feel headache, or restless as I do with other anti-malarial brands do” (Alex).*

Performance of the anti-malarial remedies together with the dosage period was shown to have an impact on the decision making process. Consumers were shown to value anti-malarial remedies that did not weaken their bodies during dosage and fewer days of dosage were preferred by most consumers. This factor induced consumers to favour the anti-malarial remedies from Kenya, which met those criteria.

*“I take Orodar anti-malarial drugs from Kenya, because its dose is short I, take it once compared to ALU from Tanzania of which a patient has to take 8 tablets per day for three days. When I take it I go on with my duties” (Amy).*

Number of days a patient needs to take the medication was taken into consideration by most consumers. Most consumers were shown to prefer anti-malarial remedies that have a few days of dosage. They preferred foreign anti-malarial remedies since they found that the domestic anti-malarial remedies required many days of dosage, as in the case of ALU anti-malarial remedy from Tanzania.

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*“At the moment I am taking Artequik anti-malarial drugs from China, I have used several brands for malaria treatment. Some of them did not work properly. This is my third time to use though it makes me feel tired but I am trying to take as much water as I can as the doctor told me through taking water and fruit I will be okay soon”* (Bariki).

The performance of the anti-malarial remedies was shown to influence consumers in the purchase decision process. Most consumers were shown to value foreign anti-malarial remedies, believing that they perform better compared to the domestically produced anti-malarial remedies. This shows that consumers trust foreign anti-malarial remedies, based on the economic and industrial development of those countries.

*“I have used a number of anti-malarial remedies but most of them have been shown not to kill the malaria parasite since I found myself suffering from malaria often. For the time being I am using Metakelfin anti-malarial drugs from Kenya. The reason is its functionality as when I take it, it lets me go on with my daily activities”* (Frank).

The findings above show that highly educated consumers, younger consumers and urban consumers based their decisions on COO issues, brand name and side effects, together with the days of dosage. Consumers were shown to have strong belief to the foreign anti-malarial remedies as they believe that all medicines from foreign countries are of high quality and would cure them effectively compared to the domestically produced medicines. Also, few days of dosage attracted them to look for foreign anti-malarial remedies. Surprisingly, even the consumers living in the urban areas who were not highly educated were found to prefer foreign anti-malarial remedies; this was due to the influence of environment they were living in, such as exposure to foreign anti-malarial remedies.

On the other hand consumers with low levels of education, older consumers and consumers living in the rural areas were shown to prefer the anti-malarial remedies which were available

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and affordable to them. Also these consumers valued the opinion leaders, and most of the time doctors prescribed the domestic anti-malarial remedies because their prices are lower compared with the foreign anti-malarial remedies.

*“Previously I was using Chloroquine to treat malaria but later on it was found to be not effective. As I am speaking I am taking the Quinine anti-malarial remedies. Unfortunately I don’t know its country of origin, but I found it works effectively. The reason for choosing this anti-malarial drug is found it is cheap and it’s readily available”* (Tumpe).

*“I and my family we are using ALU anti-malarial drugs because it is cheap”* (Isack)

Affordability and availability of the anti-malarial remedies were found to be favoured by most consumers, especially those with little income. These consumers preferred the lower priced anti-malarial remedies, which to a large extent are domestically produced. The government provides subsidies to home produced products in order to boost the domestic industries as well as simplifying life for its citizens.

*“I and my family were using the Chloroquine anti-malarial remedies but after the introduction of ALU we shifted from Metakelfin to Artemether + Lumefantrine (ALU) from Tanzania. The reason behind using the ALU anti-malaria remedy is that it’s reliable and affordable. When you visit our local pharmaceutical shop you won’t find that ALU is out of stock”* (Atu).

*“I am using ALU anti-malarial drugs for malaria treatment. Previously I used Metakelfin anti-malarial drugs from Kenya, but here in the village they are not found”* (Furaha).

Reliability of the anti-malarial remedies was another factor used by consumers in deciding which anti-malarial remedy to purchase. It was found that in the rural area pharmacists are discouraged from maintaining foreign anti-malarial remedies stocks because the price is high, so most consumers could not afford to purchase them. Therefore most of the anti-malarial

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remedies found in the rural area are domestically produced and patients can afford to buy them, since they are cheap compared to foreign produced anti-malarial remedies.

It can be revealed that consumers have different factors which influence them to purchase anti-malarial remedies, either domestic or foreign anti-malarial remedies. Quality of the anti-malarial remedies, performance, affordability and availability of the anti-malarial remedies were among the factors considered by most of the consumers while purchasing the anti-malarial remedies. The findings above are consistent with various studies which found that the perception of risk has an influence on the decision making process. For instance, Veltschy *et al.* (2004) and Chen and He (2003) found that a certain amount of perceived risk may influence the decision making process. That is to say, when perceived risk falls below an individual's acceptance value, it has little effect on intended behaviour and is essentially ignored (Greatorex and Mitchell, 1993). Also a high level of perceived risk on a certain product can cause a consumer to postpone or avoid a purchase entirely (Dowling and Staelin, 1994). So if consumers are satisfied with the anti-malarial remedies there is a possibility of re-purchasing those medications later on, but if the experience is different from the expectation, those consumers will be dissatisfied and regret their purchase decision.

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#### 5.7.4 Post-Purchase Behaviour

The quality of the decision and how well the choice worked out become important in this stage of the process. Consumers start to compare their perceptions of the product with their expectations (Kardes *et al.*, 2011). In this study, the post purchase behaviour was examined, whereby consumers viewed their experiences after using the anti-malarial remedies. Both modern and traditional anti-malarial remedies were valued differently by consumers, since some of them were satisfied while others were not.

*“I am satisfied with the purchase decision I made, since after using the Metakelfin anti-malarial remedy from Kenya after two days I was okay and I went on with my business activities”* (Erick).

Some consumers were shown to be satisfied with the anti-malarial remedies chosen. The days of dosage together with the performance of the chosen anti-malarial remedies made them comfortable with the particular treatment; that is to say, they would re-purchase the same medicine when in need of anti-malarial remedies.

*“Since I started using the Quinine anti-malarial drugs I have never experienced any problem. Although after taking the medication I need to rest for a while, for me it’s not a problem as I follow the instruction from the physician and it works for me”* (Tumpe).

Most consumers had previously used chloroquine anti-malarial remedy for malarial disease. However, after getting information from the Ministry of Health and Social Welfare concerning the ineffectiveness of that medication, consumers moved to other brands such as quinine and they were happy with it since they were cured by it. Despite its consequences of tiredness and headache, they were still comfortable with the treatment, as after using it they

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were cured. That is to say, the performance of the particular medication made them to feel delighted, since they got peace of mind after being cured.

*“I and my family after using the ALU anti-malarial drugs we felt ok, though after a certain period of time such as 4-5 months we need to take it again since ALU cannot kill the malaria parasite once and for all. So when we find we have malaria symptoms we go for malaria check-up. After getting the results that we have malaria parasite we buy ALU”* (Ben).

Finding anti-malarial remedies that are capable of killing all the malaria parasites is a challenge. However, consumers were satisfied with the short term treatment they gained from using the ALU anti-malarial remedies. To them, suffering from malaria often was a normal issue, so when they found malaria symptoms they went for ALU, since they found it worked for them.

*“I use Orodar anti-malarial drugs. So far I have never experienced any problem after using it. So I trust it and I will go on using it when I find I have malaria parasites* (Amy).

The findings above show that consumers were satisfied with their purchase decision because the anti-malarial remedies they bought worked. Hence, they would go on purchasing those anti-malarial remedies because they were beneficial to them.

On the other hand, other consumers were found to be dissatisfied with the purchase decision they made, since the performance of the chosen anti-malarial remedies was different from their expectations.

*“Two years back I used Artequik anti-malarial drugs from China. The course was for three days. I had to take 2 tablets in the evening each day. From the first day I started taking the medication my condition was weakened, then I went on until I finished. After finishing the course my body temperature rose and couldn't even walk. Then I went back to the hospital where I was given another medication. It took me one week to be healed from that situation. I am no longer using anti-malarial brands from China. Now I am using Metakelfin anti-malarial drugs from Kenya.”* (Jane).

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Consumers were shown to have expectations from the medication before purchasing a particular anti-malaria brand; when the experience of the particular medication fell below their expectation, those consumers were dissatisfied. That is to say the poor performance of some brands made consumers form negative attitudes towards the particular medication and the possibility of re-purchasing those medications was low.

*“I am tired of taking anti-malarial drugs, I started with the domestic anti-malarial drugs and they didn't work as after using them it took only 2-3 months then I felt the malaria symptoms again. I decided to switch to other foreign anti-malarial drugs with different brands which are more expensive, believing that they are of high quality but the problem was the same. For the time being I think I need to consult the traditional medicine practitioners. Possibly they can help me, because I feel tired using the modern anti-malarial drugs” (Frank).*

Poor performance of some of the anti-malarial remedies caused resistance of malaria parasites in some consumers. They tried to switch from one brand to another with no success.

Alternatively, they considered resorting to traditional anti-malarial remedies, since they no longer trusted the modern anti-malarial remedies.

*“At the time when ALU was introduced to our country it affected a lot of people and I experienced a bad situation too. I followed the instruction as directed by the pharmacist but unfortunately my body become weak and my nails turned yellowish. My husband had to rush me to the hospital and they helped me with a number of drips. After recovering I hated all anti-malarial medicines, for now I and my family are using traditional medicines and we are okay with them” (Atu).*

*“I lost my four children because of malaria suffering; I used various anti-malarial brands with no success. For now, I and my family are using traditional medicines for malaria treatment” (Tula).*

Experiences consumers faced from using the anti-malarial remedies were shown to influence consumers in their decision making process. Consumers who were harmed by consuming some anti-malarial remedies were shown to regret their purchase decision and mistrust the particular medication. As result, some consumers shifted from using modern anti-malarial



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remedies to traditional medicines because of the disappointment they faced in the use of the modern anti-malarial remedies.

The findings above show post purchase behaviour has a strong impact on the consumer's decision making process, especially when determining the level of satisfaction of consumers with a particular product. The high level of uncertainty in the consumption of the anti-malarial remedies made some consumers highly involved in earlier stages, such as searching for information, evaluation the alternatives and purchasing the products. However, despite their carefulness in deciding which anti-malarial remedy to purchase, some consumers experienced some problems after consuming the purchased anti-malarial remedies and regretted their purchase decisions. A number of consumers suffered from performance risk, physical risk and financial risk and time risk. Therefore, this stage was found to be determinant of the next cycle of the consumers' decision making process on malaria medication.

The findings above support other authors who found that even though the buying decision has finished, consumers often still evaluate their decisions. This is because they want to feel confident about their choices and to ensure that the quality of product can solve their problems or satisfy their needs (Bakshi, 2012). Also the quality of the product has an influence in the post- purchase evaluation since the satisfaction or dissatisfaction consumers

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obtain results in a need to make sure that consumers are satisfied with their purchase decisions in order to build a relationship and retain them (Durkin and Howcroft, 2003). From the discussion above it was found that uncertainties on malaria medication influenced most of the consumers to be highly involved in the malaria medication decision making, due to the nature of the disease and its impact to Tanzanian communities in individual development and the country's economic development at large. The next section will cover perceived risk and its impact on malaria medication decision making process.

## **5.8 Perceived Risk**

Malaria is one of the killing diseases to Tanzanian consumers. Effective treatment is highly needed in order to reduce the mortality rates and hence speed up the economic development at both individual and national levels. Treatment of malaria in Tanzania is associated with uncertainties because of the resistance of malaria parasites. This has influenced most Tanzanians to be highly involved while seeking for malaria medication. As discussed in section 5.3 (decision choice), uncertainties in malaria medication broadened the Tanzanians decisions on how and where to get the malaria medication. As a result, consumers used health centres, private laboratory technicians, pharmacists and traditional medical practitioners to seek for malaria medication. From the findings it was revealed that the decisions on malaria medication made by individuals were associated with risks; and the following risks were

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found to affect the Tanzanian consumers while seeking for malaria medications: financial risk, performance risk, physical risk and time risk.

### **5.8.1 Financial Risk**

Getting malaria treatment needs some funds; consumers would like value for money in the treatment they purchase. In this study, financial risk was found to have an impact on malaria medication decision making.

*“There are costs charged in the hospital such as doctor consultation fees, laboratory test fees, then after getting the results from the doctor if you have malaria you need to buy the medicine. If the medicines won't perform as expected we are discouraged”* (Jesca).

Low income earners have limited sources of income, so the little money they could afford for malaria medication was expected to bring a positive outcome from their treatment. As most of them were living far away from the health centres, transportation costs and other costs used in malaria treatment needed to be justified by the treatment they received in order for them to be encouraged to visit the health centres again after recognizing the need for malaria medication.

Also the resistance of malaria parasites in most consumers made some consumers purchase anti-malarial remedies often with no improvement to their illness.

*“I used to suffer from malaria often, every after three to four months. I was supposed to take the anti-malarial tablets, and I was using the Duo-Cotecxin anti-malarial drug from China which is very expensive. After getting information about the traditional medicines I decided to go for that because the traditional medicines are often cheap*

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*and when I take the traditional medicines it takes me more than two years without suffering from malaria” (John).*

When resistance of malaria parasites necessitated frequent purchase of malaria medication and because malaria medication entails various costs such as the doctor’s consultation, malaria test and purchase of anti-malarial remedies, most consumers found it very expensive. This is because most of them were purchasing foreign anti-malarial remedies which are highly priced, believing that they would be effectively cured by those medicines. Malfunction of those medicines discouraged a number of consumers. As a result some of them decided to look for other alternatives, such as using the traditional medicines. Another recourse was to switch to another country’s brand.

*“Sometimes even the foreign anti-malarial drugs do not work effectively. I remember I used Artequik anti-malarial drugs from China, and I ended up facing other problems and I decided to shift to Metakelfin anti-malarial drugs from Kenya.” (Jane).*

Uncertainties on the anti-malarial remedies caused most consumers to use COO and brands in deciding the anti-malarial remedy to purchase. These consumers purchased highly priced anti-malarial remedies imported from other countries, believing that medication would meet their needs. Poor performance of those medications made them feel disappointed and regret their purchase decision.

The above evidence shows that financial risk has an impact in consumer’s decision making process, particularly when seeking for malaria medication. This is because when consumers purchase anti-malarial remedies and paying other costs for malaria medication, there is a high

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level of uncertainty, as they are not sure of its performance. Therefore, the outcome of the treatment is their determinant of either satisfaction or dissatisfaction, based on the outcome of malarial treatment in relation to the funds expected.

### **5.8.2 Performance Risk**

Performance of anti-malarial remedies is judged in relation to the consumers' expectations prior to purchasing the particular anti-malarial remedies. Always consumers had their expectations when deciding which anti-malarial remedies to purchase and use. The performance of the anti-malarial remedies determines their level of satisfaction/dissatisfaction with the particular medication. In this study it was found that a number of consumers were not satisfied with the performance of some anti-malarial brands. This made them switch from one brand to another, while others abandoned the modern anti-malarial medication and opted for traditional medicine:

*“I lost my four children because of malaria illness, they were treated by modern anti-malarial drugs but they were not cured and they died. Since then I am no longer using the modern anti-malarial medicines instead I am using the traditional medicine”*  
(Tula).

Negative experience faced by consumers due to performance of anti-malarials was found to affect the consumers' purchasing behaviour. These consumers were found to form negative attitudes towards a particular medication, which had made them experience dissatisfaction with it. As a result they found a solution was to use traditional medicines, which they believed are more effective than modern anti-malarial remedies.

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*“I have a bad experience with malaria. So far I have used a number of brands but still I am not satisfied with the performance of those medicines. Currently I am using Metakelfin anti-malarial remedy from Kenya but still it takes me only three-four months then I start feeling the malaria symptoms again. For sure I am thinking of finding the right information about the traditional medicine so that I can start using because the modern anti-malarial remedies made malaria parasites resistant to my body” (Frank).*

Resistance of malaria parasites in most Tanzanians consumers influenced some consumers to switch from one brand to another, expecting that the chosen brand would have better results than the previous brand. However, some consumers used different anti-malarial brands without getting the expected outcome. This caused many consumers to be disappointed with their purchase decisions and consider looking for other alternatives such as using traditional medicines for malaria treatment. The findings above show that the performance of the anti-malarial remedies has a great influence on the consumer’s decision making on malaria medication. Satisfaction of the consumer with the consumed anti-malarial remedies allows him/her to engage in the same purchase once the need arises, while dissatisfaction of the consumer hinders a consumer from repeating a purchase and prompts him/her to look for another alternative.

Nevertheless, regardless of the attention given by the most number of consumers who were disappointed by the use of modern anti-malarial remedies, the efficacy, quality and standard of traditional medicine were questioned.

*“I am worried to use traditional medicines because I am not sure with the quality and performance of those medicines” (Furaha).*

Some consumers questioned the quality and performance of the traditional medicine since

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those medicines are not scientifically proved, so they were worried about the effect of the particular medicine on their bodies. A number of Tanzania consumers would have liked to use traditional medicine for malaria treatment; however the efficacy of that medicine gives them some doubts.

*“I am tired using modern anti-malarial remedies, I am thinking of switching to traditional medicine, though I am not certain with of quality and standard of the tradition medicine because it’s not yet scientifically proved that are able to kill malaria parasites. Even the doses are not well standardized so there is possibility of either underdosing or overdosing a patient” (Frank).*

It was revealed that many consumers were not satisfied with the performance of the modern anti-malarial remedies, but they were still using them because they did not have alternatives.

Information concerning the availability of the traditional medicine was available but they were uncertain of the performance of those medications in terms of standard and the doses.

Health workers were also sceptical:

*“I do not encourage patients to use traditional medicine since the type of medication is not scientifically proven. Most traditional medical practitioners are preparing the medicine by combining different plants. Unfortunately they are not taking into consideration that there are plants which are poisonous to the human body. Also there are issues like efficacy and standard of doses of those medications” (Paul).*

Consumers were warned by the health worker that they were risking their lives through the consumption of traditional medicine because of doubts as to the efficacy and standards of the doses, which are called into question by scientists.

It can be revealed that traditional medicine raises a number of questions to consumers who would like to use them but concerns about the efficacy, quality and standards of those

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medications deters them from doing so. That is to say, despite the good features of traditional medicine, still some consumers were worried by the uncertainty of the performance and the issue of efficacy of those medicines. The findings above are consistent with the study carried out by Furaha *et al.* (2000) who warned that, although many people believe that, because herbal medications are “natural” or have been used in some parts of the world for generations, they must be safe, like modern pharmaceuticals, herbal medications can cause adverse effects. The causes of such adverse reactions are diverse; the use of inherently toxic herbal medicines or overdose of herbs, conventional drugs-herbal medicine interactions, and idiosyncratic reactions such as allergies (Furaha *et al.*, 2000). Also WHO (2012) noted that there are risks that are associated with the herbal medication, among them are poor quality, incorrect usage and lack of information.

### **5.8.3 Physical Risk**

Physical risk involved with purchase might include products which are unsafe or cause harm to the user, or services that allow customers of the services to take risks whilst undertaking an inherently risk activity (Hurrige, 2006). In this study it was shown that consumers, when deciding which anti-malarial remedy to purchase, were very concerned with the uncertainties of the medication. As a result they were very concerned to make the right decision which



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would not make them regret the purchase. Some consumers were found to be adversely affected by the use of the anti-malarial remedies.

*“At the time when ALU was introduced to our country it affected a lot of people and I experienced a bad situation too. I followed the instruction as directed by the pharmacist but unfortunately my body become weak and my nails turned yellowish. My husband had to rush me to the hospital and they helped me with a number of drips. After recovering I hated all anti-malarial medicines, so now I and my family are using traditional medicines and we are okay with them” (Atu).*

Some consumers were found to be harmed by the ALU (domestic produced) anti-malarial remedy when it was first introduced after the parasites become resistant to the chloroquine anti-malarial remedy. The problems faced resulted in negative attitudes to that particular anti-malarial remedy; hence they decided to look for other anti-malarial remedies.

*“My mother was affected by the use of Artemether + Lumefantrine (ALU) anti-malarial drugs at the time when it was introduced. After taking the medication her condition changed badly whereby she was so weak and her body was covered in a rash, together with heavy sweating, and suddenly she failed to breathe properly. We took her to the hospital and they helped her through a lot of injections. After four days she was discharged. Since then none of our family members has used that medication” (Tumpe).*

Negative experience of the use of anti-malarial remedies by some of the consumers was shown to affect their decision making process. Consumers who experienced outcomes different from their expectation were totally dissatisfied and regretted their purchasing decision on the particular anti-malarial remedies. In addition, it can be revealed that consumers who had experienced negative effects from anti-malarial remedies were found to be highly involved while purchasing the anti-malarial remedies. These consumers used intrinsic and extrinsic cues when evaluating the anti-malaria remedies in order not to face the same problems.

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#### 5.8.4 Time Risk

Time risk results when the passage of time reduces the ability of the product to satisfy wants, such as when a product rapidly becomes obsolete (Ross, 1975). In this study time risk was identified in two different ways; the expiry of the medication and the time used by an individual to seek for malarial treatment. It was found that some unethical pharmacists sold outdated medication to consumers; this made them extra careful when purchasing anti-malarial medication.

*I bought the ALU anti-malarial remedy for my daughter who is three years old, I went back home and administered the medicine to her. After three hours she started crying, her body temperature rose and she was covered with a rash all over her body. I took her to the hospital with the medicine, then the doctor after looking at the medicines noticed that the given anti-malarial remedy was expired. He injected her and I was given another medicine (Frank).*

Unethical behaviour by some pharmacists in selling expired medicine had alerted most consumers to look for the expiry dates of those medicines, to avoid risk that might be associated with the use of expired medicine. It was found that some consumers were affected by the use of expired anti-malarial remedies. This made most consumers involved while purchasing the anti-malarial remedies in order to reduce the risk that might be associated with their purchase decisions.

Another interpretation of time risk identified in this study was the wastage of time used by consumers to visit the health centres with no proper treatment. Some consumers were discouraged by the poor health centre services.

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*“Sometimes I am discouraged to visit the dispensary for malaria treatment because you may use your time and transport cost but you will end up being given pain killers because the medication at dispensary are out of stock” (Furaha).*

*“Shortage of drugs is the problem in this dispensary. You can place an order to the medical store department but the drugs will not be delivered on time and when delivered, they are usually are insufficient” (Paul).*

Insufficient drugs and other equipment at the dispensaries/health centres was shown to discourage most consumers as they had sacrificed their time but did not get what they expected. As a result, many consumers decided on self-medication, which is not advisable in malaria treatment due to the nature of the diagnosis of the disease. This shows how time risk has an impact on the malaria medication decision making process by Tanzanian consumers.

The presence of risk on malaria medication has influenced some consumers to be involved in the decision making process in order to reduce the risk that might be associated in the consumption of the medicines. The next section will present the findings on the product involvement and its impact on malaria medication decision making process.

## **5.9 Product Involvement**

Antonides and Raaij (1998) explained involvement as the personal relationship level of the consumer with the product or service and it includes importance, value and risk. Involvement in deciding the type of malaria medication was explored in this study. Uncertainties on malaria medication has found to influence some consumers to be involved in the decision making process. However, in this study the level of involvement was found to be determined

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by opinion leaders, self-decision making and past experience consumers had of the malaria medication.

