AN INVESTIGATION OF LANGUAGE AND CULTURAL BARRIERS TO EFFECTIVE COMMUNICATION OF INFORMATION ON CANCER IN KENYA

BY

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C50/26669/2013

A THESIS SUBMITTED TO THE SCHOOL OF HUMANITIES AND SOCIAL SCIENCES IN PARTIAL FULFILMENTS OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF ARTS (ENGLISH AND LINGUISTICS) OF KENYATTA UNIVERSITY

JULY 2019
DECLARATION

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

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This thesis is dedicated to my parents: Susan Wamaitha Mburu and the late Joseph Mburu wa Kamweru.
ACKNOWLEDGEMENTS

I can compare the writing of this thesis to a difficult journey full of adventure, turns and twists. I give gratitude to God for giving me the will to begin this academic journey and determination to complete it. Many people also came on board to support me to the logical conclusion. To them I owe gratitude that no words can adequately express.

My supervisors, Dr. Phyllis Mwangi and Dr. Eunice Nyamasyo, take the top slot. The two granted me access to their vast knowledge and experience in linguistic research. I also thank my wife, Grace Wanjiku and children, Joseph Mburu, Susan Wamaitha and Geoffrey Methu for their moral support. Finally, I sincerely thank my classmates and the entire Department of Literature, Linguistics and Foreign Languages for their support.
TABLE OF CONTENTS

DECLARATION........................................................................................................................................... ii
OPERATIONAL DEFINITION OF TERMS................................................................................................. ix
ABBREVIATIONS AND ACRONYMS........................................................................................................ xi
LIST OF TABLES........................................................................................................................................ xii
ABSTRACT.................................................................................................................................................. xiv

CHAPTER ONE: INTRODUCTION.............................................................................................................. 1
1.0 Introduction to the Chapter.................................................................................................................. 1
1.1 Background to the Study..................................................................................................................... 1
1.2 Statement of the Problem.................................................................................................................... 6
1.3 Research Objectives............................................................................................................................ 7
1.4 Research Questions.............................................................................................................................. 7
1.5 Research Assumptions........................................................................................................................ 7
1.6 Justification and Significance of the Study ......................................................................................... 8
1.7 Scope and Limitations of the Study.................................................................................................... 9
1.8 Summary of the Chapter..................................................................................................................... 10

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK........................................ 11
2.0 Introduction to the Chapter................................................................................................................ 11
2.1 Review of Related Literature............................................................................................................ 11
2.1.1 Studies on Language, Culture and Communication .................................................................. 11
2.1.2 Studies on how Language and Culture Affect Cancer Awareness ........................................... 14
2.2 Theoretical Framework....................................................................................................................... 19
2.2.1 Introduction.................................................................................................................................. 19
2.2.0 Communicative Language Ability Model .................................................................................. 20
2.2.1 Grice’s Theory of Conversational Implicature ......................................................................... 23
2.3 Summary of the Chapter..................................................................................................................... 24
CHAPTER THREE: RESEARCH METHODOLOGY .......................................................... 26
3.0 Introduction to the Chapter .............................................................................. 26
3.1 Research Design ............................................................................................... 26
3.2 Categories of Analysis ...................................................................................... 27
3.3 Area of Study .................................................................................................... 27
3.4 Target Population ............................................................................................. 27
3.5 Sampling Technique and Sample Size ............................................................ 28
3.5.1 Sampling of Secondary Data ........................................................................ 28
3.5.2 Sampling of Respondents ............................................................................ 31
3.6 Research Instruments ....................................................................................... 36
3.7 Data Collection Procedure ............................................................................. 37
3.7.1 Secondary Data Collection Procedures ......................................................... 37
3.7.2 Primary Data Collection Procedures ............................................................ 38
3.8 Data Analysis and Presentation ....................................................................... 40
3.9 Ethical Considerations ...................................................................................... 41
3.10 Summary of the Chapter ................................................................................ 41

CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS .................................. 43
4.0 Introduction to the Chapter .............................................................................. 43
4.1 Physical Accessibility of Information on Cancer ............................................. 43
4.2 Information on BCP Cancer Available in Print Media .................................... 43
4.2.1 Coverage of BCP Cancers in Articles Available in Kiswahili ...................... 44
4.2.2 Coverage of BCP Cancers in Articles Available in English ....................... 45
4.2.3 Coverage of BCP Cancers in the Poster Available in English .................... 46
4.3 Information on Cancers Available in Electronic Media .................................. 47
4.3.1 Coverage of BCP Cancers in Radio Recordings Available in Gikuyu .... 47
4.3.2 Coverage of BCP Cancers in Radio Recordings Available in Kiswahili .... 49
4.3.3 Coverage of BCP Cancers in Radio Recordings Available in English ....... 50
4.3.4 Coverage of BCP Cancers in TV Recordings Available in Gikuyu .......... 51
4.3.5 Coverage of BCP Cancers in TV Recordings Available in Kiswahili ....... 52
4.3.6 Coverage of BCP Cancers in TV Recordings Available in English ........... 53
CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction to the Chapter

5.1 Research Findings

5.2 Conclusion of the Study

5.3 Recommendations
5.4 Suggested Areas for Further Studies ................................................................. 91

REFERENCES ........................................................................................................... 92

APPENDICES ........................................................................................................... 97
OPERATIONAL DEFINITION OF TERMS

**Cancer**: A group of diseases characterized by uncontrolable cell growth that can affect any part of the body and often succumb to the disease

**Cancer awareness**: Possession of knowledge pertaining to various aspects of cancer

**Cancer management**: The action that stops or reduces the effects of cancer on those already diagnosed with the disease

**Cancer prevention**: Behaviour and actions that prevent the onset of the cancer process

**Cancer risk factors**: Environmental, behavioural and biological factors that trigger the cancer process

**Cancer screening**: The clinical or self-administered procedure that helps detect the cancerous cells

**Communication**: The process of transmitting information from the source to the recipient

**Culture**: A system of beliefs, values and practices shared by a group of people

**General Kenyan public**: Kenyan residents who have not undertaken formal medical or medical- related training

**Higher education**: Education levels above form four certificate namely: Advanced Secondary Level Certificate, diploma and degree

**Linguistic accessibility**: The ability to interact with and comprehend textual and verbal information on cancer

**Lower education**: Education levels up to form four certificate

**Physical accessibility**: Any textual or verbal information on cancer that is availed to the public by various mass media
Taboo topics: Topics associated with words and expressions that are considered inappropriate in certain contexts as determined by the culture of a people
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>BCP</td>
<td>Breast Cervical and Prostate</td>
</tr>
<tr>
<td>CLA</td>
<td>Communicative Language Ability</td>
</tr>
<tr>
<td>CRC</td>
<td>Colorectal Cancer</td>
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<tr>
<td>ESL</td>
<td>English as a Second Language</td>
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<tr>
<td>HIC</td>
<td>High Income Countries</td>
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<tr>
<td>HOPI</td>
<td>Hopi Office of Prevention and Intervention</td>
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<tr>
<td>HPV</td>
<td>Human Papiloma Virus</td>
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<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
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<tr>
<td>KLFGH</td>
<td>Kiambu Level Five General Hospital</td>
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<tr>
<td>KNH</td>
<td>Kenyatta National Hospital</td>
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<td>KU</td>
<td>Kenyatta University</td>
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<tr>
<td>LA</td>
<td>Linguistic Accessibility</td>
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<td>LMIC</td>
<td>Low and Middle Income Countries</td>
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<tr>
<td>MOH</td>
<td>Ministry of Health</td>
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<td>MOPHS &amp; MOMS</td>
<td>Ministry of Public Health and Sanitation and Ministry of Medical Services</td>
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<tr>
<td>NACOSTI</td>
<td>National Commission for Science, Technology and Innovation</td>
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<tr>
<td>NCR</td>
<td>Nairobi Cancer Registry</td>
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<tr>
<td>ROK</td>
<td>Republic of Kenya</td>
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<tr>
<td>TV</td>
<td>Television</td>
</tr>
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LIST OF TABLES

Table 3. 1 Sampling of pieces of information for use with the questionnaire ..............31
Table 3. 2 Distribution of categories of respondents in the Catholic churches ..............32
Table 3. 3 Distribution of categories of respondents at KU Main Campus ..................34
Table 4. 1 Number of newspaper articles and posters on BCP cancer .........................44
Table 4. 2 Coverage of BCP cancers by the articles in Kiswahili .............................44
Table 4. 3 Aspects of BCP cancers covered in articles in Kiswahili ..........................45
Table 4. 4 Coverage of BCP cancers by the articles in English ................................45
Table 4. 5 Aspects of BCP cancers covered in articles in English ............................46
Table 4. 6 Radio and TV recordings in Gikuyu, Kiswahili and English .....................47
Table 4. 7 Coverage of BCP cancers by radio recordings in Gikuyu ..........................48
Table 4. 8 Aspects of BCP cancers in radio recordings in Gikuyu .............................48
Table 4. 9 Coverage of BCP cancers by radio recordings in Kiswahili .........................49
Table 4. 10 Aspects of BCP cancers in radio recordings in Kiswahili ..........................49
Table 4. 11 Coverage of BCP cancers in radio recordings in English ........................50
Table 4. 12 Aspects of BCP cancers in radio recordings in English ..........................51
Table 4. 13 Coverage of BCP cancers by TV recordings in Gikuyu ...........................51
Table 4. 14 Aspect on BCP cancers in TV recordings in Gikuyu ..............................52
Table 4. 15 Coverage of the BCP cancers by TV recordings in Kiswahili ....................52
Table 4. 16 Aspects of BCP cancers in TV recordings in Kiswahili ...........................53
Table 4. 17 Coverage of BCP cancers by TV stations in English .............................53
Table 4. 18 Aspects of BCP cancers in TV recordings in English ............................54
Table 4. 19 Preference of language and medium of written information ....................58
Table 4. 20 Levels of LA of information in posters ........................................59
Table 4. 21 Challenges encountered in the English poster ..................................60
Table 4. 22 Correlation between social variables and LA of posters .........................61
Table 4. 23 Levels of LA of information conveyed in newspapers............................62
Table 4. 24 Reasons for low LA of information in newspapers .................................63
Table 4. 25 Pearson’s r for social variables and LA of newspaper articles ..................64
Table 4. 26 Summary of LA of written information................................................65
Table 4. 27 Preference for medium and language of spoken information ....................69
Table 4. 28 Levels of LA of information communicated via radio .............................71
Table 4. 29 Hindrance to LA of information conveyed via radio ..............................72
Table 4. 30 Pearson’s r for social variables and LA of radio recordings ......................73
Table 4. 31 Levels of LA of information communicated via TV ...............................74
Table 4. 32 Reasons for low LA of information aired via TV ....................................75
Table 4. 33 Pearson’s r for social variables and LA of TV recordings .........................76
Table 4. 34 Summary of LA of spoken information..............................................77
ABSTRACT

This study set out with three objectives. First was to establish whether the information on cancer was physically available to the Kenyan public. Secondly was to ascertain whether the public was able to linguistically access the information availed to them. Thirdly was to identify the kind of language and cultural challenges encountered during face-to-face communication between health practitioners and the public. The research was guided by Bachman and Palmer’s Communicative Language Ability model as well as Grice’s Theory of Conversational Implicature. Elements of both quantitative and qualitative design were incorporated into the study. First, library sources provided quantitative data on information on breast, cervical and prostate cancers that was availed to the public via mass media. Secondly, primary data was collected from the public in Kiambu and Nairobi counties using a questionnaire, comprehension tests and cloze tests. This data helped to ascertain whether the information on breast, cervical and prostate cancers was linguistically accessible to the public. Lastly, structured personal interviews were used to collect qualitative data on language and cultural challenges encountered during face-to-face communication between conventional medical practitioners and the public. In order to establish how the variables of sex, age, level of education and linguistic codes of conveyance associated with linguistic accessibility, Pearson Correlation Coefficient index was computed. The research found that breast, cervical and prostate cancers were featured in more than half of the information available to the public. Of the three cancers, breast cancer received the widest coverage. Information on cancer management also received the widest coverage while the aspect of prevention was least covered. The newspaper and English language were most dominant medium and language of conveyance respectively. Considering linguistic accessibility, majority of the respondents were able to comprehend the information they read or listened. Higher education was strongly associated with comprehension of information in newspapers while English and higher education were strongly associated with greater understanding of information aired via television. The study recommends that originators of cancer information should avail more information on prevention since this information is associated with greater reduction of cancer incidence and mortality. They should also consider covering each of the BCP cancers separately in order to increase clarity of the information. Finally, trained medical interpreters should be availed in health facilities to help medical practitioners navigate the language and cultural challenges they encounter during face-to-face communication between them and the public.
CHAPTER ONE
INTRODUCTION

1.0 Introduction to the Chapter

This chapter presents the background to the study and statement of the problem followed by research objectives, questions and assumptions. The chapter also covers justification and significance of the study as well as scope and limitation.

1.1 Background to the Study

The human language is an important tool that human beings employ during everyday interactions to create and share new ideas and information on a variety of topics (Burke, 1966; Mercer, 2000). Cancer is one such topics. Mercer (2000, p.4) observes that accurate sharing of information enables people to learn from each other and coordinate their actions. The current study therefore investigated whether language has been used effectively to disseminate information on cancer to the Kenyan public.

The language used by participants in communicative processes such as face to face conversations, speeches, radio and television (TV) broadcasts, newspaper articles among others, aims to transmit specific or factual information (Mercer, 2000). However, distortion and ambiguity are common since words have the potential of expressing meaning beyond the one intended by the speakers or writers (Samovar, Porter & McDaniel 2010; Mercer, 2000). In view of these insights, language has the potential to reduce the devastation caused by cancer in Kenya but only if the information on cancer prevention, screening and management is accurately interpreted.
by the cancer risk Kenyan populace. Conversely, misinterpretation of the information can frustrate efforts to reduce cancer incidents and mortality in Kenya.

According to The International Agency for Research on Cancer (IARC) (2014), cancer is a generic term that refers to a large group of diseases that can affect any part of the body. The cancer process begins when abnormal cells start to subdivide without control. At later stages, the abnormal cells invade tissues, and damage body organs. The different cancers are therefore named after the organ or cells they affect.

Statistics provided by the IARC (2014) indicate that cancer causes more deaths than HIV/AIDS, TB and Malaria combined globally. According to this agency, the four leading cancers for men globally in 2012 were those that affect lungs, prostate, colorectal, and stomach while among women the leading cancers were those that affect the breast, colorectal, lung, and cervix. The statistics further reveal a huge disparity in cancer incidence and mortality between high-income countries (HIC), and low and middle-income countries (LMIC).

This regional disparity in favour of the HIC is attributed to greater awareness of cancer risk factors and benefits of regular screening. Consequently, the majority of cancer incidences are detected and treated early in the HIC. In contrast, research in different parts of the world has identified the lowest levels of cancer awareness among the marginalized communities (Thomas et al., 2005; MOH, 2013; Babb, Urban, Kielkowski & Kellett, 2014; Ahmedian & Asnarulkhadi, 2012). Most of these marginalized communities are found in the LMIC. Due to low cancer awareness in the LMIC, cancer
patients present at the late stages of the disease when it is difficult to treat, resulting in the higher cancer death rates (IARC, 2013). The findings of the present research were therefore intended to reveal how language could be effectively used to increase awareness of prevention, screening and management of cancer in Kenya, which is classified among the LMIC.

According to MOH (2013), cancer is the third highest cause of morbidity in Kenya after infectious and cardiovascular diseases. The same guideline identifies breast and cervical cancers as the two leading cancers among women, while oesophagus and prostate are the two leading cancers among men. In every 100,000 women, 35 are affected by breast cancer and 25 are affected by cervical cancer while in every 100,000 men, 19 are affected by prostate cancer (NCR, 2006).

It emerges from the Mutuma and Rugutt-Korir (2006) that the cancer burden in Kenya can be reduced by up to 40% through primary and secondary prevention interventions (MOH, 2017; MOPHS & MOMS, 2012 a; MOH, 2013). Unfortunately, most Kenyans are not aware of the benefits of the practical cancer preventive measures (Rugutt, 2010; MOPHS & MOMS, 2012 b; Wanyaga, 2013). The present study, however, established the availability of oral and textual information on cancer to the general Kenyan public from a wide variety of sources.

The wide variety of information on cancer available to the Kenyan public however, does not translate into high levels of cancer awareness (MOH, 2017; MOH, 2013). The problem of low cancer awareness therefore persists. This situation calls for a close
examination of language and culture, the two vital components of communication of the information on cancer. This is what prompted the current study.

While language is a system of arbitrary symbols used by a cultural group to express meaning, culture is a system of shared beliefs, values and practices that draw people together (Samovar, Porter & McDaniel, 2010). The two concepts are inextricably related and scholars explain this relationship in different ways (Samovar, et al., 2010; Warren & Fassett 2011; Kramsch, 1998; Wolff & Holmes, 2011). For example, Samovar et al., (2010) envisage a symbiotic relationship where language is needed so that individuals can share knowledge of beliefs, values and behaviour and communal endeavours while culture is required to organize disparate individuals into a cohesive group so that they can share those beliefs, values and behaviours. Warren & Fassett (2011) and Kramsch (1998) hold similar views.

Any communication process involves a sender encoding thoughts and feelings using either verbal or non-verbal symbols and transmitting them as a message through a channel to a recipient who also decodes the symbols. Language, which is a system of symbols, therefore enables the recipient access the thoughts of the sender (Foulger, 2004; Samovar et al., 2010). However, given the intricate relationship between language and culture, the role of language in communication cannot be examined in isolation of culture. Communication should therefore be seen as existing within a cultural context and not as a simple process where symbols merely represent meaning (Warren & Facett, 2011).
The influence of culture on language and vice versa presents a major challenge during communication, especially one that involves participants from diverse language and cultural backgrounds. Such is the scenario in Kenya where English, Kiswahili and about 63 indigenous languages are used in the public domain (Ethnologue, 2014; Muthwii, 2008). Each of the languages presents different cultural orientations and worldviews and therefore differences in language use and creation of meaning is expected. Moreover, each of these languages may present its unique patterns of perceptions, beliefs and practices about disease and illness like cancer. Such patterns will influence how illness is perceived, interpreted, and attributed to what causes it (Samovar et al., 2010). In Kenya, this reality presents a major challenge to those communicating healthcare information particularly that which is related to terminal illness like cancer.

