KNOWLEDGE, ATTITUDE AND SOCIO-CULTURAL BELIEFS AND PRACTICES AMONG INFERTILE PERSONS IN KISUMU COUNTY, KENYA

By

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DECLARATION

Declaration by the Candidate

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DEDICATION

This capstone project is dedicated to members of the Odek's family (my wife Esther Adhiambo, my daughter Jane Gift Wando, sons John Austin Wando and Myles Munro Wando) for their continuous support in my academic career.

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ABSTRACT

Infertility is a life event with profound effect on the lives of men and women. However, perceptions on the causes and coping strategies vary across societies. This study interrogated the knowledge, attitude and socio-cultural beliefs and practices among infertile persons in Kisumu County, Kenya. Specifically, the study sought to interrogate the social construction of infertility among the residents of Kisumu County, investigate the attitudes of Kisumu County residents towards infertility, examine socio-cultural beliefs and practices associated with infertility in Kisumu County, and to analyze the coping strategies used by persons suffering from infertility in Kisumu County. In order to achieve the objectives, the study adopted an integrated study design. The target population included couples suffering from infertility in Kisumu County, from which a sample of 200 respondents were selected using simple random sampling technique. The study also targeted 36 key respondents that included the 20 health practitioners, 8 traditional birth attendants (TBA), 4 herbalists and 4 religious leaders who were selected purposively. Both quantitative and qualitative data were gathered for this study. The quantitative data was collected through semi structured questionnaires and later analysed using descriptive statistics. On the other hand, qualitative data was collected using key informant interviews and 6 focused group discussions (FGDs). The qualitative data was later subjected to thematic analysis from which relevant information was extracted.The obtained results suggested that although residents of Kisumu County accord great significance to childbearing, they have low level of knowledge on the meaning of infertility, and that socio-cultural beliefs and practices determines coping strategies of the infertile people. Another notable finding was that Kisumu County residents have negative attitudes towards infertility. Consequently, couples suffering from infertility continue to suffer socially, psychologically and economically. High cost of treatment was reported as a major economic challenge. Serious threats to marital stability and issues of social isolation and stigmatization were reported as the major social consequences. The study disclosed that most of the respondents relied on traditonal health interventions as their coping strategies. However, some individuals, especially those who recognized infertility as a biological disorder sought medical treatment in health centres. The study concludes that infertility is no longer confined to rural areas but also affect urban areas, neither is it restricted to one gender, and that the effective coping strategies adopted by the community demistifies its very existence. The study, recommends the improvement in diagnosis, treatment, education, counselling, and foster care services in addressing consequences of childbearing problems in Kisumu County.

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DEFINITION OF TERMS

Acceptance: This term as used in this work means agreeing, for instance, agreeing that being without a child changes attitude of community members.

Avoidant Coping A retrogressive habit leading to withdrawal or the inability to address child bearing problem.

Child Deficit Refers to a condition that occurs when the ideal numbers of births outnumber the actual number of births for women who have been exposed to sexual intercourse for years (5 years).

Coping Strategies Specific efforts including peolple's behaviours and their psychological tendencies towards mastering, tolerating, or minimizing psychological, social and economic consequences of infertility.

Denial : Rejecting reality of childbearing difficulties.

Ectopic Pregnancy Is a pregnancy in which the implantation of the embryo occurs outside the uterine cavity.

Epidemiology This is branch of medicine which deals with the incidence, distribution, and possible control of infertility

Fecundity	Refers to the ability to produce a live child.
Humanistic	Also called mystic causes of infertility and is centred on spiritual practices as well as divine awareness of factors that leads to inability to have a child.
Humour	Making jokes or making others amused of ones childbearing problems.
Hypo-Fertility	Signifies the biological inability to bear children.
Infertility	Inability to procreate within 12 months to 24 months of sexual relations or marriage.
Naturalistic	Refers to supernatural factors interlinked with biomedical associated with inability to have a child.
Primary Infertility	This denotes infertility of women who have never conceived despite being exposed to sexuality.
Religion	This is a unified system of beliefs and practices relative to sacred things used in coping with infertility.
Secondary Infertility	Denotes infertility of women who have conceived at least once.

Self Reported Views of an individual about the self in regard to infertility and not based on experimentation.

Social Support Seeking assistance, information or advice from the friends and community on how to handle infertility.

Sterility Sterility means that a person is unable to reproduce sexually; this mostly is because of a problem in the reproductive system. This is different from infertility which denotes inability to conceive or not being able to get pregnant after one year of trying. It also means that a couple is not sterile but for some reason has not been able to conceive a child.

Traditional Medicine The health practices, approaches, knowledge and beliefs of incorporating plant, animal and mineral–based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses or maintain well-being (W.H.O)

ABBREVIATIONS

ANC	Anti Natal Care
ART	Assisted Reproductive Treatments
CBS	Central Bureau of Statistics
ECD	Early Childhood Education
FDGs	Focus Group Discussions
HIV/AIDS	Human Immuno-Deficiency Syndrome/Acquired Immune Deficiency Syndrome
ICMART	International Committee Monitoring Assisted Reproductive Technologies
ICPD	International Conference for Population and Development
ICSI	Intracytoplasmic Sperm Injection
ICSI	Intracytoplasmic Sperm Injection
IVF	In vitro fertilization
KDHS	Kenya Demographic Health Survey
KIHBS	Kenya Integrated Household Budget Survey
KII	Key Informant Interviews
KNBS	Kenya National bureau of Statistics
MC	Male Circumcision
MDGs	Millennium Development Goals
MMH	Maseno Mission Hospital
MoH	Ministry of Health
NASCOP	National AIDS & STI Control Program
NCAPD	National Coordinating Agency for Population and Development
NCHS	National Centre for Health Statistics

NGOs	Non-Governmental Organizations
NRTs	New Reproductive Technologies
PID	Pelvic Inflammatory Disease
RCAP	Royal Commission on Aboriginal Peoples
SPSS	Statistical Package for Social Sciences
SSA	Sub-Saharan Africa
STIs	Sexually Transmitted Infections
TBA	Traditional Birth Attendant
TM	Traditional Medicine
U5MR	Under-Five Mortality Rate
UNICPD	International Conference on Population and Development
VMMC	Voluntary Medical Male Circumcision
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

This chapter covers the background to the study, statement of the problem, objectives of the study, research questions as well as the significance and scope of the study.

1.1. Background to the Study

Infertility is commonly defined as the inability or failure to attain or conceive a clinical pregnancy despite having frequent, unprotected and timed intercourse for at least one year (Bhattacharya, Porter, Amalraj, Templeton, Hamilton, Lee & Kurinczuk, 2009). There is a distinction between primary and secondary infertility. Primary infertility describes those who have never conceived or attained pregnancy even after engaging in sex while secondary infertility designates those who having previously conceived or attained pregnancy, are subsequently unable to conceived or attained pregnancy, even after engaging in unprotected and adequately timed intercourse for a period of two years (Sophanna, 2006).

Worldwide, 10 to 15% couples are unable to conceive a child, at some point during their reproductive lives (Reproductive Health Outlook, 1999). The World Health Organization (WHO) estimates that 60 to 80 million couples worldwide currently suffer from infertility (Adamson, Krupp, Freeman, Klausner, Reingold & Madhivanan, 2011). According to other reports, infertility affects between 60 million and 168 million people worldwide and this represents one in ten couples who experience either primary or secondary infertility (Butler 2003). A more recent and shocking statistic reveals that one out of six couples face infertility related complications worldwide (Pittman, 2013).

The world highest rates of infertility is found in the non-Western societies, especially those in the "infertility belt" of Central and Southern Africa (Petraglia, Serour & Chapron, 2013; WHO, 2013). This is partly attributed to social cultural construction of infertility in these societies. In resource poor countries, the problem is said to affect up to 30% of couples, causing huge suffering (Dhot et al., 2011). More specifically, one in every four couples in developing countries is affected by involuntary infertility (WHO, 2013). Underlying these numbers is a core group of couples, who are infertile due to unknown or unpreventable conditions. In Kenya, at least 25% of couples are suffering from infertility hence it a major reproductive health concern.