### 5.9.1 Opinion Leaders

In this study, clinical officers, pharmacists, word of mouth, friends and family members were identified as the opinion leaders. Participants, after recognizing the malaria symptoms, visited the health centre, pharmacies or traditional medical practitioners for malaria medication. Consumers who relied on the opinion leaders' advice to purchase the anti-malarial remedies were shown to have low involvement in making decisions on which anti-malarial remedy to purchase.

*“I am allergic to sulphur so when I have malaria symptoms I visit the health centre for diagnosis. When a physician detects that I have malaria parasite, I ask the doctor's advice about the anti-malarial drugs that don't contain an element of sulphur. After getting the advice from the doctor I go to the pharmacy to purchase the recommended anti-malaria drugs” (Ben).*

Some consumers, after recognizing malaria symptoms, visited the health centres for malaria diagnosis and treatment. After getting the results, some consumers, especially those with allergies, informed their doctors in order to help them prescribe the appropriate anti-malarial remedies. They used the given prescription to purchase the anti-malarial remedies. These consumers were found to trust the doctor's advice and the trust they built helped them to reduce the level of risk in consuming the advised anti-malaria remedies.

*When I find malaria symptoms I visit the nearby pharmacy to ask for anti-malarial remedies and the pharmacist advice me on the anti-malarial remedy to take after identifying that the symptoms relate to malaria disease.” (Furaha).*

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*“I live 5km away from the health centre, and the transportation is a big problem for our village. So when I find one of my family members has malaria symptoms we visit the nearby small pharmacy in our village to ask for the anti-malaria medicine. The drug seller asks about the symptoms we have and thereafter administers us the anti-malarial remedies” (Jesca).*

Most of the rural consumers were shown to have limited access to health centre, so when they recognized malaria symptoms they visited the local pharmacies. The pharmacists asked them about their symptoms and they were advised on what anti-malarial remedies to use. Consumers trusted the pharmacist’s advice and they kept on utilizing their services, as they were satisfied with the services they were given.

Some consumers built negative attitude on ALU anti-malarial remedy due to the challenges faced by their family members after using such medication as it can be explained by Tumpe. These made them to have other choices other than ALU in treating malaria.

*“My mother was affected by the use of Artemether + Lumefantrine (ALU) anti-malarial drugs at the time when it was introduced. After taking the medication her condition changed badly whereby she was so weak and her body was covered in a rash, together with heavy sweating, and suddenly she failed to breathe properly. We took her to the hospital and they helped her through a lot of injections. After four days she was discharged. Since then none of our family members has used that medication” (Tumpe).*

Word of mouth on the usefulness of the traditional medicine in treating malaria was shown to influence the consumer’s choices on malaria medication.

*“It has been a long time since I suffered from malaria. Previously it was a normal issue for me to suffer from it. But three years back I was informed about the traditional medicine that is used to cure malaria. Then I visited the traditional medical practitioner who helped me with the traditional medicines and I was cured of malaria. Since then, when one of my family members has malaria symptoms we visit the traditional medical practitioner and for sure his treatment is so fantastic since once you are given a dose it will take you more than a year to suffer again from malaria” (Atu).*

Also some consumers’ decision on malaria medication were influenced by their friends.

*I use traditional medicines for malaria and typhoid treatment, I was suffering from*

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*malaria and typhoid often and I was given tablets which made me feel tired every time I took them. I met with my friend in the college who introduced me to a man from the Seventh Day Adventists (SDA) who prepares traditional medicines and he helped me with the traditional medicines. The medicines are good since I am not getting any trouble that I used to experience when I was using the modern medicines (John).*

From the findings above it can be revealed that consumers who trusted the opinion leaders' advice on purchasing the anti-malarial remedies had low involvement in making decision on malaria medication. For instance, these consumers were not much engaged in information search and evaluating the alternatives in the decision making process, because the opinion leaders helped them in reducing the uncertainties in the consumption of the advised anti-malarial remedies.

### **5.9.2 Self-Decision Making**

The capacity a consumer has to decide where to get malaria medication and type of malaria medication was found to determine the level of involvement. There were some consumers who visited either the health centres or pharmacies with their prior decision on the malaria medication. Consumers under this category were found to engage in searching for different information on anti-malarial remedies and they used certain criteria such as COO, brand, price and days of dosage in deciding which anti-malarial remedy to purchase.

*"I always visit the private laboratory technicians to check for malaria. When the results show that I have malaria parasites I visit the pharmacy to purchase the anti-malaria medicines. I am concerned with the brand of the anti-malarial medicines, the country of the manufacture and days of dosage" (Bariki).*

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Uncertainties on the consumption of the anti-malarial remedies made some consumers engage in information search. They used a number of criteria to evaluate the anti-malarial remedies and in purchase decision stage they purchased the anti-malarial remedies that they believed would suit their needs. For instance, the above consumer used COO and days of dosage of the particular anti-malarial remedies. More detailed criteria were described by the following respondent:

*“When I find malaria parasites I always look for anti-malarial drugs that will not make me feel tired while taking the doses. The main information I look for while thinking of purchasing the anti-malarial drugs are country of manufacture, brand name, price, side effects, days of dosage (few days are preferable), expiry date, anti-malarial drugs that can let me work while still under treatment, anti-malarial drugs which are less toxic and anti-malarial drugs that can kill all malaria parasites without making me restless, or tired and cause less headache” (Frank).*

As this example shows, performance of the anti-malarial remedies was found to be considered while purchasing the anti-malarial remedies. Some consumers were interested to get anti-malarial remedies that would cure the malaria parasites without toxicity to their bodies. Also they were interested in anti-malarial remedies that would not make them feel tired while under treatment, in order to continue with their daily activities. The following extract sheds further light on factors influencing the decision.

*“While purchasing the anti-malarial drugs, whether for my own consumption or for my family members, I am very careful as I know that even the health sector is exploited since there are tendencies where you can find expired medicine are arranged in shelves for sale. So I look at the expiry dates, also the contents on the medicine as I have ulcers so if any anti-malarial drugs contains sulphur I do not take. But in addition I am very sensitive to the country manufacture of the product as there are countries which I have completely negative attitude toward based on their poor different practices in the business sector. Brand name and price are taken into consideration too. I am very interested to read health magazines and articles. Also the health programmes in television help me much as they broaden my knowledge concerning different medication” (Anna).*

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Brand of the anti-malarial remedies was found to influence the level of involvement in the malaria medication decision making process. In the Tanzanian market there are various anti-malarial brands from different countries. The different anti-malarial remedies were shown to differ in terms of the contents of the anti-malarial remedy and performance. Price of the anti-malarial remedy was used by some consumers as an indicator of the quality of the anti-malarial remedies. Some consumers believed that a higher price represents the higher quality of the anti-malaria remedies. Therefore, they were interested in anti-malarial remedies that were highly priced, believing that those medicines would be effective in killing malaria parasites. In addition consumers evaluated the anti-malarial remedies based on the days of dosage and the number of tablets per dose, together with the expiry date of the anti-malarial remedies.

From the findings above, it can be revealed that consumers who made their own decisions on the malaria medication were uncertain about performance risk, physical risk, time risk and financial risk. In order to reduce the risk in their purchase decision these consumers were highly involved in searching for information on different anti-malarial remedies and they used different criteria discussed above to make the right decision on malaria medication.

### **5.9.3 Past Experience**

Experience of the consumption of anti-malarial remedies, in the case of some consumers and



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their relatives, was shown to determine the level of involvement while purchasing the anti-malarial remedies. In this study it was found that consumers who had been negatively affected by some anti-malarial remedies were highly involved in making decisions on malaria medication because they were worried about facing the same problems.

*“Two years back I used Artequik anti-malarial drugs from China. The dose was for three days. I had to take 2 tablets in the evening each day. From the first day I started taking the medication my condition was weakened, then I went on until I finished. After finishing the dose my body temperature rose and couldn’t even walk. Then I went back to the hospital where I was given another medication. It took me one week to be healed from that situation. I am no longer using anti-malarial brands from China. Now I am using Metakelfin anti-malarial drugs from Kenya.” (Jane).*

Negative experience of the consumption of anti-malarial remedies was found to influence some consumers to be highly involved in the decision making process on the malaria medication. Some consumers purchased foreign anti-malarial remedies which were highly priced, believing that those medications would be of higher quality compared to the domestic anti-malarial remedies. Poor performance of those medications influenced consumers to find more information on other brands of the anti-malarial remedies, as they shifted from one brand of the anti-malarial remedies to another. A further option was reported by Atu:

*“At the time when ALU was introduced to our country it affected a lot of people and I experienced a bad situation too. I followed the instruction as directed by the pharmacist but unfortunately my body become weak and my nails turned yellowish. My husband had to rush me to the hospital and they helped me with a number of drips. After recovering I hated all anti-malarial medicines, for now I and my family are using traditional medicines and we are okay with them” (Atu).*

Some consumers, like Atu were affected by the performance of the domestic anti-malarial remedies, but their limited income prevented them from purchasing foreign anti-malarial remedies because they are expensive. Therefore, their solution was to find the relevant

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information on the traditional medicines and they started using traditional medicines for malaria treatment. Health workers were aware of the impact on consumers of negative experiences:

*“Consumers who had faced the negative experience on the performance of some anti-malarial drugs are much concerned while purchasing the anti-malarial medication, brandy, country of the manufacture and the contents of the medicines are highly considered by those consumers” (Emmanuel).*

From the findings above it can be revealed that negative experiences of the function of the anti-malarial remedies determine the level of involvement in the malaria medication decision making process. Consumers who were negatively affected by the use of some anti-malarial brands were found to use intrinsic and extrinsic cues while evaluating the anti-malarial remedies in order to make the right decision, whereas consumers who had never experienced such problems showed low involvement in the decision making process on anti-malarial remedies.

The uncertainties about the malaria medication made some consumers highly involved in deciding the anti-malarial remedy to purchase in order to reduce the risk that might be associated with their consumption. In this study it was found that Country of Origin, Consumers Ethnocentrism, Consumer Xenocentrism and product knowledge were employed as risk reduction strategies, as explained in the next sections.

### **5.10 Risk Reduction Strategies**

Perceived risk of malaria medication in Tanzania influenced some consumers to be involved

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when deciding the anti-malarial remedy to purchase. Consumers used extrinsic and intrinsic cues in evaluation of anti-malarial remedies. Country of Origin (COO), Consumer Ethnocentrism (CE), Consumer Xenocentrism (CX) and product knowledge were found to be the risk reduction strategies.

### **5.10.1 Country of Origin (COO)**

Country of Origin (COO) refers to the place where the product originated or was manufactured, or the place which is associated by consumers with the product. It is an extrinsic cue, which is used by consumers to make quality judgements about a product (Munjali, 2014). Tanzania has a number of domestic pharmaceutical industries which produce a variety of medicines, including anti-malarial remedies. However, the domestic pharmaceutical industry is limited in the capacity to produce the required anti-malarial remedies due to its level of technology. Production of anti-malarial remedies and other medicines requires a country to be fully equipped in terms of infrastructure in order to produce medicines that will meet the required standards. Therefore, the pharmaceutical industry in Tanzania produce few anti-malarial remedies, and the remaining portion to meet the demand of the Tanzanians is imported from countries such as Germany, India, United Kingdom, Kenya, Uganda, Belgium, China, Switzerland, Netherlands and Italy. The presence of anti-malarial remedies from different countries with different levels of economic and

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technological advancement has broadened the choices of anti-malarial remedies for Tanzanian consumers.

In this study, three demographic characteristics, namely age, level of education and geographical location (rural vs urban consumers) were studied. It was found that consumers' decision making on malaria medication differed depending on their capability of making decisions. For instance, consumers who trusted the opinion leaders (doctors' prescriptions and pharmacists' advice) were shown to have low involvement in searching for information concerning the anti-malarial remedies; they purchased what was advised. These consumers were older consumers, rural consumers and illiterate consumers. On the other hand, some consumers who made their own decisions on malaria medication were found to be deeply engaged in searching information on different anti-malarial remedies and they used a number of criteria in evaluation of the alternatives, one of which was the country of manufacture. Most of these consumers were younger consumers, educated consumers and urban consumers.

For example;

*“When I am in need of the anti-malarial drugs I purchase the Metakelfin anti-malarial drug from Kenya, as I believe Kenya is more technologically advanced compared to our domestic pharmaceutical industry, therefore, the medicines from Kenya will be of high quality compared to domestic produced medicines.” (Erick).*

*“I am using Orodar anti-malarial remedy from Kenya; I used it for more than three years. The reasons for choosing this anti-malarial medicine is that; its dose is short one (I take it once) and does not make me feel tired or headache after taking since I go on with my daily activities after taking it. I have strong believe in this medicines since are produced with the country which sounds to be good in industrial development, so even the quality of their products is high which definitely leads to better performance” (Amy).*

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*“I am using Metakelfin malaria drug from Kenya, the medication is very effective as after taking it I can go on with my daily activities, it doesn't make me feel tired” (Alex).*

The technological advancement of Kenya compared to domestic pharmaceutical industry influenced some consumers, like the participants quoted above, to be attracted to purchase anti-malarial remedies from Kenya, believing that medicines from Kenya will be of high quality compared with the medicines produced by the domestic pharmaceutical industry. Also, the few days of dosage of the anti-malarial remedies from Kenya attracted some consumers to purchase the anti-malarial remedies produced in that country. Other consumers influenced by COO were Bariki and Anna:

*“At the moment I am taking the Artequik anti-malarial drugs from China, I have used several brands for malaria treatment but some of them did not work properly. This is my third time to use though it makes me feel tired but I am trying to take as much water as I can as the doctor told me through taking water and fruit I will be okay soon” (Bariki).*

China is one of the countries that is fast growing economically. Tanzanian consumers valued the anti-malarial remedies from China, perceiving them to be of high quality compared to domestically produce anti-malarial remedies.

*“I always I use Artequin anti-malarial drugs from Switzerland, the medication is very strong, so sometimes after using it I have a rest because my joints become weak and get a headache sometimes, but after a few hours the situation gets back to normal. I still like the medication since after taking it I stay for more than five months without suffering from malaria. I trust the medication since it is produced in a country that is well known worldwide for medical production, so the quality of its product is high hence it performs better and I am cured after using it” (Anna).*

Some consumers were interested to purchase anti-malarial remedies from Switzerland, because Switzerland is well-known for its pharmaceutical industry and it exports its medicines to the various countries in the world. Therefore, consumers were confident of the quality of those medicines compared to the home produced anti-malarial remedies.

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In most of the pharmacies in Tanzania, a variety of antimalarial brands are sold, such as Metakelfin, Amodiaquine, Artemether + Lumefantrine (ALU), Quinine, Artequik, Duo-Cotexin, Orodar, Malafin, Artequin and other brands (see appendix VII). The mentioned anti-malarial brands are produced by different countries such as Tanzania, Kenya, China, Switzerland, India, Uganda and others. The mentioned group of consumers (younger, highly educated, and high income earners) were shown to be mostly interested in purchasing Metakelfin from Kenya, Orodar from Kenya, Duo-Cotexin from China, Artequin from Switzerland and other foreign anti-malarial remedies. The main reason for their choice was that those countries are highly technologically advanced, so their products are of high quality compared to the anti-malarial remedies which are produced within the country. This shows that consumers are using country of manufacture to make assumptions about the quality of the foreign anti-malarial remedies. Tanzania is among the third world countries; therefore, its level of economic development is low compared to the developed countries. This has made some consumers who used the country of manufacture in judging the quality of the anti-malarial remedies regard the domestic anti-malarial remedies as of low quality compared with the anti-malarial remedies from the more economically developed countries.

It can be shown that consumers were not able to foresee the physical performance of the anti-malarial remedies; therefore, they used the COO as an extrinsic cue in determining the quality of the anti-malarial remedies. In other words, COO helped them in analysing the

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conditions under which the product would have been produced; for instance, they used the economic development of the country and technological advancement of a country to evaluate the quality of the anti-malarial remedies.

### **5.10.2 Consumer Ethnocentrism (CE)**

The ethnocentric tendencies of Tanzanian consumers when purchasing the domestic anti-malarial remedies were examined in this study. In this section domestically produced anti-malarial remedies will be discussed. Pharmaceutical industry in Tanzania are not able to produce enough medical products to satisfy the needs of all Tanzanians; for this reason the importation of the medical products cannot be avoided. In this situation, knowing the ethnocentric tendencies towards the available domestic anti-malarial remedies was vital. In this study it was found that the ethnocentric tendencies of Tanzanian consumers toward purchasing the domestic anti-malarial remedies were influenced by availability, affordability, quality and days of dosage of the anti-malarial remedies.

#### **5.10.2.1 Availability**

In this study, the availability of the domestic anti-malarial remedies was identified in light of the capacity of the domestic pharmaceutical industry to produce enough anti-malarial remedies to cater for the needs of all Tanzanians. It was found that the technological level of

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the pharmaceutical industry in Tanzania hinders the production of required anti-malarial remedies to meet the demand.

*“The production of anti-malarial remedies needs complicated procedures in order to meet the required standards. The technology we have does not accommodate the production of enough anti-malarial remedies that can satisfy all Tanzanian” (Bity)*

Production of the anti-malarial remedies needs advanced technology in order to produce medicines that meet the required standards. Technological hindrances have opened the door for the importation of anti-malarial remedies from different countries, which raised the competition among anti-malarial remedies in the Tanzanian market.

*“Most of anti-malarial remedies are imported from countries such as Germany, India, United Kingdom, Kenya, Uganda, Belgium, China, Switzerland, Netherlands and Italy; very few anti-malarial remedies are produced within the country” (Bity).*

The importation of anti-malarial remedies from the economically developed countries has attracted some Tanzanian consumers to undervalue their home produced anti-malarial remedies, believing that the imported anti-malarial remedies are of higher quality than domestically produced anti-malarial remedies.

Tanzanian government through the Ministry of Health and Social welfare has tried to promote the usefulness of ALU, which is among the anti-malarial remedies produced within the country. Radio and television were used to raise awareness of the availability, affordability and usefulness of the particular medicines. However, the government did not encourage citizens to utilize the available anti-malarial remedies rather than imported anti-malarial remedies; possibly the limited capacity of domestic pharmaceutical industry in producing large quantities of anti-malarial remedies was the main reason. As a result, most



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Tanzanians, especially those with high income, were attracted to use foreign anti-malarial remedies over domestically produced anti-malarial remedies.

#### **5.10.2.2 Affordability**

The ability to purchase anti-malarial remedies was shown to shape the purchasing decisions of a number of consumers. It was found that most low income consumers were able to purchase the domestically produced anti-malarial remedies because they are cheaper than foreign anti-malarial remedies.

*“I use ALU for malaria treatment because it is cheap, I always buy it for Tshs 2,000 (\$1.174) per dose” (Jane).*

The affordability of domestic anti-malarial remedies had influenced most participants especially those with low income, to purchase those medications. Foreign anti-malarial remedies such as Artequin, Co-Artesiane, Duo-Cotecxin, Fansidar, Artequik and Metakelfin which were imported from countries such as Switzerland, Belgium, China, Kenya and other anti-malarial remedies from other countries were relatively expensive, being sold at prices ranging from Tshs.7, 000 (\$4.117) to Tshs.14, 000 (\$8.235) which is not affordable for most Tanzanians, especially those with low income. These consumers purchased domestic anti-malarial remedies, which are sold for Tshs 2,000 (\$1.174).

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The responses from the pharmacists confirmed that some consumers could not afford to purchase foreign anti-malarial remedies, since they are highly priced compared to the domestically produced anti-malarial remedies.

*“Most consumers in this village are managing to purchase the ALU anti-malarial remedy which is domestically produced. Previously I was bringing a few foreign anti-malarial remedies such as Metakelfin and Fansidar to my shop but I found that most of the time those medications expired since most of customers could not afford to purchase them” (Bupe).*

Only relatively wealthy consumers were able to purchase imported medications:

*“Foreign anti-malarial remedies are demanded by consumers with high income, low income earners prefer the domestic anti-malarial remedies specifically ALU” (Amba).*

Thus, consumption of domestic anti-malarial remedies was shown to be influenced by the affordability factor. Consumers did not necessarily purchase domestic anti-malarial remedies, because of valuing their home produced anti-malarial remedies but they were forced to do so by their limited income.

### **5.10.2.3 Quality**

The quality of the domestic anti-malarial remedies was questioned by some consumers. It was found that some of the medicines produced in Tanzania were of low quality as evaluated based on the performance of the particular medicine.

*“I don’t have courage to purchase the domestically produced medications as even the pain killers sometimes are not functioning” (Bariki).*

*“I am using Metakelfin from Kenya for malaria treatment. Previously I was using ALU but I found my body temperature rising every time I used the medicine” (Alex).*

Consumers who purchased some domestically produced medications and found performance different from their expectations lost trust in the domestically produced anti-malarial

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remedies and hence valued the foreign anti-malarial remedies. The pharmacists recognized this problem:

*“Some consumers are complaining about the performance of ALU, I think the government needs to take some measures to see how they can improve the quality of the domestic produced medicines” (Emmanuel).*

Pharmacists received complaints from their customers about the poor performance of the domestic anti-malarial remedies, especially ALU, supporting the view that the ethnocentric tendencies of a number of Tanzanian consumers in purchasing domestic products were affected by the quality of the medication produced within the country.

Conversely, a few consumers were found to be satisfied with the domestic anti-malarial remedies

*“I am using ALU for malaria treatment previously I was using Chloroquine but after it's resistance I started to use ALU. I am comfortable with this medication since I have never been disappointed” (Ben).*

As this example shows consumers who had not experienced any problems on the use of the domestic anti-malarial remedies might be happy with their purchase decision, that is to say, satisfied with the performance of the domestically produced anti-malarial remedies.

However, some consumers were shown to undervalue the domestic anti-malarial remedies despite not having experienced any problems, as negative word of mouth caused them to form a negative attitude towards domestic anti-malarial remedies.

*“Some consumers are coming to my shop asking for foreign anti-malarial remedies such as Metakelfin and Orodar, both from Kenya. I ask them why they don't use ALU because it is cheaper than those chosen medication. They said that their friends were affected by the consumption of ALU; so they are hesitating to face similar problems” (Amba).*

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Negative word of mouth from a few consumers who were affected by the domestic anti-malarial remedies spread negativity in the minds of other Tanzanians on the poor performance of the domestic produced anti-malarial remedies; as a result consumers who were able to buy foreign anti-malarial remedies valued foreign anti-malarial remedies over the domestic anti-malarial remedies.

However, a few consumers who were satisfied by the domestic anti-malarial remedies advised their fellow Tanzanians to value their home produced anti-malarial remedies.

*“Tanzanian consumers should not underrate themselves by thinking that their home produced medicine cannot cure malaria, instead they should be proud of on their home produced medicines since they function in the same way as the foreign medicines”* (Ben).

Tanzanians need to see the potential of medication produced within their country, trust and use it. By so doing they will strengthen the domestic industries and hence strengthen the economy.

#### **5.10.2.4 Amount of Tablets per Course**

A dose is the amount taken on one occasion-so for example if it is 2 tablets, twice a day, for 6 days, the dose is 2 tablets, the course is 24. Duration of the course and amount of tablets per dose were among the criteria used by participants when purchasing anti-malarial remedies. Among the anti-malarial brands in the Tanzanian market, ALU (an anti-malarial remedy produced in Tanzania) was shown to be a long course of treatment as a patient has to take 24

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tablets per course. This discouraged a number of consumers from using it.