The challenge of communicating health information is compounded when we consider that health and diseases are taboo topics in many languages (Napoli Jo & Hoeksema, 2009; Zamanzadeh et al., 2011; Njoroge. Mukhwana & Sanja, 2015). Typically, cancer is scary in nature as it is usually associated with death, witchcraft, curses, and evil spirits or punishment from God. This is common practice in the LMIC and among the marginalized communities in the HIC (Thomas et al., 2005).

The taboo nature of illness is more pronounced among those connected with sexual behaviour, reproductive organs and bodily functions. This is attributed to the fact that the said bodily activities and organs have strong linguistic taboos, particularly in the first language (Napoli Jo and Hoeksema, 2009; Thomas et al., 2005; Parhizkar, Nazari & Hassan, 2012; Njoroge, Mukhwana & Sanja, 2015). The fact that cancers such as
breast, cervical and prostate (BCP) affect body parts considered taboo, talk surrounding them requires careful use of language in order to avoid the offensive expressions. Strategies commonly employed by speakers include heavily coded language mostly in the form of euphemisms (Njoroge, et al., 2015) and metaphors as well as total avoidance of discourse on these cancers (Parhizkar et al., 2012). However, the euphemistic and metaphorical words may affect the ability to communicate accurately the vital information. Consequently, language may stifle, rather than facilitate, discourse on cancer in Kenya.

1.2 Statement of the Problem

Global and national statistics on cancer have continued to reveal the devastation caused by cancer especially in the LMIC (MOH, 2013; IARC, 2014). According to MOPHS and MOMS (2011), the annual estimate of cancer incidence and mortality in Kenya is 28,000, with 79% of these incidents resulting into death. Raising awareness on cancer preventive measures and regular screening have been hailed as the most practical approach to reduce the increasing cancer burden in Kenya (Rugutt, 2014).

Discourse on cancer is challenging because the disease is mainly associated with human suffering and death (Thomas et al., 2005) and talk related to the leading cancers for men and women inevitably involves mentioning reproductive organs associated with strong language taboo (Njoroge et al., 2015). This challenge results from the inextricable nature of the relationship between language and culture. Guided by the Communicative Language Ability model (Bachman and Palmer, 2010) and Grice’s Theory of
Conversational Implicature (Grice, 1975), the present study determines whether the language used is packaged in a way that the public can decode accurately.

1.3 Research Objectives

The following are objectives of the present study:

i. To find out what kind of information on cancer is available to the general Kenyan population

ii. To establish the extent to which information on cancer is linguistically accessible to the general Kenyan population

iii. To determine how language and cultural practices affect cancer discourse between the general Kenyan population and conventional health practitioners

1.4 Research Questions

The present research answers the following questions:

i. What kind of information on cancer is available to the general Kenyan population?

ii. To what extent is the information on cancer linguistically accessible to the general Kenyan population?

iii. How do language and cultural practices affect cancer discourse between the general Kenyan population and conventional health practitioners?

1.5 Research Assumptions

The present research is based on the following assumptions:

i. There is information on cancer available to the general Kenyan population.
Some information on cancer is linguistically inaccessible to the general Kenyan population.

Language and cultural practices affect the cancer discourse between the general Kenyan public and conventional health practitioners in Kenya.

1.6 Justification and Significance of the Study

According to MOH (2017), cancer is a huge burden to individuals, families and the entire Kenyan nation. A lot of effort is required to create awareness across the country especially on cancer prevention, screening, and management (MOH, 2017; MOPHS & MOMS, 2012 a; MOH, 2013). Moreover, the projection by IARC (2014) that in the next two decades the proportional increase of cancer incidence in LMIC (Kenya included) will be higher than in the HIC, suggests that the effort being made to create awareness among Kenyans by the government agencies, non-government organization, health practitioners, and cancer activists might be ineffective. The logical conclusion is that either this information does not physically reach the Kenyan populace or if it does, then it may not be clearly understood.

Several studies conducted in different parts of Kenya provide useful findings on how language can be effectively used to create awareness of diverse health challenges such as improper waste disposal (Khakasa, 2010); HIV/AIDS (Gachara, 2005); and Malaria (Rono, 2012). However, none has identified whether language and culture hinder comprehension of cancer information and how these barriers can be overcome.
The findings of the present study are therefore relevant to practitioners in health and mass media as well as other individuals and institutions tasked with the production and dissemination of cancer information to the general Kenyan public. Informed by the findings of the present research, these individuals and institutions are likely to employ linguistic strategies that will address the unique cultural beliefs, values and practices that hinder comprehension of cancer information in Kenya.

Information that is based on proper linguistic and cultural considerations is likely to be interpreted accurately and acted upon appropriately. The overall effect would be the acquisition of the intended knowledge and behaviour change in relation to such practices as tobacco use, sexual activity, diet, regular screening, exposure to chemicals and radioactive material among others. Such knowledge and behaviour could reduce the overall cancer burden in Kenya by up to 40% (MOH, 2013).

1.7 Scope and Limitations of the Study

The study area comprised two counties in Kenya: Nairobi and Kiambu. Though cancer affects Kenyans in all the 47 counties, only the two counties were considered. The two were picked since data on all cancer cases referred to Kenyatta National Hospital (KNH) from different counties in Kenya, reveals that cases from Nairobi County were the highest followed by Kiambu County (Mugo, 2017).

According to MOH (2013) there are over 100 types of cancers. However, the present study confined itself to breast, cervical and prostate (BCP) cancers. The three lead in incidence and mortality rates among women and men respectively in Kenya (MOPHS
They are also associated with taboo language (Napoli Jo & Hoeksema, 2009; Parhizkar et al., 2012).

Additionally, although there is a lot of verbal and textual information on BCP cancers that is communicated to the general Kenyan population, only information on prevention, screening, and management of these cancers was considered in the study. The three kinds of information provide the most effective strategies of reducing cancer incidence and mortality in Kenya (MOH, 2013). The present study also limited itself in relation to the codes used to communicate information on BCP cancers in Kenya. Although both linguistic and non-linguistic codes are used to communicate this information, the study confined itself to the linguistic code, both textual and verbal. This narrowed the scope and made collection and analysis of data manageable.

Finally, this study limited itself to information communicated in English, Kiswahili and Gikuyu for a period of six months from 1st May to 30th October 2017. English and Kiswahili were the languages commonly used in cross-cultural communication in Nairobi County while Gikuyu was the indigenous language spoken in Kiambu County (Ethnologue, 2014).

1.8 Summary of the Chapter

In this chapter, the background to the study is first presented. This is followed by the statement of the problem and research objectives, questions and assumptions. The last two sections comprises justification and significance of the study as well as scope and limitation. The next chapter covers literature review and theoretical framework.
CHAPTER TWO
LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.0 Introduction to the Chapter

This chapter first reviews literature on types of related literature. This is followed by a discussion of theoretical framework.

2.1 Review of Related Literature

This sub-section first presents literature on the relationship among language, culture and communication. It then reviews studies that have examined how language and culture affect cancer awareness.

2.1.1 Studies on Language, Culture and Communication

The relationship between language and culture was originally advanced in what is famously called the Sapir Whorf hypothesis (Wolff & Holmes, 2011; Warren & Fassett, 2011). According to this hypothesis, our words are not just words: “they are what make possible what we can (and cannot) understand” (Warren & Fassett, 2011, p.91). This hypothesis presents two views on how language and thought relate. The first view, commonly referred to as the weaker view, argues that language influences thought. This implies that our language plays an important role in shaping how we interpret and understand the world. The second view, referred to as language determinism, argues that language determines thought. Effectively, this view, also called the strong view of the Whorfian hypothesis, posits that speakers of different languages think differently (Wolff & Holmes, 2011).
Research findings by Wolff and Homes (2011) did not establish evidence that language determines thought. However, the two found evidence that language influences thought in five different ways namely: thinking for speaking; language as a meddler; language as augmenter; language as spotlight; and language as inducer (Wolff & Holmes, 2011, p. 261). Further, Kramsch (1998) dismisses the language determinism view since it, presents speakers as prisoners of their language. Clearly, this is not the situation in Kenya where the over 60 languages spoken in the country are characterized by creation, borrowing and adoption of words to accommodate new concepts from other cultures especially in the field of science and technology.

The present study adopted the weak view of the Whorfian hypothesis considering, the wide support it has received and its relevance to the Kenyan multilingual situation. By adopting the weak version of the hypothesis, the present study was able to ascertain whether the communicators of information on cancer in Kenya adopted strategies that enabled them address themselves to the diverse worldviews as influenced by the different languages spoken in Kenya. Such strategies ensure linguistic accessibility (LA) of the information disseminated to the public, in relation to the second objective of the current study.

Warren and Fasset (2011, p. 11) argue that when people communicate, they are engaged in either conscious or unconscious collaboration and negotiation that construct meaning within a cultural context. They continue to argue that: “Communication is never just a conduit, a channel or tool for transferring information. Communication always produces, makes, constructs.”
Based on this argument, the two present two different perspectives of communication: as representation and as constitutive. The representational perspective suggests that the words we speak or write stand in for our thoughts or things in the world and when people hear or read these words, they simply translate or decode those thoughts or things. This perspective presents language as any other tool that enables people to accomplish a task.

They, however, fault the representation perspective due to its inability to explain the many different, difficult and often prolonged misunderstandings people experience in their personal, professional and civic relationships with others. Relating this view to the languages used to create cancer awareness in Kenya, it can be argued that any cancer information transmitted in any of the Kenyan languages would be accurately interpreted and understood, resulting into appropriate action. However, since this is not always the case, this study disagrees with the representation view. The constitutive perspective argues that when words are combined during a communication process, they result to something more than the meaning of component parts. The words used construct or make meaning. In this way, communication affects and helps create individuals as well as what they think of as their realities. This implies that all instances of communication, no matter how small, are constantly changing people and their worldview. Since the intention of disseminating information on cancer in Kenya is to urge Kenyans to adopt behaviour that can prevent and manage cancer effectively, the constitutive perspective would be more applicable in this study.
Hall (1977) also argues that it is not possible to separate communication and culture. She therefore says that culture is communication and communication is culture. This view is supported by Samovar et al., (2010). They explain that language and culture are inseparable since culture is learnt through communication while at the same time language is a reflection of culture. Since we use language to teach and to learn (Bachman & Palmer, 2010), the implication is that language is inseparable from communication and culture. In agreeing with Hall (1977), this study advances the argument that the varied interpretations of cancer information in Kenya are influenced by the varied beliefs and practices, which are inherent in the various Kenyan languages.

2.1.2 Studies on how Language and Culture Affect Cancer Awareness

A number of Studies have explored the role of language in raising cancer awareness. A study by McWhirter et al., (2011) investigated the level of comprehension of both written and oral information on colon cancer among Chinese women immigrants who spoke English as second language in Canada. Written (Cloze Test) and oral (Teach Back) instruments were used to measure the women’s level of comprehension of the cancer information provided. The study found that the women performed well when evaluated using the oral instruments and poorly when evaluated using the written instruments. This implies that the oral information was better understood than the written one. The findings from this research could not, however, be generalized to other ESL (including other Chinese) groups since the 29 participants comprised a convenience sample in which all were well educated and earned high incomes. The current study therefore still has its place.
The study by McWhirter et al., (2011), differs from the present study since it does not establish how specific aspects of language use such as pronunciation, textual organisation, among others hinder the communication of cancer information. The present study addresses this issue in the second objective. However, McWhirter et al., (2011) is similar to the present study since it establishes whether cancer information originators match the information disseminated with the appropriate linguistic codes such that the target recipients can linguistically access the information. This finding relates to the third objective of the present study.

Gonzalez et al., (2012) investigated the association between language use and colorectal cancer (CRC) screening awareness and uptake of two CRC screening tests (FOBT and colonoscopy) in America. The study was conducted among the South Western Red Indian Americans with a high rate of the Hopi language use. The research targeted this group because it had one of the lowest CRC screening rates in America. Data was collected from 182 randomly selected Hopi tribe members living in two of the 12 villages in a reservation. The study established that there was no significant difference (in CRC screening awareness and uptake of CRC screening tests) between respondents who spoke Hopi only at home and those who spoke Hopi and English in the same setting. This finding differs from Bezwoda et al., (2006) who found that English language was better positioned to create cancer awareness than indigenous South African languages.

The unusual outcome in Gonzalez et al. (2012) arises from the fact that among the American natives, English is acquired at an early age alongside Hopi. Consequently, the
natives who speak Hopi only in the home domain are also fluent in English. Such natives are therefore exposed to the native and American culture in equal measure, thus ensuring linguistic access of information on cancer, whether communicated in Hopi or in English. This finding related to second objective of the present study, which seeks to establish how the languages of conveyance associate with linguistic accessibility (LA) of cancer information.

Another relevant finding of the Hopi research is that participants aged over 50 years had a screening rate that met the 50% Healthy People 2010 goal. This was achieved because a community based cancer awareness organization, Hopi Office of Prevention and Intervention (HOPI) Cancer Support Service, employed health professionals knowledgeable about the Hopi culture and fluent in the Hopi language. Can the same be said about the Kenyan conventional health professionals? The finding of the third objective of the present study aptly answers this question. This finding also relates to the second objective of the present study, which explores the correlation between LA of information on cancer and the variable of age.

The study by Bezwoda et al., (2006) is one of the rare studies in Africa that attempt to explain how language and culture affect cancer awareness. Though the study relies on secondary data, it provides useful insights on how language and culture hinder access to cancer information especially by the black majority in South Africa. One of the findings of the South African study is that the black ethnic languages are poorly positioned to communicate cancer information. For instance, out of all the languages in the nine groups of ethnic languages, only three languages in the Nguni group (Zulu, Swazi, and
Xhosa) have a name for cancer. Unfortunately, the study reveals that these words do not convey the reflected meaning of a disease that requires one to seek medical attention at the earliest time possible, as the English equivalent (cancer) does especially in the western world.

Another important finding of the South African study is that though effort has been made to form bodies that provide cancer awareness information, a vast majority of such information is in English and Afrikaans and presupposes a western understanding of the disease. While effort has been made to translate some of the information into selected South African indigenous languages such as Sesotho, Tswana, Xhosa, and Ndebele among others, the study doubts whether such direct translations can be linguistically accessible to people of diverse language and culture in South Africa.

Likewise, Bezwoda et al. (2006) examines the nature of interpersonal communication between black cancer patients and doctors. The study establishes that the black patients are less likely to have verbal information about cancer provided to them and even if it is, it is not likely to be in their own language. The same applies to reading materials regarding the disease.

The second and third objectives of the present study sought to determine whether speakers of some of the Kenyan languages are disadvantaged in relation to the LA of information on cancer. Like the South African study under review, such information is likely to be encountered in the print and electronic media or during face-to-face communication with conventional health care providers.
In Kenya related studies have mainly investigated cancer awareness (Rugutt, 2014; Wanyaga, 2013). These studies are not however linguistic and there fail to relate specific language aspects and cancer awareness. For instance, Rugut (2014) investigated the barriers to early cancer diagnosis among cervical cancer patients in Kenyatta National Hospital. Data was collected from both cervical cancer patients and the health care personnel who interact closely with the cancer patients.

The research established that due to lack of cervical cancer knowledge, the majority of the patients (75%) were diagnosed when the cancer was at the late stage. In addition, a large number (83.1%) of the patients were not aware of the existence of screening tests prior to diagnosis. Only 16.9% of them were aware of the Pap smear test. The study also identified that patients with post-secondary level of education were less likely to have a late diagnosis. Though the study identified lack of cervical cancer awareness as the main cause of late diagnosis, it did not reveal the relevance of language in raising cancer awareness, something that the present study did.

A study by Wanyaga (2013) was conducted among men aged 30-73 years in Nairobi County to evaluate their awareness and knowledge levels, perception of prostate cancer self-vulnerability and uptake of prostate cancer screening. Among the findings of this cross-sectional study was that the majority of the men (84.6%) had a high level of prostate cancer awareness. However, the older men were less knowledgeable about prostate cancer compared to the younger ones. The study also established that the knowledge of prostate cancer was higher than the knowledge of prostate cancer screening and that the number of those who had been screened for prostate cancer was
even much lower. Finally, the study determined that the number of men willing to take up prostate cancer screening was very high and similar to those who were willing to know more about the disease.

This research is relevant to the present one since it investigated prostate cancer screening in Kenya. Nevertheless, it does not establish whether language and culture contribute to low levels of prostate cancer screening. It is also limited to only one cancer while the present study covers three cancers.

2.2 Theoretical Framework

2.2.1 Introduction

The present study requires guidance from a theory that explains how the concepts of language, language competence and culture relate in order to realise effective communication. Among them is the Interlanguage Theory (Frith, 1978). The fact that the Interlanguage Theory mainly focuses on the significance of errors committed by second language learners and fails to adequately address the influence of culture on language use, makes it unsuitable for the current study. Another relevant theory is An Ecological Model of Communication (Foulger, 2004). The theory explains the complex interaction among messages, people languages and media. However, since language and culture are not accorded prominence in this model it is considered unsuitable for the present study.

The Communicative Competence based models (Hymes, 1972; Savignon, 1972; Canale & Swaine, 1980; Canale 1983; Bachman and Palmer, 2010), explain how various
aspects of language knowledge influence communication. Out of these models the Communicative Language Ability (CLA) (Bachman & Palmer, 2010) is the most appropriate for the present study, as it outlines the language knowledge as well as skills and abilities required to use language effectively during communication process. The CLA model is complemented by Grice’s Theory of Conversational Implicature since Grice’s theory explores language use at conversational level, a component that is lacking in CLA.

2.2.0 Communicative Language Ability Model

This section will discuss the CLA model in detail. According to Bachman and Palmer (2010, p. 46), language ability comprises two components: language knowledge and strategic competence. Language knowledge is further subdivided into two broad aspects: organizational and pragmatic knowledge. Organizational knowledge includes grammatical knowledge and textual knowledge while pragmatic knowledge comprises functional and sociolinguistic knowledge.

Grammatical knowledge involves knowledge of the formal structure of language as encompassed in semantics, syntax, morphology, graphology and phonology. This knowledge allows language users to produce and comprehend sentences and utterances that are formally correct.