The high prevalence of infertility in resource poor countries has been explained partially in terms of limited resources. The health sector in most of the poor countries is underdeveloped and mainly targets basic primary health care (WHO, 2008; Dhot, Temmerman and van de Wijgert, 2011). As a result, a lot of attention is given to the reduction of maternal and infant mortality, and the promotion of family planning usage. of limited resources, over-emphasis on policies aimed at reducing population growth and the high cost of modern infertility treatment (WHO, 2013).

Within the African context, the condition of infertility more often than not presents itself in a marriage situation. This may be partly attributed to the fact that child bearing is the 'main reason' for marriage in the African society (Mburugu & Adams, 2004, p.159). As such, the inability to have children causes much distress and trauma among couples. According to Inhorn (1994) and Van Balen (1995), infertility has social consequences for both the female and the male. Such consequences are more grave in non-Western settings than in the Western World. As one woman struggling with infertility explains:

> *Infertility challenges everything … your beliefs about yourself, about what's important about marriage, about what is fair and just. Being infertile makes you question the purpose of marriage and life… nothing is left unaffected by this experience… Being infertile changes everything (*Daniluk, 1997, p.103*).*

According to Kok (2008), infertility is a serious personal, and public health issue intertwined with other social problems such as HIV/AIDS and other related social problems. Looking at the case of married couples, the inability to have children leads to abuse and domestic violence as well as wealth deprivation. Affected couples are susceptible to family instability and stigmatization. On a large scale, infertility leads to suicidal tendencies, family instability and mental disharmony (Larsen, 2004). Because infertility is a taboo subject, people accumulate many misconceptions about reproductive health and fertility all over the world. It places a huge psychological burden on the infertile couple, especially on the woman, and it may lead to depression and suicidal tendencies (Van den Akker, 2007). In most cases, individuals especially women who cannot or decide not to have children is an object of ridicule. Besides, infertility places a huge psychological burden on infertile couples, especially for women.

In most African societies, the consequences of infertility are worsened by the various socio-cultural beliefs and practices like witchcrafts among ethnic groups (Van Balen, 1995). To elaborate, the people's knowledge (understanding) of infertility, which is normally entrenched in their socio-cultural beliefs and practices, influences couples' health seeking behaviour whereas people's attitudes toward infertility are influenced by their socio-cultural beliefs and practices. Similarly, socio-cultural beliefs and practices determine couples' decision on coping strategies. In a previous study on an adult population in Pakistan, majority of participants associated infertility with evil

forces and supernatural powers (Ali & Sami, 2007). In Kuwaiti women, respondents with low educational background blamed their infertility on supernatural causes and practices, such as evil spirits, witchcraft, and God's retribution (Bunting & Boivin, 2008). Existing ad hoc studies suggest that due to low level of education, couples or individuals affected by infertility consult traditional systems of medicine, before accessing modern health institutions (Bunting & Boivin, 2008). In Kenya, this has resulted in delays in treatment and care for persons experiencing infertility problems.

There are various options for infertile patients. One of the ways of dealing with infertility is to have appropriate legal statutes or law which provides framework for funding and support for infertility. In Kenya, the Constitution allows for adoption as outlined in Children's Act Chapter 141, Laws of Kenya. Despite the above interventions, cases of infertility are still on the rise. Consequently, many couples in Kenya including those in Kisumu County remain childless and face the realities that go with infertility (WHO, 2008). The infertility condition is more pronounced in Kisumu County and the area is predominantly inhabited by the Luo community hence raising the question as to whether limited knowledge, negative attitudes and socio-cultural beliefs and practices have a bearing on the current status of women suffering from failed reproduction processes and their sense of despair.

An understanding of the attitudes, beliefs and practices of couples suffering from infertility is key to the effective infertility management. However, such important values have not received sufficient research attention, a view shared by Leke (2002) who observed that the social and cultural aspects of infertility including the traditional management have been largely ignored.

Little is known about knowledge and the understanding of communities regarding the meaning and the causes of infertility, as well as how it is managed in the traditional settings. Schmidt (2010) explains that general neglect of infertility is due to the fact that it is often interpreted as an individual's medical condition and not a social problem that requires social analysis. Besides, infertility like in most societies in the world, and Africa, is defined in relation to the women's failed reproduction processes, the current study took the same approach and majorly focused on Luo women situation in Kisumu County. Onyango et al. (2010) carried a study on factors that influenced male involvement in sexual and reproductive health in Kisumu County and Western Kenya in general but excluded vital findings related to infertility from the female point of view. Against this backdrop, the current study sought to examine the knowledge, attitudes, socio-cultural beliefs and practices among infertile persons in Kisumu County, Kenya.

1.2. Statement of Problem

Infertility remains a worldwide social concern for the developed, developing and underdeveloped countries. In Kenya, about a quarter of men and nearly a fifth of women in Kenya are infertile. This excludes many unreported cases due to ignorance brought by low level of knowledge on infertility which subsequently has led to negative attitude in reporting infertility cases.

Kisumu County, which is predominantly occupied by the Luo community, depicts one of the highest prevelence rate of infertility compared to other counties in Kenya. According to Kisumu County gynaecological records, there were 484 cases of infertility among females and males between 2006 and 2008 (KDH, 2008). Of the infertile women, 290 (60%) were from Kisumu County, 77 (16%) from Siaya, 48

(10%) from Bondo, 34 (7%) from Nyando, and 15 (3%) from outside Nyanza (KDH, 2008). About three years later, a report by the Kenyan Demographic Health Survey (KDHS, 2008-2010) revealed that there were 862 new cases of infertility in Kisumu alone (KNBS & ICF Macro, 2010). According to the figures on infertility for 2011-2012 in Kisumu County, Winam was leading with 145 cases of infertility followed by Kadibo and Maseno with 100 and 11 new cases respectively. A total of 5 new cases were recorded for non-Kisumu regions, including Bondo, Kabondo and Mombasa (KDHS, 2012).

Kenyan government has shown her commitment to dealing with issues of infertility as evidenced by inclusion of infertility management in the Kenyan National Reproductive Health Strategy (KNRHS) which also denotes the value it attaches to infertility problems (Nyagol, 2012). Besides, the current constitution allows for adoption as outlined in Children's Act Chapter 141, Laws of Kenya. Unfortunately, the measures put in place have not yielded any tangible outcome or success. The cases of infertility in Kisumu County especially among the Luo men and women are still on the rise. This has been reinforced by existing socio-cultural beliefs and practices which influence people attitudes towards infertility and coping strategies. The infertile couples in Kisumu County thus face social, phycological and economic burden of failed reproduction processes.

As part of the solution, it was important to understand social construction of the meaning of infertility embedded in people's socio-cultural beliefs and practices. This would increase our understanding of how socio-cultural beliefs and practices influence people's understanding (or meaning) of and their attitudes toward infertility as well as their decisions on coping strategies. As Greil, Slauson-Blevins and

McQuillan (2012) explain that, attitudes and beliefs associated with illness is more striking in the case of infertility as compared to the other health related conditions. This is mainly because couples experiencing infertility may not present themselves for treatment or any other measure put in place to address the problem unless they embrace parenthood as a desired social role.

So far, researchers have not given much attention to the socio-cultural beliefs and practices that communities associate with the causes of infertility. In particular, there exist limited empirical research about the social construction of the meaning of infertility, attitude toward and socio-cultural beliefs and practices associated with infertility among the Luo community in general and the residents of Kisumu County in particular. The study attempted to fill the existing research gap by examining the knowledge, attitudes, socio-cultural beliefs and practices among the infertile women in Kisumu County.