*I use Orodar anti-malarial drugs from Kenya; the reasons for choosing this anti-malarial remedy is that the course is a short one (I take it once) and does not make me feel tired or headache after taking it so I go on with my daily activities after taking it. (Amy).*

*I use Metakelfin anti-malarial drugs from Kenya. Its course is short; I take it once then after a few minutes I go on with my daily activity” (Alex).*

Most consumers were interested to get the malaria treatment and go on with their daily activities without disturbing their timetable. The single dose attracted them to use the particular medication.

*“ALU anti-malarial remedy is attractive to number of consumers because the price is lower compared to other anti-malarial remedies; but the number of tablets per dose (a patient has to take 8 tablet per day; 4 tablets in the morning and another 4 tablets in the evening for three days amounting to 24 tablets) discourages most Tanzanians from using it” (Amba).*

It can be revealed that the number of tablets per dose of different anti-malarial remedies differs from one brand to another. For instance with the ALU anti-malarial remedy made in Tanzania a patient has to take 8 tablets per day for three days, amounting to 24 tablets per course, with Duo-Cotecxin anti-malaria from China a patient has to take 2 tablets per day for three days and with Metakelfin a patient has to take 2-3 tablets once (depending on the body weight of a patient). Comparing brands of the anti-malarial remedies, ALU from Tanzania was found to require many tablets per course. Taking 24 tablets per course made a patient become tired throughout the treatment period and hindered patients from going on with other daily activities, because their bodies were weakened. As a result, most consumers in this category preferred foreign anti-malarial remedies.

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The findings above revealed that the ethnocentric tendencies among participants were low as most purchased domestic anti-malarial remedies not to protect their home industries or because they valued the home produced anti-malarial remedies but because domestic anti-malarial remedies were cheaper. Also the performance of the domestic anti-malarial remedies raised the question of a quality of the domestic anti-malarial remedies produced. This resulted in discouraging a number of Tanzanian consumers from using the domestic anti-malarial remedies; they valued the foreign anti-malarial remedies. The next section will present the findings on consumer xenocentrism and its impact on malaria medication decision making process.

### **5.10.3 Consumer Xenocentrism (CX)**

Member identification with national groups strongly shapes attitudes, opinions and belief about one's self and others as well as one's behaviour, including consumer behaviour (Balabanis *et al.*, 2001). In the consumer sphere, CX appears to result in a preference for foreign products even when domestic products are qualitatively and/or functionally similar or better (Mueller and Broderick, 2009). In this study it was important to examine whether demographic variables served as moderators of consumers' xenocentrism and their decisions on purchasing the anti-malarial remedies. Three demographic variables were studied; age, education and rural versus urban differences.

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### 5.10.3.1 Age

Age carries culturally defined behavioural and attitude norms (Alreck, 2000). Age affects consumer self-concept and lifestyle (Henry, 2000). It determines the consumption of various products, media, and shopping centres and has been used by marketers to segment market style (Henry, 2000). In this study, the influence of age on the malaria medication decision making process as far consumer xenocentrism was concerned was examined. It was found that age as a variable functioned as a moderating factor for CX to consumers when purchasing anti-malarial remedies. It was found that older consumers valued opinion leaders' (doctors' and pharmacists') advice while seeking for malaria medication. Therefore, they did not engage much in searching for information on different anti-malarial remedies; they purchased what was advised by their doctor or pharmacist.

*“In my life when it comes to the issue of health, I usually trust the doctor’s advice. In malaria treatment I always use ALU anti-malarial drugs as it’s advised by the doctor and the price for medication is affordable” (Ben).*

*“I and my family, when we are found with malaria symptoms, visit the nearby pharmacy to ask for anti-malarial medicines. The drug seller asks us the symptoms we have. After recognising that we have malaria she gives us ALU anti-malaria drugs” (Jesca).*

Most of the older consumers were shown to trust the opinion leaders in both malaria diagnosis and purchasing the anti-malarial remedies. Their age limited their ability to engage in information searching and evaluating the available alternatives. Therefore they preferred to trust the experts in the health field in order to be assured of their treatment. In other words, trust in the opinion leaders reduced the amount of unforeseen risk.

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On the other hand, it was found that younger consumers were more interested to engage in searching for information on different anti-malarial brands, and they used some criteria such as country of manufacture, brand, days of dosage, price and other criteria to evaluate the quality of the anti-malarial remedies in order to reduce the uncertainties in the consumption of the anti-malarial remedies.

*I use Metakelfin anti-malarial drugs from Kenya. Its dose is short I take once then after few minutes I go on with my daily activity” (Alex).*

*“I use Orodar an anti-malarial remedy from Kenya; I’ve used it for more than three years. The reasons for choosing this anti-malarial remedy is that; its course is a short one (I take it once) and does not make me feel tired or give me a headache after taking so I go on with my daily activities after taking it. I have strong belief in this medicine since it’s produced in a country which sounds to be good in industrial development, so the quality of their products is high, which definitely leads to better performance” (Amy).*

It was shown that younger consumers looked at the variety of factors when purchasing anti-malarial remedies. The length of the course, COO, price and the performance of particular anti-malarial remedies were among the factors considered when evaluating the anti-malarial remedies. They used the intrinsic and extrinsic cues of the anti-malaria remedies before they purchased. Their major concern was the quality of the anti-malarial remedies. To be assured of the quality, they decided to purchase foreign anti-malarial remedies because they believed that foreign anti-malarial remedies are of high quality compared with the domestically produced anti-malarial remedies. The reason for their selection was that Kenya is much more developed than Tanzania; therefore, they believed the anti-malarial remedies from Kenya



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could be of high quality compared with the anti-malarial remedies which are produced by the domestic industry.

These findings revealed that older consumers are less xenocentric in purchasing the anti-malarial remedies because they are limited by their age in searching for more information about the different anti-malarial brands. Also their trust on the opinion leaders increased their satisfaction with recommended anti-malarial remedies. In addition, older consumers were found to be limited by income. Therefore, even if they could reject opinion leaders' advice, they could not afford to purchase foreign anti-malarial remedies because their prices were higher compared to the home produced anti-malarial remedies. On the other hand, younger consumers were more xenocentric on purchasing the anti-malarial remedies, because they were found to value foreign anti-malarial remedies, believing that the technological advancement of the chosen and trusted countries would produce anti-malarial remedies with of high quality compared to the home produced anti-malarial remedies.

#### **5.10.3.2 Education**

Education was among the variables examined to see its influence on consumers while making their decisions to purchase the anti-malarial remedies as far as consumer xenocentrism was concerned. It was found that less educated consumers purchased the anti-malarial remedies based on the doctor's prescription or pharmacist's advice. Lack of knowledge concerning

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different medications hindered their choices. These consumers did not engage in searching for information on different anti-malarial remedies; they used the opinion leaders' advice in making decisions on malaria medication.

*“I use ALU because I was advised by the doctor that it is a good medication for malaria treatment” (Isack).*

Limited knowledge on different anti-malarial brands narrowed their reasoning, as they could not argue since they did not know of other alternatives.

*“Some consumers come to my shop to ask for anti-malaria drugs, but when I ask about which brand they prefer, they ask me to suggest which brand is good for them. I base it on their ability to purchase and most of them prefer the ALU (domestic anti-malarial drugs” (Amba).*

It can be shown that less educated consumers were less xenocentric, since their purchasing decisions are influenced by opinion leaders, who advised them to use the domestic anti-malarial remedies due to their affordability and effectiveness. Lack of knowledge of different anti-malarial remedies limited their choices of different anti-malarials available in the market. Also they could not make a quality judgement, so they believed that opinion leaders' advice was the correct advice for their treatment.

On the other hand it was found that highly educated consumers engaged in information search on different anti-malarial remedies and they evaluated anti-malarial remedies based on criteria such as country of manufacture, brand, price, days of dosage and other factors.

*“I take the Artequik anti-malarial remedy from China, the medication is functioning well for me. I had used several brands for malarial treatment. Some of them did not work properly. Since China is among the best countries in medicine production, I trust the medicine from that country” (Bariki).*

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The good reputation of some countries in medicines production had attracted some consumers to use their products. This was possible for educated consumers, who had access to information on malarial medicines from different countries. Hence, they made their decisions on which anti-malarial remedy to purchase from which country.

*“I have used a number of anti-malarial remedies but most of them have been shown not to function well, since I found myself suffering from malaria often. For the time being I am using Metakelfin anti-malarial remedies from Kenya. The reason is its functionality, as when I take it, it lets me go on with my daily activities”* (Frank).

Their levels of education made them seek more information on anti-malarial remedies when they found that the previously chosen anti-malarial remedies did not perform as expected. As most of them were working and they had sufficient income, they used their money to purchase other brands of anti-malarial remedies which they believed were of high quality and hence would perform better than the previously chosen brand.

*“I always I use Artequin anti-malarial drugs from Switzerland. The medication is very strong, so sometimes after using it I have a rest because my joints become weak and get a headache sometimes, but after a few hours the situation gets back to normal. I still like the medication since after taking it I stay for more than five months without suffering from malaria. I trust the medication since it is produced in a country that is well known worldwide for medical production, so the quality of its product is high hence it performs better and I am cured after using it”* (Anna).

Exposure to foreign anti-malarial remedies together with being knowledgeable about comparing the quality of anti-malarial remedies in terms of developed versus developing countries attracted most educated consumers to value foreign anti-malarial remedies.

It can be noticed that the purpose of purchasing the anti-malarial remedies is to be cured. Educated consumers were found to have different alternatives when purchasing the anti-malarial remedies. They did not base their choice on a single brand; instead they tried as

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many brands as possible to find the best solution to their problem. Most of them were shown to rely on foreign anti-malarial remedies, as they believed that those medications are of high quality and so they would be cured by those medications. Their reasoning on the performance of the anti-malarial remedies made them to form positive attitudes to the foreign anti-malarial remedies.

From the findings above it can be shown that educated consumers are more xenocentric than less educated consumers because educated consumers are well exposed to the different brands of anti-malarial remedies. Also their level of reasoning in terms of the quality and performance of the different anti-malarial remedies is higher than that of consumers with lower level of education. In addition, most of the educated consumers are employed while others are self-employed. Therefore, their level of income makes them less price sensitive. Sometime they judged the quality of the anti-malarial remedies in terms of the price. They believed that highly priced anti-malarial remedies would be of higher quality compared to lower priced anti-malarial remedies. Therefore, purchasing highly priced anti-malarial remedies meant to them that they were purchasing high quality anti-malarial remedies.

### **5.10.3.3 Geographical Location**

Geographical location has been found to shape individuals' purchasing behaviour. For instance, rural consumers and urban consumers' purchasing decision making differs to a large

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extent. In this study, rural consumers and urban consumers' malaria medication decision making process was found to be influenced by their environments. Rural consumers' purchasing decisions were influenced by limited knowledge of different anti-malarial brands, together with limited sources of income. Therefore, in making decisions on malaria medication, they relied on opinion leaders.

*“When we find malaria symptoms we visit the drug shop in our village to ask for malaria medicines. The drug seller asks the symptoms. When she finds that the symptoms relate to malaria symptoms she gives us ALU medicines” (Isack).*

Most rural consumers used the domestic anti-malarial remedies, as the ALU anti-malarial remedies were affordable to most of consumers, costing for Tshs.2,000/= (\$ 1.1764). Another factor for rural consumers was availability.

*“I was using Metakelfin anti-malarial medicines from Kenya, but since I came to this village I am using ALU because it's the only medicine available for the malaria treatment in the drug shops” (Furaha).*

Availability and costs are related since most consumers in the rural areas cannot afford to purchase foreign anti-malarial remedies, so local pharmacies do not stock them, but supply only domestic anti-malarial remedies which are highly demanded. Therefore, even consumers who previously used foreign anti-malarial remedies are forced to purchase the ALU domestic anti-malarial remedies.

On the other hand, urban consumers' purchasing behaviour was shown to be shaped by the environment due to interaction with different people from different places and different

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cultures. In this study, most of the urban consumers were shown to favour foreign anti-malarial remedies because they had access to them and were capable of paying for them.

*“I am using Artequin from Switzerland for anti-malarial remedies but my children are using ALU” (Neema).*

Consumers living in urban areas were engaged in different activities which helped them to earn income and they were able to look for the medication they need, based on their reasons for their choices.

The findings above show that urban and rural differences have an impact to consumers’ decision making process as far as consumer xenocentrism is concerned. The exposure to foreign anti-malaria remedies and the wide range of choices/ alternatives of pharmacies influenced urban consumers while purchasing the anti-malarial remedies; this is different from rural consumers. Product knowledge was found to be among the risk reduction strategies. The next section will present the findings on product knowledge and its impact on the malaria medication decision making process.

#### **5.10.4 Product Knowledge**

Brucks (1985) defined product knowledge as memories and knowledge that are in people’s minds related to a product. Product knowledge on malaria medication was shown to be among the risk reduction strategies used by consumers when purchasing anti-malarial remedies. In this study it was shown that subjective knowledge on malaria medication

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influenced some consumers in anti-malarial remedies evaluation. Consumers used their past experiences and the familiarity they had with their consumption of different anti-malarial remedies in deciding which anti-malarial remedy to purchase.

Various anti-malarial remedies in Tanzania were found to work differently by Tanzanian consumers. The uncertainties on the consumption of the anti-malaria remedies influenced some consumers to engage in information searching and evaluation of the alternatives before purchasing anti-malarial remedies. Some consumers searched for information on the different brands of anti-malarial remedies. After getting the relevant information they evaluated the obtained information and purchased the anti-malarial remedies basing on the chosen criteria. The performance of the consumed anti-malarial remedies determined their evaluation of the quality of the purchased anti-malarial remedies. Satisfaction/dissatisfaction with the consumed anti-malarial remedies made some consumers familiar with those medicines. Consumers who were satisfied did not engage much in the information search; they re-purchased the same anti-malarial remedies. However, dissatisfied consumers engaged in searching for more information on different anti-malarial remedies in order to get the right medication.

*“I use Orodar an anti-malarial remedy from Kenya; I’ve used it for more than three years. The reasons for choosing this anti-malarial remedy is that; its course is short one (I take it once) and does not make me feel tired or give me a headache after taking so I go on with my daily activities after taking it. I have strong belief in this medicines since it’s produced in a country which sounds to be good in industrial development, so the quality of their products is high, which definitely leads to better performance” (Amy).*

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*“I take the Artequik anti-malarial remedy from China, the medication is functioning well for me. I had used several brands for malarial treatment. Some of them did not work properly. Since China is among the best countries in medicine production, I trust the medicine from that country” (Bariki).*

Some consumers were found to be satisfied with their chosen anti-malarial remedies, these consumers continued to purchase the same anti-malarial remedies because they experienced satisfaction. That is to say, they obtained information on the quality of those anti-malarial remedies through using them. Therefore, the possibility of re-purchasing the same anti-malarial remedies was high and they would not engage much more in searching for different information on other anti-malarial remedies. Rather, positive experiences provided quality information for their next purchase of the same anti-malarial remedies.

On the other hand, some consumers were adversely affected by the use of anti-malarial remedies. These consumers were shown to engage extensively in an information search on different anti-malarial remedies, and because it is difficult to judge the quality of anti-malarial remedies before consuming them, they used a number of criteria such as COO, price and brand to evaluate the anti-malarial remedies before purchasing.

*“I have used a number of anti-malarial remedies but most of them have been shown not to function well, since I found myself suffering from malaria often. For the time being I am using Metakelfin anti-malarial remedies from Kenya. The reason is its functionality as when I take it, it lets me go on with my daily activities” (Frank).*

The experience some consumers had of the malfunction of some of the anti-malarial remedies was found to structure the information search by giving the consumer the ability to formulate a number of questions about the different anti-malarial brands. Through information search,



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consumers obtained the relevant information which would help them in determining the anti-malarial remedy to purchase.

*“Some consumers are familiar with different anti-malarial brands; these consumers are asking a number of questions on the features of the particular medicine and its side effects”* (Emmanuel).

That is to say, consumers with high anti-malarial knowledge were shown to spend more time while evaluating the anti-malarial remedies, while consumers with low knowledge of anti-malarial remedies were shown to rely more on the country of origin in judging the quality of the anti-malarial remedies.

In this study, product knowledge was found to have an impact on the malaria medication decision making process. Differences in the levels of product knowledge were found to influence the different stages in the malaria medication decision making process. Also subjective knowledge on malaria medication was shown to influence consumers' evaluation of anti-malarial remedies. The experience of and familiarity with different anti-malarial remedies helped the consumers to reduce the risk. Consumers who were satisfied by their previous purchase re-purchased the same anti-malarial remedies, while consumers who were dissatisfied by the previous anti-malarial remedies used COO cues and other extrinsic cues in judging the quality of the anti-malarial remedies.

The findings above are consistent with Cox and Rich (1964) and Laroche *et al.* (2001) who found that additional information on particular products consumers intended to purchase

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reduces the perceived risks, since the knowledge obtained for a particular product will reduce the uncertainty of the outcome. Also Brucks (1985) and Rao and Sieben (1992) point out that during purchase processing, a consumer's knowledge of the product would not only affect their search behaviour, but also affect the consumer's information treatment and decision-making processing, and would further affect their purchasing intention. That is to say, different levels of product knowledge would determine consumer purchase decisions and would indirectly affect their purchase intentions. Moore and Lehmann (1980) discovered that, consumer product knowledge has a significant positive impact on effort in information search. According to Cowley and Mitchell (2003), more knowledgeable consumers are more selective and also have a better comprehension of the attributes that will lead to an optimal choice.

## **5.11 Conclusion**

This chapter has analysed and presented the findings from the field. The presentation of data was guided by the themes that emerged during the data collection, related to each research question. Through the interview guide, the researcher was able to get rich information which helped to answer the research questions. The presented data were analysed by the thematic data analysis technique. From the findings presented it was found that Tanzanian consumers are aware of the symptoms, causes and treatment of malaria disease. However, getting

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prompt malaria treatment was shown to be hindered by a number of challenges. Those challenges influenced most of the participants to engage to a greater extent in self-medication which is more risky to their bodies as it causes the malaria parasite to become resistant. Also, the findings show that Tanzanian consumers differ in seeking treatment. Health centres, pharmacists, laboratory technicians and traditional medical practitioners were found to be used by consumers while seeking for malaria medication.

Consumption of malaria medication was shown to be accompanied by uncertainties; consumers experienced some risks such as time risks, financial risks, performance risks and physical risks. The uncertainties related to the consumption of anti-malarial remedies had led some consumers to be more involved in making decisions on which anti-malarial remedies to purchase. Product knowledge, COO, CE and CX were used as risk reduction strategies by some consumers.

The next chapter will present a discussion of the findings; also the theory of the study will be developed.

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## CHAPTER SIX

### DISCUSSION OF THE FINDINGS

#### 6.1 Introduction

The aim of this study was to explore how COO, CE and CX impact upon risk and involvement in the malarial medication decision making process in Tanzania. The specific objectives of the study were: to understand the motivations for purchasing anti-malarial remedies to Tanzanian consumers; to explore if or how Country of Origin has an impact on consumers' evaluation of the anti- malarial remedies in Tanzania; to investigate the ethnocentric tendencies of Tanzanian consumers when purchasing domestic anti-malarial remedies; to examine the extent to which demographic characteristics affect the level of xenocentric tendencies in Tanzanian consumers; and to identify the dimensions of product involvement and perceived risk and their influences in consumers' decision making process. To meet these objectives, a number of research questions were asked: What are the motivating factors to Tanzanian consumers in purchasing anti-malarial remedies? Does the Country of Origin have an impact on Tanzanian consumers' evaluation of anti-malarial remedies? What is the level of ethnocentric tendencies among Tanzanian consumers when purchasing domestic anti-malarial remedies? Is there any relationship between demographic characteristics and the level of xenocentric tendencies in the Tanzanian consumers? What are

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the dimensions of product involvement and perceived risk and their influence in consumers' decision making process? The discussion of the findings is addressed via the themes that emerged related to each research question.

## **6.2 Theory Development**

The aim of this study was to examine how Country of Origin, Consumer Ethnocentrism and Consumer Xenocentrism impact upon risk and involvement in the malaria medication decision making process in Tanzania. From the findings it was found that Tanzanian consumers face a number of challenges in seeking for malaria medication. Uncertainties influenced them to have different choices of malaria medication. Health centres, pharmacies, private laboratory services and traditional medical practitioners are the main choices used by Tanzanians to seek for malaria medication. However, all the utilized choices with an exception of laboratory services were found to be associated with risks. Consumers who utilized the health centres were shown to experience time risk and financial risks; some consumers questioned the standard, quality and efficacy of the traditional medicines, which raised the performance risk. Also consumers who utilized the pharmacies for malaria medication were found to experience time risk, performance risk, financial risk and physical risk.

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Presence of risk related to the malaria medication influenced some consumers to be highly involved when making decisions on malaria medication. However, the level of involvement was found to be determined by the opinion leaders, self-decision making and past experiences. Consumers who trusted the opinion leaders in seeking for malaria treatment were shown to have low involvement and most of them purchased domestic anti-malarial remedies. Hence, in this, study these consumers were classed as ethnocentric consumers. On the other hand, consumers who made their own decisions and those who had previously had negative experiences were shown to be highly involved in the malaria medication decision making process. These consumers were engaged in information search and they used a number of criteria to judge the quality of the anti-malarial remedies. Most of these consumers were shown to purchase foreign anti-malarial remedies, believing that those medications are of high quality compared to domestic produced anti-malarial remedies. Therefore, in this study these consumers were classed as xenocentric consumers.