Textual organization involves the production and comprehension of sequences of units of information, whether textual or oral. Knowledge of how to explicitly produce and comprehend the marked relationships among the units, for example oral or textual
sentences (cohesion), and knowledge of how to sequence the units, is the key to the textual knowledge.

Pragmatic knowledge involves functional and sociolinguistic knowledge. Functional knowledge allows the language user to choose utterances, sentences or texts that best express and achieve their communicative intent. It includes ideational, manipulative, heuristic and imaginative main types of knowledge (Bachman & Palmer, 2010, p.47).

The first type of functional knowledge (ideational knowledge) enables individuals use language to inform, express or exchange information about ideas, feelings or knowledge. The second is knowledge of manipulative function that is subdivided into three functions namely: instrumental functions, which enable speakers to get their hearers do things; regulatory functions which control what other people do and interpersonal functions which are used to establish and maintain interpersonal relationships. The ability of cancer information to make individuals avoid cancer risk behaviour and regularly screen for cancer is determined by how well the manipulative function of language is met.

The third functional knowledge is called heuristic. It enables us to teach and learn about the world around us. This function also allows speakers to solve problems about their environment and to retain information. For example, the dissemination and acquisition of knowledge on prevention, screening and management of cancer falls under the heuristic function of language.
The last type of functional knowledge is referred to as imaginative function and it enables speakers to use language to create an imaginary world for humorous or entertainment purposes. These purposes include jokes, narratives, figurative language, poetry and comedy among others.

Sociolinguistic knowledge involves the knowledge of conventions for creating and interpreting language utterances, which are appropriate for a particular context of language use. It is further subdivided into the following types of knowledge: dialect or variety; knowledge of registers; knowledge of genres; knowledge of expressions that are natural to a group of language speakers; and last is knowledge of cultural references and figures of speech.

The strategic competence refers to compensatory strategies in case of grammatical, pragmatic or sociolinguistic difficulties. Examples include grammatical and lexical paraphrase, requests for repetition, clarification, slower speech. The strategies operate under the areas of goal setting, appraising and planning (Bachman & Palmer, 2010, p. 48).

The CLA model came in handy during the analysis of data on LA of cancer information disseminated to the general Kenyan public. Where we found readers and listeners unable to attain LA, the implication was that the originators of such information lacked language knowledge or competence to use it. The factors that were identified by the respondents and participants as having contributed to incomprehensibility of the information were interpreted as the specific language knowledge or capacity to use that language that the originators of the cancer information lacked.
2.2.1 Grice’s Theory of Conversational Implicature

Also of relevance to our study is Grice’s Theory of Conversational Implicature. Grice, (1975) posits that an utterance has two meanings: the literal meaning, which is expressed by the string of words in the utterance and the indirect or implied meaning which is suggested by the utterance.

According to this theory, what is implied can be determined by the conventional meaning of words used in an utterance or by non-conventional means. The following is an example of conventional implicature utterance: “X is on chemotherapy therefore he is receiving cancer treatment”. The word “therefore” indicates the implicature of the utterance. On the other hand if we consider a conversation between X and Y where X tells Y:

“I have been feeling a sharp pain in my ribs” and Y responds thus: “Remember you have been smoking for fifteen years”, then Y implies that the cause of X’s pain is the smoking habit. In this case features of discourse like the relationship between X and Y; shared knowledge, what had been said earlier among others will help X understand the conversational implicature.

The theory further posits that during our talk exchanges “the participants recognize in them, to some extent, a common purpose, a set of purposes, or at least a mutually acceptable direction” (Grice, 1975, p.158). In order to ensure these common purposes are achieved Grice proposes the Cooperative Principle which the participants will be expected to follow. The principle states as follows: “Make your conversational
contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged” (Grice, 1975 p.158).

Whether participants abide by the Cooperative Principle and achieve the intended purposes of the conversation, is determined by how well they abide by the following four specific maxims under which the cooperative principle operates.

The first maxim (maxim of quantity) requires speakers not to provide more information than is required while the second one (maxim of quality) requires speakers not to say what they believe to be false. The third one (maxim of relation) demands that the speakers only say that which is relevant, while the last one (maxim of manner) relates to how a contribution is made. Under this maxim, speakers are required to avoid obscurity of expression and ambiguity as well as to be brief and orderly.

In the course of data analysis, some of the factors that were identified as causes of low comprehension of information on BCP cancers were likely to be a result of failure to abide by some of the maxims under which the Cooperative Principle operates. As such, the Theory of Conversational Implicature was used to explain how violating the maxims hindered LA of information on BCP cancers in Kenya.

2.3 Summary of the Chapter

This chapter began with a review of literature that has examined the intricate relation among language, culture and communication. This was followed by a review of studies that focussed on communication of information on cancer. The final section reviewed the Communicative Language Ability Model and the Gricean Theory of Conversational
Implicature after rationalizing their choice. The next chapters cover research methodology.
CHAPTER THREE
RESEARCH METHODOLOGY

3.0 Introduction to the Chapter

This section covers research design, location of the study, sampling of data and respondents as well as data collection tools and procedures. It also explains data analysis and interpretation methods. Finally, it presents ethical considerations.

3.1 Research Design

The research was both qualitative and quantitative. The mixed research design was preferred so as to obtain data using a combination of tools thus ensure data validation (Mugenda & Mugenda, 1999; Creswell & Clark, 2011). The quantitative data was numerical while the qualitative one was descriptive.

Two sets of quantitative data were collected. The first comprised the kind of textual and written information available to the public via the print and electronic media. This data addressed objective one of the current study. The second set of quantitative data comprised levels of comprehensibility of the written and spoken information. This data was related to objective two of the study that sought to find out whether the information on the BCP cancers in the public domain was linguistically accessible. The qualitative data displayed the language and cultural obstacles encountered during face-to-face communication between medical practitioners and the general public. This textual data addressed objective three of the current study.
3.2 Categories of Analysis
The research collected both primary and secondary data. Secondary data comprised information on BCP cancers available in the public domain. This data was found in print and electronic media. Primary data consisted of knowledge and comprehensibility of information on BCP cancers. It was obtained from the public and conventional health practitioners.

3.3 Area of Study
The research was conducted in two counties: Nairobi and Kiambu. The two counties were selected because cancer statistics from Kenyatta National Hospital (KNH) Cancer Registry indicate that cancer cases from Nairobi County were the highest followed by those from Kiambu County (Mugo, 2017). In Kiambu County, the specific study sites were catholic churches in Githunguri, Limuru and Thika Catholic parishes. In Nairobi County, the study site was KU Main Campus.

3.4 Target Population
The research targeted adult males and females among the general Kenyan public in catholic churches in Kiambu County as well as students and staff in the academic departments of KU Main Campus. Adult females were considered for the reason that though both males and females were vulnerable to breast cancer, incidents among females were much higher while cervical cancer affects only females. On the other hand, adult males were vulnerable to prostate cancer (MOPHS & MOMS 2012 b; MOH, 2013).
Conventional health practitioners working in health facilities in the two counties were also targeted since they were engaged in constant face-to-face interaction with cancer patients and their care-givers (Rugutt, 2014). They were therefore a vital source of verbal information on cancer to the general Kenyan public.

3.5 Sampling Technique and Sample Size
The current research sampled secondary data. In addition, the target population was sampled to identify respondents who would provide primary data in the field study.

3.5.1 Sampling of Secondary Data
Secondary data comprised textual and verbal information on cancer available to the general Kenyan public via the mass media. Textual information was likely to be found in books, newspapers, magazines, posters, pamphlets, billboards and the Internet. The study however considered only newspapers and poster mediums. Newspaper was preferred as it conveyed current health related information. It is also the most widely available type of print media in the study areas. Out of the remaining types of print media, poster was the most widely used within health facilities to communicate health information to the many members of the public who go there.

Out of the many daily Kenyan newspapers written in English, purposive sampling was first used to select The Standard and The Daily Nation for they enjoy the widest circulation in the study areas (Elliott, 2015). They also contain magazines and features that convey health related information such as Health column in The Sunday Standard Magazine and Health magazine in Tuesday Nation. In order to select one of the two, simple random sampling was used. Consequently, The Daily Nation was picked.
Turning to newspapers published daily in Kiswahili, *Taifa Leo* was purposively selected since it was the only one that enjoyed wide circulation in the study areas. Regarding poster, we collected those bearing cancer messages and pinned on the notice boards of Kiambu Level Five General Hospital (KLFGH) and KNH. The two were the main public hospitals in the study areas thus serving a cross section of the Kenyan public.

On the other hand, verbal information on BCP cancers was sampled from radio and TV stations that broadcast in the study areas. We first used purposive sampling in order to exclude stations with a religious bias as they targeted audience with a specific religious affiliation. The remaining stations were grouped according to the three languages of conveyance considered for the current study.

Starting with radio stations, we randomly selected one from among those that broadcast in Gikuyu namely: Kameme FM, Coro FM and Inooro FM. The three were considered because of their high popularity in the study areas (Elliott, 2017). This was done by assigning the stations numbers 1-3 which were written on pieces of paper. Next, the papers were folded and placed in a plastic jug. One paper was then randomly picked from the jug. Effectively, Inooro radio was selected. The same sampling procedure was applied to select Citizen Radio from among the five leading radio stations that broadcast in the study areas in Kiswahili. According to a survey by Roxana (2017), the leading five stations were Citizen Radio, Radio Maisha, Milele FM, Radio Jambo and KBC Radio Taifa. Likewise, the third radio station was sampled from the leading five that broadcast in English in the study area (Roxana 2017). The five included Classic FM, KBC English Service Radio, Easy FM, Capital FM and Kiss FM. Simple random
sampling similar to the one detailed above was used. KBC English Service was thus selected.

Turning to TV stations, the first one was sampled from among the three that broadcast in the study areas in Gikuyu (Inooro TV, 3 Stones TV and Kameme TV). Simple random sampling similar to the one employed to select radio stations, was also used resulting to selection of Inooro TV. The remaining two TV stations were also randomly selected from the six that competed for viewership in the study area (Elliott, 2017). The stations were NTV, Citizen TV, KTN, K24 TV, QTV and KBC Channel One. Considering that these stations broadcast in both Kiswahili and English, the first to be selected (K24) served as the Kiswahili TV station while the second one (NTV) served as the English TV station.

Overall, three radio stations and three TV stations were selected. Sampling of spoken information from both radio and TV stations that broadcast in different languages enabled the research to compare levels of LA of information aired via the three linguistic codes. This data addressed the second objective of this study. From all the items collected under the four mediums of conveyance, items to be used jointly with the questionnaire were selected. The items were used to determine LA of BCP cancers. Purposive sampling was first used to identify items that covered the BCP cancers. Next, simple random sampling was used to pick items on BCP cancers in each medium and language of conveyance. Table 3.1 below summarises this sampling.
Table 3.1: Sampling of pieces of information for use with the questionnaire

<table>
<thead>
<tr>
<th>Mode of conveyance</th>
<th>Gikuyu</th>
<th>Kiswahili</th>
<th>English</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poster</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Newspaper</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Radio</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>TV</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2</strong></td>
<td><strong>4</strong></td>
<td><strong>4</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

It can be seen from Table 3.1 above that one poster, two newspaper articles, three radio recordings and three TV recordings were sampled. Sampling three items in the TV and radio categories ensured that Gikuyu, Kiswahili and English were equally represented in each mode. Although we had targeted to sample three posters, this was not realised since we did not find any poster in Gikuyu while the only Kiswahili poster did not cover BCP cancers. It was therefore excluded from this sample. That left us with only one poster in English. Similarly, in the newspaper category, only articles in Kiswahili and English were sampled since there was no known newspaper in Gikuyu in wide circulation in the study areas.

3.5.2 Sampling of Respondents

As mentioned earlier, members of the public were picked first from three Catholic churches in Kiambu County. The Catholic Church was preferred because it has the highest following in Kenya. According to the Kenya Conference of Catholic Bishops (2015) 12 million (25% of the Kenyan population) are Catholics spread throughout the country.
Multi stage sampling was used to sample respondents in the churches. First, simple random sampling was used to select three Catholic Church parishes from among the seven in Kiambu. Seven numbers were written and three picked randomly. Consequently, Limuru, Githunguri and Thika parishes were selected. Next, one church was picked from the list of churches in each parish using simple sampling method as well. The three churches were St. Teressa Catholic Church Ngecha, The Resurrection Catholic Church Thika and St Lawrence Catholic Church Githunguri.

Purposive sampling was then used to select respondents in each church. This method ensured that the variables of age, sex and level of education were equally represented. It also ensured that only respondents available and willing to participate in the study were selected. Table 3.2 below summarises this sampling.

**Table 3.2: Distribution of categories of respondents in the Catholic churches**

<table>
<thead>
<tr>
<th>Sex</th>
<th>No.</th>
<th>Age</th>
<th>No.</th>
<th>Level of education</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>4</td>
<td>18-39</td>
<td>2</td>
<td>Lower</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Higher</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Over 40</td>
<td>2</td>
<td>Lower</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Higher</td>
<td>1</td>
</tr>
<tr>
<td>Females</td>
<td>4</td>
<td>18-34</td>
<td>2</td>
<td>Lower</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Higher</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Over 35</td>
<td>2</td>
<td>Lower</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Higher</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>8</td>
<td></td>
<td></td>
<td>24</td>
</tr>
</tbody>
</table>
From the table above it is clear that 8 respondents were sampled from each of the churches. The total number of respondents sampled in the three churches was therefore 24.

Turning to Nairobi County, public universities were the preferred sites since the general Kenyan public from different languages and cultural backgrounds can be found there. Simple random sampling was used to select one public university out of the five situated in Nairobi County. Five numbers each representing one of the universities were written on pieces of paper that were folded and put in a jug. One was then picked at random. Kenyatta University (KU) was thus selected.

Subsequently, purposive sampling was used to select 54 academic departments that were not health related. Next, the 54 departments were numbered 1-54 then 4 of them were picked at random. Effectively, the departments of Music, Mathematics, Business and Kiswahili were selected. From each of the departments, students, teaching staff and non-teaching staff were purposively sampled. This sampling is presented in Table 3.3 below.
Table 3.3: Distribution of categories of respondents at KU Main Campus

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Education</th>
<th>No.</th>
<th>Sex</th>
<th>No.</th>
<th>Age</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>Higher</td>
<td>8</td>
<td>males</td>
<td>4</td>
<td>18-39</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40 &amp; Above</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>females</td>
<td>4</td>
<td>18-34</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>35 &amp; Above</td>
<td>2</td>
</tr>
<tr>
<td>Teaching Staff</td>
<td>Higher</td>
<td>8</td>
<td>Males</td>
<td>4</td>
<td>40 &amp; Above</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>18-39</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Females</td>
<td>4</td>
<td>35 &amp; Above</td>
<td>2</td>
</tr>
<tr>
<td>Non-teaching Staff</td>
<td>Lower</td>
<td>16</td>
<td>Males</td>
<td>8</td>
<td>40 &amp; Above</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>18-39</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Females</td>
<td>8</td>
<td>35 &amp; Above</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>18-34</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>32</td>
<td>32</td>
<td>32</td>
<td></td>
<td>32</td>
</tr>
</tbody>
</table>

Table 3.3 above shows that the sample at KU consisted of 8 students, 8 members of teaching staff and 16 members of non-teaching staff. Among the students and the teaching staff, the level of education was uniform (higher) but the variables of sex and age were equally represented in the two samples. The sample of the non-teaching staff also had a common level of education (lower). However, the two sexes and the two age cohorts were equally represented in this sample. Following the sampling procedure described above, 32 respondents were picked at KU Main Campus. Considering that 24 respondents were sampled in Kiambu County, the total number of respondents for the
current study was therefore 56. The male and female respondents in the two sites were divided into two age cohorts: 18-34 and over 35 for females and 18-39 and over 40 for males. The rationale of having the two age cohorts for the female was based on the findings that breast cancer is common among women aged between 40-49 years and the fact that a majority present when the disease is at the late stage (MOPHS & MOMS, 2012 b P. 42). This implies that women in mid and late thirties are equally vulnerable to the disease. According to the same document, the peak age for cervical cancer in Africa is 35-45 years. Turning to the males, the two age cohorts were also preferred because prostate cancer affects men older than 40 years (MOPHS & MOMS, 2012 b P. 49).

The inclusion of respondents from the two age cohorts for females and males ensured that both adults with high vulnerability and low vulnerable to BCP cancers were equally represented. The age cohorts therefore helped establish the correlation between age, which is a cancer risk factor, and LA of information on BCP cancers. Similarly, in order to establish how level of education influences LA of information on cancer among the general Kenyan public, two levels of education were considered: lower and higher.

Another sample comprising four conventional medical practitioners was selected. A female nurse above 35 years and a male clinical medical practitioner below 40 years were purposively sampled from KLFGH. A converse sampling was done in KNH in Nairobi County where a male nurse below 40 years and a female clinical medical practitioner above 35 years were purposively sampled. Data from this sample helped establish language and cultural challenges encountered during face-to-face communication between health practitioners and the general Kenyan public since this
data was not provided by the key respondents’ questionnaire. Data collected from this sample related to the third objective of this study.

3.6 Research Instruments

Four research tools were used: key respondents questionnaire (see appendix i), personal interview guide (see appendix ii) open-ended comprehension questions test (see appendixes vi, and xi-xvi) and cloze test (see appendices viii and x). The four tools increased the reliability of the data collected.

Since a large amount of data was collected from the key respondents (N=56) within a limited period, questionnaire was preferred (Mugenda & Mugenda, 1999). The questionnaire was in English. The interviewer however translated it into Kiswahili or Gikuyu when requested by the respondents. This tool collected quantitative data that addressed objective one and two of the present study.

Cloze test and open-ended comprehension questions test were considered because research has demonstrated that the two can reliably determine readability and, in extension, comprehensibility of textual and oral information (Taylor, 1953; Brown, 2013). In addition, results from the two tools have been found remarkably similar (Habibian, 2012). Since cloze test typically tests comprehension of written passages, we used it to determine comprehensibility of newspaper articles while open-ended comprehension questions test was used to establish comprehensibility of posters and audio recordings.
Personal interview guide was used to collect data from the conventional medical practitioners in the two counties. This tool elicited the practitioners’ experiences, attitudes and opinions on how language and culture affected face-to-face discourse on cancer between them and the general Kenyan public. This tool collected qualitative data that helped achieve the third objective of the current study.