1.3. Broad Objective of the Study

The main objective of this study was to examine the knowledge, attitudes, socio-cultural beliefs and practices women in Kisumu County, Kenya.

1.3.1. Specific Objectives

The study's specific objectives were:

1. To interrogate the social consruction of infertility among the residents of Kisumu County.
2. To investigate the attitudes of Kisumu County.residents towards infertility.
3. To examine socio-cultural beliefs and practices associated with infertility in Kisumu County.

4. To analyze the coping strategies used by persons suffering from infertility in Kisumu County

1.4. Research Questions

By focusing on the above objectives the study sought to answer the following questions:

1. How do the people of Kisumu County construct or interprete infertility?
2. What attitudes do the residents of Kisumu County have towards infertility?
3. What are the socio-cultural beliefs and practices associated with infertility in Kisumu County?
4. What coping strategies do persons suffering from infertility in Kisumu County use?

Responses to the research questions generated new knowledge that, besides creating a thorough understanding of the knowledge of, attitudes toward and beliefs and practices associated with infertility, is vital in promoting reproductive health within Kisumu County.

1.5. Justification for the Study

This study was conducted in Kisumu County because the area exhibits one of the highest infertility rates compared to other regions in Kenya. Besides, little research has been conducted specifically on the experience of Luo men and women suffering from infertility. Studying social construction of infertility is fundamental in understanding people's attitudes, beliefs and practice as well as their coping mechanisms. In addition, this knowledge would help in empathizing with the infertile couple and assist in the reduction of practices which are detrimental to the lives of couples besides controlling the negative consequences associated with infertility.

The findings are particularly significant to health practitioners and care providers, planners, policy makers and scholars. The study was timely especially for the NGOs and other health care providers in areas of reproductive health since it adds to existing knowledge about attitudes, beliefs and practices of couples suffering from infertility at such a time when cases of infertility are on the rise. The findings could contribute to existing efforts to help couples suffering from childlessness in Kisumu County. By focusing on the three fundamental areas of knowledge of, attitudes toward and socio-cultural beliefs and practices associated with infertility, the study would provide information that can be relied on to tackle (or reduce) incidences of infertility, thereby enhancing the health of the people.

The study findings would be used to enlighten people about infertility. This would help them to understand and lead to a change of attitude so that they can empathize with the infertile couple.

The study findings would assist in formulation of evidence based decisions by program implementers with the aim of encouraging health seeking behaviours such as strengthening the uptake of reproductive health services. The study findings would assist the government as well as reproductive programs in designing appropriate and/or fortifying existing policies with the aim of improving the way people experience and deal with infertility issues. Further, the findings are expected to aid in the formulation of sustainable rural-urban development health strategies.

The study findings would also be vital in explaining infertility dynamics in the study area that was to be investigated by bringing out the issue of social construction of infertility and how it relates to attitudes, beliefs and practices. This study is of great theoretical implication as it explains the observed attitudes towards infertility at the

local level. It would assist in establishing a logical account to infertility aspects, which seem inconsistent with the existing health theories while giving new insights into the social construct of infertility.

1.6. Scope of the Study

This study was conducted within what legally defines the area of the jurisdiction of the former greater Kisumu District, now under Kisumu County. It was restricted to the then four sub-counties within the County namely: Kadibo, Kombewa, Maseno, and Winam. These areas were targeted because they exhibit serious infertility and general reproductive health challenges. There are many cases of infertility. The areas have highest unemployment rates (15.4%) and highest HIV prevalence rate, 27.1% (Owino, Muga & Nzanzu, 2012). The challenges are compounded by poor health services and high poverty index as illustrated by a large proportion of people living below the poverty level.

It is also worth noting that Kisumu County is home to wide range of ethnic groups. In addition, most literature surrounding infertility issues concentrates on the experience of women. Nevertheless, this study mainly focused on the experiences of married Luo female's perspectives. It targeted 200 Luo women of ages ranging from 20 to 44 years residing within the four geographical sub-Counties within the County. The study was restricted to three theoretical frameworks; life crisis theory, bio-psychosocial theories and symbolic interractionism. It is worth noting that current study does not everly report male infertility experiences but rather focuses on the females perspectives.

Data analysis was restricted to the study objectives. It involved the use of both

quantitative and qualitative approaches. Thematic analysis was used in analysing the qualitative data from Focus Group Discussions (FDGs) and Key Informant Interviews (KII) and entailed familiarization with the data, scanning and scrutiny of the data followed by identification of emerging themes for interpretation.

1.7. Limitations of the Study

The current study had some limitations. I should stress that the study has been primarily concerned with the construction or the interpretation of the meaning of infertility, the attitude of people, socio-cultural beliefs and practices associated with infertility, as well as the coping strategies, mainly among the infertile Luo women in Kisumu County. It must be noted that Kisumu County has other ethnic groups like Nubians, Luhyias, Abagusii and others. These ethnic groups were deliberately omitted from this study. The study mainly focused on the issues of infertility surrounding the infertile Luo women in Kisumu County. I should make it clear that I have given little attention to the male issues and that does not imply that men are not affected by the infertility. In addition, my data did not allow me to establish the correlation between socio-cultural beliefs and practices, and the real causes of infertility. My analysis deliberately focused on the qualitative data to give the silent voices of the key informant like health pratitioners, traditional birth attendants, herbalists and religious leaders opportunity to articulate their views.

1.8. Organization of the Study

This thesis comprises chapter eight. Chapter one presents the overview, and introduction to all successive chapters, providing both a brief theoretical and literatures based justification for the research undertaken together with the statement of the problem and objectives of the study. Chapter two provides a comprehensive review of literature pertinent to the study. Details of infertility, definitions and

prevalence are presented as well as other related issues, such as attitudes, social-cultural beliefs and practices associated with infertility. Chapter three offers the methodology underpinning the study. This chapter together with related appendices provides, details and audit trail of all the study processes employed; sampling techniques, recruitment of respondents, data collection techniques and processes and methods of data analysis. Chapter four documents the finding related to social construction (meaning) of infertility, chapter five covers attitudes of the people towards infertile persons, chapter six focuses on socio-cultural beliefs and practices associated infertility, chapter seven illuminates coping strategies towards infertility in Kisumu County. From the study, chapter four to seven incorporates a collection of tables and figures that highlight the findings reported as well as provides the discussions from which the study findings are compared with other similar studies globally. The study includes issues and concerns of participants, together with their demographic information. In particular, it presents all the threads of the study brought together in the findings and discussions. Chapter eight concerns summary of key findings, conclusions and recommendations on the meaning, attitudes and socio-cultural beliefs and practices, as well as coping strategies with infertility. The issues, which emerged in chapter four to seven, are further explored and suggestions for further research made in chapter eight.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

Chapter two covers the global prevalence of infertility among women and men, besides illuminating issues on primary and secondary infertility. This chapter revolves around previous studies on knowledge, attitudes and practices towards infertility. It presents studies on social construction of infertility, socio-cultural beliefs and practices associated with infertility and how education affects the attitude and socio-cultural practices of the infertile couples. Knowledge and socio-demographic characteristics effects on infertility are also covered in addition to coping strategies used by persons suffering from infertility. Finally, the chapter presents the theoretical frameworks guiding the study.

2.2. Meaning of Infertility

Sciarra (1994) describes infertility as a situation where couples of reproductive age who have sexual intercourse, without contraception, are unable to have children within 12 months. The author adds that infertility means the inability to establish a pregnancy within a specified period of time, usually one year. However, there are other useful definitions as the study reveals in the next paragraphs.