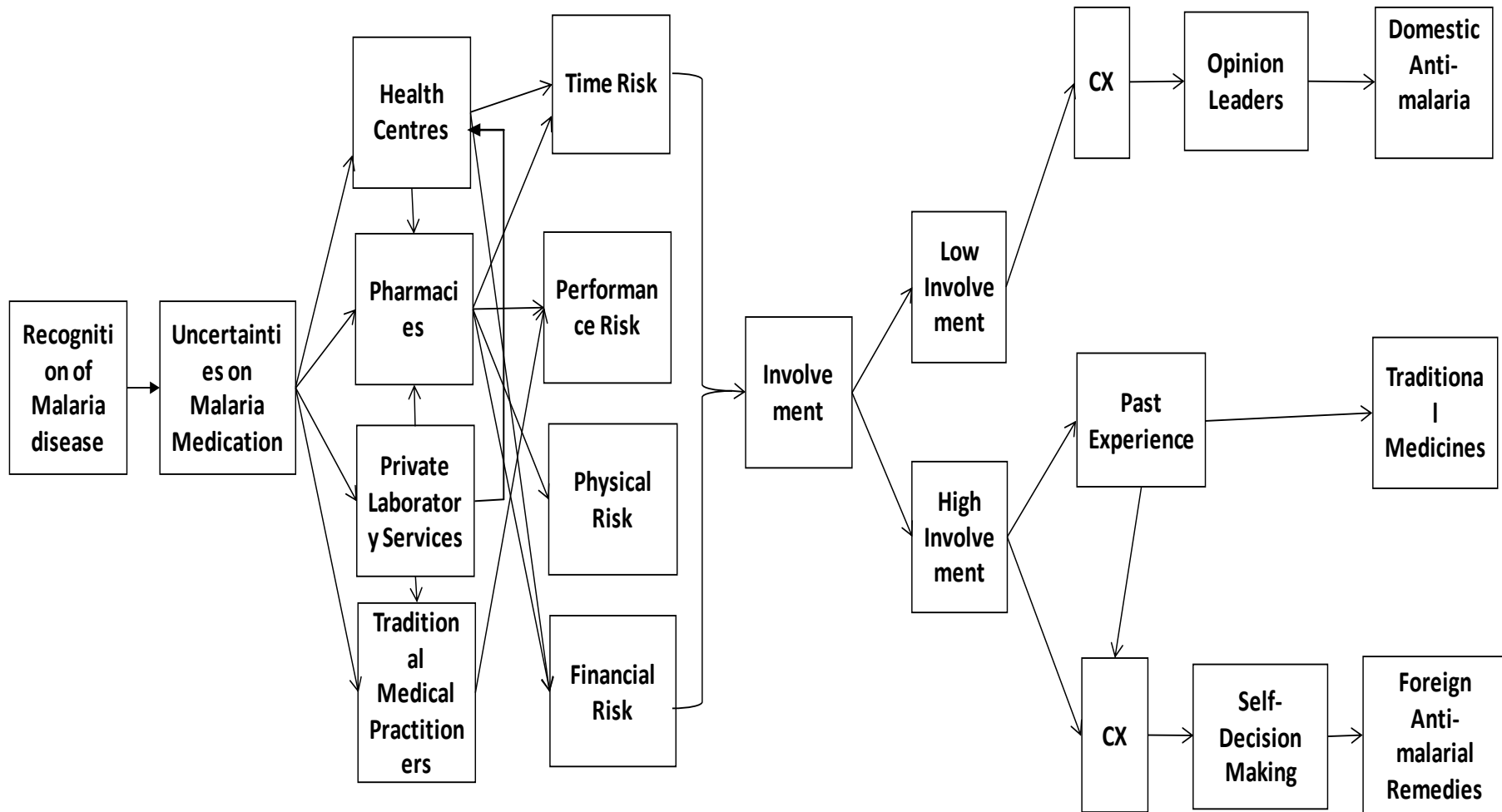
Traditional medicines in this study were found to be utilized by all consumers, irrespective of their demographic characteristics. However, most consumers who had used and were still using the traditional medicines were influenced by negative experiences of the consumption of modern anti-malarial remedies, both domestically produced and foreign anti-malarial remedies.

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In this study the role of private laboratory services was highly appreciated by all consumers who utilized this choice of malaria medication as it helped them to know their health status before purchasing the anti-malarial remedies. Consumers found to save their time through the utilization of this choice and since these laboratory services are not selling medicines, consumers were shown to be assured with the results provides by the private laboratory technicians.

Figure 4 below summarizes the discussion of the findings and a detailed discussion will be provided in the next sections.

**Figure 5: Malaria Medication Decision Making Model**





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### **6.3 Motivating factors to Tanzanian consumers in purchasing anti-malarial remedies**

Tanzanian consumers were shown to have enough knowledge of malaria symptoms and procedures to be followed in order to get the right treatment at the right time. Recognition of malaria symptoms in their bodies triggered their need for the malaria medication decision making process. The uncertainties about malaria medication influenced their different malaria seeking treatment behaviours. The next section discusses the decision choice on malaria medication used by Tanzanian consumers.

### **6.4 Decision Choice for Malaria Medication**

In seeking malaria treatment, Tanzanian consumers were shown to have a variety of choices of malaria medication. Choices of advice seeking on malaria treatment emerged. Some consumers visited the health centres to seek for malaria treatment (which is advised); some consumers went directly to the pharmacy to purchase anti-malarial remedies; some consumers went to private laboratory technicians for a malaria test then they purchased anti-malarial remedies and some consumers visited traditional medical practitioners for malaria treatment. The main three decision choices, which are health centres, pharmacies and traditional medical practitioners, will be discussed in this chapter.

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### **6.4.1 Health Centres**

Tanzania has a number of health centres, some public and other private owned. Public centres are utilized by all individuals who can easily access them because their treatment costs are subsidized by the government; therefore, most Tanzanians can afford to pay for those services. Private health centres are mostly utilized by some consumers who are at least at middle income level; their treatment costs are somewhat higher compared to the public health centres. Visiting the health centres for malaria diagnosis and treatment is highly advised by the government and other health stakeholders, as it helps a patient to know the extent to which he/she is affected by the malaria parasites, which in turn helps in determining the right medication for that particular level of infection. In this study it was found that some consumers, after recognizing the malaria symptoms, visited the health centres for malaria diagnosis and treatment. Consumers who could easily access the health centres were satisfied with the health services provided, while some consumers faced some challenges in seeking treatment in the health centres. The challenges faced by consumers while seeking for malaria treatment in the health centres are discussed in the next sub-sections.

#### **Lack of Malaria Diagnostic Tools**

Lack of malaria diagnostic tools in the formal health facilities was found to be a problem by most of the rural consumers. Consumers in rural areas complained about being diagnosed by

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clinical symptoms; no test was made due to lack of facilities. The absence of malaria diagnostic tools discouraged a number of consumers from visiting the formal health centres, so they found it was better to seek advice from the pharmacists, who helped them. Purchasing anti-malarial remedies without diagnosis amounted to self-medication, which is not advisable since sometimes consumers use the wrong medicines for a particular disease and so cause another problem instead of curing the current disease.

These findings are supported by Mboera *et al.* (2007) who found that most malaria diagnoses in Tanzania are based on clinical grounds. Only a few facilities are equipped with basic laboratory services to provide confirmatory diagnoses. This has important implications for the management of febrile illness, and over-diagnosing malaria patients may also distract from other causes of fever, some of which may be fatal (Wang *et al.*, 2006). This shows the need for the government to equip the health centres with all the required facilities. This will help consumers to utilize formal health centres and reduce the mortality rates, and in turn help to alleviate poverty, as citizens will be better able to engage in economic activities.

### **Insufficiency of Health Care Providers**

The poor ratio between the Tanzanian population and the health care providers limits ability to provide good services to large numbers of patients. As a result, many patients become unwilling to visit the health centres. The small number of health workers compared to the

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population made the few available health workers work under stress, which led to poor health service provision. Patients spent long periods of time in the queue waiting for malaria treatment, and when they met the doctor (s) for consultations, they did not pay enough attention to the patients, since they were exhausted by the work. They consequently prescribed inappropriate medication sometimes because they were working quickly in order to serve as many patients as possible. This being the case, many patients were discouraged from visiting the health centres for malaria treatment. This implies that there is a need for the Tanzanian government to equip the public health centres with enough number of healthcare providers in order to smoothen the health service provision and hence encourage more Tanzanians to utilize health centres for malaria treatment. This would be possible if the government could ask for support from donors and prioritize the health programmes to be served first followed by other programmes.

These findings are consistent with Jensen (2013) who found that health workers everywhere are exposed to a number of challenges which have an impact on their wellbeing, as well as on their ability to deliver high-quality care. The availability of well-motivated health workers with adequate skills is needed in order to smoothen the functioning of any health system (Maestad, 2006). Shortage of health personnel and poor health worker performance are among the most pressing problems of health systems in low-income countries. Lack of personnel with relevant skills is a threat to the success of programmes intended for scaling up

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health services in order to reach the Millennium Development Goals (Maestad, 2006). Shortages of professional health care workers in Tanzania are caused by lack of equipment and unreliable supplies (Kahabuka *et al.*, 2012); lack of supervision and low motivation (Manzi, 2012); poor transportation and communication infrastructure (Mubyazi *et al.*, 2012). Hence, based on the reasons for health workers' shortage, Kwesigabo *et al.* (2012) suggested that commitment by the government and other stakeholders of adequate financial and human resources, together with their efficient and effective utilization, would go a long way to improving Tanzania's health system and the health of its population.

### **Drug Shortage in the Public Health Care Centres**

Most of the public health centres were criticized for shortage of anti-malarial remedies most of the time. Patients queued to see a doctor and have a malaria test but on visiting the pharmacy for medicines they were told that the medicines were out of stock, and they had to go and purchase them from private pharmacies outside the health centres. Consumers who were well off managed to purchase the medicines from private pharmacies, while low income earners went home without purchasing the medicines and a few of them simply purchased pain killers. Also, the clinical officer acknowledged that the shortages of drugs in the health centres are caused by the Medical Supply Department (MSD), which delays in supplying the requested drugs. This forced pharmacists to give patients pain killers instead of

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the specific medication for a particular disease. This influenced consumers to use medicine from the pharmacy without a malaria test because they found visiting the health centres is a waste of time.

The government should pay attention to the availability of the drugs at the public health facilities in order to help their citizens to get good treatment, as some consumers with low income cannot afford to visit the private health facilities, which charge more than the public health facilities services. Also, the Tanzanian government through the Ministry of Health and Social Welfare and other health stakeholders is required to strengthen the medical supply department distribution system and to conduct follow - up in order to make sure that the medicines are supplied at the right time.

The findings above are consistent with Mboera *et al.* (2013) who found anti-malarial drugs stock out to be common in Tanzania. The main reasons for this are poor forecasting and quantification (Silumbe, 2010), and weak coordination between the health information system and the medicine ordering system (Mikkelsen-Lopez *et al.*, 2014). To solve the problem of shortage of drugs in the health centres, it was suggested that drug store managers should have sufficient quantification knowledge of the medicines. This will help them to ensure the availability of anti-malarials and other medicines throughout the year, ensuring effective purchase or procurement and minimizing under- and over – stocking of medicines

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caused by poor forecasting; and also avoidance of financial loss due to drug expiry (Silumbe, 2010).

### **Malaria Misdiagnosis**

Malaria misdiagnosis in the public health centres was shown to be among the obstacles to consumers' visiting health centres for malaria treatment. When some patients visited health centres for malaria diagnosis the results indicated that they did not have the malaria parasites; as a further check, patients visited private laboratory services for a malaria test and the results showed that they had malaria parasites. This discouraged a number of patients from utilizing the public health centres for malaria diagnosis.

These findings are consistent by Kahama-Maró *et al.* (2011) who found that Malaria case management in Tanzania has encountered number of problems, which need to be addressed. For instance, the introduction of malaria rapid diagnostic test (MRDT) is facing a number of challenges. It has resulted in over-prescription of antibiotics, which pose a threat of drug resistance. There are also a number of shortcomings related to the performance and accuracy of the tests, which depend on test preparation and interpretation (Harvey *et al.*, 2008). Incorrect preparations and interpretation of test results could result in incorrect diagnosis, leading to unnecessary use of anti-malarial treatment and therefore failure to address the real cause of fever in patients who do not have malaria (Rennie *et al.*, 2007 and Moonsar *et al.*,

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2007).

There is a need for the public laboratory facilities to be examined often in order to ensure they provide the correct results. Also, the up-to-date facilities should be provided in the public health centres, as it was reported that, in Tanzania, if a patient needs an ultrasound or x-ray, he/she needs to visit a private hospital. This discourages the utilization of the public health centres by many the patients. Mboera *et al.* (2013) suggest that delivering public health services requires functional and effective country-level health systems, capable health leaders, qualified healthcare providers, an effective human resource system, reliable health information, adequate physical infrastructure, and many other critical inputs. It is important that Tanzania addresses human resource issues and ensures that there are adequate numbers of well trained personnel to diagnose malaria, manage cases, prevent transmission and vigilantly track malaria

### **Geographical Location**

Health centre accessibility was found to be a major challenge to consumers living in the rural areas when seeking for malaria treatment. Distance from the health centres and poor infrastructure hindered these consumers while seeking for malaria treatment. These factors influenced them to purchase medicines from private pharmacies without being diagnosed, which amounted to self-medication. Controlling malaria in Tanzania will not be successful if



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the health centres, especially in the rural areas, are not given sufficient attention. This shows that the Tanzanian Government should increase efforts to provide health care facilities in the rural areas in order to make rural residents' access to health centres easier and hence reduce mortality rates. Geographical distance has been found to affect not only to Tanzanian consumers but also other consumers in other countries, for example, Tanzanians' neighbours, Kenyans; consumers who are living in the rural areas were reported to use traditional medicine for primary health care. Although the majority of Kenyans (80 per cent) live within 5 kilometres of health facilities, it was found that medical services are not always available. They lack many facilities such as drugs, basic services and amenities and the cost of services is extremely high, which makes some patients unable to afford them (NCAPD, 2007).

Also evidence indicated that rural residents have limited access to health care and that rural areas are underserved by primary care physicians (Kletke *et al.*, 1991). In the developing and developed world many rural individuals must travel substantial distances for primary medical care, requiring significantly longer travel times to reach health care than their urban counterparts (Nostrand, 1993). Furthermore some rural areas have a higher proportion of uninsured and individually insured residents than urban areas (Hartley, 1994). The discouragement from visiting the health centres discussed above attracted a number of Tanzanians to visit the private pharmacies directly for anti-malarial remedies.

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## 6.4.2 Pharmacies

Most Tanzanians largely depend on the services of the pharmacies. Pharmacies are located both in rural and urban areas. Their services are readily available because some pharmacies sell drugs until midnight. This has attracted a number of consumers to use them. In this study it was found that most of the participants, after recognizing the malaria parasites, visited pharmacies to purchase anti-malarial remedies, without malaria tests, while some patients visited the private laboratory services first for malaria check-ups after being recognized that they had malaria parasites they visited the pharmacies to purchase the anti-malarial remedies. Some pharmacists asked the patients about their symptoms for those who didn't visit the private laboratories for malaria check-ups and they administered the patient's medication based on the explanations given and other pharmacists administered anti-malarial remedies to patients based on the patient's choice.

Private pharmacies in Tanzania are among the supportive health stakeholders, since they are available almost all over the whole country. Even in the remote areas where there are no health facilities, one may find a local pharmacy that supports the population living in that area. Most patients preferred the pharmacists' services for a number of reasons, which were highlighted in the previous section, such as, long waiting time in the health centres due to insufficient number of health professional workers, drug shortage in the public health centres,

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geographical location, especially for rural consumers, malaria misdiagnosis and lack of malaria diagnostic tools in the public health facilities.

In this study it was found that some pharmacies are served by drug sellers with no medical qualification. This has caused some patients to be adversely affected by the use of the administered anti-malarial remedies. There is a need for the government through the Ministry of Health and Social Welfare to develop policies that will guide all the pharmacies' owners to employ qualified pharmacists in order to increase the standards of medical provision. Also all the pharmacies should be registered under the TFDA in order to facilitate follow up mechanisms.

The findings discussed above are consistent with Okeke *et al.* (2006) and Brugha (2002) who identified the reasons for pharmacy utilization by most patients: geographical accessibility, shorter waiting times, more reliable drug stocks, longer opening hours, greater confidentiality, more personable social interaction, ease of seeking advice, lower cost and flexible pricing policies and no separate fee charged for advice. Also the risk of the poor qualification of the drug sellers was highlighted; in most cases, neither the drug seller nor the consumer is aware of the correct dosage and duration of treatment (Okeke *et al.*, 2006; Gomes *et al.*, 1998). Also, the risks of poor quality treatment may be high, in view of the fact

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that uncomplicated malaria can proceed rapidly to severe disease and death, especially among young children who have yet to develop immunity (Greenwood *et al.*,1987).

Therefore, in order to improve community-wide effectiveness of anti-malarial treatment, the popularity of home-management and the quality of treatment obtained from commercial shops need to be better addressed. Considerable improvement in case-management has been shown to be possible as a result of training private retailers in general shops (Marsh *et al.*, 2004) and in drug stores (Hetzl *et al.*, 2007). Also the WHO (2002) noted the presence of consumers who are relying on pharmacists for their treatment for a variety of reasons and they emphasized that pharmacists in particular can play a key role in giving advice to consumers on the proper use of medicinal products intended for self-medication. WHO also suggested that it is important therefore to take this role into account both in their training and in practice (WHO, 2002).

In using modern anti-malarial remedies from the pharmacies, some consumers were found to be adversely affected by those medicines. They were shown to suffer from a number of risks such as performance risk, financial risk, physical risk and time risk. Therefore, they decided to shift from using modern anti-malarial remedies to traditional medicines, believing that the traditional medicines are free from chemicals, therefore they would not experience the loss

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they suffered from the use of the modern anti-malarial remedies. This will be discussed in the next section.

### **6.4.3 Private Laboratory Services**

Private laboratory services in Tanzanian environment as far as malaria disease is concerned were found to be the fastest and helpful sector to a number of Tanzanians. Most of private laboratory services in Tanzania are located in urban areas. In this study, consumers in urban areas when felt malaria symptoms were found to visit the private laboratories for malaria check-ups before purchasing anti-malarial remedies. Since the laboratory services provided the malaria check-ups for various diseases without prescribing or selling the medicines for a particular disease; this has attracted most Tanzanian consumers to value them because they found that these service providers are not after money instead they help patients to know their health status.

In this study it was found that consumers who visited private laboratory technicians for malaria check-ups and found with malaria parasites, some consumers went direct to the pharmacy to purchase the anti-malarial remedies, other consumers went to the health centre for consultations with their doctors while other consumers visited traditional medical practitioners for traditional medicines. The major reasons for visiting the private laboratory services were malaria misdiagnosis in the public health facilities and saving time as discussed

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in earlier sections.

Since the private laboratory services has shown to support the Government's efforts in fighting against malaria in the Tanzanian community by helping patients to know their health status before purchasing the anti-malarial remedies; there is a need for the Ministry of Health and Social Welfare to find the means which can motivate a large number of health stakeholders to locate as many as possible laboratory services in order to supply the laboratory services to the entire population. Also consumer living in the rural areas need to be considered as this service was found to be available in the urban areas only.

The findings above are supported by (Aidoo,2013) who found that malaria case management requires coordinated efforts by several healthcare professionals for laboratory tests to have a significant impact on malaria control and elimination, a paradigm shift is needed in patients care (Aidoo, 2013).Also prompt and accurate diagnosis of malaria is the key to effective disease management, guiding the management of febrile patients and reducing the unnecessary use of anti-malarial drugs. High sensitive of malaria diagnosis is important in all settings, and essential for the most vulnerable population groups in which malaria infection produces an acute illness that can rapidly progress to death. Existing laboratory services that provide malaria microscopy should be strengthened. Where microscopy in possible, RDTs should be introduced and appropriate quality assurance systems established (WHO,2006). According to Dacombe *et al.* (2006),the role of any medical technology should be supplementary and contextual rather than a substitute for medical consultation. In the current situation, it has been fund that patients also demand laboratory investigations as part of medical care. In other words, in the current age 'laboratory medicines', medical care becomes

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comprehensive only with the support of basic laboratory facilities like laboratory support along with other infrastructural facilities are an important determinant influencing the utilization of health services.

#### **6.4.4 Traditional Medical Practitioners**

Traditional medical practitioners are among the unknown key stakeholders in the Tanzanian communities. Their practices are highly appreciated by a number of Tanzanians who find using traditional medicines worthwhile for them. In this study it was found that a number of consumers used traditional medicines after being discouraged by the performance of modern anti-malarial remedies. These consumers abandoned modern anti-malarial remedies after finding that traditional medicines worked for them. Traditional medical practitioners promoted their medicines by emphasising that the traditional medicines are natural, since they are prepared in traditional ways without adding chemicals. Therefore, they claim that their medicines are free from toxic substances and, hence, not harmful to the human body.

A number of Tanzanian consumers were shown to be satisfied with these services, especially those who had used a number of modern anti-malarials for their malaria disease and were not cured. Their satisfaction on consumption of the traditional medicines made them form a positive attitude toward traditional medicines, not only for malaria treatment but also for other diseases. The good word of mouth from consumers, who were satisfied with traditional medicines, has attracted a number of consumers to use the medicines; however, the

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uncertainties as to the efficacy, quality and standards of the medication deterred some consumers from using traditional medicines.

The Tanzania Food and Drug Authority (TFDA), as one of the key health stakeholders in Tanzania, acknowledge the practice of traditional medicine in treating different diseases. However, they warn patients to stop using the traditional medicines because those medicines are not scientifically proven. They have outlined the risk of using the traditional medicines, such as the resistance of malaria parasites to the medicines due to either overdosing or under doing. On the other hand, clinical officers reported that some consumers used traditional medicines for malaria treatment and when they found the medication did not work, they visited the health centres for more support. This causes delays in malaria treatment. Overall, there is a high level of uncertainty associated with the consumption of the traditional medicines by Tanzanian consumers.

From the findings above, it can be revealed that the practice of traditional medicine is helpful to a number of consumers as it was found to be the solution for several consumers who had suffered from the disease for long time without a complete cure by the use of modern anti-malarial remedies. However, the caution from the health stakeholders such as TFDA and clinical officers raised some doubts among Tanzanians who believed that traditional medicines are their main treatment; also it discouraged some consumers who were thinking



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of starting using the medication after hearing good reports of such medication from those who had been cured by it.

In order to ease Tanzanian consumers' minds concerning the effectiveness of traditional medicines and their side effects, the government through the Ministry of Health and Social Welfare and TFDA needs to investigate the efficacy, standards and quality of the traditional medicines. Also, all the traditional medical practitioners should be registered and recognized in order to help the health stakeholders' governing bodies to monitor and evaluate their medical provision. In particular, the Tanzanian government needs to accept the practice of traditional medicine so that the services can be offered openly and the procedures followed by the traditional medical practitioners monitored. Also there is a need for the government to foster collaboration between the traditional medical practitioners and the professional health bodies to find smooth ways in which they can cooperate to reduce the malaria burden on Tanzanian communities. In addition, the Tanzania government needs to appreciate the natural resources it has and their usefulness in helping the population to fight against malaria, which is a burden to the nation.

The findings above are consistent with a variety of previous studies. For instance, the WHO acknowledged that the practice of traditional medicine in Tanzania is threatened by a lack of written documentation on traditional medical practices, which has made its promotion

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difficult, and by a decline in biodiversity, including traditional medical resources, in certain localities (WHO, 2001). Also Sutherland and Verhoef (1994) in their study found that patients may choose to use herbals because they are dissatisfied and uncomfortable with conventional treatments that are perceived to be ineffective, expensive or have unpleasant side effects, while others also find herbal medicine attractive because it is consonant with their personal values, religious and health philosophies (Bishop *et al.*, 2007). Makundi *et al.* (2006) in their study found that an increasing collaboration between traditional healers and modern health care providers was shown to improve the management of severe malaria in the studied area. They said, traditional health care is not necessarily a significant impediment or a delaying factor in the treatment of severe malaria. However, there is a need to foster training on the management of severe cases, periodically involving both traditional health practitioners and health workers to identify modalities of better collaboration. In addition, Kayombo *et al.* (2007) identified that the collaboration between traditional healers and biomedical practitioners in African countries south of the Sahara is ever more important now in improving healthcare because it is likely to widen the scope for sharing and collecting information and allows for shared leadership and responsibility in the management of health problems.