3.7 Data Collection Procedure

Since this study collected secondary and primary data, secondary and primary data collection procedures were used. Data collected using the two approaches complemented each other to establish whether the information on BCP cancers was physically and linguistically accessible to the general Kenyan population.

3.7.1 Secondary Data Collection Procedures

This procedure collected data on information on cancer that was communicated to the Kenyan public via the mass media as envisaged in the first objective of the present study. Newspaper articles in English and Kiswahili were collected from www.kenyamoja.com and http://www.swahilihub.com websites respectively. Online editions of all major Kenyan daily newspapers published in English were posted in KenyaMOJA while all Taifa Leo Editions were posted in Swahili Hub. By typing the words “cancer”, “kansa” or “saratani” in the search dialogue box of the web sites, articles covering cancer were availed. We then downloaded them in order to facilitate content analysis. Posters on BCP cancers were collected from notice boards of KNH and KLFGH. The posters were photographed in order to facilitate content analysis.
Newspaper articles published within six months, from 1\textsuperscript{st} May to 30\textsuperscript{th} October 2017, were collected.

Verbal information from the TV stations was downloaded from www.youtube.com and www.kenyamoja.com websites. The stations posted programmes and news items in these websites. Information from the radio stations was recorded when the programmes aired live. Television and radio programmes as well as news items on BCP cancers that were aired by the sampled stations for six months (1\textsuperscript{st} May to 30\textsuperscript{th} October 2017) were collected.

All the written pieces of information were read while the spoken ones were listened to in order to determine their content. Consequently, texts and audio recordings were coded in accordance with the eight steps that guide content analysis (Ary, Jacobs, & Sorensen, 2010). This analysis enabled the present research to first expose the number of items that featured the BCP cancers. Secondly, the analysis helped determine how the same items featured prevention, screening and management aspects of the BCP cancers.

3.7.2 Primary Data Collection Procedures

A questionnaire was used jointly with cloze tests and open-ended comprehension questions tests to collect data from the general Kenyan public. In Kiambu County, respondents answered the questionnaire and the tests after the church service in a common venue within the church compound. In KU, students responded to the questionnaire and tests in either their hostels or lecture halls while members of staff did so at their work places.
In part C of the questionnaire (see appendix i), each respondent had to first read either a poster or a newspaper article depending on their choice. Respondents who preferred poster were limited to the one in English (see appendix v) since we did not find any poster in Gikuyu and the only poster in Kiswahili (see appendix xvii) did not feature BCP cancers. Those who preferred newspaper article chose between the one in Kiswahili (see appendix vii) and the one in English (see appendices ix). After reading the poster respondents answered comprehension questions based on information in that poster (see appendix vi). Similarly, those who read newspaper articles answered a cloze test extracted from the article they had just read (see appendix xiii and x).

Secondly, each respondent had to choose either TV or radio medium. Next, they were provided with a recording in either Gikuyu, Kiswahili or English from the medium chosen. They then listened to the recording once. After listening to the preferred recording, they answered the relevant open-ended comprehension questions (see appendices xii – xvi).

The comprehension and cloze tests were then scored in order to determine comprehensibility of the information read or listened to. According to guidelines established by Oller (1979) cloze tests scores below 44% indicated that text was incomprehensible while scores above 58% indicated that text was comprehensible. Scores between 44% and 57% were on the borderline meaning comprehensibility was likely.

Each of the health practitioners was subjected to a structured interview (see appendix ii). The interviews were conducted within the health facility, in a place and time
convenient to both the practitioner and the researcher. The proceedings of each of the interviews were tape-recorded. The transcribed interview recordings came in handy during data analysis process. The qualitative data collected using this procedure helped to determine how language and cultural practices affect cancer discourse between the general Kenyan public and conventional health practitioners, which was the third objective of the present study.

3.8 Data Analysis and Presentation

After ascertaining the content of each piece of information, the content was converted into nominal data. This coded data included the number of items collected under each mode, medium and language of conveyance; the number of items that featured each of the BCP cancers (either separately or with other cancers); as well as the number of pieces of information that contained information on prevention, screening and management of the cancers. Overall, this analysis exposed the amount of information on each of the BCP cancers. It also revealed the amount of information on prevention, screening and management of these cancers. This data was relevant objective one of the present study which was to determine the extent to which information on cancer was physical accessibility to the general Kenyan public.

All the responses in the questionnaire as well as tests scores were also converted into nominal data. Test scores above 50% implied that respondents had understood the information thus attained LA while scores below 50% pointed lack of LA (Oller, 1979). Cross tabulation and statistical testing of the quantified data was done such that the tables and results of the statistical tests could reveal LA of information on BCP cancers
in relation to sex, age, level of education and codes of conveyance. This analysis addressed the second objective of the current study.

Data from personal interviews with conventional health practitioners yielded qualitative data. This data was therefore analysed qualitatively. The analysis followed the five steps of qualitative data analysis namely: data collection, transcription, coding, generating themes, interpreting and attaching meaning (Mugenda & Mugenda, 1999). The analysis of the data collected from the health practitioners therefore enabled the present study establish how language and culture affected cancer discourse between the conventional medical practitioners and the general Kenyan public as envisaged in objective three of the present study: to determine how language and cultural practices affect cancer discourse between the general Kenyan population and conventional health practitioners.

3.9 Ethical Considerations

Authority to carry out research was sought from KU Ethics Review Committee (Appendix XX) and the National Commission for Science, Technology and Innovation (NACOSTI) (Appendix XIX). Informed consent from participants (appendix iii) was also sought and confidentiality assured.

3.10 Summary of the Chapter

The present research was of a mixed design. This design required use of a variety of data collection tools. Primary data was both quantitative and qualitative. The quantitative data was collected from the general Kenyan public in Nairobi and Kiambu counties using questionnaire, open ended comprehension tests and cloze tests. The qualitative data was collected from health practitioners using personal interview guide.
Secondary data was quantitative and was collected from print and electronic media. Finally, qualitative and quantitative data analysis methods were used and ethical requirements were met. The next chapter deals with data analysis and presentation.
CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.0 Introduction to the Chapter

This chapter is divided into three main sections. In the first section, a content analysis of written and spoken pieces of information reveals the amount of information on BCP cancers that is physically available to the public. The second section analyses primary data to establish linguistic accessibility (LA) of information on BCP cancers and the association between LA and the speaker variables. In the final section, qualitative data is analysed to determine linguistic and cultural challenges encountered during face-to-face cancer discourse between conventional health practitioners and the public.

4.1 Physical Accessibility of Information on Cancer

The present research established that 147 pieces of spoken and written information were collected. Out of these items, 82 covered the BCP cancers. The written information was in the form of posters and newspaper articles. Radio and TV programmes were the sources of spoken information.

4.2 Information on BCP Cancer Available in Print Media

The study collected information on BCP cancers written in posters and newspaper articles. Table 4.1 below presents the distribution of the 44 written items between the two media and among the three languages of conveyance.
Table 4.1 above demonstrates that out of the 44 written items on BCP cancers 98% were newspaper articles while posters constituted only 2%. Only one poster was collected and it was in English. In the newspaper category, those in English (89%) outnumbered the 9% in Kiswahili. Gikuyu was not used to convey written information since we did not find any poster on cancer in that language in KLFGH notice boards.

4.2.1 Coverage of BCP Cancers in Articles Available in Kiswahili

Four out of seven articles on cancer in Kiswahili, covered BCP cancers. This coverage is presented in Table 4.2 below.

Table 4.2: Coverage of BCP cancers by the articles in Kiswahili

<table>
<thead>
<tr>
<th>Type of cancer</th>
<th>Number of Articles</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>covered separately</td>
<td>with other cancers</td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Cervical</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Prostate</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>
From Table above, it is clear that prostate cancer was covered by 100% of articles while breast and cervical cancers were covered by 75% of the articles each. Notably, none of the articles reported specifically on any of the BCP cancers. The four articles on BCP cancers were analysed further to determine how they covered the aspects of prevention, screening and management of the cancers. This analysis is displayed in Table 4.3 below.

**Table 4.3: Aspects of BCP cancers covered in articles in Kiswahili**

<table>
<thead>
<tr>
<th>Aspects covered</th>
<th>Number of articles</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td>3</td>
<td>75</td>
</tr>
<tr>
<td>Screening</td>
<td>3</td>
<td>75</td>
</tr>
<tr>
<td>Management</td>
<td>4</td>
<td>100</td>
</tr>
</tbody>
</table>

From Table 4.3 above, we can tell that information on management of the three cancers was the most prevalent as it was found in 100% of the articles. Information on prevention and screening was slightly less as it was conveyed in 75% of the articles.

### 4.2.2 Coverage of BCP Cancers in Articles Available in English

The BCP cancers were covered by 39 newspaper articles in English. This coverage is summarised in Table 4.4 below.

**Table 4.4: Coverage of BCP cancers by the articles in English**

<table>
<thead>
<tr>
<th>Type of cancer</th>
<th>Number of articles</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>covered separately</td>
<td>with other cancers</td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td>7</td>
<td>27</td>
<td>34</td>
</tr>
<tr>
<td>Cervical</td>
<td>1</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>Prostate</td>
<td>0</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>
Looking at Table 4.4 above, it is clear that breast cancer received the widest coverage (87%). Cervical and prostate cancers were covered by 41% and 38% of the articles respectively. Finally, out of the 34 articles that covered breast cancer, 7 of them (21%) were devoted to that cancer only compared to one (6%) of those that covered cervical cancer separately. Prostate cancer was not covered separately by any of the articles. Additional analysis was conducted on the 39 articles to find out how they covered the aspects of prevention, screening and management of the BCP cancers. This analysis is displayed in Table 4.5 below.

Table 4.5: Aspects of BCP cancers covered in articles in English

<table>
<thead>
<tr>
<th>Aspects covered</th>
<th>Number of articles</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td>19</td>
<td>49</td>
</tr>
<tr>
<td>Screening</td>
<td>18</td>
<td>46</td>
</tr>
<tr>
<td>Management</td>
<td>24</td>
<td>62</td>
</tr>
</tbody>
</table>

Referring to Table 4.5 above, we deduce that information on management was the most prevalent 62%. On the other hand, information on prevention and screening was less prevalent at 49% and 46% respectively.

4.2.3 Coverage of BCP Cancers in the Poster Available in English

The information conveyed via the poster has also been presented. Only one poster in English covered the BCP cancers. Content analysis of this poster revealed that it was not specific to any of the BCP cancers. Seven early symptoms of cancer were listed in a flow diagram (See appendix V). The Statements: “Thickening or lump in the breast…” was related to breast cancer while “Bleeding or unusual discharge” was
related to cervical cancer. None of the statements was related to prostate cancer. The poster only addressed the prevention aspect.

4.3 Information on Cancers Available in Electronic Media

The study considered how the BCP cancers were covered by recordings collected from radio and TV. The distribution of the 39 recordings between the two media and among Gikuyu, Kiswahili and English, is summarised in Table 4.6 below.

Table 4.6: Radio and TV recordings in Gikuyu, Kiswahili and English

<table>
<thead>
<tr>
<th>Media</th>
<th>Languages of conveyance</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gikuyu</td>
<td>Kiswahili</td>
</tr>
<tr>
<td>Radio</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>TV</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>%</td>
<td>33</td>
<td>21</td>
</tr>
</tbody>
</table>

Table 4.6 above indicates that TV recordings (67%) dominated the radio ones which are 18%. The Table also reveals that recordings in English were the majority (46%) in comparison with those in Gikuyu (33%) and Kiswahili (21%).

4.3.1 Coverage of BCP Cancers in Radio Recordings Available in Gikuyu

The 6 radio recordings Gikuyu were analysed to establish the coverage of each of the BCP cancers This analysis is presented in Table 4.7 below.
Table 4.7: Coverage of BCP cancers by radio recordings in Gikuyu

<table>
<thead>
<tr>
<th>Kind of cancer</th>
<th>Number of recordings</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>covered separately</td>
<td>with other cancers</td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td>0</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Cervical</td>
<td>0</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Prostate</td>
<td>0</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

From the Table above it emerges that the three cancers received an equal and high coverage (100%) from the six recordings. However, none of the recordings covered either of the cancers separately. The six recordings were also analysed to establish how they covered the aspects of prevention, screening and management of the BCP cancers. This analysis appears in Table 4.8 below.

Table 4.8: Aspects of BCP cancers in radio recordings in Gikuyu

<table>
<thead>
<tr>
<th>Aspects covered</th>
<th>Number of recordings</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>Screening</td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>Management</td>
<td>2</td>
<td>33</td>
</tr>
</tbody>
</table>

Information on prevention and screening received 100% coverage (see Table 4.8 above) while that on management received a low coverage of 33%. The radio in Gikuyu thus gave priority to information on prevention and screening in comparison with management.
4.3.2 Coverage of BCP Cancers in Radio Recordings Available in Kiswahili

The analysis of the 3 radio recordings that featured BCP cancers in Kiswahili is summarised in table 4.9 below.

**Table 4.9: Coverage of BCP cancers by radio recordings in Kiswahili**

<table>
<thead>
<tr>
<th>Kind of cancer</th>
<th>Number of recordings</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>covered separately</td>
<td>with other cancers</td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Cervical</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Prostate</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

We can deduce from Table 4.9 above that information on breast and cervical cancers was more widely available than information on prostate cancer since each was found in 100% of the recordings compared to prostate cancer, which was available in 67% of the recordings. Also notable is the fact that while none of the recordings covered either breast or cervical cancers separately, one recording on prostate cancers covered it separately. This implies that articles that covered breast cancer also covered cervical cancer. Additional analysis of the three recordings (Table 4.10 below), established the coverage of prevention, screening and management aspects of the three cancers by the three recordings.

**Table 4.10: Aspects of BCP cancers in radio recordings in Kiswahili**

<table>
<thead>
<tr>
<th>Aspects covered</th>
<th>Number of recordings</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td>2</td>
<td>67</td>
</tr>
<tr>
<td>Screening</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>Management</td>
<td>3</td>
<td>100</td>
</tr>
</tbody>
</table>
Based on Table 4.10 above, information on screening and management was widely available as each was covered in 100% of the recording. Information on prevention was comparatively less as it was featured in 67% of the recordings.

### 4.3.3 Coverage of BCP Cancers in Radio Recordings Available in English

Table 4.11 below highlights the coverage of the BCP cancers by the 4 radio recordings in English.

**Table 4.11: Coverage of BCP cancers in radio recordings in English**

<table>
<thead>
<tr>
<th>Kind of cancer</th>
<th>Number of recordings</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>covered separately</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td>0</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>Cervical</td>
<td>0</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>Prostate</td>
<td>0</td>
<td>2</td>
<td>50</td>
</tr>
</tbody>
</table>

It is obvious from Table 4.11 above, that information on breast cancer was the most widely available as it was found in 100% of the recording. Information on cervical and prostate cancers was less available since it was found in 50% of the recordings each. None of the recordings was devoted to only one of the BCP cancers. It also emerges from this data that the radio in English aired more information on breast cancer compared to cervical and prostate cancers. Additionally, the coverage of information on screening, prevention and management of the BCP cancers is presented in Table 4.12 below.
Table 4.12: Aspects of BCP cancers in radio recordings in English

<table>
<thead>
<tr>
<th>Aspects covered</th>
<th>Number of recordings</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>Screening</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>Management</td>
<td>3</td>
<td>75</td>
</tr>
</tbody>
</table>

It emerges from Table 4.12 above that information on screening was available in 100% of the recordings. In addition, information on management was conveyed in 75% of the recordings while that on prevention was conveyed in 50% of the recordings.

4.3.4 Coverage of BCP Cancers in TV Recordings Available in Gikuyu

The recordings collected from TV programmes aired in Gikuyu were also analysed. Table 4.13 below summarises this coverage.

Table 4.13: Coverage of BCP cancers by TV recordings in Gikuyu

<table>
<thead>
<tr>
<th>Kind of cancer</th>
<th>Number of recordings</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Covered separately</td>
<td>With other cancers</td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td>2</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Cervical</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>prostate</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

From Table 4.13, we can tell that breast cancer received the widest coverage as it was covered by 100% of the recordings followed by cervical cancer at 42%. Prostate cancer received coverage in 29% of the recordings, which was the least. It is also evident that 2
recordings (29%) of the recordings covered breast cancer separately. The coverage of prevention, screening and management aspects of the BCP cancers in the recordings was also analysed and results presented in Table 4.14 below.

**Table 4.14: Aspect on BCP cancers in TV recordings in Gikuyu**

<table>
<thead>
<tr>
<th>Aspects Covered</th>
<th>Number of recordings</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td>2</td>
<td>29</td>
</tr>
<tr>
<td>Screening</td>
<td>6</td>
<td>86</td>
</tr>
<tr>
<td>Management</td>
<td>6</td>
<td>86</td>
</tr>
</tbody>
</table>

As can be seen from Table 4.14 above, information on screening and management received the widest coverage (86% each). On the other hand, information on prevention received the lowest coverage (29%).

**4.3.5 Coverage of BCP Cancers in TV Recordings Available in Kiswahili**

We also analysed the TV recordings in Kiswahili. This analysis is summarised in Table 4.15 below.

**Table 4.15: Coverage of the BCP cancers by TV recordings in Kiswahili**

<table>
<thead>
<tr>
<th>Kind of cancer</th>
<th>Number of recordings</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Covered separately</td>
<td>With other cancers</td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Cervical</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Prostate</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>%</td>
<td>80</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>
From Table 4.15 above, 60% of the recordings covered breast cancer, 40% cervical cancer and 0% prostate cancer. It is also clear from the table that separately, breast and cervical cancer were each covered by two 40% of the recordings. The study went further to analyse how the aspects of prevention, screening and management of the BCP cancers were covered by the recordings (see Table 4.16 below).

**Table 4.16: Aspects of BCP cancers in TV recordings in Kiswahili**

<table>
<thead>
<tr>
<th>Aspects covered</th>
<th>Number of recordings</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Screening</td>
<td>3</td>
<td>60</td>
</tr>
<tr>
<td>Management</td>
<td>4</td>
<td>80</td>
</tr>
</tbody>
</table>

Considering the analysis in table 4.16 above, it is clear that information on management was the most common (80%), followed by information on screening (60%) while information on prevention was only contained in 20% of the recordings.