Infertility can be distiguished in two ways. The first one is primary infertility which refers to infertility in couples who have never contributed to conception before. The second type is secondary infertility which denotes infertility in couples who have contributed to conception at least once. According to the International Committee for Monitoring Assisted Reproductive Technology (ICMART) and the World Health Organization (WHO) Revised Glossary on ART Terminology (2009), there are two

clinical definitions of infertility. First, infertility is a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after twelve months or more of regular unprotected sexual intercourse. Second, infertility is the inability of a sexually active, non-contracepting couple to achieve a pregnancy in one year. Hammond (2009), states that there are two demographic definitions of infertility. The author posits that the term infertility refers to an inability of those of reproductive age (15 to 49 years) to become or remain pregnant within five years of exposure to pregnancy. Similarly, he adds that infertility is an inability to become pregnant with a live birth, within five years of exposure based upon a consistent union status, lack of contraceptive use, non-lactating and maintaining a desire for a child.

A key weakness of Hammond and other definitions of the term infertility is that they do not explain how and why women above 49 years have conceived and given birth to healthy babies. Epidemiological definition of infertility on the other side views infertility as a situation where a woman of reproductive age (15 to 49 years) at risk of becoming pregnant report trying unsuccessfully for a pregnancy for two years or more (Stearns & Peter, 2009). However, such a woman has to be sexually active, not using contraception and not lactating. The term infertility thus, has different timeline ranging from one year to five years.

The World Health Organization (WHO, 1994) (as cited in Rowe, Comhaire, Hargreave & Mellows, 1993) recommends modifying the clinical infertility definition for use in epidemiological research as follows: “The absence of conception in 24 months of regular unprotected intercourse.” WHO proposed to extend the period of trying to get pregnant from 12 to 24 months, because it had been found that many couples who did not get pregnant in a period of 12 months, did eventually get pregnant without treatment.

The clinical and epidemiological infertility definitions capture cases of couples that cannot conceive, while the demographic definition includes even those that cannot contribute to conception (Wilkson, 1999). The current study relied on the demographic definition, since it also encompasses the product or output of reproduction, rather than the ability to have children. It also includes those couples who are in dire need of children within a period ranging between 12 to 24 months.

It is therefore important to remember that the definition of infertility varies from culture to culture and that the Western, clinical definition may not capture variation in cultural perceptions on childlessness in some developing countries. Infertility often does not strictly mean the inability to give birth to a child but, also refers to the inability to have the number of children that cultural norms dictate. Such condition may be considered as involuntary childlessness. In other places, as Poote (2009) points out, infertility may be understood as having no sons, or not becoming pregnant soon after initiating sexual activity. Identically, the people of Kisumu County share a view that couples are only fertile if they can have many male children. Further, social norms concerning marriage, divorce and family organization influence perceptions of childlessness to a large degree.

Demographic factors also influence infertility. According to a study by Donkor and Sandall (2007) an increasingly common cause of infertility in the developed world is advancing maternal age. As maternal age increases egg quality and ovulatory function diminish while risk of reproductive disorders such as endometriosis increases. As women delay childbearing in favor of pursuing education and vocation opportunities they face potentially postponed pregnant. As maintained by Homan (2007), fertility starts to decline for women from about the age of 30, dropping down more steeply from the age of 35. As women grow older the likelihood of getting pregnant falls

while the likelihood of infertility rises. Most women will be able to conceive naturally and give birth to a healthy baby if they get pregnant at 35 years old. After 35 years, the proportion of women who experience infertility, miscarriage or a problem with their baby increases (Baby Center, 1995-2015). By the age of 40 only two in five of those who wish to have a baby will be able to do so.

As stated by Abbasi (2000a), there are different theories explaining why Muslim fertility is high. One, it is because they do not accept modern methods of contraceptives and two, is that remarriage among Muslims is allowed whereas with Hindus it's not. In view of this, one can conclude that infertility cases are less among Muslim people. Another key thing demographic factor is gender. In the words of Bhattacharya et al. (2009) as a result of taking responsibility for the emotional impact of the infertility, the woman experiences intense feelings, such as pain, anger, fear, which, combined with the messages that her way of dealing with things is in some way dysfunctional or crazy, causes her to feel an anxious depression. As feelings spill out, she feels out of control and doesn't really know how to ask for what she needs, especially from the husband she is struggling so hard to protect. She may yearn for an emotional connection/interaction at one moment and in the next withdraw emotionally from her husband when she fears she has disappointed him.

In the light of the foregoing discussion, infertility can be viewed as the inability of couples to have a child after many times of having unprotected sex. That said, in the Luo community, people often ascribe blame to women for their inability to get pregnant even though men could be the ones responsible for the condition. In certain places in the Luo community, a woman was seen as infertile when she could not give birth to many children. In such places, infertility is defined according to the number of

children that a woman has successfully delivered and this is supported by the way traditional women were motivated to have many children. In addition, a woman who had one or two children could be viewed as infertile as compared to one who had ten or many male children. Consequently, having many children was accompanied with praises and elevated status besides being viewed as highly productive.

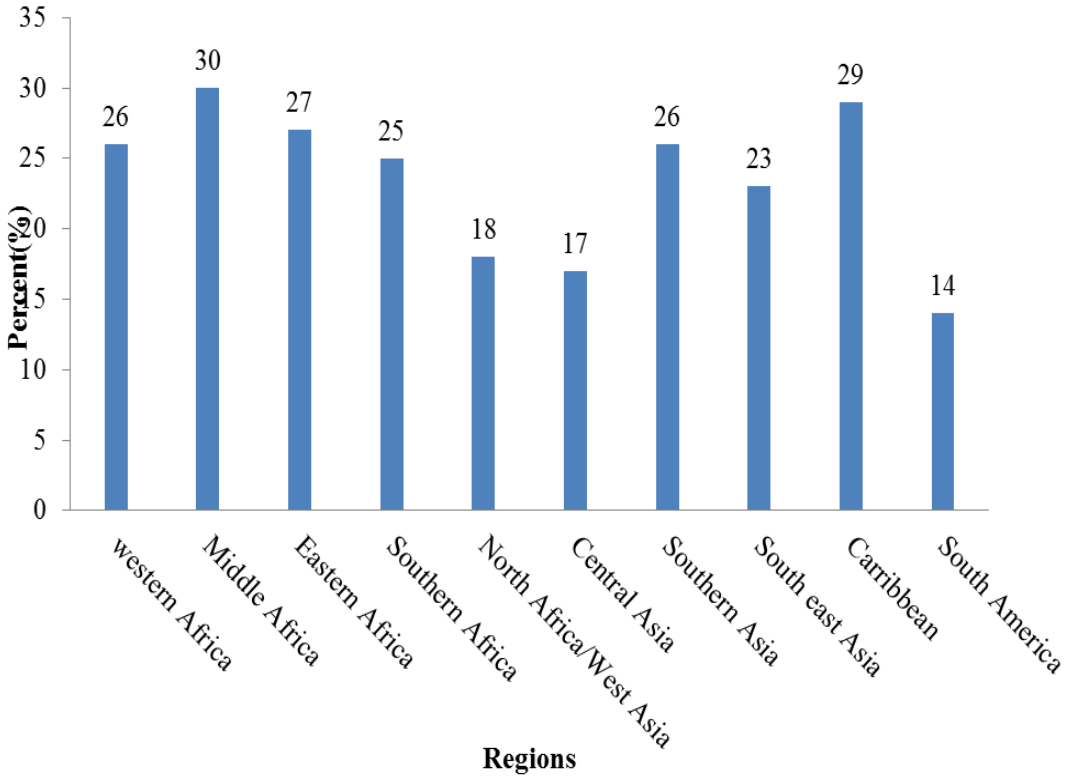
However, Western education has changed this view in many places in Luo land and now infertility is viewed as total inability by a woman to get pregnant or continue to have children. In the same way, infertility also refers to a situation where a man fails to impregnate a woman. This view is related to the objective one of the study which looked at the social construction of infertility in Kisumu County. According to conceptual framework, community stereotypes and fixated minds limit people's knowledge on the meaning of infertility and this can be seen in the way certain places in Luo land defines infertility based on the number of children.