Generally, different studies highlighted the usefulness of traditional medicines. For Africans, traditional medicine is a form of healthcare that is more accessible and it symbolizes an

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ancestral belief system that is uniquely African, as well as often cheaper than the western medicine (Iwu, 1993; Neba, 2011). Research findings have revealed that traditional medicines are more effective than the conventional modern medicines in some patients suffering from chronic diarrhoea and herpes (Shenton, 2004). Also, some positive results have been reported when traditional medicines were used against incurable diseases such as cancer, HIV, and other diseases, especially those caused by virus (UNEP, 2007 as cited by Kira and Komba, 2012). Also studies in Zimbabwe examined the use of traditional herbal medicine to cure malaria; their findings revealed that traditional medicines have been used to treat malaria for thousands of years and are the sources of the main two groups (artemisinin and quinine derivatives) of modern anti-malarial drugs (Kezembe *et al.*, 2012). They identified that people continued to use the traditional herbal anti-malarial drugs with a good degree of success. They argued that consumers should value the presence of traditional medication in treating malaria in order to get rid of malaria infections.

The decisions made by most consumers while seeking for malaria medication, especially those who visited the pharmacies and traditional medical practitioners to purchase the anti-malarial remedies, amounted to self-medication. This is because they used the anti-malarial remedies without seeking the scientific proof which could identify whether they suffered from malaria or not. The next section discusses the benefits and risks of self-medication.

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## 6.5 Self-Medication

Self-medication was found to be misused by number of patients in treating different diseases. Most consumers were shown to apply self-medication in their daily life without taking into consideration the side effects of self-medication. In this study, self-medication was shown to be practised by most of the participants. The challenges faced by consumers when seeking for malaria treatment in the formal health centres, such as long waiting time due to insufficient number of health worker providers, malaria misdiagnosis, lack of malaria diagnostic tools, geographical distances and drug shortage in the public health centres, attracted most consumers to engage in self-medication by purchasing anti-malarial remedies without a malaria diagnosis. Also, some consumers who were discouraged by the use of the modern anti-malarial remedies applied the self-medication by visiting the traditional medical practitioners for traditional medicines for malaria treatment.

There are some benefits of applying self-medication, which are highlighted in the literature: it is voluntarily chosen by consumers for conditions where it seems preferable to them (WHO, 2000); has advantages for healthcare systems as it facilitates better use of clinical skills, increases access to medication and may contribute to reducing prescribed drug costs associated with publicly funded health programmes (Hughes *et al.*, 2001); consumers are willing and able to take more responsibility for their own health and by so doing a significant

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amount or resources could be utilized in more pressing areas than patients receiving consultations and prescriptions for minor ailments (Pankaj *et al.*, 2012). Generally, it is accepted that self-medication has an important role in the care of minor ailments (Hayran, 2000). However, the benefits of self-medication might be applicable to the developing countries whom patients know the non-prescription (over the counter) drugs and the drugs that need a doctor's prescription. In Tanzania, however, self-medication is a major challenge since consumers apply it not only to minor diseases, as was intended, but also to major diseases such as malaria. This causes resistance of the malaria parasite, due to misdiagnosis and consequent incorrect medication.

Indeed, there are a number of risks associated with self-medication; for instance the WHO (2000) identified the following potential risks that are associated with self-medication practices: the ordinary user will usually have no specialized knowledge of the principles of pharmacology or therapy or of the specific characteristics of the medicinal products used. This results in certain potential risk for individual incorrect self-diagnosis, failure to seek appropriate medical advice promptly, incorrect choice of therapy, failure to recognize special pharmacological risk and other risks (WHO, 2000). Other risks of self-medication are misdiagnosis, use of excessive drug dosage, prolonged duration of use, drug interaction and polypharmacy (Hughes *et al.*, 2001). Also Lamikanra and Osemene (2012) like Hughes *et al.* (2001), identified the following risks; wrong diagnosis, use of excessive drug dosage,

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prolonged duration of use, drug interactions, polypharmacy and infection, which can occur to self-medicating individuals. In addition, self-medication can cause bacteria resistance in the human body and may precipitate the emergence of multiple resistance of organisms that would be difficult to treat and this causes an increased morbidity (Fadara, 2011).

Despite the obstacles Tanzanian consumers face when seeking for malaria treatment in the formal health centres, Tanzanian consumers have to bear in mind that proper diagnosis and treatment of malaria is the only solution to reduce the malaria burden to their health and to their families in general. Therefore, Tanzanian consumers need to be educated on the risk to their health posed by self-medication. Also the government, through the Ministry of Health and Social Welfare and other health stakeholders, needs to provide solutions to the factors influencing Tanzanian consumers to engage in self-medication, in order to reduce resistance of malaria parasites and hence reduce the mortality rates. Application of such measures would improve public health and in turn strengthen the economy of the country through participation in economic activities suited to citizens' environment.

The findings above are supported by Figueiras *et al.* (2000) and Lam *et al.* (1989) who found that the practice of self-medication is common worldwide in both developed and developing countries and may even be more common than the use of prescribed medication. Studies indicated that the use of self-medication is influenced by several factors, such as personal,

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organizational and environmental (Sawalha *et al.*, 2008; De Boer *et al.*, 2007 and Warku, 2003). Also the failure of a health care system, when there is misdistribution of health resources and resultant growth in health care costs, has been mentioned as a factor in self-medication (Heisler *et al.*, 2004). Moreover, an individual's decision to use a particular source of health care involves many factors related to socio demographic characteristics, illness type and severity, perceived health status and the range and accessibility of therapeutic options available and their perceived efficacy (Ahmed *et al.*, 2006; Fernandez-Olano *et al.*, 2006). In this study some consumers used COO cues in judging the quality of anti-malarial remedies. The next section will discuss the impact of COO on evaluation of anti-malarial remedies.

## **6.6 Impact of Country of Origin on Anti-malarial Remedies Evaluation**

Tanzania has different brands of anti-malarials, some of which are domestically produced and some are imported from other countries such as Germany, India, the United Kingdom, Kenya, Uganda, Belgium, China, Switzerland, Netherlands and Italy. The mentioned foreign countries are well developed in industrialization and technological areas with the exception of Uganda, which is at a slightly lower level of economic development than Tanzania. The economic differences among the countries which supplied their anti-malarial remedies of

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Tanzania increased the attention of Tanzanian consumers while choosing anti-malarial remedies.

COO impact on evaluation of the anti-malarial remedies was found to vary according to demographic characteristics. As mentioned earlier, three demographic characteristics, age, education and geographical location, were studied. Less educated consumers, older consumers and rural consumers were shown to be less concerned with the information search on the malaria remedies because most of them made their purchase decision through the influences of opinion leaders (doctors and pharmacists). Their main concerns were with the availability, affordability and side effects (for consumers with sulphur allergies) of the anti-malaria remedies. Therefore, COO issues were not taken into consideration as they purchased what was prescribed by the doctors or based on the pharmacist's advice. In addition, the limited knowledge on the foreign anti-malarial remedies made them blind to the COO criterion which purchasing anti-malarial remedies.

On the other hand, higher educated consumers, younger consumers and urban consumers were highly involved in searching for information on different anti-malarial brands. Their exposure to foreign products together with their level of understanding on the different countries and their technological advancement, made them evaluate the quality and performance of the antimalarial remedies before purchasing. However, identification of the



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performance of the anti-malarial remedies was not possible, since the performance of the anti-malarial medication is revealed after consumption. Therefore, some consumers used the price as their criterion of quality judgement and they purchased highly priced anti-malarial remedies, believing that those medications would be of high quality. In addition to price cue, consumers used the COO cue to judge the quality of the different anti-malarial remedies. In purchasing anti-malarial remedies, consumers from this category purchased foreign anti-malarial remedies from countries with economies more developed than Tanzania. Most of these consumers were shown to have negative attitudes towards domestic anti-malarial remedies, believing that the domestic pharmaceutical industry produces the anti-malarial remedies and other medication of low quality. In other words, the lower technological advancement in Tanzania was interpreted by some consumers to mean that the anti-malarial remedies and other medication would be of low quality.

From the findings it was revealed that availability of different anti-malarial brands from different countries in the Tanzanian market hindered the ability of Tanzanian consumers to process the information on each anti-malarial brand. Therefore, consumers relied on extrinsic cues to formulate quality judgements because some consumers' prior knowledge with the anti-malarial remedies was low. Therefore, COO was used to minimize the level of risk when evaluating the anti-malarial remedies. For instance, during the information stage, consumers searched for information on different anti-malarial brands. In evaluating the alternatives,

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consumers used various criteria, one of the frequently mentioned criteria being COO, which helped consumers to make a judgement on the quality of the anti-malarial remedies. Consumers who used COO in evaluating the anti-malarial remedies were uncertain about the function of the purchased anti-malarial remedies. Therefore, they believed that by using the “made in concept” when evaluating the anti-malarial remedies they would get the right medication, which would cure the malaria parasites, without making them regret their purchase decision.

The findings above were consistent with a study carried out by Kerbouche *et al.* (2012) who found that Chinese products are considered as cheap, old fashioned and of poor quality by consumers in the rest of the world because of its status as a developing country. Also Batra *et al.* (2000), who conducted a study in developing countries, found that consumers in the developing countries have a generalized status preference for non-local brands, basically from developed countries. Therefore, not only Tanzanian consumers are interested in products from developed countries, but also other consumers from less developed countries have the same attitude.

Similarly Maheswaran (1994) found that customers’ buying intentions are influenced by factors such as the source country’s economic and political maturity, level of industrialization and economic development and degree of technology skills. Also Lotz and Hu (2001) argued,

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customers stereotype the quality, suitability and attractiveness of products coming from certain countries, as they associate the product quality with images of the economic and social conditions of the COO. The findings above support this idea that customers show stronger purchase intentions for goods coming from countries of which they have a favourable image than countries with an unfavourable image (Knight and Calantone, 2000). The impact of COO on customer choice can be understood clearly with reference to Maheswaran's (1994) explanation of the way that COO is used in product evaluation to predict the likelihood of a product manufactured in a certain country having certain features; generally, consumers will evaluate a product more favourably if it has a favourable COO.

However, the findings from this study were contrary to the findings obtained by Jun and Choi (2007) who found that the COO effects varied depending on the nature of the product, such as durable goods and agricultural products. Jun and Choi (2007) examined the country of origin effects on use of non-prescription drugs by using the concept of country brand attitude. They first raised some questions which are: "Are these country effects generalisable to all products categories?" and "Specifically, is it effective when a consumer buys a medical product?" They found that the effect of country of origin varies depending on the product categories. For example durable goods such as automobiles and agricultural products are regarded as more sensitive to COO. In this study, COO was found to have an effect on anti-malarial remedies, which are neither automobile nor agricultural products. That is to say, the

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impact of the COO is not confined to a particular product category; the impact always arises when consumers have negative attitudes towards domestic products. However, in this study, even some foreign anti-malarials were questioned with regard to their standards and performance. For instance, the anti-malarial remedy from China was reported in a negative way by some consumers.

This shows that COO has a lot to do with the consumers' decision making process; domestic pharmaceutical industry need to be monitored in terms of the quality and standard of the anti-malarial remedies and other medication. This will help the domestic pharmaceutical industry to produce anti-malarial remedies and other medication with the same features as the imported ones. Hence, Tanzanian consumers will be encouraged to use their own produced anti-malarial remedies. On the other hand, the standard and the quality of the imported anti-malarial remedies should be taken into consideration, as Tanzania should not be taken as a dumping place for foreign products. The government should know that the imported medicines are intended for treating malaria and other diseases and not causing physical problems to the users.

Papadopoulos *et al.* (1990) acknowledged that the growth and sustenance of the domestic manufacture in a free economy depends on the consumers' acceptance of the goods manufactured in that country. The domestic manufacturers are facing difficult challenges

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from imported goods or brands from the developed countries which have already achieved an enviable market position worldwide. The development of the manufacturing sector in such economies is hampered by the fact that consumers in those economies view domestic products less favourably than products from more advanced countries. COO has an effect on the domestic products since it drives consumers to prefer foreign products and hence discourages domestic manufacturers. Nagashima (1977) as cited by Munjal (2014), undertook a longitudinal study to identify the effects of country image; from his findings he suggested that country image has a direct effect on consumer belief and affects consumer perception. Therefore, improving upon this area of product dimension may enable marketers to gain competitive advantage. COO can be viewed in a positive aspect as CE and a negative aspect as CX. The next section will discuss the positive aspect of COO and its impact on the malaria medication decision making process.

### **6.7 Consumer Ethnocentrism and Domestic Anti-malarial Remedies**

Consumer ethnocentrism refers to ethnocentric views held by consumers in one country, the in-group, towards products from another country, the out-group (Shimp and Sharma, 1987). Consumers may believe that it is not appropriate, and possibly even immoral, to buy products from other countries. In this study the ethnocentric tendency among Tanzanian consumers when purchasing domestic anti-malarial remedies was examined. The findings show that

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ethnocentric tendencies among Tanzanian consumers when purchasing domestic anti-malarial remedies were influenced by factors such as availability, affordability, quality and days of dosage of anti-malarial remedies.

### **Availability**

Availability of the domestic ant-malarial remedies in this study was identified in the light of the capacity of the home industry to supply the required anti-malarial remedies to all Tanzanians. It was found that producing anti-malarial remedies needs a well-equipped infrastructure in terms of technology in order to produce anti-malarial remedies that will meet the required standards. The level of technology of the pharmaceutical industry in Tanzania was found to be low; as a result the home industry was not capable of producing the required anti-malarial remedies to meet the demand of all Tanzanians. To meet the demand for anti-malarial remedies, the government allows the importation of foreign anti-malarial remedies from other countries such as Germany, India, the United Kingdom, Kenya, Uganda, Belgium, China, Switzerland, Netherlands and Italy. The importation of foreign anti-malarial remedies in Tanzania has resulted in widening the choice of anti-malarial remedies to use. The Tanzanian government, through the Ministry of Health and Social Welfare, is trying to promote the usefulness and affordability of the domestically produced anti-malarial remedies, especially ALU. However, consumers are not advised on the importance of valuing their

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home produced anti-malarial remedies over foreign anti-malarial remedies. This has attracted most Tanzanian consumers to take the domestic anti-malarial remedies for granted.

The Tanzanian government needs to educate consumers to value their home produced anti-malarial remedies and other medication. Despite the limited volume of anti-malarial remedies produced by the domestic pharmaceutical industries, the government could urge patients to consume the available domestic anti-malarial remedies first, and then opt for foreign anti-malarial remedies when the domestic anti-malarial remedies are out of stock. By so doing, the notion of nationalism in minds of Tanzanians will be built; not only regarding domestic medical consumption, but also consumers will value other domestically produced products, which will strengthen the economy of the country.

### **Affordability**

Most Tanzanians are living below the poverty line; hence, their consumption behaviour in relation to goods and services is shaped by their level of income. Domestic anti-malarial remedies are priced lower compared to foreign anti-malarial remedies. This has attracted a number of Tanzanians, especially those with low level of income, to use them. Since most of the foreign anti-malarial remedies are expensive this hindered low income earners from using them; only higher income earners managed to purchase them. It can be shown that domestic anti-malarial remedies were demanded solely because they were affordable to most

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consumers, but if the price of the domestic anti-malarial remedies had been the same as the price of foreign anti-malarial remedies, more consumers might have opted for the foreign anti-malarial remedies. The reason is that Tanzanian consumers are not well informed about the importance of utilizing domestic products over foreign products. The ethnocentric use of foreign products will result in the loss of jobs and hurt the economy of the country, but this is not in the Tanzanian mind. This requires the government of Tanzania, through the Ministry of Health and Social Welfare, to think of having promotional strategies which will encourage Tanzanians to use home produced anti-malarial remedies irrespective of their level of income. This will help Tanzanians in building the confidence on their home produced anti-malarial remedies and other medication and hence increase the level of ethnocentrism, which will boost the domestic industries and thereby strengthen the economy.

### **Quality**

The quality of the domestic produced anti-malarial remedies was found to be questioned by a number of consumers. The quality of domestic anti-malarial remedies in this study was defined in terms of the performance of the medication consumed. Consumers who experienced negative performance of anti-malarial remedies and other medicines which were domestically produced were shown to be disappointed in the domestic anti-malarial remedies; as a result some of them who were capable of purchasing foreign anti-malarial remedies did



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so. Negative word of mouth on any product has great impact on the progress of any industry; changing negative attitudes in consumers' minds requires a lot of effort. The government, through the Ministry of Health and Social Welfare, is required to monitor the quality of the domestic anti-malarial remedies in order to make sure the produced anti-malarial remedies meet the required standards and satisfy consumers' needs. These findings support the argument of Newton *et al.* (2006) that the health of people living in the developing countries is critically dependent upon the availability of good quality medicines. Safety, quality, and efficacy of medicines are the three most important criteria used by governments to regulate pharmaceuticals (WHO, 1999). Quality of drugs is especially important and is one of the earliest to come under government scrutiny (Amin and Kokwaro, 2007).

### **Days of Dosage and Amount of Tablets per Dose**

Among the criteria used by Tanzanians when purchasing anti-malarial remedies were the days of dosage and amount of tablets per course. It was found that the course of domestic anti-malarial remedies, especially ALU, requires a large quantity of tablets compared with other anti-malarial brands from other countries. In addition to the quantity of the tablets, the medication has a tendency of raising the body temperature of a patient after using it and also it takes a further week for a patient to recover after finishing the course; this is due to reaction to the medication. This has discouraged a number of Tanzanians from using it, especially

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consumers who preferred taking the malaria medication while working. As a result many consumers prefer to purchase the Metakelfin anti-malarial remedies from Kenya and other anti-malaria brands that require fewer tablets per course. The government, through the Ministry of Health and Social Welfare, could find a means of modifying the dose intake without disturbing the contents by reducing the number of tablets per course from 24 tablets to 9-12 tablets per course. If they did so, more consumers would be attracted to use home produced anti-malarial remedies and hence strengthen domestic industry.

Generally, the findings revealed that the ethnocentric tendencies among participants on purchasing the domestic anti-malarial remedies were quite low. The Tanzanian Government has encouraged Tanzanians to use the ALU anti-malarial remedy due to its usefulness and affordability, but no emphasis was given in educating Tanzanians to use home produced anti-malarial remedies. Despite the limited capacity of local anti-malarial production, the Tanzanian government could encourage the Tanzanians to value their home produced anti-malarial remedies first. Without such encouragement, consumers found domestic anti-malarial remedies unattractive and instead opted for foreign anti-malarial remedies if they could afford them. Consumers purchased domestic anti-malarial remedies solely because of their low price, but not because they cared about the growth of the domestic industry. In addition, the performance of the domestic anti-malarial remedies and the number of the tablets per course raised a question on the quality of the domestic anti-malarial remedies

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produced. This resulted in discouraging a number of Tanzanian consumers from using the domestic anti-malarial remedies, and led them to prefer the foreign anti-malarial remedies. There was no nationalism in the minds of Tanzanians when purchasing domestic anti-malarial remedies.

The findings above are contrary to the characteristics of ethnocentric consumers as identified by Sharma *et al.* (1995). They argued that consumer ethnocentricity has the following characteristics; first, consumer ethnocentricity results from the love and concern for one's country and the fear of losing control of one's own economic interests as the result of the harmful effects that imports may bring to oneself a countrymen. Second, it contains the intention or willingness not to purchase foreign products. For highly ethnocentric consumers, buying foreign products is not only an economic issue but also a moral problem. This involvement of morality causes consumers to purchase domestic products even though, in extreme cases, the quality is below that of imports. In the eyes of ethnocentric consumers, not buying foreign products is good, appropriate, desirable, and patriotic; buying them is bad, inappropriate, undesirable, and irresponsible. Thirdly, it refers to a personal level of prejudice against imports, although it may be assumed that the overall level of consumer ethnocentricity in a society system is the aggregation of individual tendencies (Sharma *et al.*, 1995). The next section will discuss the findings of the negative aspect of COO.

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## **6.8 Consumer Xenocentrism and Demographic Characteristics**

Xenocentric people are individuals who prefer a society other than their own and who rate and scale everything in reference to that society and not their own (Kent and Burnight, 1951).

Tanzanians' xenocentric tendencies when purchasing the anti-malarial remedies were examined. From the findings it was revealed that the xenocentric tendencies of consumers when purchasing the anti-malarial remedies were influenced by demographic characteristics.

In this study three demographic characteristics, age, education and geographical differences were studied.

### **Age**

Age differences were shown to have an impact on Tanzanian consumer's malaria medication decision making process. From the findings it was revealed that most older consumers, when they recognized malaria symptoms, visited the health centres for malaria diagnosis and when the results proved that they had malaria parasites, they used the doctor's prescription to purchase the anti-malarial remedies. Also, older consumers who could not easily access health centre services visited pharmacists to ask for anti-malarials and they purchased them based on the pharmacists' advice. In the health system in Tanzania, most doctors prescribe ALU anti-malarial remedies, unless a patient has his/her own choice. Therefore older consumers were advised to use ALU anti-malarial remedies, which are domestically

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produced. The ALU anti-malarial is the cheapest anti-malarial remedy in Tanzania. This attracted older consumers to use it, since it was affordable for them.

On the other hand, younger consumers were shown to engage deeply in information search on different anti-malarial brands. In evaluating the alternatives they used a number of criteria such as country of manufacture, brand, days of dosage, price and side effects of the anti-malaria remedies. They used the intrinsic and extrinsic cues of the anti-malaria remedies before they purchased. Their major concern was the quality of the anti-malarial remedies. To be assured of the quality they decided to purchase foreign anti-malarial remedies because they believed that the foreign anti-malarial remedies are of higher quality compared with the domestically produced anti-malarial remedies. The reason for their selection was that most of the foreign countries that import anti-malarial remedies to Tanzania are much more developed than Tanzania; therefore, they believed the anti-malarial remedies from those countries would be of high quality compared with the anti-malarial remedies produced by the domestic pharmaceutical industry.

These findings revealed that older consumers are less xenocentric in purchasing anti-malarial remedies because they are limited by their age from searching for more information about the different anti-malarial brands. Also, their trust in the opinion leaders increased their satisfaction with the recommended anti-malarial remedies. In addition, older consumers were

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found to be limited by income. Therefore, even though they could reject the opinion leaders' advice, they could not afford to purchase the foreign anti-malarial remedies because their prices were higher compared to the home produced anti-malarial remedies. On the other hand, younger consumers were more xenocentric in purchasing the anti-malarial remedies, because they valued the foreign anti-malarial remedies believing that the technological advancement of the chosen and trusted countries would guarantee anti-malarial remedies of high quality compared to the home produced anti-malarial remedies.

The findings above were consistent with other authors' findings, showing that older consumers tend to be more price - sensitive and have more severe constraints relative to younger consumers. Therefore older consumers are more likely to purchase low-priced products (Dhar and Hoch, 1997).

### **Education**

Level of education of Tanzanian consumers was shown to have an impact on the malaria medication decision making process. From the findings it was found that consumers with low levels of education trusted the opinion leaders when purchasing anti-malarial remedies. Their trust in their doctors and pharmacists reduced the level of uncertainty in purchasing anti-malarial remedies. On the other hand, more highly educated consumers were shown to be highly involved in the malaria medication decision making process. Their exposure and their

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ability of reasoning made them judge the quality of the anti-malarial remedies. Their level of education helped them to differentiate between developed and developing countries and the implications for quality judgements. They searched for information on the different anti-malarial remedies and they used criteria such as country of manufacture, price, brand, days of dosage and side effects in evaluating the anti-malarial remedies. Most of the highly educated consumers purchased foreign anti-malarial remedies, believing that those medications are of high quality compared to the domestic anti-malarial remedies.