### 4.3.6 Coverage of BCP Cancers in TV Recordings Available in English

The TV recordings that conveyed information on the BCP cancers were also analysed. Table 4.17 below displays how each of the cancers was covered by the 14 recordings collected.

**Table 4.17: Coverage of BCP cancers by TV stations in English**

<table>
<thead>
<tr>
<th>Kind of cancer</th>
<th>Number of recordings</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>covered separately</td>
<td>With other cancers</td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td>2</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Cervical</td>
<td>2</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Prostate</td>
<td>0</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>
Looking at Table 4.17 above, it is obvious that each of the cancers was covered in 57% of the recordings. Breast and cervical cancers were however covered separately by two of recordings each. This analysis reveals that the TV medium was balanced in its coverage of the three cancers. Additional analysis of the recordings displayed how the aspects of prevention, screening and management of BCP cancers were covered by the recordings. Table 4.18 below presents this analysis.

**Table 4.18: Aspects of BCP cancers in TV recordings in English**

<table>
<thead>
<tr>
<th>Aspects covered</th>
<th>Number of recordings</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td>7</td>
<td>50</td>
</tr>
<tr>
<td>Screening</td>
<td>10</td>
<td>71</td>
</tr>
<tr>
<td>Management</td>
<td>10</td>
<td>71</td>
</tr>
</tbody>
</table>

Going by Table 4.18 above, information on screening and management was the most widely available as each was found in 71% of the recordings. Information on prevention was slightly less as it featured in 50% of the recordings.

**4.4 A Discussion of Physical Accessibility of Information on BCP Cancers**

The preceding section has established that overall, 56% of all the material collected (posters, articles, radio and TV recordings) featured the BCP cancers. This coverage was quite high considering that the three cancers were competing for space with over 100 different types of cancers (MOH, 2013). Information on breast cancer was the most dominant (84%) followed by that on cervical cancer (54%) while that on prostate cancer was the least available (45%).
Like the present study, Opoku et al., (2012) found that multiple mass media sources provided cancer awareness information to the public in Ghana. However, while the Ghanaian study found radio (39.8%) more popular than TV (20.5%), the current study found TV at 67% more popular than radio at 33% (see Table 4.6 above). In addition, MOPHS and MOMS (2012) recommended the use of print and electronic media to create cancer awareness.

Focusing on the print media, poster comprised only 2% of the written material on BCP cancers. This minimal use of poster suggests that communicators were reluctant to use this medium. This status is however, unfortunate because research has confirmed that poster has been widely used to create health awareness since it is cheap and eye catching for it comes with graphics (Gobind & Ukpere, 2014).

While the present study confirmed that the print and electronic media conveyed information on prevention, screening and management of the BCP cancers, it however revealed that overall information on management and screening received relatively higher coverage, (68% and 66% respectively) compared with prevention which featured in 51% of the material. Studies have however demonstrated that cancer burden in Kenya can be reduced by up to 40% if the public adopted cancer prevention strategies MOH, 2017; MOPHS & MOMS, 2012 (a; MOH, 2013). Such strategies include healthy diet, regular exercise, avoidance of alcohol and tobacco among others. This observation suggests that information on prevention ought to be given more prominence than that on management and screening.
Out of the 82 items on BCP cancers only 18% of them, were specific to either one of the three cancers. The rest (82%) featured either: more than one of the BCP cancers; BCP cancers and other cancers or BCP cancers and cancer in general. Moreover, the pieces of information that featured BCP cancers also conveyed information on prevention, screening and management aspects. As such, it was difficult in most cases to relate these aspects to a specific BCP cancer. Bezwoda et al., (2013) reiterate that such generalization by the media tends to simplify complex presentations to the public in order to appear persuasive. In the end however, such presentation results to rejection of the information by the public.

These presentations were also evaluated against the Cooperative Principle (Grice, 1975). This evaluation established that featuring several cancers in one item resulted in generalisation and lack of clarity. Inevitably, this resulted to the violation of the maxim of manner by the originators. This maxim requires communicators to avoid obscurity of expression and ambiguity and to be orderly. This was clearly lacking in afore mentioned presentations. This is best exemplified by the poster in English, which listed seven early signs of cancer but failed to clearly link each of the signs to a specific cancer (see appendix v). In addition, items that featured more than one cancer lacked clearly explained details on prevention, screening and management. As such, the originators flouted the maxim of quantity. This maxim requires the communicators to provide information that is neither inadequate nor excess.

Considering the language of communication, 64% of the information on BCP cancers was availed in English while 21% was in Gikuyu and 17% in Kiswahili. The dominance
of English was most pronounced in the written medium since no newspaper article or poster in Kenyan indigenous languages was found. This finding agrees with Muthwii (2004) who says that public discourse in Kenya is often expressed in English. This is attributed to the high status accorded to English compared to the local languages. The present study also supports findings by Bezwoda et al., (2006). Their study also established that though the public in South Africa had access to cancer information via the mass media, most of it was in English.

4.5 Linguistic Accessibility of Information on Cancer

Mercer (2000, p. 5) observes that human language is designed to transmit ideas in a precise and unchanged way from one individual to another. He however notes that in practical everyday language use, this precise transmission of information is not always realised. In view of Mercer’s observation, the present study investigated whether the public was able to understand the information physically availed to them via the mass media as reflected by comprehension and cloze test scores. Following Oller (1979), respondents were deemed to have understood the information if they attained test scores above 58%. This ability to understand what is read or heard is termed as linguistic accessibility (LA) by the present study.

4.5.1 Choice of Medium and Language of Written Material by Respondents

Respondents who preferred poster were limited to the one in English since the only poster in Kiswahili featured eye cancer (see appendix XVIII). As such, it could not be used to determine LA of BCP cancers. In the newspaper medium, a Kiswahili and an English article were availed. The choice of the medium and language of conveyance among the respondents is presented in Table 4.19 below.
Table 4.19: Preference of language and medium of written information

<table>
<thead>
<tr>
<th>Media and Language</th>
<th>Distribution among respondents in %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age</td>
</tr>
<tr>
<td></td>
<td>younger</td>
</tr>
<tr>
<td>Newspaper</td>
<td>26 100</td>
</tr>
<tr>
<td>Kiswahili</td>
<td>9 35</td>
</tr>
<tr>
<td>English</td>
<td>17 65</td>
</tr>
<tr>
<td>Total</td>
<td>26 100</td>
</tr>
<tr>
<td>Poster</td>
<td>29 53</td>
</tr>
<tr>
<td>English</td>
<td>29 99</td>
</tr>
</tbody>
</table>

The analysis in Table 4.19 above shows that poster was more popular than the newspaper given that it was preferred by 53% of the respondents. The Table also demonstrates that poster was preferred more by the older individuals (55%) than the younger ones (45%). On the contrary, the newspaper was preferred more by the younger people (57%) than the older ones (42%). In relation to sex, more females preferred the newspaper than the males (65% and 35% respectively) while the preference for the poster by males and females was almost equal (52% and 48% respectively). It also emerged that while the poster was preferred by slightly more individuals with higher education (51%) than those with lower education (49%), the preference for newspaper by the two age cohorts was equal (50% each). In the newspaper medium, Kiswahili had the highest preference from the younger individuals, the females and those with higher education (38% each). It was on the other hand least popular among the males (8%). The males and the females had the highest and equal preference for the articles Kiswahili (58 % each).
4.5.2 Linguistic Accessibility of Information in Posters

Respondents read a poster in English (see appendix v). The poster was titled “CAUTION! SEVEN EARLY SIGNALS OF CANCER”. The seven signs were then stated in a flow diagram. Coloured drawings of respective body organs were placed next to each statement. After reading the poster, respondents answered open ended questions in writing (see appendix vi). The analysis of LA of information in the poster based on test scores is presented in Table 4.20 below.

Table 4.20: Levels of LA of information in posters

<table>
<thead>
<tr>
<th>Speaker Variables</th>
<th>Linguistic Accessibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>Younger</td>
<td>13</td>
</tr>
<tr>
<td>Older</td>
<td>16</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>14</td>
</tr>
<tr>
<td>Female</td>
<td>15</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>14</td>
</tr>
<tr>
<td>Higher</td>
<td>15</td>
</tr>
<tr>
<td>Average LA</td>
<td>15</td>
</tr>
</tbody>
</table>

Overall information in the poster was linguistically accessible since 80% of the respondents attained LA (Table 4.20 above). In relation to sexes, females understood the information better than males since 87% of the females attained LA compared to 71% of the males. It is also clear that persons with higher education understood the information better (87%) than their counterparts with lower education with (71%). Additionally, the younger respondents understood the information better than the older ones (85% and 75%) respectively.
4.5.2.1 Hindrance to Linguistic Accessibility of Information in Posters

The present research also established the language and cultural challenges encountered by those who read the poster in English. The findings (see Table 4.21 below) reveal that only six respondents failed to attain LA.

Table 4.21: Challenges encountered in the English poster

<table>
<thead>
<tr>
<th>Barriers to LA</th>
<th>Distribution of encounters among variable</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age</td>
<td>Sex</td>
</tr>
<tr>
<td></td>
<td>Younger</td>
<td>Older</td>
</tr>
<tr>
<td>Technical words</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Unfamiliar metaphors</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Long sentences</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Ambiguous expressions</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Too few details</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total No. of encounters</strong></td>
<td>3</td>
<td>6</td>
</tr>
</tbody>
</table>

The analysis in Table 4.21 above indicates that no language-culture obstacle was encountered since all the obstacles identified were language based. Notably, the encounters were quite few and repetitive thus hindering computation of percentages. Technical words, identified by three individuals, were the leading obstacle. The words “mole”, “wart” and “sores” were among the examples cited by the respondents. The other challenges identified were ambiguous sentences or phrases and too few details. Each was encountered by one respondent. Similarly, unfamiliar metaphors and long sentences were cited by one respondent each.
Overall, the highest number of obstacles was encountered among the older respondents, the females and those with lower education (6 each) compared with their respective counterparts.

4.5.2.2 Social Variables and Linguistic Accessibility of Information in Posters

The present research also investigated how the social variables of age, sex, level of education and language of conveyance related with LA of information conveyed via poster. Consequently, Pearson’s Correlation Coefficient value (r) was computed (see Table 4.22 below).

**Table 4.22: Correlation between social variables and LA of posters**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age</th>
<th>sex</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson’s r</td>
<td>-0.184</td>
<td>+0.100</td>
<td>-0.100</td>
</tr>
<tr>
<td>Significance (2-tailed)</td>
<td>0.338</td>
<td>0.605</td>
<td>0.605</td>
</tr>
</tbody>
</table>

Values of $r$ that are closer to -1 or +1 indicates strong association while those close to zero indicates a weak association. It is therefore evident from Table 4.22 above that the Pearson’s r of + 0.184, +0.100, and -0.100 for age, sex and education imply that these variable were weakly associated with comprehensibility of cancer information in posters. It also emerges from the Table above that younger age, female sex and higher education were associated with an insignificant increase in comprehension.

4.5.3 Linguistic Accessibility of Information in Newspapers

The study also analysed data to determine LA of information conveyed via newspaper. The respondents who preferred newspaper chose between the article in Kiswahili or the one in English. The Kiswahili one (see appendix vii) was titled: “Mama Taifa Ashauri
Waafrika Wale Vyakula vya Kienyeji”. It reported on the First Lady’s speech in which she urged people to eat traditional food to prevent cancer. The English one (see appendix xi) was titled “Blood Test Could Predict Breast Cancer’s Return: Study”. It reported on the discovery of a drug that was able to predict relapse of breast cancer. The analysis of LA as reflected by tests scores among the 26 respondents who read the newspapers is presented in Table 4.23 below.

Table 4.23: Levels of LA of information conveyed in newspapers

<table>
<thead>
<tr>
<th>Speaker Variables</th>
<th>Linguistic Accessibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>Younger</td>
<td>15</td>
</tr>
<tr>
<td>Older</td>
<td>11</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>14</td>
</tr>
<tr>
<td>Female</td>
<td>12</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>13</td>
</tr>
<tr>
<td>Higher</td>
<td>13</td>
</tr>
<tr>
<td>Language of Conveyance</td>
<td></td>
</tr>
<tr>
<td>Kiswahili</td>
<td>8</td>
</tr>
<tr>
<td>English</td>
<td>18</td>
</tr>
<tr>
<td>Average LA</td>
<td>81</td>
</tr>
</tbody>
</table>

Table 4.23 above indicates that 81% of the respondents attained LA. Linguistic Accessibility of the English article was however higher at 83% than that of the Kiswahili article at 75%. Considering sex and age, males had a higher LA (86%) than females (75%) while older respondents had a higher LA than the younger ones (91%
and 73% respectively). The analysis also revealed that respondents with higher education had 100% LA while the LA of their counterparts with lower education stood at 62%.

4.5.3.1 Hindrance to Linguistic Accessibility of Information in Newspapers

The data was also analysed to find out factors that hindered LA among the respondents who read the newspaper. However only three of them gave reasons that made it difficult for them to understand the articles. The analysis of these reasons is presented in Table 4.24 below.

Table 4.24: Reasons for low LA of information in newspapers

<table>
<thead>
<tr>
<th>Barriers to LA</th>
<th>Distributions of encounters among the variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Language</td>
</tr>
<tr>
<td></td>
<td>Kiswahili</td>
</tr>
<tr>
<td>Technical words</td>
<td>0</td>
</tr>
<tr>
<td>Long sentences</td>
<td>1</td>
</tr>
<tr>
<td>Detailed explanation</td>
<td>1</td>
</tr>
<tr>
<td>Total encounters</td>
<td>2</td>
</tr>
</tbody>
</table>

From Table 4.24 above it is evident that only three language-based obstacles were identified. Too much detailed explanation was encountered once in each of the languages. Technical words and long sentences were each encountered once in English
and Kiswahili respectively. Examples of the technical words included “personalized digital polymerase chain reaction and Molecular oncology”. The following was the long sentence cited in the Kiswahili article

“Kongamano hilo lililoandaliwa na wake wa marais kwa ushirikiano na mwanzilishi mwenza wa kundi lao na pia shirika la Wake wa Marais na Viongozi Wanawake ulimwenguni, Princess Nikky Onyeri, kujadili masuala ya saratani yanayohusu mfumo wa viungo vya uzazi kuangalia harakati zinazoweza kuchukuliwa kusaidia kupunguza kansa hizo barani.

The Table also shows that no challenge was encountered by the older individuals and those with higher education. On the other hand, the younger respondents and those with lower education encountered four obstacles each, which was the highest.

4.5.3.2 Social Variables and Linguistic Accessibility of Information in Newspapers

Further analysis was conducted to establish the correlation between LA of newspapers and the variables of age, sex, level of education and language of conveyance. The summary of the computation of Pearson’s r is presented in Table 4.25 below.

Table 4. 25: Pearson’s r for social variables and LA of newspaper articles

<table>
<thead>
<tr>
<th>Variable</th>
<th>age</th>
<th>sex</th>
<th>education</th>
<th>language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson’s r</td>
<td>+0.220</td>
<td>-0.136</td>
<td>+0.488</td>
<td>+0.098</td>
</tr>
<tr>
<td>Significant (2-tailed)</td>
<td>0.279</td>
<td>0.509</td>
<td>0.011</td>
<td>0.635</td>
</tr>
</tbody>
</table>
Pearson’s r measured the strength and direction of association between age, sex, education and language of conveyance on one hand and LA of the information in newspapers on the other. From Table 4.25 above, it can be seen that Pearson’s r for education was +0.488. This was the only statistically significant correlation since it had significance (2-tailed) value of 0.011, which is less than 0.05. These values imply that LA significantly increased with an increase in education. Although an increase in age, male sex, and use of English was associated with an increase in comprehension, this association was weak as evidenced by the Pearson’s r of +0.152, -0.182 and -0.205 and the corresponding significant (2-tailed) values of 0.279, 0.509 and 0.635.

4.5.4 A Discussion of Linguistic Accessibility of Written Information

In this section, LA of information in posters and newspapers is discussed in relation to their physical availability and preference. In this regard, the number, preference and LA of information in each of the media and language is presented in Table 4.26 below.

Table 4. 26: Summary of LA of written information

<table>
<thead>
<tr>
<th>Medium and Code of Conveyance</th>
<th>No. (%)</th>
<th>Preference (%)</th>
<th>LA (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium of conveyance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poster</td>
<td>2</td>
<td>53</td>
<td>80</td>
</tr>
<tr>
<td>Newspaper</td>
<td>98</td>
<td>47</td>
<td>81</td>
</tr>
<tr>
<td>Code of conveyance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kiswahili</td>
<td>9</td>
<td>33</td>
<td>76.5</td>
</tr>
<tr>
<td>English</td>
<td>91</td>
<td>67</td>
<td>81.5</td>
</tr>
</tbody>
</table>

Looking at Table 4.26 above, it is clear that 91% of the written pieces in English outnumbered by far the 9% in Kiswahili. This finding agrees with Muthwii (2008) and Bezwoda (2006) that foreign languages dominate the indigenous languages in public
communication in many African countries. Likewise, it is notable that 67% of the respondents who preferred English were more than double those who preferred Kiswahili. This suggests that majority of Kenyans like to be associated with English more than with indigenous Kenyan languages because of the belief that English is a prestigious language (Muthwii, 2008).

Although English did much better than Kiswahili based on availability and preference, the difference in LA between the two (English 81.5% and Kiswahili 76.5%) is not much pronounced. It therefore appears that preference for English over Kiswahili by both the writers and the readers could have been influenced by language attitude rather than the efficiency of the languages. This finding is similar to Kioko and Muthwii (2010) who argue that Kenyans disassociate themselves from ethnically marked English variety in media and education. Kenyans, according to Kioko and Muthwii (2010) associate themselves with the native English speaker variety since it is the variety spoken by professionals, and successful Kenyans.