Bio-psychosocial perspective is one of the theories which guided this study. This perspective acknowledges the need to include biological, psychological and social factors in understanding health matters. In other words, to gain a thorough understanding of the meaning of infertility, one has to draw on information from the biological, medical and social factors.

2.2.1. Epidemiological Patterns and Incidences of Infertility

Although there is little information in developing countries on infertility, the World Health Organization (WHO) reports that infertility is a public health issue worldwide. Vayena, Rowe, and Griffin (2001) note that infertility poses a major challenge to those involved in its treatment and assisted reproduction. It is estimated that over one

billion women aged between 15 and 49 years were in marriage or in consensual unions as per by the year 2006. In China, the lowest estimated rate of childlessness in the first 5 to 7 years of marriage was recorded at 1%, whereas for Sub-Saharan African countries the highest estimated rate was 17%, using the weighted average (Larsen, 2000). This included 122 million women in less developed countries (Boivin et al., 2007). Within the same category were 72 million women aged between 20 and 44 years living in marriages or in consensual relationships, and suffering from infertility. Of these women, 40 million were likely to seek health services for the management of infertility, while 32 million would not, due to the stigma attached to it. Out of the estimated 40 million women suffering from infertility, only 12 million accessed treatment (Boivin et al., 2007). From the foregoing discussions, it is clear that there is a rapid growing literature on infertility in many parts of the world.



Source: Larson (2001)

Figure 2.1. Percentages of Women aged between 25 and 49 with Secondary Fecundity, by Regions, DHS Surveys 1994-2000

As evident from the Figure 2.1, the risk of infertility varies significantly in terms of the demographic and socio-economic characteristics throughout the various regions. Middle Africa seems to have the highest prevelence rate of infertility which stood at 30% as at the time of the report. it is followed by carribean which prevelence of 29%. Eastern African had a prevelence rate of 27%. The region includes countries such as Kenya, Uganda, and Tanzania.

A study by Rutstein et al. (2004) among women aged between 25 and 49 years reveals that both Middle and Eastern Africa, recorded the highest prevalence rates of secondary infertility where secondary infertility rates in the two regions stood at 30% and 27%, respectively. In addition to that, secondary infertility is also high in Western Africa, Southern Africa, and South Asia, where it counts for 26%, 25%, and 26 %, respectively. However, infertility affects many African countries in diferent ways and in different measures. Even the rates differ. The table is based on a study on women aged between 20 and 41 years, and who have not given birth for a period of about 5 to 7 years. The study notes that primary infertility is on the lower side as compared to secondary infertility. In Kenya, the primary and secondary infertility prevelence rate stood at 2.7% and 15.2%, respectively. Since 1996, the prevalence rate has been on the rise, Kenya thus ranks among the countries with the highest prevalence rates in the Sub-Saharan region. A visit into major hospitals and a review of recent research about infertility prevalence shows that Kenya lacks centralized statistics on infertility and that major hospitals have their own set of statistics. Inability to put in place a reliable data by state and none state actors on infertility hinder planning and health promotion. Table 2.1 illustrates the differences in rates of infertility among selected African countries.

Table 2.1. Infertility Rates in Selected African Nations

Nations	InfertilityRange %	Midpoint %	Pri fertility %
Burundi	9-12	10.5	1.3
Ghana	10.1-13.5	11.8	1.6
Sudan	10.6-14.0	12.3	3.1
Nigeria	10.5-14.6	12.6	4.0
Coted'Ivoire	11.5-14.8	13.2	5.0
Malawi	12.2-15.0	13.6	1.1
Kenya	**13.7-16.7**	**15.2**	**2.7**
Zambia	13.8-17.5	15.7	1.4
Botswana	14.9-21.0	18.0	3.6
Zimbabwe	16.8-22.4	19.6	2.8
Lesotho	17.1-21.5	19.3	4.0
Sub-Saharan Average	12.5-16.0	14.5	

Sources: Erickson and Brunette, 1996.

Ndegwa (2014) stated that an estimate of 15% of Kenyan men and almost a fifth of Kenyan women have infertility related problems. According to the recent statistics from the University of Nairobi, while most people do not know their fertility status. In 1994, the United Nations International Conference on Population and Development (UNICPD) pointed out the need to ensure the prevention and proper treatment of infertility. In spite of this, Fathalla (2007) indicates that no progress has been made in education and awareness in SSA due to a lack of guidelines or concrete actions plan and programs. In Kenya, the International Conference for Population and Development (ICPD) program was integrated into the National Population Policy for

Sustainable Development. This policy document outlined the population and development goals, objectives, and targets to guide its implementation up to the year 2010 in Kenya. Broad goals and objectives included reproductive health and reproductive rights, adolescents' reproductive health, gender perspectives, and HIV/AIDS (Fathalla, 2007).

Kenya has faced numerous challenges in re-orienting its programs to be in line with the recommendations. Some of the challenges include underdeveloped infrastructure and health care delivery, weak adolescent reproductive health services, inadequate infertility sensitization, and inadequate safe motherhood training, as well as weak child survival strategies (Boivin et al., 2007). On a more specific note, infertility services are mainly offered at Kenyatta National Hospital and Nairobi Hospital. These hospitals are located in the city centre, out of reach of the rural poor. The Kenya Vision 2030 that envisages a high quality life by the year 2030 may not be attained if the country does not invest heavily in reproductive health services, which are equitably distributed over the country (KNBS & ICF Macro, 2012). For instance, there is need to decentralize infertility services from urban centres to remote parts of the country. In addition to that, there is an urgent need to research on the socio-cultural issues that impede on the reproductive health of members of the community. Such findings can be used to integrate biomedicine and traditional medicine, with the intention of ensuring a quality life for all Kenyans.

In Nyanza Province, the Kenyan Demographic Health Survey (KDHS) report released for 2008-2010 documented at a total of 862 new cases of infertility (KNBS & ICF Macro, 2012). The secondary infertility rates in the two regions stood at 30% and 27%, respectively. In addition to that, secondary infertility is also high in Western Africa, Southern Africa, and South Asia, where it counts for 26%, 25%, and 26 %,

respectively. However, infertility affects many African countries in diferent ways and in different measures. Even the rates differ. According to a more recent figure on infertility for Kisumu County, there were 145 cases in Winam, 100 in Kadibo, 11 in Maseno and 5 cases in non Kisumu regions including Bondo, Kabondo and Mombasa (Owino & Kurgat, 2014).

2.2.2. Epidemiology of Public Health Practice in Kisumu County

It is worth noting that Kisumu County was formerly Kisumu District before the promulgation of the new Constitution 2010 and the coming of devolution. Kisumu Demographic health surveys reveals serious health challenges within the County. Hence there is need to put in place measures that ensure health promotion, prevention of diseases and prolonging lives of the people. Whereas 61.15% of the hospitals in Kisumu are public and government hospitals, and the ratio of doctor to the population stands at 1:15,000. Medical Report shows that 126 out of 10,000 have TB in the County (KIPRA, 2014).