It can be noted that the purpose of purchasing anti-malarial remedies is to be cured. Educated consumers were found to have different alternatives when purchasing anti-malarial remedies. They did not rely on a single brand. Instead they tried as many brands as possible to find the best solution to their problem. Also most of them were shown to rely on foreign anti-malarial remedies as they believed that those medications are of high quality so they would be cured by them. Their reasoning on the performance of the anti-malarial remedies made them build positive attitudes to the foreign anti-malarial remedies.

From the findings above, it can be shown that educated consumers are more xenocentric than less educated consumers, because educated consumers are more exposed to the different brands of anti-malarial remedies. Also, their level of reasoning in terms of the quality and performance of the different anti-malarial remedies is higher than that of consumers with low

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levels of education. In addition, most of the educated consumers were employed, while others were self-employed; therefore, their level of income made them less price sensitive. Sometimes they judged the quality of the anti-malarial remedies in terms of the price. They believed highly priced anti-malarial remedies would be of higher quality compared to low priced anti-malarial remedies. Therefore, purchasing highly priced anti-malarial remedies meant to them that they were purchasing high quality anti-malarial remedies.

The findings above are consistent with Hoch (1996) who found that well educated consumers may have more confidence in their evaluative abilities and are better informed about the relative quality of domestic brands compared to foreign brands. These consumers have fewer financial constraints and are more quality conscious; also they may have low price sensitivity. All these factors helped to explain a preference for foreign products.

### **Geographical Differences**

Geographical differences among Tanzanian consumers were shown to have an impact on the malaria medication decision making process. From the findings it was revealed that rural consumers faced problems in accessing the health centres' services and most of them utilized the local pharmacies to purchase anti-malarial remedies. A few consumers who managed to visit the health centres for malaria diagnosis used doctors' prescriptions when purchasing the anti-malarial remedies. Most consumers, after recognizing the malaria symptoms, visited the



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pharmacies to ask for anti-malarial remedies, and they were advised by the pharmacist which anti-malarial remedies to purchase. Most of the rural pharmacies were shown to be limited in the anti-malarial brands available as the level of income of the rural consumers induced the pharmacists to supply only the domestic anti-malarial remedies, which were affordable to most rural consumers.

On the other hand, urban consumers were found to have access to health centres due to availability of private and public health centres. Availability of pharmacies with different anti-malarial brands gave them a wide choice of anti-malarial remedies. Most consumers living in the urban areas were able to engage in various income generating activities; therefore, their standard of living was shaped by their environment. In visiting the pharmacies to purchase the anti-malarial remedies, especially in the case of consumers who did not have a doctor's prescription, they were asked by the pharmacist which brand of anti-malarial remedy they needed. This broadened the choice of different anti-malarial remedies and some urban consumers were interested to purchase foreign anti-malarial remedies.

The findings above show that urban and rural differences have an impact on consumers' malaria medication decision making process as far as consumer xenocentrism is concerned.

The exposure to foreign anti-malaria remedies and the wide range of choices/ alternatives of pharmacies influenced urban consumers while purchasing the anti-malarial remedies; this is

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different from rural consumers. These findings are consistent with those of other scholars who identified the impact of demographic characteristics on xenocentric tendencies of consumers. Their findings revealed that urban consumers are more xenocentric compared to rural consumers because urban consumers are exposed to or have knowledge of foreign products. For instance, Bullis (1997) noted that urbanite consumers in India were shown to prefer foreign products than domestic products, and they felt it was prestigious to purchase foreign products. The study conducted by Shultz *et al.* (1994) identified that rural consumers are less xenocentric, because they have more traditional values and modes of behaviour which are highly resistant to change. This made them to prefer domestic products than foreign products. In their study, urban consumers were found to have more exposure and knowledge on foreign products, while their ability to earn income enabled them to purchase foreign products.

Generally, consumer xenocentrism has been found to have a negative effect on domestic industries, because consumers build up a negative attitude towards homemade products (Mueller *et al.*, 2009). For example, the study conducted by Okechuku and Onyemah (1999) found that Nigerian consumers prefer using various foreign products over local products. This was the case in the present study, suggesting that domestic industries and other producers will be challenged to improve the quality of their products and even change their promotional strategies. On the other hand, other researchers suggested the reasons for

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consumers in emerging markets to prefer foreign products; they claimed consumers in developing countries are attracted to foreign products because of underlying socio-psychological factors that automatically accord a status of prestige to foreign countries and, by association, their products (Howes, 1998 and Drazin, 1991). This explanation was less supported by this study, as participants' preferences appeared to be affected by practical more than psychological factors.

However there is no study yet which has investigated the relationship between consumer xenocentrism and level of education. The findings from this study can be used as a steppingstone to other researchers who may be interested to research on this area.

Based on these findings, the pharmaceutical industry in Tanzania needs to understand the Tanzanian malaria medication decision making process on anti-malarial remedies and the factors influencing their decision. For instance the effects stereotyping in the minds of Tanzanian consumers about the domestic anti-malarial remedies need to be taken into consideration. The domestic industry needs to be equipped with the required infrastructure in order to produce medication of high quality. This will increase the xenocentric tendencies of Tanzanian consumers in purchasing anti-malarial remedies. Also, the government needs to understand demographic characteristics and their impact on malaria medication; this will help them in planning for promotion strategies which will suit all segments.

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The consumption of anti-malarial remedies was accompanied by risk and uncertainties which made some consumers highly involved in the decision making process. The next section will discuss the influence of risk and involvement and its impact in the malaria medication decision making process.

## **6.9 Dimensions of product involvement and perceived risk and their influence in consumers' decision making process**

The dimensions of product involvement and perceived risk were identified in this study. The influence of each dimension in the malaria medication decision making process will be highlighted in the next sections.

### **6.9.1 Perceived Risk**

The malaria medication decision making process was accompanied by uncertainties as patients purchased the anti-malarial remedies without knowing their functionality. The results of the performance of the particular anti-malarial remedies were shown either in a positive or a negative way based on the experience of a particular patient. It was shown that consumers experienced risks with both domestic anti-malarial remedies and foreign anti-malarial remedies. Four types of risks emerged in this study: physical risk, financial risk, performance risk and time risk.

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## **Physical Risk**

Physical risk emerged when consumers were adversely affected by the use of the purchased anti-malarial remedies. This risk was experienced by consumers who used modern (domestic and foreign) anti-malarial remedies. Negative experiences by consumers who were affected by the use of the medication made them careful in making the decision in order not to repeat the same mistakes; some consumers switched from one brand to another. In this study it was found that the physical risk was caused by two factors; first, the side effects of the particular anti-malarial remedy, whereby a patient was administered the right medication but after using the medicine an adverse reaction occurred. Second, some pharmacists administered anti-malarial remedies to patients without taking into account the patient's weight and allergies. Those consumers who were given the wrong dose or type of anti-malarial remedies were affected because the medication was not meant for them. Consumers purchased the anti-malarial remedies with the expectation of getting treated for their disease; the physical harm to their bodies made them regret their purchase decision.

To avoid such a problem, the government should formulate policies on the standards of pharmacists' medical knowledge. The owners of the pharmacies need to hire salespeople who are medically oriented in order to provide a high standard of services to the patients. This will minimize this risk and hence consumers will be most satisfied with the health services in

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Tanzania. Also the contents of the anti-malarial remedies should be clear to the users; this will bring awareness to the consumers and hence minimize the risk that might be associated with the side effects of a particular medication. The findings above are consistent with Dodds (1991) who suggested that perceived risk may be a result of a consumer's bad experience with previous purchases.

### **Financial Risk**

Malaria treatments are associated with charges such as doctor's consultation fee, malaria test fee and the purchased anti-malarial remedies. The intention of all consumers in purchasing anti-malarial remedies is to be relieved from their malaria suffering. Some consumers used foreign anti-malarial remedies which are highly priced just to be assured of their treatment. Other consumers used domestic anti-malarial remedies based on their level of income, as they found the price of the anti-malarial remedies to be too high for their limited means. Consumers who purchased anti-malarial remedies and found the medicines did not serve their purpose were disappointed since they had paid for them and value for money was not shown in their treatment. On the other hand consumers who visited the health centres and did not get the desired services because of the challenges facing the health centres in Tanzania experienced financial risk too, as they paid for transportation and consultations with the

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doctor but at the end of the day they went home with pain killers instead of malarial medications. This discouraged most consumers from visiting the health centres.

This shows that financial risk has an impact on the consumer's decision making process, particularly in utilizing the health centres and while purchasing anti-malarial remedies.

Health stakeholders in Tanzania need to emphasize the value for money in the medication patients' purchase. This means that the medication should do what it was intended to do. Also the health centres should be equipped with the required facilities in order to satisfy the consumers and encourage Tanzanian consumers to utilize health centres for malaria treatment.

This supports the claim of Sweeney *et al.* (1999) that, the higher the perceived risk, the more consumers must gamble in buying the product. However, the financial risk would vary from person to person; for example, the financial risk for low income earners would be high compared to the financial risk of high income earners.

### **Performance Risk**

Performance of anti-malarial remedies was revealed at the end of the treatment, in terms of whether malaria disease was cured or not. Always consumers had their expectations when deciding which anti-malarial remedies to purchase and use. The performance of the anti-malarial remedies determined their level of satisfaction/ dissatisfaction with the particular medication. In this study it was found that a number of consumers were dissatisfied with the

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performance of some anti-malarial remedies. This made them doubt the efficiency of those medications in treating malaria. Hence, some consumers formed negative attitude towards those anti-malarial brands. The poor performance of some of the anti-malarial remedies was found to influence consumers to find alternatives for malaria treatment. As a result, some consumers opted to use traditional medicines after finding that such medicines worked for them by relieving their malaria suffering. Good word of mouth from consumers who had been cured by traditional medicines attracted a number of consumers to use traditional medicines for treatment of malaria and other diseases. However, the efficacy, standards and quality of the traditional medicines raised the level of uncertainties for a number of consumers.

It can be revealed that traditional medicine raised a number of questions in consumers who were interested to use them were deterred by doubts about the efficacy, quality and standards of those medications. That is to say, despite the good features of the traditional medicine, still some consumers were worried by the uncertainty as to the performance and the issue of efficacy of those medicines. The findings above are related to the study carried out by Furaha *et al* (2000), who found that most people believe that, because herbal medications are “natural” or have been used in some parts of the world for generations, they must be safe. However, like modern pharmaceuticals herbal medications can cause adverse effects. The causes of such adverse reactions are diverse; the use of inherently toxic herbal medicines or



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overdose of herbs, interaction between conventional drugs and herbal medicine and idiosyncratic reactions such as allergies.

The quality of both domestic and foreign anti-malarial remedies needs to be monitored in order for consumers to be satisfied with the anti-malarial remedies provided. Traditional medicines seem to be helpful to Tanzanian consumers, as patients with chronic malaria parasites were found to be cured by traditional medicines. Therefore, the government through the Ministry of Health and Social Welfare needs to work hand with hand with the traditional medical practitioners to know how the medicines are produced, in terms of materials used, the environment used to prepare the medicines, doses and other relevant issues. By doing so they will learn something from the traditional medicines practices. Currently the traditional medicines are not practised openly due to the challenges faced by the traditional medical practitioners. This raises the level of uncertainty for a number of consumers, because the medicines are not yet recognised, meaning not scientifically proven. The recognition of traditional medicines by the government would give direction to the traditional medical practitioners and make them abide by laws governing their services and consumers would have reassurance.

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## **Time Risk**

Time risk was found to have an impact in the decision making process on malaria medication.

In this study, time risk was identified in two ways; first, time used by consumers to visit the health centres without getting the desired services. This discouraged a number of consumers from visiting the health centres and as a result, some consumers engaged in self-medication, which is more dangerous to health. Second, consumers complained about expired drugs that were administered by pharmacists to the patients. It is well known that not all Tanzanians are literate, which makes it difficult for them to be aware of expiry dates. It is the duty of pharmacists to make sure that they are administering the right and up to date medication to the patients. It is true that private pharmacies are doing business; discarding expired/outdated medicines could lead them to financial loss. However, they need to bear in mind that they are dealing with individuals' health. Administering expired anti-malarial remedies to a patient is unethical as it leads to the resistance of malaria parasites and other negative reactions. Therefore, pharmacists need to be extra careful and abide by medical ethics when providing services to patients. Also, the government through the Ministry of Health and Social Welfare and other health stakeholders, needs to try as much as possible to equip the health facilities with all necessary facilities in order to encourage Tanzanian consumers to utilize the health facilities rather than practising self-medication. Also, policies to protect consumers from using expired medication should be formulated and all pharmacists who are guilty of such

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malpractice should be punished accordingly. In addition, consumers need to be reminded of the importance of checking a medication's content, especially the expiry date of the medication. This will minimize this risk; hence patients will be well treated.

From the findings above it can be noticed that perceived risk has an impact on the malaria medication decision making process, due to uncertainties about the functionality of the medication. The findings above are consistent with various scholars. For instance, Onkvisit and Shaw (1994) found that perception of risk is associated not only with the nature of risk to inherent in the product but also by the type of consumer and their attitudes to a particular product. Perceived risk is found to have a significant role in consumer decision-making process. When consumers perceive high risk in a certain product, they tend to look for detailed information in order to make the right decisions and hence reduce the risk (Stone and Gronhaug, 1993; Mitchell and Boustani, 1994; Erdem and Keane, 1996; Sweeney *et al.*, 1999). Consumers often perceive risk in making product decisions because of the uncertainty as to the consequences of their product decisions (Dodds, 1991). Oglethorpe and Monroe (1987) indicated that perceived risk increases with higher levels of uncertainty and/or the chance of greater associated negative consequences. Dowling and Staelin (1994) also closely related perceived risk to the level of uncertainty and likelihood of negative consequences of purchasing a good or service in terms of consumers' perception. Campbell and Goodstein (2001) proposed that perceived risk is an important situational factor that moderates the

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impact of congruity on evaluations. It is suggested that perceived risk is a powerful factor explaining consumers' behaviour, since consumers are more often motivated to reduce mistakes than to maximize utility in purchasing (Schiffman and Kanuk, 2007 and Mitchell, 1997).

### **6.9.2 Product Involvement**

Malaria is a major issue to Tanzanian communities; it is the source of high mortality rates, disabilities and resultant weakening of economic development. Most Tanzanians are aware of the disease; for instance, malaria symptoms, the procedures for getting the right treatment and preventive measures such as using Insecticide Treated Nets (ITNs). The awareness of the impact of malaria on livelihood has influenced most Tanzanian consumers to seek medication when they recognize malaria symptoms. However, the medication for malaria is found to be associated with uncertainties due to the nature of the disease. In this study, it was found that some consumers, when seeking for malaria treatment, were uncertain about the function of the particular medication. Those uncertainties influenced them to be highly involved in making decisions in order to reduce the risk that might be associated with the medication obtained. Nevertheless, the level of involvement in deciding the malaria medication was found to differ among Tanzanians; this was due to the capacity of making decisions on malaria medication. It was found that opinion leaders, self-decision making and past

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experience of malaria medication determined the level of involvement in the malaria medication decision making process.

### **Opinion Leaders**

Knowledgeable people such as clinical officers and pharmacists together with word of mouth, friends and family members were identified as the opinion leaders in this study. Consumers, after recognizing malaria symptoms, did not remain at home, waiting for a miracle to cure their malaria disease. Some of them visited health centres for malaria medication, while others visited nearby pharmacies or traditional medical practitioners to ask for anti-malarial remedies.

Most consumers, who trusted the opinion leaders, after recognizing the malaria symptoms, visited the health centres for malaria diagnosis, and when they were confirmed to have malaria symptoms used the doctor's prescription to purchase anti-malarial remedies. On the other hand, rural consumers faced some difficulties in utilizing the health centres; so, when they found malaria symptoms they used nearby pharmacies to ask for anti-malarial remedies. Pharmacists asked them about the symptoms they had, then they advised them on the anti-malarial remedies to use. The advice obtained from the pharmacists made the consumers continue utilizing their services when they were in need with the malaria medication. In

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addition, word of mouth, friends and family members was found to influence most of consumers while seeking for malaria medication.

It can be noticed that consumers who trusted the opinion leaders on malaria medication had low involvement in making decisions when purchasing the anti-malarial remedies. These consumers did not engage in information search or the evaluation of the alternatives when seeking for malaria medication. Instead, their purchasing decisions on the anti-malarial remedies were based on the opinion leaders' advice. This implies the importance of service providers both doctors and pharmacists, valuing the consumers' trust in them and providing the required and useful information to these consumers in order to continue to earn their trust not only for malarial medication but for other diseases too. Also health stakeholders should bear in their minds that satisfying a single patient will attract a large number of patients to utilize their particular services as patients do share information with their family and friends concerning the health issues. Therefore satisfaction or dissatisfaction of the health services will amount to either encourage or discourage patients to utilize the particular service/ anti-malarial remedies.

### **Self-Decision Making**

Self-decision making on malaria medication was found to influence the level of involvement of some consumers when deciding the anti-malarial remedies to purchase. These consumers,

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when they recognized malaria symptoms, in some cases visited the health centres for malaria diagnosis. After getting the confirmation that they had malaria parasites they asked the doctor to prescribe anti-malarial remedies based on their choice, and the doctor prescribed the anti-malarial remedies accordingly. On the other hand, some consumers, when they recognized malaria symptoms, directly visited the pharmacies to ask for anti-malarial remedies based on their chosen criteria. The criteria used were COO, brand, price and days of dosage.

*COO* was used as one of their criteria in purchasing the anti-malarial remedies. *COO* helped them to know the country of manufacture of the particular anti-malarial remedies. Since there are different brands of anti-malarial remedies from different countries, *COO* helped them to make a judgement on the quality of the anti-malaria remedies. These consumers believed that foreign anti-malarial remedies from countries such as Kenya, China, Switzerland and other developed countries are of high quality because those countries' level of economic development is high compared to Tanzania's. The domestic anti-malarial remedies were believed to be of low quality because the level of economic development of Tanzania is low. In this case, consumers purchased foreign anti-malarial remedies. A number of studies conducted in this area revealed that consumers in developing countries prefer foreign products rather than domestic products. For instance Okechuku and Onyemah (1999); Opoku and Akorli (2009) and Agbonifoh and Elimimian (1999) found that consumers in developing countries tend to prefer products from developed countries, assuming that

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products from developed countries are of higher quality than their native products. Conversely, consumers have a tendency to prefer the domestic products in countries where there is strong xenophobia national arrogance, or consumer ethnocentrism (Heslop and Papadopoulos, 1993).

*Brand* was another criterion used by these consumers in evaluating the anti-malarial remedies. This criterion helped them to differentiate between one brand and another based on the content and side effects listed for each brand. Tanzania has a variety of brands of anti-malarial remedies. For instance, the brands preferred by most consumers were Metakelfin from Kenya, Orodar from Kenya, Artequin from Switzerland, Duo-Cotexin from China and Artequik from China. According to Acebron and Dopico (2000) brand name guarantees a certain degree of homogeneity, identity, and reference for subsequent purchases and word of mouth communication. As with brand name, products with a designation of origin also incorporate an idea of quality per se, in the sense that it tells the consumer something about the origin of the product, the company that makes it and the standards it conforms to.

*Price* was among the criteria used by these consumers to purchase the anti-malarial remedies. Consumers with little knowledge on the performance of different brands of the anti-malarial remedies judged the quality of the anti-malarial remedies based on the price. They believed that highly priced anti-malarial remedies would be of high quality compared with lower



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priced anti-malarial remedies. Therefore they purchased highly priced foreign anti-malarial remedies. According to Olson and Jacoby (1972) consumers may perceive a high price as an indicator of high quality. Price appears as a relevant cue when consumers do not have adequate information about intrinsic quality cues or when it is only available cue the greater the price, the greater the expected quality (Acebron and Dopico, 2000).

*Days of dosage* of different anti-malarial remedies differ from one brand to another. For instances, in the case of ALU anti-malarial remedy made in Tanzania, a patient has to take 8 tablets per day, on three days, amounting to 24 tablets per course, Duo-Cotecxin anti-malaria from China requires a patient to take 2 tablets per day for three days and with Metakelfin a patient has to take 2-3 tablets once (based on the body weight of the patient). Anti-malarial remedies ALU from Tanzania were found to have many tablets per dose compared with other brands. Taking 24 tablets per course made patients become tired throughout the dosage period and hindered them from going on with other daily activities. Therefore, these consumers were found to purchase foreign anti-malarial remedies, which had shorter courses and were effective in malaria treatment.

From the findings above it can be revealed that consumers who made their own decisions on malaria medication were found to be highly involved in deciding the anti-malarial remedies to purchase; this was due to uncertainties on the consumption of the anti-malarial remedies.

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These consumers used various criteria when seeking anti-malarial remedies in order to reduce the risk that might be associated with consumption of the anti-malarial remedies. They purchased foreign anti-malarial remedies, believing that those medicines are of high quality compared to domestic anti-malarial remedies. This shows the necessity for the government, through the Ministry of Industry and Trade, to collaborate with the Ministry of Health and Social Welfare to understand the criteria used by Tanzanian consumers when purchasing anti-malarial remedies in order to produce anti-malarial remedies that meet those criteria.

### **Past Experience**

Experience of the consumption of anti-malarial remedies by some of the consumers and their relatives was shown to determine the level of involvement when purchasing the anti-malarial remedies. In this study it was found that consumers who had been negatively affected by some anti-malarial remedies were highly involved in making decisions on malaria medication because they were worried about facing the same problems again. These consumers who had faced negative experiences used both intrinsic and extrinsic cues in evaluating the anti-malarial remedies. Since it was difficult to foresee the performance of the anti-malarial remedies, these consumers kept on shifting from one brand to another as well as purchasing highly priced anti-malarial remedies, believing that the more expensive anti-malarial remedies would be of higher quality than the ones purchased previously. Some consumers

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searched for information on traditional medicines from traditional medical practitioners and shifted from using modern anti-malarial remedies to traditional anti-malarial remedies.

The findings revealed that the performance of the anti-malarial remedies for Tanzanian consumers results in either satisfaction or dissatisfaction with the consumed anti-malarial remedies. All consumers who faced problems after consuming anti-malarial remedies felt dissonance and they regretted their previous purchase decision. The discouragement they experienced after consuming an anti-malarial remedy would automatically affect their next purchase, as they would not purchase the same anti-malarial remedy again. Instead, they would search for more information on other anti-malarial remedies and purchase brands that met their criteria. This means the government through the Ministry of Health and Social Welfare should investigate the quality of all anti-malarial remedies, both domestically produced and imported. Close monitoring of the quality of anti-malarial remedies will reduce the level of uncertainty for Tanzanian consumers when purchasing anti-malarials because both domestically produced anti-malarial remedies and foreign anti-malarial remedies will meet the required standard and hence satisfy the Tanzanian consumers.

From the findings discussed above, it can be noticed that the dimensions of product involvement and perceived risk as far as anti-malarial remedies are concerned are different from one to another, however, these two components (product involvement and perceived

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risk) together play a part in influencing consumers' decision making processes. For example when the product perceived risk is high it influences consumers to have a high level of involvement during purchase, since consumers need to find more information concerning a particular product in order to avoid risk that might be associated with it. Several studies found that involvement is positively associated with perceived risk (Celsi and Olson, 1988). For example Rothschild (1979) suggested that perceived risk is a dimension of product involvement, while Dholakia (1997) after investigating the relationship between perceived risk and product involvement, found that perceived risk is also envisioned as a consequence of product involvement. He added that the high levels of both product involvement and perceived risk are known to result in more extensive information gathering and more elaborate information processing by the consumer. Uptal (2000) as cited by Karbalaei *et al.* (2013 :3895) identified the reasons influencing a number of researchers to investigate the relationship between product involvement and perceived risk; first, examining the relationship between product involvement and perceived risk allows a better understanding of specific roles played by each construct in influencing different consumer behaviour. Second, an understanding of causal linkage between the various dimensions of involvement and risk is likely to provide rich insight into the psychological mechanism by which these motivational states occur and influence subsequent cognitive and behavioural responses as well as volitional processes that activate persistence in the case of difficult behaviours.