We also note from Table 4.26 that though the number of newspapers (98%) exceeded the number of posters by far (2%), preference for poster (53%) was remarkably higher than that of newspaper (47%). Likewise, LA of poster and newspaper was almost equal (80% and 81% respectively. The fact that the small number of posters contrasts sharply with high preference and LA of this media suggests that poster has been underutilised in creating cancer awareness. The effectiveness of poster in raising health related awareness is also investigated by Khakhasa (2010). Her study found that overall poster attained 82.6% effectiveness in sensitizing residents against improper disposal of waste.
Gobind and Ukper, (2014) also found that posters placed in corridors of a South African university succeeded in raising awareness of HIV/AIDS.

Another observation from Table 4.26 above is that overall LA of posters and newspapers was 80.5%. This high LA suggests that the shared purpose of writer and reader- to inform and to acquire information respectively- as envisaged in Grice (1975), has largely been achieved. Nevertheless, the linguistic challenges that were encountered by few respondents who failed to achieve LA were used to inform the current study on the kind of maxims that were violated by the writers.

In seven instances, the writers were found to have violated the maxim of manner. This maxim generally required them to express the cancer information in a clearly and easily understood way. This violation occurred in instances where writers used words that readers considered technical such as “saratani” in the Kiswahili poster and “mole”, “wart” and “sores” in the English one. The phrase “digital polymerase chain reaction” (in the English article) was considered too technical. Likewise, the phrase “bladder habits” in the English poster was considered an unfamiliar metaphor by one of the respondents who could only associate the word “habit” with repeated and overt human actions and not with the functioning of the internal body organs, thus the confusion. Likewise, the statement: “sore that does not heal” in the English poster was considered confusing by one reader since according to him, the words “Sore” and “wound” were synonymous yet they are not. This maxim was also violated through use of long sentences in the Kiswahili newspaper such as:
“Kongamano hilo lililoandaliwa na wake wa marais kwa ushirikiano na mwanzilishi mwenza wa kundi lao na pia shirika la Wake wa Marais na Viongozi Wanawake ulimwenguni, Princess Nikky Onyeri, kujadili masuala ya saratani yanayohusu mfumo wa viungo vya uzazi kuangalia harakati zinazoweza kuchukuliwa kusaidia kupunguza kansa hizo barani.”.

The other maxim violated was that of quantity. The poster was found to contain too few details by two respondents. This meant that the posters were not as informative as required under the maxim of quantity. Conversely, each of the newspaper articles was found too detailed by one respondent each implying that they conveyed more information than required thus violating the quantity maxim.

The ability of the writers to uphold the maxims under which the Cooperative Principle operates thereby ensuring that the intended message is delivered to the reader was also discussed in Gachara (2005). The study by Gachara (2005) evaluated posters messages that conveyed information campaigning against HIV. Upholding the maxims by the writers of the posters used in the campaign had ensured an overall accurate interpretation of 75%.

The CLA model (Bachman & Palmer, 2010) was used to establish the exact language knowledge and competence possessed by the writers. This aspect of language use could not be accomplished by the Cooperative Principle and the maxims governing it. Since the LA of posters and newspapers was achieved by by 80%. And 81% of the respondents respectively (Table 4.26), it was concluded that originators of the textual
information possessed grammar and textual knowledge that enabled them to write phrases, sentences and texts that were comprehensible to the readers.

Likewise, the writers were found to possess functional knowledge termed instrumental knowledge (Bachman & Palmer, 2010). This knowledge enables writers get their readers to do things. This observation was confirmed by the respondents’ last response that sought to know what they would do after reading the information. Of the respondents who attained LA, 79% said they would take some action. The actions included: to share the information with others (82%), to go for screening (65%) and to adopt a healthy lifestyle (21%).

4.5.5 Choice of Medium and Language of Spoken Material by Respondents

Table 4.27 below presents the medium of choice between radio and TV as well as the preferred language among Gikuyu, Kiswahili and English.

Table 4. 27: Preference for medium and language of spoken information

<table>
<thead>
<tr>
<th>Media and Language of conveyance</th>
<th>Distribution of Media and language among variables in %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age</td>
</tr>
<tr>
<td>Mode</td>
<td>No.</td>
</tr>
<tr>
<td>Radio</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
</tr>
<tr>
<td>TV</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
</tr>
</tbody>
</table>
From Table 4.27 above, we find that TV was more popular than Radio since 66% of the respondents preferred it compared to 34% who chose radio. It is also evident that radio was preferred by more males (52%) than females (48%) while TV was preferred by slightly more females (52%) than males (48%). Focusing on age, radio was preferred more by the older people (68%) while TV was preferred more by the younger ones (59%). Preference for the two media by respondents with lower education and those with higher education was almost equal: 47% and 53% respectively in radio, and in TV, 51% and 49% respectively.

Turning to the three languages within each medium, it emerged that among respondents who preferred radio, Gikuyu was the least preferred (10%) followed by English (32%) and Kiswahili was the most preferred (58%). In TV medium, Kiswahili was the least preferred (13%) followed by Gikuyu (38%) and English was the most popular (48%). In the Radio category, Kiswahili received the highest approval from the males (42%) while Gikuyu received the least approval from those with lower education (0%). In the TV category the younger respondents accorded English the highest preference (32%) while the least popularity was witnessed in Kiswahili among the older respondents, the males and those with higher education (5% each).

4.5.6 Linguistic Accessibility of Information Communicated via Radio.

The present research sought to establish whether respondents who preferred to access the information via radio did achieve LA. The analysis of LA by the 19 respondents who chose this medium is presented in Table 4.28 below.
Table 4.28: Levels of LA of information communicated via radio

<table>
<thead>
<tr>
<th>Speaker Variables</th>
<th>Linguistic Accessibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>Younger</td>
<td>6</td>
</tr>
<tr>
<td>Older</td>
<td>13</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>10</td>
</tr>
<tr>
<td>Female</td>
<td>9</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>9</td>
</tr>
<tr>
<td>Higher</td>
<td>10</td>
</tr>
<tr>
<td>Language of Conveyance</td>
<td></td>
</tr>
<tr>
<td>Gikuyu</td>
<td>2</td>
</tr>
<tr>
<td>Kiswahili</td>
<td>11</td>
</tr>
<tr>
<td>English</td>
<td>6</td>
</tr>
<tr>
<td>Average LA</td>
<td></td>
</tr>
</tbody>
</table>

The analysis in Table 4.28 indicates that overall 87% of the respondents who preferred radio linguistically accessed that information. Considering sex and age, females had a higher LA than males (89% and 80% respectively) while younger respondents had a higher LA than older ones (100% and 77% respectively). It also emerged that respondents with lower level of education had a higher LA (89%) than their counterparts with higher education 80%. Considering the three languages, the two respondents who accessed the information in Gikuyu attained 100% LA while in Kiswahili and English, LA was 83% and 82% respectively.

4.5.6.1 Hindrance to Linguistic Accessibility of Information on Radio

We also investigated factors that hindered comprehension of the information conveyed via radio. Although LA of this information was quite high (87%), going by Table 4.28, the present research did an analysis that sought to establish the language and culture
factors that made three of the 19 respondents (16%) fail to attain LA. This analysis is presented in Table 4.29 below.

Table 4. 29: Hindrance to LA of information conveyed via radio

<table>
<thead>
<tr>
<th>Barriers to LA</th>
<th>Distributions of encounters among the variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age</td>
</tr>
<tr>
<td></td>
<td>younger</td>
</tr>
<tr>
<td>Unfamiliar words</td>
<td>0</td>
</tr>
<tr>
<td>Unfamiliar pronunciation</td>
<td>0</td>
</tr>
<tr>
<td>Talking too fast</td>
<td>0</td>
</tr>
<tr>
<td>Total encounters</td>
<td>0</td>
</tr>
</tbody>
</table>

It is notable from Table 4.29 above that three obstacles encountered were all language based. Unfamiliar pronunciation and talking too fast were encountered by three respondents each while unfamiliar words were encountered by one individual. Unfamiliar pronunciation and talking too fast were experienced more in Kiswahili (2 encounters each) than in English (1 encounter each). Use of unfamiliar words was the other challenge encountered once in Kiswahili.

It also emerged from Table 4.29 (see Section 4.5.6) that respondents who listened to the Gikuyu recording did not encounter any challenge while those who preferred Kiswahili encountered the highest number of challenges (7 encounters). Considering the other variables, the older individuals encountered the highest challenge (7 encounters). The younger respondents, to the contrary did not encounter any obstacle.
4.5.6.2 Social Variables and Linguistic Accessibility of Information on Radio

Pearson’s r was computed to determine how the social variables of age, sex, education and language of conveyance associated with LA of information conveyed on radio. The analysis of this data is presented in Table 4.30 below.

Table 4.30: Pearson’s r for social variables and LA of radio recordings

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age</th>
<th>Sex</th>
<th>Education</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson’s r</td>
<td>-0.294</td>
<td>0.122</td>
<td>0.122</td>
<td>-0.087</td>
</tr>
<tr>
<td>Significant (2-tailed)</td>
<td>0.222</td>
<td>0.620</td>
<td>0.620</td>
<td>0.722</td>
</tr>
</tbody>
</table>

From table 4.30 above, we can tell that all the variables are closer to 0 than either +1 or -1. They are therefore weakly associated with LA. Relatively however, age had the strongest association (-0.294) followed by sex and education (0.122) each, while language of conveyance had the weakest association (-0.087). It is also notable that age and language of conveyance were negatively but weakly associated with LA implying that LA increased as age reduced. Likewise, LA increased with more use of Gikuyu and reduced with more use of Kiswahili and English in that order. Conversely, sex and education were positively but weakly associated with LA. As such, LA increased, though insignificantly, with female sex and level of education.

4.5.7 Linguistic Accessibility of Information Communicated via TV

Table 4.31 below presents the analysis of LA of information conveyed via TV to the 37 respondents who preferred this medium. LA was analysed against variables of age, sex, level of education and language of conveyance.
Table 4.31: Levels of LA of information communicated via TV

<table>
<thead>
<tr>
<th>Speaker Variables</th>
<th>Linguistic Accessibility</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Attained LA</td>
<td>%</td>
<td>Lacked LA</td>
<td>%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Younger</td>
<td>22</td>
<td>17</td>
<td>77</td>
<td>5</td>
<td>23</td>
</tr>
<tr>
<td>Older</td>
<td>15</td>
<td>13</td>
<td>87</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>18</td>
<td>15</td>
<td>83</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td>Female</td>
<td>19</td>
<td>15</td>
<td>79</td>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>19</td>
<td>12</td>
<td>63</td>
<td>7</td>
<td>37</td>
</tr>
<tr>
<td>Higher</td>
<td>18</td>
<td>18</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Language of Conveyance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gikuyu</td>
<td>14</td>
<td>9</td>
<td>64</td>
<td>5</td>
<td>36</td>
</tr>
<tr>
<td>Kiswahili</td>
<td>5</td>
<td>4</td>
<td>80</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>English</td>
<td>18</td>
<td>17</td>
<td>94</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Average %</td>
<td></td>
<td></td>
<td>81</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

From the analysis in Table 4.31 above, it emerges that overall 81% of the respondents attained LA. This implies that the information was largely comprehensible. Considering age and sex, the older respondents (87%) understood the information better than the younger ones (77%) while males (83%) did better than the females (79%). Basing on education, those with higher education had a much higher LA (100%) than those with lower education (63%). Comparing the three languages, the highest LA was observed among those who preferred English (94%), followed by Kiswahili, (80%) while Gikuyu had the least LA (64%).
### 4.5.7.1 Hindrance to Linguistic Accessibility of Information on TV

The linguistic challenges that made it difficult for some respondents to attain LA of information aired via TV were identified. The number of times each of the challenge was encountered is tabulated in 4.32 below.

**Table 4.32: Reasons for low LA of information aired via TV**

<table>
<thead>
<tr>
<th>Barriers to LA</th>
<th>Distributions of encounters among the variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age</td>
</tr>
<tr>
<td></td>
<td>younger</td>
</tr>
<tr>
<td>Unfamiliar words</td>
<td>2</td>
</tr>
<tr>
<td>Unfamiliar pronunciation</td>
<td>1</td>
</tr>
<tr>
<td>Talking too fast</td>
<td>3</td>
</tr>
<tr>
<td>Unfamiliar metaphors</td>
<td>1</td>
</tr>
<tr>
<td>Too detailed</td>
<td>1</td>
</tr>
<tr>
<td>Total encounters</td>
<td>8</td>
</tr>
</tbody>
</table>

We can deduce from Table 4.32 above that unfamiliar words and talking too first were the most common obstacles as they were mentioned by 3 individuals each. The former was encountered twice in Gikuyu and once in English and the latter once in each of the three languages. The other three challenges (unfamiliar pronunciation, unfamiliar metaphors and too many details) were each encountered once in English.

In addition, Table 4.32 above reveals that the greatest challenge was encountered in English (five encounters) followed by Gikuyu (two) while in Kiswahili, challenge was
encountered only once. Looking at the other variables, the highest number of obstacles were encountered by those with lower education (nine) followed by the younger respondents and the males (eight encounters each). Individuals with higher education did not encounter any obstacles.

4.5.7.2 Social Variables and Linguistic Accessibility of Information on TV

We also computed the Pearson’s r for social variables and LA of information conveyed by TV stations. The result of this analysis is presented in Table 4.32 below.

Table 4. 33: Pearson’s r for social variables and LA of TV recordings

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age</th>
<th>Sex</th>
<th>Education</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson’s r</td>
<td>+0.118</td>
<td>-0.052</td>
<td>+0.470</td>
<td>+0.355</td>
</tr>
<tr>
<td>Significance (2-tailed)</td>
<td>0.488</td>
<td>0.742</td>
<td>0.003</td>
<td>0.031</td>
</tr>
</tbody>
</table>

Education and language of conveyance had a significant and positive correlation of +0.470 and +0.355 respectively. This means that LA increased significantly with an increase in education. Similarly, LA increased significantly with shift from Gikuyu, Kiswahili and English in that order. Pearson’s r of +0.118 and -0.052 for age and sex respectively indicate that older age and male sex were insignificantly associated with increase in LA.

4.5.8 A Discussion of Linguistic Accessibility of Spoken Information

The discussion begins by highlighting LA of spoken information in relation to: the media and languages of conveyance, physical accessibility and preference as presented in the preceding sections. Table 4.34 below presents a summary of this analysis.
### Table 4.34: Summary of LA of spoken information

<table>
<thead>
<tr>
<th>Medium and Code of Conveyance</th>
<th>No. %</th>
<th>Preference (%)</th>
<th>LA (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium of conveyance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radio</td>
<td>18</td>
<td>34</td>
<td>87</td>
</tr>
<tr>
<td>TV</td>
<td>82</td>
<td>66</td>
<td>81</td>
</tr>
<tr>
<td>Code of conveyance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gikuyu</td>
<td>24</td>
<td>30</td>
<td>82</td>
</tr>
<tr>
<td>Kiswahili</td>
<td>18</td>
<td>36</td>
<td>81</td>
</tr>
<tr>
<td>English</td>
<td>58</td>
<td>40</td>
<td>89</td>
</tr>
</tbody>
</table>

Referring to Table 4.34 above, we note that the number of radio recordings (18%) were much fewer than the TV recordings (82%). Based on preference, radio also fared poorly as it was chosen by 34% of the respondents while 66% opted for TV. However, when we consider LA, that of radio (87%) was higher than that of TV (81%). It is possible that respondents preferred TV because speech was accompanied by video footage making this medium more interesting than radio. Unfortunately, viewers could have been distracted by the images thus failing to pay attention to the spoken message resulting to the lower LA. This observation is confirmed by Gunter (2015). He argues that indiscriminate use of film and video footage in TV programmes may overwhelm the story with emotions thus making the viewer not recall what was said in the spoken narrative.

Considering the language of conveyance, Table 4.34 above reveals that spoken material in English (58%) was the most predominant as it surpassed material in Gikuyu and Kiswahili combined (42%). The preference for recordings in English (40%) was also higher than that of Kiswahili (36%) and Gikuyu (30%). The popularity of English within the spoken mode is consistent with that of the written mode as observed in the
preceding section. This further gives credence to Muthwii (2008) and Kioko, and Muthwii (2010) that English is the preferred language of public communication in Kenya.

Overall LA of information conveyed via radio and television was 84%. This high LA implies that just like the originators of the posters and newspaper articles, the originators of verbal information in radio and TV upheld the Cooperative Principle and the maxims that govern it (Grice, 1975). Similar findings are discussed in Khakasa (2010). This study found that 91.75% of the respondents were able to interpret accurately the verbal information conveyed during training sessions to sensitize the public about waste disposal. Originators in the current study were also found to possess language organisation knowledge as well as the pragmatic knowledge as outlined in the CLA (Bachman & Palmer, 2010).

The fact that not all listeners were able to access the spoken information linguistically is not unique. Mercer (2000), for instance, argues that though originators of information aim to use language to transmit information that is specific and factual, this is not always realised. Studies have further shown that information communicated is prone to distortion, and ambiguity as words may express meaning not intended by the speakers (Mercer, 2000, Samovar et al., 2010). Given this observations the 16% of the respondents who were unable to attain LA of the spoken information are important in the present study because they expose the specific maxims that were violated by the speakers (Grice, 1975) as well as the exact language knowledge and competence the speakers lacked (Bachman & Palmer, 2010), factors that led to a communication breakdown.
The reasons given by the respondents indicated that some speakers violated the maxim of manner. Unfamiliar words for instance, were said to cause difficulty in comprehension. Similarly, the meaning of words borrowed from English in the Gikuyu recording such as “cyst” “palliative” and “ultra sound” were not clear especially to those with lower education. Talking too fast and unfamiliar pronunciation are the other reasons that pointed to the violation of the manner maxim. One example is an Israeli scientist featured in the TV recording in English and a health practitioner also featured in the Radio recording in English. The maxim of quantity was also violated in the English TV recording since one respondent said that it contained too many details.

The same reasons reveal the language knowledge and competence that the speakers lacked as outlined in the CLA (Bachman & Palmer, 2010). Use of unfamiliar words and unfamiliar pronunciation suggested that the speakers lacked knowledge of register, which falls under the sociolinguistic aspect of pragmatic knowledge. Speakers whose speech had too many details were found to have lacked textual organisation knowledge since this is the knowledge that allows speakers to produce explicit texts that are easy to understand.