The statistics confirm the fact the infertility rate is high in Kisumu County considering that the national figure is 39 out of 10,000 (Owino & Kurgat, 2014). Equally significant information about Kisumu County is that in 2002, life expectancy at birth was 49 years. This was lower than Kenyan average life expectancy of 55 years by 2007. In 2009, life expectancy in the County was 37.8 years for men and 43.2 years for women (CBS, 2009). Consequently, the average life expectancy in Kisumu is 40.4 years while life expectancy in a county like Bomet is 66.1 years (KIPRA, 2014). Kweekel (2008) showed that the number one cause of mortality in Kisumu County is malaria, followed by AIDS, pneumonia, anaemia and gastroenterities. Furthermore, Kisumu scores low on access to piped water and

electricity (SID 2004:19). Owino et al. (2012) noted, Kisumu County is among the five Countys with the highest unemployment rates (15.4%) and highest HIV prevalence rate (27.1%). Table 2.2 summarizes the Health Average Information

Table 2.2. Health Average Information

Health Average	Kisumu	Kenya
Malaria (as % of all 1st Outpatient Visits	35.4% (31)	27.70%
TB in every 10,000 people (% 2009/10)	21.6% (47)	39.00%
HIV + Ante-Natal Care Clients (90, 2010)	16.2% (44)	5.900%
Delivered in a Health Centre	45.6% (15)	37.50%
Qualified Medical Assistance During Birth	46.1% (15)	37.60%

KDHS, 2014

The findings displayed in Table 2.2 partly concur with the observation made by previous studies. For instance, Omwoma et al. (2014) revealed that Nyando plains are prone to flooding by heavy rains, resulting in heavy silting and the formation of extensive lakeside swamps which makes the County prone to malaria and water borne diseases. In their findings, the auhtors showed that many people suffers from malaria which can be fatal, especially for young children and the area has one of the highest HIV and AIDS prevalence in Kenya. Winam area urgently need their patients, staff and community to be educated about treatment and prevention of diseases as the community believe more in myths when it comes to diseases.

As indicated by Omwoma et al. (2014), early marriage is a common feature in Kisumu and this is confirmed by the fact that 42% of women are married before reaching 18 years of age. Correspondingly they showed that 24% of girls aged 15-19 years are involved in early marriage. Poote (2009) points out that early child-bearing has long been seen as a risk to maternity, contributing significantly to large families. Since girls who are married young have a large number of child bearing years, they are more prone to miscarriage, infant death, malnutrition, cervical cancer, sterility and maternal death. Even when girls are closer to the age of 18, but not yet that age, the risk remains. Girls between age 15 and 19 are twice as likely to die of pregnancy-related reasons as women between age 20 and 24 (Poote, 2009). The study by Homan, Davies and Norman (2007) indicated that the protections afforded by marriage in the United States may be limited, but in the developing world, marriage itself sometimes can operate as a significant reproductive health risk factor. In developing countries, unplanned pregnancies, whether clandestinely aborted or carried to term, often lead to complications that cause death or serious disability. Unprotected sex with a husband who is not monogamous increases a young woman's likelihood of being exposed to HIV or to other Sexually Transmited Infections (STIs) that increase susceptibility to HIV or that can cause infertility (Homan, Davies & Norman, 2007).

Kisumu County is faced with high maternal and child mortality rates among many other health challenges. Other health related challenges in the County include poor staffing of health workers and rundown medical infrastructure. The County 2009 health report reveals that Infant Mortality Rate (IMR) in Kisumu was 123 per 1,000 live births and the Under-Five Mortality Rate (U5MR) was 220 per 1,000 live births (UNDP, 2010).

Further, faultering population growth rate has also been confirmed by the 2009 census. For instance in 1989, the population of Kikuyu community was 20%, Luhya 15%, Luo 13% and Kalenjin 11.6%. In 1999, the Kikuyu community was 18%, Luhya 11%, Luo 11%, Kalenjin 8.4%, and in 2009, Kikuyu 17%, Luhya 14%, Kalenjin 13%, Luo 12%, Kamba 10% (CBS, 2010). The County's crude birth rate is 2% per 1000, total fertility rate is 5.8%, and annual growth rate is 2% (CBS, 2011). Most residents in this area are of Luo ethnicity. Infant mortality stands at 90 deaths per 1,000 live births while under 5 mortality is at 110 deaths per 1000 live births (CBS, 2011). The high death rates are contributed to by inaccessible health facilities, inadequate health services and high poverty incidences. A report by NCAPD (2005) adds that most parents cannot afford medical care for their children.

Admittedly, Kisumu County has been named as areas with high levels of HIV/ AIDS and based on the scientific evidence. In 2008, Nyanza province and Kisumu Municipality had the highest HIV prevalence rates in Kenya, 13.9% and 15% respectively. HIV/ AIDs prevalence in Kisumu stood at 15.1% in 2003, 14.9% in 2007, 16.2% in 2010 and 15.1% in 2012. Moreover, the prevalence rates among women stood at 13.8%. The current HIV/AIDs prevalence in Kisumu stands at 14% and this is higher than the national figure that stands at 7% (KDHS, 2014). Carel, Males and Ferry (2002) reveal that the median age at first sex in four cities in Sub-Saharan Africa: Yaounde (Cameroon), Cotonou (Benin), Ndola (Zambia), and Kisumu (Kenya) varied from 16.3 to 18.5 years among men, and 15.9 to 18.4 years among women (Otieno et al., 2007). The available evidence seems to suggest that health standards in Kisumu is low as compared to many parts of the country. Contrary to that, Kisumu seems to be having many health based NGOs than many parts of the country.

Further evidence reveals that Kisumu County is also one of the leading Countys in Kenya with high prevalence of infertility, which for a long time has been an issue that is mostly blamed on women. The County is also faced with high rates of HIV/AIDS among the youths. The specific sites for the study included four sub-counties located within the former greater Kisumu County, currently Kisumu County namely: Kadibo, Kombewa, Maseno, and Winam.

Results of a recent review indicate that people with HIV may be at an increased risk for infertility, due to both the virus itself and the use of anti- retroviral (Zaba & Gregson, 1998). However, results on the causes of infertility in men and women with HIV have been conflicting, but in general appear to indicate that people with HIV, particularly people with advanced HIV infections or AIDS, are less fertile than HIV-negative men and women (Zaba and Gregson, 1998). There is overwhelming evidence that African women with HIV showed that they were 25 percent to 40 percent less fertile than HIV-negative women (Zaba & Gregson, 1998). In addition, some studies have shown decreased fertility rates in HIV-positive women in the United States (Massad, Springer, Jacobson, Watts, Anastos, Korn, Cejtin, Stek, Young, Schmidt & Minkoff, 2004). In addition, there are other factors that may result in infertility in HIV-infected women and these include stress, weakened immune systems, weight loss, drug abuse, and the presence of other sexually transmitted diseases.

Attempts to determine the role of HIV itself in infertility have had mixed results. Biological alterations in reproductive physiology may account for sub-fertility in HIV infected women (Clark, Mulligan, Stamenovic, Chang, Watts & Andersen, 2001). Systemic illness, stress, weight loss, and drug abuse may impact reproductive potential. HIV-positive women are more likely to have an anovulatory cycle, a

common cause of infertility in which a woman has a menstrual cycle without the ovaries releasing an egg (Clark et al., 2001). HIV-positive women are also more likely to have amenorrhea, or a complete absence of a menstrual cycle in a woman of reproductive age.

Some studies have also suggested a link between HIV infection and ovarian failure in HIV-infected women (Cejtin, Kalinowski, Bacchetti, Taylor, Watts, Kim, Massad, Preston-Martin, Anastos, Moxley & Minkoff, 2006). For example, researchers in one small study found that 8% of HIV-positive female participants had levels of the follicle-stimulating hormone, a hormone required for growth and development in the ovaries, similar to those in menopausal women (Cejtin et al., 2006). However, a larger study found no such link between the hormone and HIV, and another found no evidence of premature ovarian aging in HIV-positive women.

In men, studies (such as Mhawech et al., 2001; Cejtin et al., 2006) have shown that several sexual problems that affect fertility are more common with HIV infection. According to Mhawech et al.(2001), men infected with HIV, particularly men with advanced HIV, are more likely to have inflammation of the testicles and are more likely to produce insufficient testosterone levels. The authors also argue that men with HIV are more likely to experience decreased sex drive and an estimated 60% experience erectile or ejaculatory dysfunction. Sperm function also appears to be affected by HIV, with healthier men having fewer problems with their sperm. According to the review authors, men with higher CD4 (white blood cell) counts tend to have better semen volume, sperm motility, and sperm counts, all of which affect fertility, than men with lower CD4 counts (Mhawech et al., 2001).