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Finally, this knowledge is also of much practical value, guiding strategic initiatives to benefit from these motivational states of consumers. Thus, these two constructs have an influence in the consumer's decision making process.

## **6.10 Conclusion**

This chapter has presented the discussion on the findings based on the themes that emerged from the research questions. The findings obtained were discussed in the light of the existing literature. In the light of this discussion, the implications of the study were highlighted and the theory of the study was developed as it is presented in section 6.2.

The next chapter concludes the study by highlighting the reflection on research questions, managerial implications and theoretical implications, together with acknowledging the limitations and suggesting areas for future research.

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## CHAPTER SEVEN

### CONCLUSIONS

#### 7.1 Introduction

This study was conducted for the purpose of examining how Country of Origin (COO) Consumer Ethnocentrism (CE) and Consumer Xenocentrism (CX) impact upon risk and involvement in the malaria medication decision making process in Tanzania. The research objectives of this study were; to understand the motivations for purchasing anti-malarial remedies to Tanzanian consumers; to explore if or how Country of Origin has an impact on consumers' evaluation of the anti- malarial remedies in Tanzania; to investigate the ethnocentric tendencies to Tanzanian consumers when purchasing the domestic anti-malarial remedies; to examine the extent in which demographic characteristics affect the level of xenocentric tendencies in Tanzanian consumers; and to identify the dimensions of product involvement and perceived risk and their influences in consumers' decision making process.

This chapter concludes the thesis. The following sections contains reflections on the research questions, a discussion of the managerial implications, theoretical implications and limitations of the study together with suggestions for areas for further research.

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## 7.2 Reflection on Research Questions

The aim of this study was to examine how COO, CE and CX impact upon risk and involvement in the malaria medication decision making process in Tanzania. Therefore, five research questions will be discussed in the light of the literature review and findings and conclusions will be drawn for each question.

**Research Question One:** *What are the motivating factors to Tanzanian consumers in purchasing anti-malarial remedies?*

Question one was addressed through a literature review on malaria disease and Country of Origin together with the findings from the field. It was found that Tanzanian consumers are aware of the causes, symptoms and procedures to be used while seeking for malaria medication. The uncertainties on malaria medication influenced Tanzanian consumers to differ in the malaria medication decision making process. Each consumer decided where and how to get the malaria medication based to the criteria that were found to suit the consumer's choice. Choices of advice seeking on malaria medication was identified in this study; some consumers visited health centres for malaria treatment, others visited pharmacies directly to purchase anti-malarial remedies without a malaria diagnosis, and other consumers visited private laboratory technicians for a malaria test and thereafter purchased the anti-malarial remedies, while other consumers visited traditional medical practitioners to purchase

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traditional medicines for malaria treatment.

In purchasing anti-malarial remedies, consumers were motivated by factors such as availability, affordability, quality, days of dosage and amount of tablets per course and performance of the anti-malarial remedies.

**Availability:** The availability of the anti-malarial remedies at the pharmacies was found to influence some consumers in purchasing anti-malarial remedies. Rural consumers in this study were found to have limited access to health centres; therefore, most of the time when they needed malaria medication they visited local private pharmacies to ask for anti-malarial remedies. Since in the rural areas most of the consumers have limited income, the pharmacists supplied only domestic anti-malarial remedies, as they found foreign anti-malarial remedies would not be demanded by rural consumers, because they are highly priced. Therefore, all consumers regardless of their level of income had to purchase the available anti-malarial remedies. ALU anti-malarial remedies (domestic anti-malarial remedies) were mostly sold in all pharmacies in the rural areas.

**Affordability:** Different anti-malarial brands in Tanzania are priced differently; some are relatively cheap while other brands are expensive. In purchasing anti-malarial remedies, most consumers, especially those with low income, were interested to purchase ALU anti-malarial remedies because they are cheaper than other anti-malarial remedies. ALU is priced at Tshs.2,



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000/= (\$1.1764) whereas foreign anti-malarial remedies cost from Tshs.7,000/= (\$4.1174) to Tshs.14,000/= (\$8.2352). Since most Tanzanians live below the poverty line, the ALU anti-malarial remedy is more affordable.

**Quality:** Uncertainties on the performance of anti-malarial remedies were found to influence some Tanzanian consumers to engage in information searching on different anti-malarial remedies. Since it was difficult for consumers to foresee the performance of the anti-malarial remedies, consumers used extrinsic cues such as country of origin and price to judge their quality. These consumers were shown to evaluate the quality of the anti-malarial remedies based on the technological advancement of the country of manufacture of the particular remedy in question. Most consumers were shown to value anti-malarial remedies from Kenya, China and Switzerland, as they believed that those medications would be of high quality compared to the domestically produced anti-malarial remedies. Also, most of the foreign anti-malarial remedies were highly priced compared to domestic anti-malarial remedies, and consumers believed that the highly priced anti-malarial remedies would be of high quality, on the assumption, “the higher the price the higher must be the quality of the product”. However, not all consumers judged the quality of the anti-malarial remedies; only younger consumers, educated consumers and urban consumers.

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**Days of dosage and amount of tablets per course:** Days of dosage and amount of tablets per course were among the determinant factors for Tanzanian consumers when purchasing anti-malarial remedies. Most of the participants, especially those who made their own purchasing decisions (self-decision making), were shown to prefer anti-malaria remedies which require a shorter course than those anti-malaria remedies with a larger number of tablets per course. These consumers purchased foreign anti-malarial remedies because those medications was found to have fewer days of dosage and fewer tablets per course compared to the ALU domestic anti-malarial remedies.

**Performance:** The performance of the anti-malarial remedies was taken into consideration by a number of consumers. Some consumers had been adversely affected by the performance of modern anti-malarial remedies. These consumers were discouraged; hence they decided to search for information on traditional medicines from traditional medical practitioners and they opted for using those traditional medicines, as they found they worked for them.

Therefore, it can be noticed that Tanzanian consumers were motivated by different factors in purchasing anti-malarial remedies. Every consumer was found to use criteria that suited his/her choice.

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**Research Question Two:** *Does the Country of Origin have an impact on Tanzanian consumers' evaluation of anti-malarial remedies?*

Question two was addressed through a literature review on Country of Origin effect. In this study it was argued that consumers can only analyse the conditions under which the product would have been produced and nothing more than that about the efficacy of a product can be derived from it. An imported product's COO label provides simplified information for consumers. Such cues will be used when consumers perceive them to contribute usefully to the assessment of product attributes and the outcomes associated with purchase. COO studies presuppose that consumers use intrinsic cues such as style or design as well as extrinsic ones such as COO, price, or branding, as indicators of quality in product evaluation.

The findings from the field indicated that COO was found to have an impact on consumers' evaluation of anti-malarial remedies. The uncertainties on the malaria medication influenced some consumers to engage in information search on different anti-malarial brands. This helped them to identify the criterion that was used to evaluate the quality of anti-malarial remedies. Since it was not easy to foresee the performance of the anti-malarial remedies before consuming them consumers used COO as an extrinsic cue to judge the quality of the anti-malarial remedies. Consumers judged the quality of anti-malarial remedies by evaluating the technological advancement of the foreign countries from which they were imported to Tanzania. Anti-malarial remedies from countries with high levels of technological

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advancement compared to Tanzania were highly valued as consumers believed that those medicines would be of higher quality than domestically produced anti-malarial remedies. The main anti-malarial remedies preferred by consumers were Metakelfin from Kenya, Artequik from China, Duo-Cotecxin from China, Orodar from Kenya and Artequin from Switzerland. However, not all consumers were interested to evaluate the anti-malarial remedies based on their country of manufacture; only younger consumers, educated consumers and urban consumers were shown to evaluate the anti-malarial remedies in this way.

**Research Question Three:** *What is the level of ethnocentric tendencies among Tanzanian consumers when purchasing the domestic anti-malarial remedies?*

Question three was addressed through related a literature review on consumers' ethnocentrism, especially on the characteristic of the ethnocentric consumers such as loving the country and fearing losing economic control through purchasing foreign products, unwillingness to purchase foreign products even if the quality of domestic products is below the imported products and personal level prejudice against imports. A view is reported in the literature that purchasing foreign products is inappropriate, undesirable and irresponsible, since it causes loss of jobs and hurts the economy of the country.

In this study it was found that the pharmaceutical industry in Tanzania is not equipped enough to produce sufficient anti-malarial remedies to cater for the needs for all Tanzanians.

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In order to meet the demand, the country allows the importation of anti-malarial remedies from different countries. The variety of different anti-malarial brands in the market has contributed in widening the choices of anti-malarial remedies for Tanzanian consumers. The government through the Ministry of Health and Social Welfare has promoted the usefulness and affordability of ALU (one of the domestic anti-malarial remedies). However, consumers were not urged to use the ALU anti-malarial remedy over foreign anti-malarial remedies. This made most consumers purchase any anti-malarial brand from any country because they had a free choice and they did not see a problem in purchasing foreign anti-malarial remedies rather than domestic anti-malarial remedies. The findings from the field indicated that only consumers with low income were shown to purchase the ALU anti-malarial remedy, whereas most consumers with a high level of income switched from one brand to another, based on their interest in a particular medication.

Also, uncertainties in the consumption of domestic anti-malarial remedies influenced some consumers to use a number of criteria for evaluation of anti-malarial remedies. The uncertainties of malaria medication prompted most consumers to be highly involved in their decision making towards seeking for malaria medication. Consumers used both extrinsic (such as COO, price and brand name) and intrinsic (such as content and quality) cues in evaluating anti-malarial remedies. Through the identified criteria, the quality of the domestic anti-malaria remedies was questioned by a number of consumers. They complained that

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pharmaceutical companies produced products of low quality, as they found the performance of the medicines to be poor. Some consumers experienced some problems after using the ALU anti-malarial remedy which was domestically produced. This made some consumers form negative perceptions of locally produced anti-malarial remedies. In addition, the ALU anti-malarial remedy was found to require a large number of tablets, which discouraged consumers from using it. Due to these factors, most consumers were found to prefer foreign anti-malarial remedies over the locally-produced anti-malarial remedies.

Therefore, from the findings above it can be concluded that the ethnocentric tendencies of Tanzanian consumers when purchasing the domestic anti-malarial remedies were extremely low. This is because they purchased domestic anti-malarial remedies because of their affordability and not because they valued their home produced anti-malarial remedies. Also, there was no guilt in their minds that purchasing foreign anti-malarial remedies would result in the loss of jobs and hurt the economy of the country.

**Research Question Four:** *Is there any relationship between demographic characteristics and the level of xenocentric tendencies in the Tanzanian market?*

Question four was addressed through a literature review on consumer xenocentrism and on the findings by identifying the demographic characteristics and their impact on the malaria medication decision making process as far as consumers' xenocentrism was concerned. In

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this study it was argued that in the field of consumer behaviour, CX appeared to result in favouring foreign products over domestic products, even if the domestic products were of high quality compared to foreign products. Three demographic characteristics, age, education and geographical differences, were studied.

**Age:** In this study, it was found that age differences were found to have an impact on consumers' choice of malaria medication. For instance, older consumers were found to be less xenocentric in purchasing anti-malarial remedies because they were limited by their age in searching for more information about the different anti-malarial brands. Therefore, they trusted opinion leaders when purchasing the anti-malarial remedies. In addition, the older consumers were found to have limited sources of income; even if they had been inclined to reject the opinion leaders' advice, they could not afford to purchase the foreign anti-malarial remedies because their prices were higher compared to the home produced anti-malarial remedies. On the other hand, younger consumers were shown to be more xenocentric in purchasing anti-malarial remedies, because they were found to value foreign anti-malarial remedies, believing that the technological advancement of the chosen and trusted countries would produce anti-malarial remedies with high quality compared to the home produced anti-malarial remedies.

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**Education:** Level of education in this study was found to have an impact on Tanzanian consumers when evaluating the anti-malarial remedies as far as xenocentric tendencies were concerned. Less educated consumers were shown to be less xenocentric in purchasing anti-malarial remedies because they relied on the opinion leaders when purchasing anti-malarial remedies; hence, they purchased domestic anti-malarial remedies. On the other hand, highly educated consumers were shown to judge the quality of anti-malarial remedies before purchasing. They used criteria such as COO, brand, price and days of dosage to judge the quality of the anti-malarial remedies. Most of the participants with high levels of education were found to purchase foreign anti-malarial remedies because they believed that those medications would be of higher quality compared with domestic anti-malarial remedies. That is to say, highly educated consumers are more xenocentric in purchasing anti-malarial remedies than less educated consumers.

**Geographical Differences:** The place where consumers live was shown to shape the purchasing behaviour of Tanzanian consumers on malaria medication. For instance, most rural consumers trusted opinion leaders when purchasing the anti-malarial remedies. The ALU anti-malarial remedy was mostly prescribed by the doctors in the rural areas. Also consumers who asked for advice from pharmacists were advised to use the ALU for malaria treatment. In addition, most of the rural pharmacies were shown to be limited in their range of anti-malarial brands, as the level of income of the rural consumers influenced the pharmacists



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to supply only domestic anti-malarial remedies, which were affordable to most rural consumers. Therefore, limited knowledge of foreign anti-malarial remedies among rural consumers prevented them from using foreign anti-malarial remedies. On the other hand, urban consumers were found to have a wide choice of different anti-malarial brands from different countries. Most consumers living in the urban areas were able to engage in various income generating activities; therefore, their lifestyle was shaped by their environment. In visiting the pharmacies to purchase anti-malarial remedies, consumers, especially those who did not have a doctor's prescription, were asked by the pharmacists which brand of anti-malarial remedy they needed. This broadened their choice of different anti-malarial remedies; and some urban consumers were interested to purchase foreign anti-malarial remedies. Therefore, being exposed to foreign anti-malarial remedies attracted urban consumers to purchase foreign anti-malarial remedies.

Therefore, there is a strong relationship between demographic characteristics and the level of xenocentric tendencies in the Tanzania market, as discussed above.

**Research Question Five:** *What are the dimensions of product involvement and perceived risk and their influence in consumers' decision making process?*

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Question five was addressed through a review of literature on perceived risk and product involvement. Also the identification of the dimensions of product involvement and perceived risk helped to construct the relationship between the two concepts. In this study the literature suggested that perceived risk determines product involvement, which is a tendency to make decisions on the product class with special care and deliberation, perhaps due to a high level of perceived risk. On the other hand, perceived risk has also been envisioned as a consequence of involvement. This is because hedonic and instrumental dimensions of product involvement constitute different types of knowledge and thus determine the level of perceived risk.

The findings indicated that the uncertainties of malaria medication influenced Tanzanian consumers to be careful in making decisions on where and how to get malaria medication. Malaria treatment seeking behaviour was found to be determined by the criteria chosen by an individual. For instance some consumers visited health centres for malaria treatment, some consumers directly visited pharmacies to purchase anti-malarial remedies without being diagnosed, and other consumers visited private laboratory services for a malaria check-up then visited pharmacies to purchase the anti-malarial remedies, while other consumers visited traditional medical practitioners for traditional medicines for malaria treatment. During the malaria medication, different consumers were found to experience different types of risk, such as physical risk, performance, financial risk and time risk. The presence of risks

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in the consumption of the anti-malarial remedies influenced some consumers to be involved in the malaria medication decision making process. However, the level of involvement was found to differ among consumers. In this study, the level of involvement was determined by opinion leaders, self-decision making, and past experience.

The findings above indicated that the dimensions of product involvement and perceived risk in the malaria medication decision making process were found to differ from one to another. As it was seen, the dimensions of perceived risk in this study were physical risk, performance risk, financial risk and time risk; while the dimensions of product involvement in this study were opinion leaders, self-decision making and past experience. However, regardless of the differences in dimensions in each construct, perceived risk and product involvement together played a part in influencing consumers' decision making processes. That is to say, the level of involvement in the malaria medication decision making process was influenced by uncertainties in the consumption of the anti-malarial remedies. Therefore, perceived risk and product involvement were found to have a direct influence on the decision making process on malaria medication.

### **7.3 Theoretical Implications**

This study has contributed to knowledge in several areas of consumer behaviour on medical products. These contributions will be vital to the future researchers as can be used to identify

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their research gaps and add to their literature. Also the developed theory in this study can be tested to other developing countries which its citizens are suffering from malaria in order to see its applicability. More detailed hereunder:

First, the study developed the malaria medication decision model. This study identified the significant role of the malaria medication decision model on malaria treatment and its impact on consumers' decision making process, particularly when seeking malaria treatment. The developed model on malaria treatment can be applied in different contexts on malaria treatment especially in developing countries where a health system faces the same challenges. Knowing the choices consumers made in getting malaria medication based on the malaria medication decision model and their reasons governing their decision making process will help policy makers to identify areas for improvement in order to smoothen health provision to the Tanzanian community and other developing countries where malaria is endemic and thereby reduce the mortality rate which is caused by the poor health services provided.

Second, education was examined as one of the demographic characteristics, and its impact on the malaria medication decision making process as far xenocentric tendencies are concerned was identified. Most researchers identified age, level of income and geographic location as influencing intention to purchase (Bullis, 1997; Shultz *et al.*, 1994). In this study it was found that education has an influence on the consumer decision making process. Exposure to

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foreign anti-malarial remedies, reasoning ability, together with the ability to earn income based on the level of education, were found to affect the level of xenocentric tendencies of Tanzanian consumers when purchasing anti-malarial remedies. Knowledge of the impact of level of education on the decision making process will help policy makers to monitor the quality of domestic produced anti-malarial remedies in order to increase the ethnocentric tendencies among Tanzanian consumers.

Third, self-medication for minor ailments is highly emphasized in developed countries since it helps to save time and consultation cost (Russel, 1999; Gordon, 1993). However, in Tanzania it was found that most consumers were practising self-medication for major diseases such as malaria. The practice of self-medication in malaria treatment has caused resistance of malaria parasites. This study has contributed to the existing knowledge by identifying the reasons prompting consumers to apply self-medication in malaria treatment. Also this study has broadened the understanding of the risk of self-medication in malaria treatment. Knowledge of the risk of the self-medication will remind Tanzanian consumers to do whatever is possible to seek a malaria diagnosis before purchasing anti-malarial remedies. This will reduce the resistance of malaria parasites and hence reduce the mortality rates to Tanzanian communities.

Fourth, this study has broadened understanding on the definition of time risk as one of the

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dimensions of perceived risk. According to Ross (1975), time risk results when the passage of time reduces the ability of the product to satisfy wants, such as when a product rapidly becomes obsolete. In this study, time risk was defined as the time used by consumers to visit the health centre with no proper treatment due to insufficient number of health worker, drugs shortage, and other challenges that hindered Tanzanians from getting proper services. This has influenced most consumers to apply self-medication which is not recommended for their health, especially for a major disease like malaria. The findings from this study will remind the government of the importance of equipping the health centres with all the required facilities in order to provide health services of the required standards to Tanzanian consumers and hence reduce the application of self-medication.

Fifth, this study has contributed to the existing literature on product involvement by identifying the dimensions of product involvement in malaria medication. In this study, opinion leaders, self-decision making and past experience of consumption of anti-malarial remedies determined the level of involvement of Tanzanian consumers when seeking malaria medication. The identified dimensions will be added to the documented dimensions of product involvement which were identified by other scholars, such as perceived risk (Laurent and Kapferer, 1985a), importance (Jansen *et al.*, 1989), interest (Van Trijp *et al.*, 1996), pleasure (Laurent and Kapferer, 1985a) and sign value (Roger and Schneider, 1993; Laurent and Kapferer 1985).

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Lastly, this study has contributed to the body of knowledge by examining geographical location and its impact on consumer ethnocentrism. Most researchers identified the impact of demographic characteristics such as age, gender, income and education and their impact on consumer ethnocentrism (Javalgi *et al.*, 2005; Schooler, 1971; Balabanis *et al.*, 2001; Good and Huddleston, 1995; Huddleston *et al.*, 2000; Sharma *et al.*, 1995; Schooler, 1971). Knowledge on the impact of geographical location (rural and urban) on the ethnocentric tendencies will remind policy makers to formulate promotional strategies which will suit both locations (rural vs urban) and bring a meaningful message, thereby increasing the ethnocentric tendencies urban consumers.

#### **7.4 Managerial Implications**

The findings obtained from 25 participants and relevant literatures identified in this study have important managerial implications which will be useful for policy makers (the Tanzanian government, Ministry of Health and Social Welfare, Ministry of Industry and Trade and Tanzania Food and Drug Authorities), Tanzanian consumers and other health stakeholders.

First, the important managerial implication for policy makers identified in this study is that health centres and hospitals are lacking the required facilities to facilitate health service provision. In this study it was found that most consumers were discouraged from visiting the

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health centres and hospitals due to a number of challenges, such as insufficient health care providers, drugs stock out, malaria misdiagnosis, lack of malaria diagnostic tools and geographical distance to the rural consumers. There is no doubt that Tanzania is among the poorest countries in the world, so providing all the required facilities in each health centre and hospital must be a challenge. However, the government through collaboration with other health stakeholders and donors can prioritize their activities in health care programmes. Instead of using a lot of money to purchase mosquito nets for all Tanzanian households, even in places where there are no mosquitoes, they could use that money to equip the health centres and hospitals with the required facilities. In addition, rural consumers were found to be among disadvantaged Tanzanians in seeking health services, due to the long distance to the health centres. The government and other health stakeholders should improve the health centre accessibility in the rural areas by increasing the number of health centres with the required facilities. Equipping the health centres and hospitals with sufficient health care providers, modern laboratory equipment and sufficient drugs would attract more Tanzanians to utilize the health centres and hospitals for malaria treatment and hence reduce the mortality rates in Tanzanian communities. In addition, the Tanzanian government in collaboration with health stakeholders need to take into consideration the population segmentation and risk stratification in order to understand the needs of the Tanzanians as far as health services are concerned, so that health services can be better planned and delivered.



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Second, another important managerial implication for the policy makers identified in this study is that the quality of domestic anti-malarial remedies was questioned by number of consumers. This made some consumers value foreign anti-malarial remedies over domestic anti-malarial remedies. The government through the Ministry Health and Social Welfare and Tanzania Food and Drug Authority with the collaboration with the Ministry of Industry and Trade should monitor the quality of the domestic pharmaceutical industry in order to produce medication of a high standard and quality. In addition, the ALU anti-malaria remedy which is domestically produced was found to require many tablets (24 tablets per course for adult and 12 tablets per course for a child). This discouraged a number of Tanzanians from using it. The government through the responsible authorities should think how to reduce the number of ALU tablets per course from 24 tablets to 9-12 tablets for an adult and 12 tablets to 6 tablets for children, without reducing the efficacy of the medication. Improving the quality of domestic anti-malarial remedies and standardization of the domestic produced anti-malarial courses would attract more Tanzanians to value home produced anti-malarial remedies, and hence increase the ethnocentric tendencies among, consumers, which will strengthen the economy of the country.