4.6 Cancer Talk between General Public and Conventional Medical Practitioners

The study also investigated how language and culture affect spoken discourse between the public and conventional health practitioners. One nurse and one clinical medical practitioner from Kenyatta National Hospital (KNH) and a similar pair from Kiambu Level Five General Hospital (KLFGH) were interviewed. At KNH, the male practitioner was a nurse who spoke Ekegusi as his first language while the female one
was a clinical medical practitioner who spoke Gikuyu as her first language just like the two practitioners at KLFGH. The male practitioner at KLFGH was Clinical medical practitioner while his female counterpart was a nurse. The interviews obtained from the four practitioners provided qualitative data whose analysis and discussion is presented in the sub sections that follow.

4.6.1 Information Disseminated by Conventional Medical Practitioners

It emerged from the interviews with the practitioners that they conveyed information on BCP cancers to patients and their relatives in the hospital setting. They also conveyed the information to the public outside the hospitals set up. Communication within the hospital set up at both KLFGH and KNH was largely held during consultation meetings with patients and relatives accompanying them.

The female practitioner at KNH revealed that information to patients about screening tests results, especially positive test results, was common during consultative conversations. At KNH, the two practitioners said that morning health talks were also conducted within the hospital set up and they mainly focused on prevention, screening and management.

On the other hand, practitioners in both hospitals said that outreach programmes where practitioners visited institutions like churches or companies were common. The practitioners revealed that the cancer talk in such forum focused more on predisposing factors, prevention and screening than on management.
Bearing in mind that BCP cancers are specific to either the male or the female sex, none of the practitioners said that they tailored their information to suit either of the sexes. However, all said that they handled the youth differently from the adults. They mainly informed the youth that sex, alcohol and smoking are among predisposing factors for cancer. They also said that information on screening and prevention was mainly disseminated to adults.

4.6.2 Modes and Languages Used by Conventional Medical Practitioners

The study established that the practitioners at KNH used both the written and spoken modes. The brochures were the common written medium provided to patients and accompanying relatives. The morning health talks was the spoken mode commonly employed at the hospital. These talks took place every morning within the oncology section of the hospital. The practitioners assembled patients and accompanying relatives then gave talks about aspects of cancer such as predisposing factors, screening, prevention and treatment. The clinical medical practitioner however, said that she occasionally combined the written and spoken modes, for instance, when using the projector, power point and charts during outreach programmes.

At KLFGH, the nurse said that she used the spoken and sign language modes during consultations while the clinical medical practitioner used the spoken mode, which was in form of lectures, discussion groups, intermediaries and translators. The black board, power point and posters required combination of the written and the spoken modes. The two practitioners also used the written mode, specifically brochures and posters.
From all the interviews, it emerged that the spoken mode was the most preferred as it provided room for code mixing, questions from audience and clarification by the practitioner whenever need arose. The spoken medium was also preferred especially for illiterate audience and those with low level of education. While the two female practitioners said that they used a combination of modes, the males were found to prefer one mode at a time.

From the interviews, the research also established the languages used by the practitioners to convey the information. The three for whom Gikuyu was their first language, identified English, Kiswahili and Gikuyu as the languages commonly used depending on the audience. The practitioner who spoke Ekegusii said that he communicated in Kiswahili and English. Surprisingly, three of the practitioners said they found Sheng quite appropriate especially in discourse with the youth. All the practitioners used English and Kiswahili in talk with a cosmopolitan or educated audience while the three practitioners who were native Gikuyu speakers used Gikuyu in discourse with the elderly and illiterate audience who were also Gikuyu speakers. The Ekegusii speaker said that he used interpreters when he encountered such audience.

4.6.3 Challenges Encountered by Practitioners during Discourse on Cancer
The two practitioners at KNH said that they did not encounter any culture- based challenges that hindered their talk with patients and their caregivers. They attributed this status to the fact that they attended to patients from diverse Kenyan languages and cultures. As such, the practitioners used Kiswahili and English, the official languages in Kenya (Muthwii, 2008) to communicate with their audience. They said that use of these
languages reduced the embarrassment associated with the body parts affected by the BCP cancers. However, translation of medical jargon from English to Kiswahili was the language challenge they encountered.

At KLFGH, the practitioners said they commonly attended to patients who mainly spoke Gikuyu as their first language. As such, the two practitioners whom we included in the study, shared Gikuyu language and culture with their patients and accompanying relatives. Considering this context, the practitioners informed the study that Gikuyu culture prohibited individuals to engage in conversation with individuals much older than them if the talk touched on body organs associated with the reproductive system, sex and excretion. The taboo was more pronounced if the older person was of the opposite sex.

4.6.4 Discussion of Communication Challenges Encountered by Medical Practitioners

Studies have established that the taboo nature of cancer is more pronounced in cancers connected with the reproductive organs and the biological process associated with them (Napoli Jo and Hoeksema, 2009; Zamanzadeh et al., 2011). The present research made similar findings since all the practitioners cited mentioning of male and female reproductive organs associated with BCP cancers as the main taboo they encountered during cancer talk with various audiences. The level of embarrassment caused by the taboo words however varied depending on the language used, age and sex of the audience.
The practitioners who were Gikuyu speakers said that the embarrassment was acute when using Gikuyu. This is in line with Parhizkar et al. (2012) who argue that taboo nature of words is felt more in the First language. Additionally, the embarrassment caused by the taboo words was felt more when younger medical practitioners were speaking with elderly members of the public. This outcome was attributed to the fact that the discourse with the elderly individuals was usually in the first language. Indeed, one practitioner noted that she avoided taboo expression since the elderly people could have labelled her as immoral, disrespectful or offensive and therefore deny her audience.

However, the practitioners said they did not experience much embarrassment if the ages of the participants were reversed; that is, practitioners talking with younger members of the public. Similarly, embarrassment was not an issue when engaging with audience of the same age regardless of the sexes. In such instances, practitioners used taboo words freely. According to these practitioners, using the taboo words safeguarded against the distortion of meaning occasioned by euphemism use. This finding is similar to that by Njoroge et al., (2015). Their research on euphemisms for taboo terms on sex and sexuality in Gikuyu uncovered that female Gikuyu speaking nurses often used taboo words while addressing female patients in KLFGH.

The current study also found that practitioners used various strategies to navigate around the taboo words. The most common one was euphemising words considered taboo especially when talking with elderly Gikuyu speaking audience. Though the use of euphemisms is considered a suitable strategy of dealing with taboo words (Napoli Jo
& Hoeksema, 2009), three of the practitioners who used this strategy said that it often led to distortion of the intended meaning. One practitioner cited an example in Kiswahili where speakers used the expression *ufuko wa uzazi* (the uterus) to refer to the cervix instead of the expression *njia ya uzazi*.

The occasional use of intermediaries of appropriate age and sex to pass the information was also cited by the practitioners at KLFGH. Such intermediaries included fellow health practitioners and patients’ relatives. In the opinion of the practitioners, the intermediaries possessed better mastery of Gikuyu language and culture, enabling them to pass the message to the patient more effectively than the practitioners would. Similar to the intermediaries identified in the current study, Genoff et al., (2016) explored the critical role played by patient navigators. In their study, they found that navigators assisted patient manoeuvre the health care system leading to increased breast cancer screening among patients with limited English proficiency. However, while the patient navigators in Genoff et al., (2016) were trained medical interpreters, those identified in the current study had no such training.

Warning the audience in advance that taboo words would be used and requesting them permission to do so, was another strategy cited by the two female practitioners. This strategy was commonly used during outreach programmes. This strategy made their audience more receptive probably because it reduced embarrassment caused by the taboo words.

The last strategy involved explaining to the participants what exactly each euphemism represented or asking them to decide which euphemisms they would prefer for various
taboo words. Though all practitioners avoided giving examples of taboo words they encountered in Gikuyu, one said that she always asked the audience to suggest the preferred euphemism for vagina, anus, sexual intercourse, penis and testes. This was normally done at the beginning of the talk.

From the interviews, we uncovered that medical jargon was the only language-based challenge that hindered comprehension of information. Such jargon included names of illnesses, treatment procedures, medicines, among others. Going by what practitioners reported, even participants fluent in English would experience difficult with such jargon. Translating the jargon into Kiswahili and English, the practitioners said, was challenging. These observations implied that the practitioners lacked lexical knowledge, which falls under language and grammatical competence in Bachman and Palmer (2010) framework. The practitioner however suggested that availing trained interpreters in health facilities, like those discussed in Genoff et al., (2016), would solve this problem.

4.7 Summary of the Chapter

In this chapter, data collected through secondary sources has been analysed. This data revealed the amount of information on BCP cancers that is in the public domain in both the print and the electronic media. Some of this data was incorporated in the questionnaire in order to establish LA of the cancer information. Lastly, qualitative data was analysed to establish the language and cultural obstacles encountered during face-to-face communication between conventional health practitioners and the public. The next chapter will present a summary of the research findings and recommendations.
CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSIONS AND ECOMMENDATIONS

5.0 Introduction to the Chapter

This chapter presents a summary of the findings based on the study objectives. It also looks at the conclusion arrived at. This will be followed by recommendations and suggested areas for further study.

5.1 Research Findings

The first objective of the current study sought to bring to light the kind of information on cancer that was available to the Kenyan public. In this regard, the study disclosed that of all the information on cancer collected, 56% of it featured the BCP cancers. As such, this information was deemed adequate since the three cancers were competing for space with over 100 types of cancers.

In addition, the study revealed that information on breast cancer (84%) was more prevalent than that on cervical and prostate cancers. Another finding was that originators availed more information on management and screening (68% and 66% respectively) than on prevention (51%). The study also found that out of all the materials on BCP cancers collected, majority featured the BCP cancers together or with other types of cancers. During content analysis of such pieces of information, it was difficult to relate aspects of prevention, screening and management with a particular BCP cancer.

Focusing on the four modes of conveyance, we found that newspaper was the most widely used medium at 51%. Poster on the other hand was marginally used (1%) yet it
was more popular among the respondents (53%) than newspapers (47%). Poster also attained a high efficiency similar to that of newspaper in term of LA. Out of the three languages included in the current study, English (70%) dominated Gikuyu and Kiswahili. Notably, Gikuyu featured only in the spoken mode.

The second objective was to determine whether information on BCP cancers was linguistically accessible to the public. Overall, we found that this information was comprehensible considering that 82% of the individuals sampled attained LA. This outcome led to the finding that originators of cancer information possessed high level of communicative language ability. They also largely adhered to the cooperative maxims.

Further finding in relation to objective two was that education had a significant correlation with LA of aired via TV (+.470) as well as that written in newspapers (+.488). Consequently, the widest disparity in LA was between individuals with lower education (71%) and those with higher education (92%). Additionally, information conveyed in English was best understood (85%) compared to Kiswahili (82%) and Gikuyu (79%). Language of conveyance was also significantly associated with LA of information communicated via TV (+0.355).

Another notable finding related to the second objective was that while individuals encountered few language-based challenges in the course of accessing information in the mass media, they did not encounter any culture-based challenge in this medium. Such challenges in the written medium included technical words like digital polymerase chain reaction and long sentences among others. In the spoken medium, challenges identified included technical words such as cyst and ultrasound as well as talking too
fast and unfamiliar pronunciation. However, these challenges had minimal effect on LA.

Turning to the third objective, which set out to establish the language and cultural challenges encountered during talk on BCP cancers between medical practitioners and the public, the study made three findings. First, we brought to light the fact that the medical practitioners included in the study, disseminated information on BCP cancers to the public in two settings: within the hospitals and outside the hospital set ups. Secondly, both language-based challenges (medical jargon) as well as those that were culture based (mentioning body parts considered taboo), were encountered by the practitioners. Lastly, we found that although the practitioners employed strategies that effectively reduced embarrassment associated with taboo words, they lacked language skills to navigate through taboo expressions as well as interpret or simplify the medical jargon they encountered. Worse still, the individuals they employed to plug this gap were not trained interpreters.

5.2 Conclusion of the Study

Seeing that more than half of the items on cancer collected from the print and electronic media featured the BCP cancers, the study concluded that adequate information on the three cancers was availed to the Kenyan public. However, information on prevention was dominated by that on management and screening. In addition, although the public encountered language challenges while accessing information in the mass media, such challenges did not hinder comprehension significantly bearing in mind that majority of
the respondents were able to attain LA. The same can be said of the cultural challenges encountered by conventional health practitioners.

Consequently, the fact that the general Kenyan public has portrayed low awareness of prevention, screening and management of the BCP cancers as has been reported by MOPHS and MOMS (2012) and Wanyaga, (2013), this status should not be blamed on inadequate information or language and cultural barriers. Nevertheless, among the written medium, the communicative potential of poster has not been adequately exploited. The same applies to indigenous Kenyan languages such as Gikuyu and Kiswahili. Finally, featuring BCP cancers together with other cancers or cancer in general in the same text or programme interferes with the clarity of the message.

5.3 **Recommendations**

Considering the finding that posters were rarely used to create awareness of the BCP cancers despite their popularity and efficiency, the present study recommends that institutions tasked with creating awareness on these cancers should avail more information using the poster medium. In addition, originators of information on BCP cancers should accord more priority to information on prevention since it has greater potential to reduce incidence and mortality arising from the BCP cancers. They should also devote each piece of information to a specific cancer to enhance clarity of the message.

Availing certified interpreters in public health institutions should also be considered. These interpreters will competently simplify and translate medical jargon into indigenous languages especially for the elderly and illiterate members of the public.
This will reduce language and cultural barriers arising from medical jargon and raise LA higher than the current level.

Adherence to these recommendations will ensure that the right information is encoded by the communicators and accurately interpreted by the Kenyan public. Effectively, language will have contributed even more significantly in raising cancer awareness especially on prevention, screening and management of the BCP cancers. Consequently, the current and projected high mortality associated with the BCP cancers in Kenya will significantly reduce.

5.4 Suggested Areas for Further Studies

In this study, we investigated how language and culture act as barrier to comprehension of information on BCP cancers. Such information was conveyed via print and electronic media in Kenya as well as through face-to-face communication. Considering the increasing use of the internet to create awareness on various aspects of human life, it is worthwhile to study how language is used to create awareness of cancer, particularly in the social media.

Such a study can establish how language is used to handle cancer discourse by ordinary commentators and bloggers. This can be done from variationist, language and culture, syntactic, discourse analysis, translation and interpretation or even semantics points of view. The research can also look into other cancers.


REFERENCES


APPENDICES

APPENDIX I: KEY RESPONDENTS QUESTIONNAIRE

Ser. No…….

QUESTIONNAIRE FOR THE GENERAL PUBLIC

Hallo. My name is Peter Mbugua. I am a Master’s student from the Department of Literature, Linguistics and Foreign Languages, Kenyatta University Main Campus. We are conducting a research project on the language used to communicate information on cancer among the general Kenyan public such as you. May I ask you a few questions? (All the information provided in this questionnaire is strictly confidential and will only be used for the purpose of this academic research)

DATE........ RESPONDENT’S MOBILE No. .....  
COUNTY...... NAME OF VILLAGE/ ESTATE ......  
NEAREST TOWN.........  

SECTION A: Bio-data

1 Age……

2 Sex: [ ] Male [ ] Female (Tick one)

3 What is your mother tongue? ......

4 Do you speak other languages? List them below and tick as appropriate.

<table>
<thead>
<tr>
<th>Other Languages</th>
<th>Understand</th>
<th>Read</th>
<th>Write</th>
<th>Speak</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Easily</td>
<td>Easily</td>
<td>Not easily</td>
<td>Not easily</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

________________________________________________________________
5 Level of education……

<table>
<thead>
<tr>
<th>Level</th>
<th>Highest level</th>
<th>on going</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Masters</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Graduate</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>A level certificate</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>O level certificate</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Primary level certificate</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

Other (specify)………………

6 Occupation………

7 If retired, what was your previous occupation? ………

8 (a) Religion: [ ] protestant [ ] Catholic [ ] Muslim

[ ] other specify….

(b) If protestant, name the denomination……..

(c) If other, specify….

9 Marital status: [ ] single [ ] married [ ] widowed [ ] Divorced

[ ] Separated

B III: CANCER AWARENESS

10 Have you received any information on cancer:

(a) In the last 3 months?

[ ] Yes [ ] No (Tick as appropriate)

(b) Beyond the last 3 months but within the last 1 year?
[ ] Yes [ ] No (Tick as appropriate)

11 (a) If “yes” to question 18 (a) and or (b) above, was the information in spoken form or written form?

[ ] Written [ ] Spoken (Tick as appropriate)

(b) In which language(s) was the information identified in 19 (a) above?

i. Written

ii. Spoken

12 (a) Specify the source(s) of the written forms of information on cancer identified in 18 above (Tick as appropriate)

Book [ ]

Poster [ ]

Pamphlet [ ]

Newspaper [ ]

Magazine [ ]

Journal [ ]

Billboard [ ]

The Internet [ ]

Mobile phone [ ]

Other (specify)……..
(i) If more than one source, which one do you prefer the most?...

(ii) Why do you prefer the source identified in (a) (i) above?...

(b) Specify the source(s) of the spoken forms of information mentioned in 18 above. (Tick as appropriate)

Radio [ ]
Television [ ]
Conventional health practitioner [ ]
Ethno medicine practitioner [ ]
Religious leader [ ]
Political Leader [ ]
Other (specify) ……..

(i) If more than one source, which one do you prefer the most?....

(ii) Why do you prefer the source identified in b (i) above?......

C: COMPREHENSIBILITY OF INFORMATION ON CANCER

13 i) Depending on your preference, select and read carefully one written piece of information from the samples provided below. You will then answer a few questions.

A poster (English)

or

A newspaper article (A-Kiswahili/ B-English)
ii) In order to establish whether the writer has communicated well, please answer the questions that are based on the information you have read.

*(Refer to relevant questions provided)*

ii) Did any of the following make it difficult to understand the information you read? (Tick as appropriate)

<table>
<thead>
<tr>
<th></th>
<th>Give examples where applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical words</td>
<td>[ ] __________________________</td>
</tr>
<tr>
<td>Use of embarrassing words</td>
<td>[ ] __________________________</td>
</tr>
<tr>
<td>Unfamiliar metaphors</td>
<td>[ ] __________________________</td>
</tr>
<tr>
<td>Unfamiliar euphemisms</td>
<td>[ ] __________________________</td>
</tr>
<tr>
<td>Long sentences</td>
<td>[ ] __________________________</td>
</tr>
<tr>
<td>Ambiguous sentences</td>
<td>[ ] __________________________</td>
</tr>
<tr>
<td>Too much detailed explanations</td>
<td>[ ] __________________________</td>
</tr>
<tr>
<td>Too few details</td>
<td>[ ] __________________________</td>
</tr>
</tbody>
</table>

Other (specify)……..