2.2.3. Health Seeking Behavior

A closer look at the literature reveals that education has long been recognized as a crucial factor influencing women's childbearing patterns (Inhorn, 2003). According to data from demographic and health surveys from nine Latin American countries, women with no education have large families of 6-7 children, whereas better educated women have family sizes of 2-3 children, analogous to those of women in the developed world (Saito & Matsuo, 2009). Better educated women have broader knowledge, higher socioeconomic status and less fatalistic attitudes toward reproduction than do less educated women (Saito & Matsuo, 2009).

A study on the situation of the infertile women seeking IVF treatment in China revealed that the level of education of couples experiencing infertility determined their health seeking behaviors and treatment options. Comparatively, women with college and university education took shorter time to seek for treatment as compared to women with less education. Further, educated women often opted for treatment in hospitals while women with less education received health support from traditional medicine people (Xuan et al., 2013).

Further evidence supports the view that education is a significant factor influencing infertility. According to a study by Shivaraya and Halemani (2007) in India, women with primary, secondary and higher education are 29%, 26%, and 52% less likely to be infertile compared to women with no education. Unisa (1999) points out that infertility rate is high among women in urban areas. This may be due to lifestyle or a later age at first marriage. With increasing levels of educational attainment among women, infertility rate increases. Shivaraya and Halemani (2007) explain that with aspirations for attaining higher educational level, marriage is delayed as a result of

which in confirmation with aforementioned causation factors (higher age at marriage and urban living style).

In Kisumu County, the population is mainly youthful, with two-thirds 67% of the population aged below 25 years. These youths have exerted pressure on the meagre educational, health and social facilities. NCAPD (2005) asserts that such pressure has contributed to the high dependency ratio on the scarce resources. Many youths in this County are involved in early, unplanned and sporadic sex fuelled by social pressures. Such early age sexual debut and encounters are associated with increased reproductive tract infection contributed to by unsafe abortion and STIs infection. These health conditions are likely to lead to infertility. National AIDS & STI Control Program (NASCOP) singles out early sexual debut as the most important major risk-taking behaviour among most youths in Kenya (NASCOP, 2007).

Insufficient health information is yet another health challenge in the County. Elsewhere, similar view is held by Wolfson (2006) who argues that the rural woman is considered as the most disadvantaged as far as accessing health information is concerned despite the fact that for improvement of any society socially and economically, a woman must be in the forefront. The author stresses that when a woman's health is advanced and promoted it will definitely benefit families, children, husbands, elders and in-laws because women are primary care givers in the home and indeed the primary care givers in most societies. It is important therefore that they be adequately empowered with information to enable them make the right decisions pertaining to their health. A study done by Abongo, Owaga, Ochieng, Ochieng', Ongala, Okeyo, Muga and Kaseje (2010) on status of Millennium Development Goals (MDGs) 4 and 5 in five Countys in Nyanza Province, Kenya, found that the

knowledge of mothers on the importance of Anti Natal Care (ANC) attendance and eventual health facility based delivery is pivotal in the attainment of the MDG's 4 and 5. Moreover, many young women remain uninformed about sexual health.

This may be partly attributed to inadequate sex education either from their school settings or home environment. mainly due to the ban imposed on sex education in schools. Further, some families and teachers believe that modern sex education promotes promiscuity. An unintended consequence of these beliefs is that many teenage girls end up becoming pregnant without knowing the risks and consequences of pregnancy. Similarly, it is not uncommon for girls to be married in their teens (Musita & Ariga, 2012). This is partially because Luo society defines feminity in relation to marriage and also due to the fact that girls have been socialized to accept such negative understanding of feminity. According to Maoulidi and Salim (2011), women have reported being physically and verbally abused at the Kisumu County Hospital. An equally significant aspect is that pregnant women are often attended by poorly trained nurses or trainees, and there is little accountability or medical oversight.

Numerous literature review shows that low educational achievement has not helped in improving health and life standards of the people. Education in the region is not taken seriously and an estimated 78% of the children often attain an elementary education before dropping out to participate in fishing and sugarcane production (Omwoma et al., 2014). As echoed by Owino, Alice and Kurgat (2014), education is a vital tool in the development process of any given nation. The state of basic education in Kisumu has repeatedly been marred by a number of challenges from operational and administrative predicaments to poor staffing of teachers in both Early Childhood

Education (ECD) and primary schools sectors, from high drop-out cases to poor enrollment levels. On these grounds, the current study argues that the level of education has a great influence on reproduction processes in Kisumu.Consequently, education determines one's response to ill health.

It is believed that Male Circumcision (MC) can boost fertility in Men by lowering their risk of transmitting sexually transmitted diseases (Maoulidi & Salim, 2011). Kisumu County is generally characterised by high HIV prevalence and low prevalence of circumcision in men. Due to high burden of HIV and low circumcision rates, Nyanza province was an early focus of the VMMC (Voluntary Medical Male Circumcision) program. In a 5 year study by Westercamp from 2008-2013, in 40 locations in Kisumu including Central Kisumu, Central Kolwa, East Kisumu, North Kisumu, Kondele, among others, showed that a large percentage of those interviewed believed that circumcision lowers the risk of HIV/AIDS infection. Two out of five men who were still uncircumcised expressed a desire to undergo the procedure (Westercamp, 2008-2013). Inadequate number of qualified health workers dilapidated health infrastructure is responsible for poor health conditions in the region. Available evidence confirms that poor access to health services, clean water and sanitation facilities also contributes to the high burden of ill-health in the region (Maoulidi & Salim, 2011).

While there are abundance of sources of maternal health information for women today especially in the rural areas that leads to utilization of maternal health services in most Kenyan settings, according to Maulidi and Salim 2011, in 2009, women of reproductive age (15-49) accessing reproductive health services accounted for 27% of Kisumu's population. The main challenges facing these women are access to family

planning services, high fertility rates, and coerced early marriages, mistreatment of women during child birth, unsafe abortions and high HIV prevalence. In addition, men still play a dominant role in decisions about contraceptive usage and the circumstances under which sex takes place (Maoulidi & Salim, 2011).

2.3. Social Construction of the Meaning of Infertility

Social constructionism concept started off as an attempt to come to terms with the nature of reality. In so much as it has been connected to the post-modern era in qualitative research, social constructionism has its beginnings in sociology. It is linked to the exaggerated doubt posed by the idea about how observations are an accurate reflection of the world that is being observed (Gergen & Gergen, 2003). The influence of social constructionism is a current issue within grounded theory and as such an understanding of its core concepts is important in evaluating its impact on the methodology.

The most interesting thing is that the constructionists view knowledge and truth as created not discovered by the mind and support the notion that being a realist is not inconsistent with being a constructionist. One can believe that concepts are constructed rather than discovered yet maintain that they correspond to something real in the world. Reality is socially defined, but this reality refers to the subjective experience of everyday life, how the world is understood rather than to the objective reality of the natural world. As Elder-Vass (2012) notes, most of what is known and most of the knowing that is done is concerned with trying to make sense of what it is to be human, as opposed to scientific knowledge. Individuals or groups of individuals define this reality. This branch of constructionism is unconcerned with reality questions or questions of causation. It is worth emphasizing that criticisms of

constructionism arise from its ascribing claims made beyond the social understanding of the world.

Several findings on social construction posit that the experience of society as subjective reality is achieved through primary, and to a lesser extent, secondary socialization. The former involves being given an identity and a place in society. Indeed, Burr (1995) suggests that our identity originates not from inside the person but from the social realm. Socialization takes place through significant others who mediate the objective reality of society, render it meaningful and in this way it is internalized by individuals. This is done through the medium of language. Within social constructionism language is not an unproblematic means of transmitting thoughts and feelings, but in fact makes thought possible by constructing concepts (Haslanger, 2012). In other words, it is language that makes thoughts and concepts possible and not the other way around. Language predates concepts and provides a means of structuring the way the world is experienced.