Third, the study identified a managerial implication for the policy makers on the issue of traditional medicine practice in Tanzania. The application of traditional medicines in malaria treatment and other disease was found to be highly practised among Tanzanians. Consumers

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who used these medicines were shown to be satisfied as they were cured of their chronic malaria suffering and other chronic diseases. However, the efficacy, standards and performance of those medications were questioned by scientists, health stakeholders and some consumers. In order to reduce the ambiguities prevailing in Tanzanians' minds about the efficacy, quality and performance of the traditional medicines, the government through the Ministry of Health and Social Welfare together with the Tanzania Food and Drug Authority need to investigate the effectiveness of traditional medicines in treating malaria and other diseases. The materials and environment used in preparing the traditional medicines and the doses administered to patients should be examined. Also, the traditional medical providers need to be identified, recognized and registered in order to smooth the monitoring and follow-up mechanism. In addition, a traditional medicines unit should be established by the government. The unit should be given power and authority to formulate traditional medicine policies that will guide all traditional medical practitioners to abide by the rules and regulations while providing this service to patients. By so doing, traditional medicine would be openly practised with the required standards; hence consumers would be safeguarded by getting scientifically proven medication.

Fourth, another managerial implication identified in this study for policy makers is that some pharmacy owners were shown to employ drug sellers with inadequate medical skills. This has caused some problems for patients due to incorrect medication provided by those staff. There

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is no doubt that private pharmacies are among the key stakeholders in the health system for Tanzanian communities. Their role in saving the lives of Tanzanians who cannot access the health centres is well acknowledged. Therefore, standards in provision of this service to patients need to be considered in order for their support to be meaningful. This means that the service providers (drug sellers) need to be well-equipped with medical skills in order to provide services which meet the required standards. The government through the Ministry of Health and Social Welfare should formulate policies which will guide all the pharmacies owners to employ qualified pharmacists in order to increase the standards of medical provision. Also, all pharmacies should be registered under the Tanzania Food and Drug Authority in order to facilitate monitoring and follow-up. In addition, all pharmacies should have weighing scales which will enable them to measure the patient's weight before administering anti-malaria remedies. This will solve the problems of either overdosing or underdosing patients.

Fifth, the study identified a managerial implication for policy makers on the quality of imported anti-malarial remedies. In this study it was reported that some of the foreign anti-malarial remedies, especially the Artequik anti-malarial remedy from China, produced adverse effects on some consumers after consumption. The government through the Ministry of Health and Social Welfare should monitor the standard and quality of the imported anti-malarial remedies to safeguard Tanzanians who use that medication.

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Lastly, the study identified a managerial implication for Tanzanians consumers on the impact of self-medication on their health wellbeing. Self-medication in treating malaria was found to be common. Some consumers thought visiting the health centre or private laboratory technicians for a malaria check-up was a waste of time and preferred to purchase anti-malarial remedies based on the malaria symptoms. Tanzanians should understand that self-medication is meant for minor ailments and not for serious diseases like malaria. Applying self-medication to malaria treatment sometimes leads to improper medication which causes malaria parasites to become resistant. Hence, they weaken their bodies by frequently taking anti-malarials. Therefore, Tanzanians should value and utilize health centres and private laboratory technicians for a malaria check-up before purchasing anti-malarial remedies. This will guide them in getting proper medication for their illness and hence reduce the risk of self-medication. In addition, Tanzanians should check the expiration of the medicines they purchase before consuming them. This will help them to use the right medication in malaria treatment and hence strengthen their ability to continue participating in their daily activities.

### **7.5 Limitations and Suggestions for Future Research**

Despite the contributions of this study, a number of limitations are identified, which are related to the findings from the field. In relation to these limitations, suggestions have been made for future research.

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First, this study examined a single medical product, which is an anti-malarial remedy. Therefore, the decision making process identified was for malaria medication. That is to say, the findings and concepts are applicable only to this product category. Future research could examine the same phenomena in relation to different products produced in Tanzania.

Second, the study was confined to the Mbeya Region in Tanzania, which is one region out of 29 regions. The population included clinical officers, pharmacists, laboratory technicians, traditional medical practitioners, key informants from Tanzania Drug and Food Authority as well as consumers for anti-malarial remedies. Tanzanian consumers in different regions may have different purchasing behaviours. Due to representation of the sample, the findings may not be generalisable to all regions in Tanzania settings. Therefore, future research could investigate the impact of Country of Origin, Consumer Ethnocentrism and Consumers Xenocentrism on malaria the medication decision making process as far as risk and involvement are concerned in other regions.

Third, in this study it was found that the application of traditional medicines to various diseases is highly utilized by most Tanzanians. However, the efficacy, standards and performance of those medications are questioned by scientists, health stakeholders and some consumers. Exploring the identified issues in relation to traditional medicines was not possible, due to the time factor. Future research could be directed to this area in order to

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clarify the ambiguities in Tanzanians' minds.

Lastly, the study employed non-probability sampling, specifically purposive/judgmental sampling. Purposive sampling permits the researcher to decide which cases to choose that will best enable him/her to answer the research questions and meet the researcher's objectives (Saunders *et al.*, 2007). Future research could use other non-probability sampling techniques in selecting the participants; this could help to minimize some bias which could intervene in participant selection.

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## APPENDICES

### APPENDIX I: DEFINITION OF KEY TERMS

#### **Perceived Risk**

Dowling and Staelin (1994) defined perceived risk as the consumer's perceptions of the uncertainty and adverse consequences of buying a product or service.

#### **Product Involvement**

Product involvement reflects recognition that a particular product category may be more or less central to people's lives, their sense of identity, and their relationship with the rest of the world (Traylor, 1981 as cited by Hornik and Te'eni Harari, 2010). On the other hand, Involvement is the customer's ultimate concern with a purchase/ consumption experience (Bolting, 1988). Involvement includes experiencing a number of positive results such as the rewards inherent in the product and the product's expressive values. Involvement is an unobservable state of motivation, arousal or interest. Involvement is evoked by a particular stimulus or situation and has driving properties. Its consequences are searching, information processing and decision-making (Laurent and Kapferer, 1986; Karbalaei *et al.*, 2013).

#### **Decision Making Process**

Decision making is a process of making a choice from a number of alternatives to achieve a desired results (Eisenfuhr, 2011).The definition has three elements; first, decision making involves making choice from a number of options; second, decision making is a process that involves more than simply a final choice from among alternatives. Finally, the "desired results" mentioned in the definition involve a purpose or target resulting from the mental activity that the decision maker engages in to reach a final decision (Eisenfur, 2011;

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Lunenburg, 2010).

### **Country of Origin (COO)**

COO refers to country in which the product has been developed or we can say the country to which product belongs to and identifies with. It is called a “motherland of a product” (Munjil, 2014:38).

### **Consumer Ethnocentrism (CE)**

Shimp and Sharma (1987) defined consumer ethnocentrism as a belief held by consumers on the appropriateness and indeed morality of purchasing foreign-made products. Consumer ethnocentrism implies the normative belief that purchasing domestic products is more beneficial than purchasing foreign goods.

### **Consumer Xenocentrism (CX)**

Xenocentrism is the term used when people are convinced that any products developed in their own countries are inferior to those that are produced in more industrialized nations (Zhou and Hui, 2005). It is people’s belief that the products, styles, or ideas of their own society are inferior to those that originate elsewhere in any other developed society (Batra *et al.*, 2000).

### **Malaria**

Malaria is a serious tropical disease affecting people in Africa, South and Central America, parts of the Middle East and Asia. It is transmitted by the bite of a female Anopheles mosquito that has been infected with malaria parasite. The mosquito usually bites between

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sunset and sunrise, but in Asia and Latin America the peak of transmission is around midnight (Kassianos, 2001).

### **Traditional Medicine**

Is the sum total of the knowledge, skills and practices based on the theories, beliefs, and experiences indigenous to different cultures whether explicable or not, used in the maintenance of health, as well as in prevention, improvement, or treatment of physical and mental illness (WHO, 2011).

### **Herbal Medicines**

Herbal medicines are defined as plant derived materials or preparations with therapeutic or other human health benefits, which contain either raw or processed ingredients from one or more plants. In some traditions, material of organic or animal origin may also be present (WHO, 2011).

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## APPENDIX II: COVER LETTER

Dear Participant,

My name is Blandina Kisawike, a PhD candidate at University of Hull Business School (HUBS) in England. I am conducting a study entitled: “How Country of Origin (COO), Consumer Ethnocentrism (CE) and Consumer Xenocentrism (CX) impact upon risk and involvement in the malaria medication decision making process in Tanzania”.

The study intends to meet the following objectives:

1. To understand the motivations for purchasing anti-malarial remedies to Tanzanian consumers.
2. To explore if or how Country of Origin has an impact on consumers’ evaluation of the anti- malarial remedies in Tanzania.
3. To investigate the ethnocentric tendencies among Tanzanian consumers when purchasing the domestic anti-malarial remedies.
4. To examine the extent to which demographic characteristics affect the level of xenocentric tendencies in the Tanzanian market.
5. To identify the dimensions of product involvement and perceived risk and their influences in consumers’ decision making process.

Purposive sampling enabled me to select you to participate in this study. Your participation is very important, since it will enable me to get an in-depth understanding of the decision making process while purchasing malaria remedies. The findings of this study will provide useful knowledge to policy makers and decision makers on how they can encourage Tanzanian consumers to favour homemade malaria remedies.

The participation to this study is voluntary, that is, you can agree or disagree to be interviewed/fill the open ended questionnaire. I want to assure you that the information you provide to this study will be confidential and the results of this study will be used for academic purposes only. Please feel free to participate in this study.

Yours faithfully,

Blandina Kisawike

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**APPENDIX III: ETHICAL APPROVAL FORM**

**THE HUBS RESEARCH ETHICS COMMITTEE**

**CONSENT FORM**

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I.....

**Hereby agree** to participate in the study to be undertaken by **Blandina Kisawike** entitled “How Country of Origin (COO), Consumer Ethnocentrism (CE) and Consumer Xenocentrism (CX) impact upon risk and involvement in the malaria medication decision making process in Tanzania” being conducted at University of Hull, England. I understand the purpose of this study as explained by the researcher in the cover letter.

**I understand that:**

1. After filling the questionnaire my name and address will be kept separately from it.
2. Any information that I provide will not be made public in any form that could reveal my identity to an outside party i.e that I will remain fully anonymous.
3. Aggregated results will be used for research purposes and may be reported in a scientific and academic journal.
4. Individual results will not be released to any person except at my request and on my authorization
5. I am free to withdraw my consent at any time during the study in which event my participation in the research study will immediately cease and any information obtained from me will not be used.

Signature..... Date.....

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The contact details of the researcher are: Blandina Kisawike, University of Hull, Hull University Business School (HUBS), my email address: [B.Kisawike@2009.hull.ac.uk](mailto:B.Kisawike@2009.hull.ac.uk). My supervisor is; Dr. Dianne M. Dean, University of Hull, Hull Business School (HUBS), email; [D.M.Dean@hull.ac.uk](mailto:D.M.Dean@hull.ac.uk) tel.01482-463079.

The contact details of the secretary to the HUBS Research Ethics Committee are Karen Walton, Hull University Business School, University of Hull, Cottingham Road, Hull, HU6 7RX. email : [k.a.Walton@hull.ac.uk](mailto:k.a.Walton@hull.ac.uk) tel.01482-463646.

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## APPENDIX IV: INTERVIEW GUIDE TO CONSUMERS

### 1. Personal Facts

- a. What is your age?
- b. What is your level of education?

### 2. Experience of Malaria

- a. Have you ever suffered from malaria?
- b. Where were you diagnosed?
- c. Tell me about malaria disease and its impact in your daily life.

### 3. Pharmaceutical shops/drug store

- a. Have you ever bought anti-malarial medication from pharmaceutical shops?
- b. When and where?
- c. Did you buy the anti-malarial medication for your own use?
- d. Did you have a medical prescription?
- e. Who recommended you to visit the pharmaceutical shop?
- f. What medication did you buy?

### 4. Medication

- a. What anti-malarial medication do /did you use?
- b. From which country (s)?
- c. Why did you decide to take that medication?
- d. Who recommended you to use the specific medicine?
- e. Were there any other options/alternative medicines?
- f. What other anti-malarial medicines are you aware of?
- g. What do you know about combination therapy? (ALU)
- h. Have you ever used the medication above?



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- i. What was the impact? Did it cure you well or did you get some problems?  
What were they?

## **5. Traditional Medicine**

- a. Do you know anyone who practises anti-malaria traditional medicine?
- b. Have you ever been in contact with an anti-malaria traditional medicine man or woman?
- c. For how long did you take the traditional anti-malaria medicine?
- d. What was your experience?
- e. What kinds of traditional anti-malaria medicine are used against malaria?
- f. Do you find the traditional anti-malaria medicine easily available?
- g. Have you ever made your own medicine to treat malaria?
- h. How was it prepared?
- i. How was it used?
- j. Do you think that there are any risks associated with using the traditional anti-malaria medicine?
- k. What risks?
- l. What is your recommendation on the use of traditional anti-malaria medicine?

## **6. What factors do you consider when purchasing anti-malaria medication?**

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## **APPENDIX V: INTERVIEW GUIDE TO CLINICAL OFFICERS**

### **1. Personal Facts**

- a. What is your occupation?
- b. How many years have you been working in that position?
- c. How many years have you been working at the health centre/hospital?

### **2. Medication**

- a. What kind of anti-malarial mono- or combination treatments are offered at the health centre/hospital?
- b. What sorts of anti-malaria medication does the facility recommend to the patients?
- c. Does the health centre/hospital offer ALU malaria medication to the patients?
- d. Does the medication above cause some side - effects to the patients?, and what kind of such side effects? How did you overcome this problem?
- e. What are your comments on the use of ALU for patients?

### **3. Traditional Medicine**

- a. What do you know about anti-malaria traditional medicine?
- b. How commonly is traditional anti-malaria treatment practised among different patients in your area (working place/your home)?
- c. What kinds of traditional medicines are used to treat malaria?
- d. Are traditional malaria medicine easily accessed?
- e. Has a patient ever consulted you concerning practice of traditional anti-malaria medicine?
- f. Have you ever confronted a patient concerning practice of traditional anti-malarial medicine?

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- g. What kind of risk/consequences might traditional anti-malaria treatment cause to a patient? Have you ever had a patient with complications due to traditional anti-malaria treatment?
  - h. What is your opinion on the use of traditional medicines?
  - i. Tell me about the malaria disease and its impact to the livelihood.

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## APPENDIX VI: INTERVIEW GUIDE TO PHARMACISTS

1. What is your experience in this field?
2. What is your knowledge on malaria disease
3. Do you sell anti-malarial remedies?
4. Which brands of anti-malarial remedies do you have in your shop?
5. Which brands of anti-malarial remedies are most preferred by your customers?
6. What reasons do you think govern your customers' preference of the mentioned anti-malarial brands?
7. Are your customers interested to know the country of the manufacture of anti-malarial brands before they purchase?
8. Who are those customers who are interested to know the country of manufacturer of the anti-malarial remedies?
9. Which country/ies of manufacture is /are preferred by the customers for anti-malarial remedies?
10. What reasons do you think govern their choice of those countries?
11. Do consumers seek to know the side effects of the anti-malarial remedies before they purchase?
12. Who are those customers?
13. Do your customers come to your shop with a doctor's prescription?
14. How do you help those consumers who come to your shop without a doctor's prescription?
15. Do you sell the Artemisinin Combination Therapy (ACT) made in Tanzania?  
(ALU)
16. What is the customers' perception of that medication?

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17. Have you ever handled the case of any patient who was affected by the use of ACT?
  18. What was the reason for such an effect? And how did you handle it?
  19. What is your opinion on the domestic produced anti-malarial remedies?
  20. What is your opinion on the foreign anti-malarial remedies?

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**APPENDIX VII: ANTI-MALARIAL REMEDIES REGISTERED IN TANZANIA**

**A list of Registered Anti-Malarial Remedies and their Country of Origin**

| <b>SN</b> | <b>BRAND NAME</b>                                  | <b>GENERIC NAME</b>        | <b>APPLICANT COUNTRY</b> |
|-----------|--|----------------------------|--------------------------|
| 1         | AmetherDenk  | Artemether                 | GERMANY                  |
| 2         | Amobin   | Amodiaquine                | KENYA                    |
| 3         | Amodar   | Amodiaquine                | TANZANIA                 |
| 4         | Arco   | Artemisinin + Naphthoquine | CHINA                    |
| 5         | Arsuamoon  | Artesunate + Amodiaquine   | CHINA                    |
| 6         | Artefan  | Artemether + Lumefantrine  | INDIA                    |
| 7         | Artemal-M  | Artemether                 | INDIA                    |
| 8         | Artemedine   | Artemether                 | CHINA                    |
| 9         | Artemether 20mg +<br>Lumefantrine 120mg<br>Tablets | Artemether + Lumefantrine  | INDIA                    |
| 10        | Artemether Paediatric                              | Artemether                 | KENYA                    |
| 11        | Artem  | Artemether                 | CHINA                    |
| 12        | Artenam  | Artemether                 | BELGIUM                  |
| 13        | Artesiane  | Artemether                 | BELGIUM                  |

|    |                                  |  |             |
|----|----------------------------------|--|-------------|
| 14 | Artescope                        | Artesunate + Pyrimethamine + Sulfadoxine | CHINA       |
| 15 | Artesun                          | Artesunate                               | CHINA       |
| 16 | Artesunate + Amodiaquine         | Artesunate + Amodiaquine                 | NETHERLANDS |
| 17 | Artesunate/ Amodiaquine Winthrop | Artesunate + Amodiaquine                 | KENYA       |
| 18 | Artequik                         | artemisinin + Piperaquine                | CHINA       |
| 19 | Artequin                         | Artesunate + Mefloquine                  | SWITZERLAND |
| 20 | Betaquine                        | Amodiaquine                              | KENYA       |
| 21 | Coartem                          | Artemether + Lumefantrine                | SWITZERLAND |
| 22 | Co-Artesiane                     | Artemether + Lumefantrine                | BELGIUM     |
| 23 | Colart                           | Artemether + Lumefantrine                | KENYA       |
| 24 | CO-MALATHER                      | Artemether + Lumefantrine                | TANZANIA    |
| 25 | Curaquin                         | Quinine                                  | KENYA       |
| 26 | Duo-Cotecxin                     | Dihydroartemisinin + Piperaquine         | CHINA       |
| 27 | Ekelfin                          | Pyrimethamine + Sulafmethopyrazine       | KENYA       |
| 28 | Emoquin                          | Amodiaquine                              | KENYA       |

|    |                                  |                                       |                   |
|----|----------------------------------|---------------------------------------|-------------------|
| 29 |                                  |                                       |                   |
| 30 | Falcidin                         | Pyrimethamine + Sulfadoxine           | KENYA             |
| 31 | Fansidar                         | Sulfadoxine + Pyrimethamine           | SWITZERLAND       |
| 32 | Eurartesim film - coated tablets | Dihydroartemisinin +<br>Piperaquine   | ITALY             |
| 33 | Laefin                           | Pyrimethamine +<br>Sulafmethopyrazine | KENYA             |
| 34 | Laoquin                          | Amodiaquine                           | KENYA             |
| 35 | Lumartem                         | Artemether + Lumefantrine             | INDIA             |
| 36 | Lumerax 40/240                   | Artemether + Lumefantrine             | INDIA             |
| 37 | Lumerax 80/480                   | Artemether + Lumefantrine             | INDIA             |
| 38 | Malafin                          | Pyrimethamine +<br>Sulafmethopyrazine | TANZANIA          |
| 39 | Malanil                          | Atovaquone + Proguanil                | KENYA             |
| 40 | Malaridose                       | Amodiaquine                           | TANZANIA          |
| 41 | Metakelfin                       | Pyrimethamine +<br>Sulafmethopyrazine | KENYA             |
| 42 | Paludrine                        | Proguanil                             | UNITED<br>KINGDOM |
| 43 | Plasmotrim                       | Artesunate                            | SWITZERLAND       |



|    |                             |                             |          |
|----|-----------------------------|-----------------------------|----------|
| 44 | Pyrimethamine + Sulfadoxine | Pyrimethamine + Sulfadoxine | INDIA    |
| 45 | Quinine Dihydrochloride     | Quinine                     | BELGIUM  |
| 46 | Quinine Dihydrochloride     | Quinine                     | CHINA    |
| 47 | Quine                       | Quinine                     | UGANDA   |
| 48 | Quinizen                    | Quinine                     | TANZANIA |
| 49 | Quinine Sulphate BP 300mg   | Quinine Bisulphate          | KENYA    |
| 50 | Quinine Sulphate            | Quinine                     | INDIA    |
| 51 | Quinine Sulphate            | Quinine                     | KENYA    |
| 52 | Quinine Sulphate            | Quinine                     | TANZANIA |
| 53 | Sulphadar                   | Pyrimethamine + Sulfadoxine | TANZANIA |

Source: (TFDA, 2013)

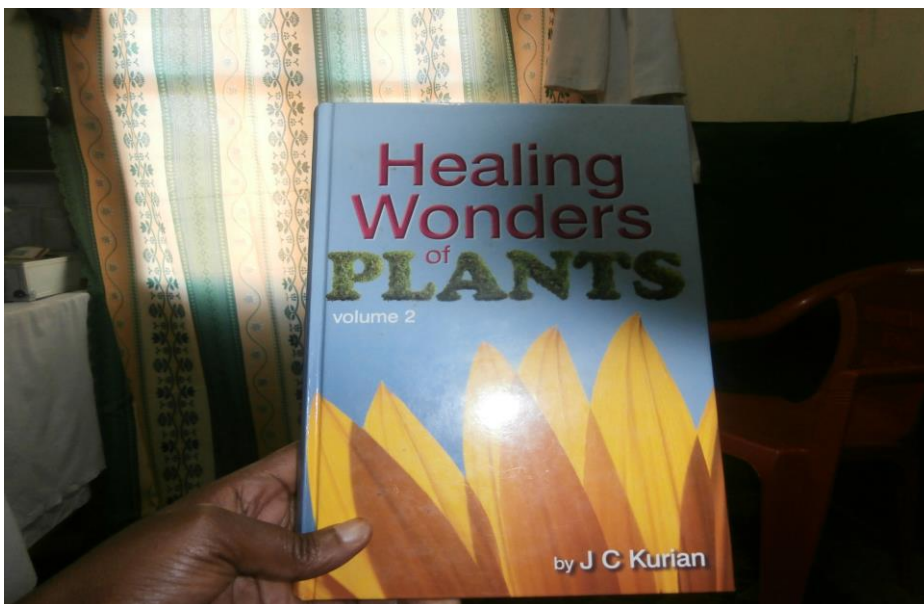
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## APPENDIX VIII: PHOTOGRAPHS FROM THE FIELD

**Figure 6: TMP with an expert on TMs Field**



**Figure 7: Text book used by the TMP to search for information concerning TMs**



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**Figure 8: The researcher obtaining information from the TMP**



**Figure 9: The researcher obtaining Information on how to use the TM**



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**Figure 10: Billboard Informing Consumers about the Services Offered**



**Figure 11: Processed TMs**



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**Figure 12: Packaged TM for Malaria Treatment**



**Figure 13: TMP with his Assistant**