What can be done to make such written information clearer to you?……..

14 i) Depending on your preference, select and listen carefully to one spoken piece of information from the samples provided below. You will then answer a few questions.

A radio audio recording (A-Gikuyu/ B-Kiswahili/ C-English) or

A TV audio recording (A-Gikuyu/ B-Kiswahili/ C-English)

ii) In order to establish whether the speakers have communicated well, please answer the questions that are based on the information you have listened to.

*(Refer to relevant questions provided)*
Did any of the following make it difficult to understand the information you listened to? (Tick as appropriate) give example where applicable

Unfamiliar words [ ] ______________________________

Unfamiliar pronunciation / accent [ ] ______________________________

Talking too fast [ ] ______________________________

Use of Embarrassing words [ ] ______________________________

Unfamiliar metaphors [ ] ______________________________

Unfamiliar euphemisms [ ] ______________________________

Too much details [ ] ______________________________

Too few details [ ] ______________________________

Other (specify)………

iii) What can be done to make such spoken information clearer to you?……..

15 If you have understood the written and or the spoken information in question 13(i) and 14 (i) above, name three things you are likely to do with that information.

(i)…

(ii)…

(iii)…

THANK YOU
APPENDIX II: PERSONAL INTERVIEW GUIDE FOR CONVENTIONAL HEALTH PRACTITIONERS

DATE........ RESPONSIDENT’S NO......... AGE..... SEX...

COUNTY....... FIRST LANGUAGE.........

NAME OF HOSPITAL.................. OTHER LANGUAGE(S) SPOKEN

(i)....

NAME OF NEAREST TOWN.......... (ii) ..... (iii).....

NAME OF NEAREST HOSPITAL .......

1. Name the illnesses that commonly occur in this area

2. If cancer is one of the named illnesses above, (then probe) in terms of:

   What are the different kinds?

   Which ones are the most prevalent?

   What are the reasons for the prevalence?

3. What information about cancer do you provide to:

   Those who present?

   Adult males?

   Adult females?

   The Youth?

4. How do you convey such information probe for: communication strategies; language(s) used; form of the information given; mode of conveyance; e.g. spoken, textual, mobile phone messages, internet, chief’s barazas
5. If more than one mode is used, which one do you find:
   Most informative to the general public, and why?
   Least informative to the general public, and why?

6. What cultural beliefs and practices in your community make it difficult to talk about the cancers that commonly affect:
   Adult males?
   Adult females?

7. How can these beliefs and practices be dealt with?

   Thank you
APPENDIX III: CONSENT INFORMATION TO PARTICIPANT

My name is Peter Mbugua. I am a researcher from Kenyatta University. I am conducting a study on “language and cultural barriers to the effective communication of information on cancer in Kenya”. The information will be used by Kenyatta University to formulate awareness raising strategies that can be used in screening, prevention and management of cancer in Kenya.

Procedures to be followed

Participation in this study will require that I ask you some questions about cancer, language and culture. I will record the information from you in a questionnaire. You have the right to refuse to participate in this study. Please remember that participation in the study is voluntary. You may ask questions related to the study at any time. You may refuse to respond to any questions and you may stop the interview at any time. You may also opt out of the study at any time without any consequences.

Discomforts and risks

Some of the questions you will be asked are on cancer, language and culture and may embarrass or make you uncomfortable. If this happens, you may refuse to answer these questions if you so choose. You may also stop the interview at any time.

Benefits

If you participate in this study, you will help us to learn about barriers in communicating information and knowledge on cancer. You will also benefit by being advised on the treatment of any medical problem that you may have.

Reward

There will be no reward if you agree to participate in this study.

Confidentiality

Your name will not be recorded on the questionnaire, comprehension tests and cloze tests. The questionnaires and cloze tests will be kept in a locked cabinet for safe keeping. Everything will be kept private.
Contact information

DR. PHILLIS W. MWANGI
Department of Literature, Linguistics and Foreign Languages
Tel No. 0722827460

DR. EUNICE NYAMASYO
Department of Literature, Linguistics and Foreign Languages
Tel No. 0712529842
APPENDIX IV: CONSENT FOR PARTICIPANTS 18 YEARS AND ABOVE

Participant’s Statement (over 18 years)

The above information regarding my participation in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that my records will be kept private and that I can leave the study at any time.

Name of Participant …………………………………………………………………..

Signature or Thumbprint __________________   Date __________________

Investigator’s statement

I, the undersigned, have explained to the volunteer, in a language s/he understands, the procedures to be followed in the study and the risks and benefits involved.

Name of Interviewer……………………………………………………………..

________________________     __________________________

Interviewer signature   Date
APPENDIX V: POSTER IN ENGLISH USED TO TEST LA

CAUTION
7 EARLY WARNING SIGNALS OF CANCER

Change in bowel or bladder habits
Thickening or lump in the breasts, testicles or elsewhere
Nagging cough or hoarseness
Unusual bleeding or discharge
Obvious change in the size, color, shape, or thickness of wart, mole, or mouth sore

A sore that dose not heal
Indigestion or difficulty in swallowing
APPENDIX VI: QUESTIONS USED TO TEST LA OF POSTER IN ENGLISH

Comprehension questions based on the poster in English

Write down any four early signs of cancer mentioned in the poster

1.
2.
3.
4.
APPENDIX VII: KISWAHILI ARTICLE ON BCP CANCER PUBLISHED IN TAIFA LEO ON 21-7-2017

Mama Taifa ashauri Waafrika wale vyakula vya kienyeji

Mke wa Rais Margaret Kenyatta akihutubu wakati wa kufunguliwa kwa Kongamano la Tisa la Kukabili Saratani ya Matiti na Tezi za Kibofu Afrika KICC Julai 20, 2017.

Picha/BILLY MUTAI

Na LUCY KILALO

Imepakiwa - Friday, July 21 2017 at 12:41

Kwa Mukhtasari

Mama wa Taifa Bi Margaret Kenyatta amewahimiza Waafrika warudie mizizi yao na kula vyakula vya kienyeji kukabiliana na maradhi ya saratani

MAMA wa Taifa Bi Margaret Kenyatta amewahimiza Waafrika warudie mizizi yao na kula vyakula vya kienyeji kukabiliana na maradhi ya saratani.

Akizungumza Jumatatu katika kongamano la tisa la Kukomesha Saratani ya Mlango wa Uzazi, Matiti na Tezi Kibofu, alihimiza Waafrika kurejelea chakula cha kitamaduni na kuwachana na vyakula vinavyotayarishwa.

“Afrika irejee kwa mizizi ya kale na kuanza kula vyakula vya kienyeji. Pia hasa vijana wakome kula vyakula vilivyotayarishwa,” alisema Bi Kenyatta.

Wakati huo huo, alihimiza umuhimu wa wanawake kufanyiwa uchunguzi wa saratani, kufanya mazoezi na kula vyakula vinavyofaa.
Bi Kenyatta alisema kuwa vita dhidi ya saratani vinahitaji juhudi za pamoja kati ya viongozi wa Afrika, serikali, sekta ya kibinafsi na mashirika yasiyo ya kiserikali.

Kongamano hilo lililoandaliwa na wake wa marais kwa ushirikiano na mwanzilishi mwenza wa kundi lao na pia shirika la Wake wa Marais na Viongozi Wanawake ulimwenguni, Princess Nikky Onyeri, kujadili masuala ya saratani yanayohusu mfumo wa viungo vya uzazi kuangalia harakati zinazoweza kuchukuliwa kusaidia kupunguza kansa hizo barani.

Rais Uhuru Kenyatta aliyefungwa kongamano hilo alisema Kenya inatarajia kuwa na vituo vinne vya kisasa vitakavyowashughulikia wagonjwa wanaougua kwa gharama nafuu.

Rais alitangaza hayo alipofungwa rasmi kongamano linaloendelea katika Ukumbi wa KICC la Kukomesha Saratani ya Mlango wa Uzazi, Matiti na Tezi Kibofu.
APPENDIX VIII: CLOZE TEST USED TO TEST LA OF ARTICLE IN KISWAHILI FROM TAIFA LEO

Kiswahili Cloze tests to test comprehension of written information in newspapers

Jaza kila pengo katika taarifa ifwatayo kwa kutumia jina lifaalo kati ya majina uliyoepewa hapa chini

wakome mizizi Waafrika kongamano kula amewahimiza
maradhi Mlango kuwachana vyakula

Mama wa Taifa Bi Margaret Kenyatta __________________ Waafrika warudie mizizi yao na __________ vyakula vya kienyeji kukabiliana na ________________ ya saratani. Akizungumza Jumatatu katika _______________________ la tisa la Kukomesha Saratani ya ________________ wa Uzazi, Matiti na Tezi Kibofu, aliwahimiza _________________ kurejelea chakula cha kitamaduni na _________________ na vyakula vinavyotayarishwa. “Afrika irejee kwa _________________ ya kale na kuanza kula _________________ vya kienyeji. Pia hasa vijana _________________ kula vyakula vilivyotayarishwa,” alisema Bi Kenyatta.
Blood test could predict breast cancer's return: study

An experimental blood test may be able to predict whether a woman with breast cancer will suffer a relapse months before new tumours would be detectable on scans, researchers said Wednesday. PHOTO | FILE| NATION MEDIA GROUP

By AFP
An experimental blood test may be able to predict whether a woman with breast cancer will suffer a relapse months before new tumors would be detectable on scans, researchers said Wednesday.

The technology, described in the journal Science Translational Medicine, works by detecting cancer DNA that circulates in the bloodstream.

While the test is not yet available to the public, and likely will not be for years to come, researchers are hopeful that it could help refine personalized treatments for cancer and perhaps lead scientists further down the path of finding a cure one day.

"We have shown how a simple blood test has the potential to accurately predict which patients will relapse from breast cancer, much earlier than we can currently," said study
author Nicholas Turner, team leader in molecular oncology at The Institute of Cancer Research, London.

"Ours in the first study to show that these blood tests could be used to predict relapse," he added.

**TUMOUR AND BLOOD SAMPLES**

Scientists took tumour and blood samples from 55 breast cancer patients with early-stage disease. Each of the patients had received chemotherapy and surgery to remove the cancer.

The blood test was administered following surgery and every six months afterward as a follow-up. Of the 15 women who saw their cancer return, the test accurately predicted that relapse in 12 of them. The test also detected cancer an average of about eight months earlier than the tumours were visibly detectable on conventional scans.

The technique uses personalized digital polymerase chain reaction (DPCR) tests to track mutations and could be applied to all subtypes of breast cancer, the study said.

Turner said there are some technical challenges to implementing the technology, "but digital PCR is relatively cost-effective and the information that it provides could make a real difference to breast cancer patients."

Breast cancer is diagnosed early in 95 percent of cases, but knowing whether or not treatment is able to remove all signs of cancer is key to preventing the tumors from returning and spreading elsewhere in the body.

"It will be some years before the test could potentially be available in hospitals, but we hope to bring this date closer by conducting much larger clinical trials starting next year," Turner said.
An experimental blood test may ______ able to predict whether a ________ with breast cancer will suffer ________ relapse months before new tumours ________ be detectable on scans, researchers ________ Wednesday. The technology, described in _________ journal Science Translational Medicine, works ________detecting cancer DNA that circulates ________ the blood stream. While the test ________ not yet available to the ________, and likely will not be _________ years to come, researchers are ________ that it could help refine ________ treatments for cancer and perhaps ________ scientists further down the path ________ finding a cure one day.
APPENDIX XI: COMPREHENSION QUESTIONS TO TEST LA OF RADIO
RECORDING IN GIKUYU

Comprehension questions based on radio recording in Gikuyu

1. When are cancer patients referred for palliative care?

2. Mention any three types of care that cancer patients receive when under palliative care.

3. What is the main purpose of palliative care?

4. What makes many people not disclose that their relative suffers from cancer?
APPENDIX XII: COMPREHENSION QUESTIONS TO TEST LA OF RADIO RECORDING IN KISWAHILI

Comprehension questions based on radio recording in Kiswahili

1. Which kind of cancer does the speaker talk about?

2. Mention any two symptoms of the cancer mentioned

3. Which category of men is vulnerable to this cancer nowadays as compared to the past?

4. What do the doctors use to screen for this cancer?

5. How long does it take to screen for this cancer?

6. What does the speaker encourage men to do?
APPENDIX XIII: COMPREHENSION QUESTIONS TO TEST LA OF RADIO RECORDING IN ENGLISH

Comprehension questions based on radio recording in English

1. List the types of cancers mentioned in this recording
2. Which sex is vulnerable to these cancers?
3. Which of these cancers causes more deaths among women?
4. What does the speaker recommend women to do?
5. How many women were screened for cervical cancer according to the speaker?
6. For those women who were found to have cervical cancer, at what stage was the cancer?
APPENDIX XIV: COMPREHENSION QUESTIONS TO TEST LA OF TV RECORDING IN GIKUYU

Comprehension questions based on TV recording in Gikuyu

1. *Gweta muthemba wa cancer uria Salome aruarite.*
   Name the type of cancer Salome is suffering from?

2. *Niki giatumire Salome athi thibitari hau kiambiriria?*
   What made Salome decide to seek medical help initially?

3. *Ni njira iriku ya tumirirwo guthima kawoimbo kau Salome arinako?*
   Identify the screening method that was used to reveal the lumps in Salome’s breast.

4. *Thutha wa guthimwori, ndagitari erire Salome atia*
   What was the doctor’s verdict after Salome’s first screening?

   Mention the three types of treatment that Salome has gone through.

6. *Thibitari ta iyo Salome atwaritwo itaithagiriria araru a murimu wa cancer atia?*
   What type of help does a hospital like the one Salome is admitted in offer to cancer patients?
APPENDIX XV: COMPREHENSION QUESTIONS TO TEST LA OF TV RECORDING IN KISWAHILI

Comprehension questions based on TV recording in Kiswahili:

1. *Caroline Nyambura alikua anaugua saratani gani?*
   
   What kind of cancer was Caroline Nyambura suffering from?

2. *Coroline alitibiwa ugonjwa huo kwa jinsi gani?*
   
   Mention the method that was used to treat the cancer that Caroline was suffering from.

3. *Eleza ni kwa nini wanawake wengi hupoteza maisha yao kwa sababu ya saratani ya ufuko wa uzazi*
   
   Explain why many women lose their lives due to cervical cancer?

4. *Lengo kuu la kikundi cha Held Sisters ni gani?*
   
   What is the main objective of Held Sisters organisation?

5. *Eleza njia ya kupimwa saratani ya ufuko wa uzazi ambayo imetajajwa katika maongezi haya.*
   
   Mention the cervical cancer screening method that has been mentioned in this recording.

   
   Mention one preventive measure of cervical cancer that has been mentioned in this recording.
APPENDIX XVI: COMPREHENSION QUESTIONS TO TEST LA OF TV RECORDING IN ENGLISH

Comprehension questions based on TV recording in English:

1. Which type of cancer is being talked about in the recording?
2. How can the large number of deaths from this cancer be reduced?
3. What is the function of the devise developed by the scientist?
4. How long did it take to develop the device now being sold all over the world?
5. How does the device work?
6. What is the nationality of the scientists who developed the device?
APPENDIX XVII: SECOND POSTER IN ENGLISH

WORLD CANCER DAY
4TH FEBRUARY

WE CAN. I CAN.

Make healthy lifestyle choices.
Support others living with cancer.
Go for regular medical check-ups.
Speak out to reduce cancer stigma.

Cancer screening and early detection can save lives.

For more information, contact
Ministry of Health, Kenya • Tel: 000 271 7072 • Email: ps@health.go.ke,
dmskenya@gmail.com, OR Kenyan Network of Cancer Organizations
KENCN website: kenencnetwork.org
Appendix XVIII: Poster in Kiswahili

Tone jeupe katikati ya jicho
la mtoto huweza kuwa
dalili ya saratani

Iwapo jicho la mtoto wako ni sawa na picha hii,
hakikisha macho yote yamepimwa na Daktari aliye hitimu.
Saratani isiyotibiwa huua watoto, lakini
ikigunduliwa mapema inatibika.
Usizubae, msaidie mtoto wako ANUSURIKE!
Appendix XIX: NACOSTI Research Permit

THIS IS TO CERTIFY THAT:
MR. PETER MBUGUA
of KENYATTA UNIVERSITY, 0-20100
Nakuru, has been permitted to conduct
research in Kiambu, Nairobi Counties
on the topic: AN INVESTIGATION OF
LANGUAGE AND CULTURAL BARRIERS
TO EFFECTIVE COMMUNICATION OF
INFORMATION ON CANCER IN KENYA
for the period ending:
10th February, 2017

Applicant's Signature

Permit No : NACOSTI/P/16/9491/5059
Date Of Issue : 22nd February, 2016
Fee Received : Ksh 1000

Director General
National Commission for Science, Technology & Innovation
Appendix XX: Approval of Research proposal

KENYATTA UNIVERSITY
GRADUATE SCHOOL

FROM: Dean, Graduate School
TO: Mbugua Peter
C/o English & Linguistics Department
Kenyatta University

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

This is to inform you that Graduate School Board, at its meeting of 14th October 2015, approved your Research Proposal for the M.A. Degree Entitled, “An Investigation of Language and Cultural Barriers to Effective Communication of Information on Cancer in Kenya.”

You may now proceed with your data collection, subject to clearance with the Director General, National Commission for Science, Technology & Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision tracking forms per semester. The form has been developed to replace the progress report forms. The supervisor tracking forms are available at the University’s Website under Graduate school webpage downloads.

Thank you.

ANNELL MWANIKI
FOR DEAN, GRADUATE SCHOOL

Chairman, Department of English & Linguistics

Supervisors:

1. Dr. Phyllis Mwangi
C/o Department of English & Linguistics
Kenyatta University

2. Dr. Eunice Nyamasyo
C/o Department of English & Linguistics
Kenyatta University