From the foregoing discussions on social construction of infertility, it can be deduced that conversation is the most important means of maintaining, modifying and reconstructing subjective reality. Subjective reality is comprised of concepts that can be shared unproblematically with others. In other words, there is shared meaning and understanding, so much so that concepts do not need to be redefined each time they are used in everyday conversation and come to assume a reality which is by and large taken for granted. The social construction concept and the symbolic interaction perspective share the premise of language. Consequently, the basic premise of language is used to create and convey meaning through interaction within a group of people.

There is overwhelming evidence to support the view that social constructionism accepts that there is an objective reality. Additionally, it is concerned with how knowledge is constructed and understood. Hence it is therefore an epistemological not an ontological perspective (Elder-Vass, 2012). However, criticisms and misunderstanding can arise when this central fact is misinterpreted. This is most evident in debates and criticisms surrounding realism and relativism. Social constructionism places great emphasis on everyday interactions between people and how they use language to construct their reality. It regards the social practices people engage in as the focus of enquiry. This is very similar to the focus of grounded theory but without the emphasis on language. Social constructionism that views society as existing both as objective and subjective reality is fully compatible with classical grounded theory, unlike constructionist grounded theory which takes a relativist position. Relativism is not compatible with classical grounded theory (Elder-Vass, 2012).

According to Steinberg (2001), social constructs or social constructions define meanings, notions, or connotations that are assigned to objects and events in the environment and to people's notions of their relationships to and interactions with these objects. In the domain of social constructionist thought, a social construct is an idea or notion that appears to be natural and obvious to people who accept it but may or may not represent reality, so it remains largely an invention of a given society.

Various examples have been given to shed more light on social constructed entities. Steinberg (2001) gives the example of games which represent socially constructed entities and often exist because of certain sets of conventional rules. These sets of social conventions and agreement to abide by them give games their meaning in any

given social context. The author argues that the game of football could be played in any way, but there has been development over the years on known conventional rules governing the players, spectators, and the game's organization. The meaning given to games is therefore socially constructed.

Gender is yet another example which represents ways of talking, describing, or perceiving men and women, is also a socially constructed entity (Steinberg, 2001). Generally distinguished from sex (which is biological), notions of gender represent attempts by society, through the socialization process, to construct masculine or feminine identities and corresponding masculine or feminine gender roles for a child based on physical appearance and genitalia (Gergen & Gergen, 2003). The final example is social class which though appears to represent a universal phenomenon, its meaning is often contextually located because what determines class varies from one society to another, and even within a culture different people may likely have different notions of class determinants (Steinberg, 2001).

Moreover, depending on the constructionist perspective, social construction may be the outcome of human choices rather than of unchanging laws of nature (Steinberg, 2001). Here, then, lies the core issue over which social scientists diverge. Are human ideas and conceptions generated more on subjective criteria than on objective realities? Debates have raged in the social sciences along the divide of science versus objective truth. In the social construction of reality, the question has often been asked: To what extent is our claim to knowledge supported by reality? In other words, to what extent is this claim a social construct? Some writers believe that to the extent that knowledge is aligned with reality, it approximates objective truth; anything less represents a social construct. According to this thinking, even morality is a social construct. However, others believe that all knowledge is social construction.

On the basis of prior discussions, the point of departure among scholars is the claim that social constructions of the meaning of infertility is based on community social facts and surrounding social conventions. This is a unique situation to the community under study. However, Hacking (2001) believes that there are few if any "universal constructionists," in which case few people would argue that the hereditary materials are socially constructed, and exist entirely independently of that construction. On the contrary, the social arena is quite different, as vital social realities are socially constructed, existing by virtue of that social construction by people over time and space. This seeming narrow threshold between scientific construction and social constructs presents problems in social analysis indeed hard nuts that need to be cracked and cracked satisfactorily. In conclusion, the arguments raised by social constructivists blend support to the symbolic interactionism perspective that embrace the process of interaction using a language in the formation of meanings for individuals within a given environment.

The social construction of infertility focuses on the community's views or understanding of infertility which is socially shaped by knowledge, attitude and perceived importance of childbearing (Audu, Ojua, Edem & Aernyi, 2013). Community's understanding of infertility may differ from the doctor's perspective of infertility. The social construction of infertility covers how couples define themselves when they are unable to bear a child or when they are unable to have desired number of children (Obeisat et al., 2012). Social construction of infertility therefore is strongly connected with the community's knowledge, attitudes and socio-cultural beliefs and practices that are also linked to the main motivation for childbering and the consequences of childlessness. Notably, the social construction of infertility also detemines the steps, if any, that need to be taken to deal with infertility (Mugi, 2011).

In the West, having children is widely viewed as a choice to be weighed carefully with other life goals. Personal happiness and the possibility of giving and receiving love within the parent-child relationship play into the decision of having a child (Kodzi, Johnson & Casterline, 2012). Because of widely held beliefs in individualism, free choice, and control over one's life, unwanted childlessness causes frustration for Western couples that may not be experienced in the same way in other societies (Schmidt, 2010). In other locations, personal happiness is no less important, but not having children is seldom viewed as an option (Obeisat et al., 2012). Adherence to social norms, desire and need for social security, power and perpetuity are often cited reasons for having a family in developing countries. In countries like Kenya with underdeveloped social security system, many families depend on children for economic survival and childless couples risk severe economic deprivation and social isolation without children to assist them in old age (NCHS, 1982).

In the Far East, Confucian texts recognize three elements that control reproduction, a male component, a female and an element which comes from both male and female. Infertility, however, is usually blamed on women and often seen as retribution for past wrong doing either on the part of the man, woman or one's ancestors. When attempting to explore infertility from a social science perspective it is vital to investigate local perceptions in order to capture a culturally relevant understanding of infertility (Kodzi et al., 2012). While there are some global similarities in perceptions regarding infertility, such as the pervasive notion that women are usually to blame for unwanted childlessness, there is also variation in perceived causation and significance. In Bangladesh, the worthlessness of a childless woman is expressed in analogy with her "fruitless" nature: “If someone takes the trouble to plant a garden and in that garden, there are no fruits, will the person keep that garden? That person

will cut down all trees." Further, life without children is considered meaningless.

The social meaning of infertility depends on the society's social hierarchies and socialization including the different roles given to women or men. Therefore, inability to bear children also means inability to achieve a desired social role. Among the Tiv of Nigeria, a woman's total social role depends on having children because her place in this patrilineal society stems from being the mother of a lineage member (Audu et al., 2013).

In Nigeria a woman without a child is perceived to have no reason for living (MacCarthy, Rasanathan, Ferguson & Gruskin, 2012). During puberty rites in Ghana, a childless woman is not supposed to serve/put boiled, peeled egg into the mouth of the young girl who is undertaking the rite. Normally women who have children are allowed to serve the egg in the belief that she could deliver in future. When the egg is put in the mouth of this girl, she is not supposed to bite into it. Instead the girl is supposed to swallow the egg whole. Biting the egg signifies that she has bitten her womb and might not deliver in future (MacCarthy et al., 2012).

Studies from African countries like Kenya reveal that women bear more repercussions of childlessness than men. Among the Luhya people of Kenya, infertility was always considered to be the woman's fault. According to the Kamba community, the notion of *'vinya''* that is, 'strength,' is linked with reproduction or childbearing and marriage (Mugi, 2011). In the traditional setting, most people had poor knowledge on infertility leading to negative attitudes towards infertile couples. For instance, an infertile man is viewed as a failure in his reproductive life and even his sexual obligations because he cannot 'give birth' or 'gives birth' to girls only. Failure to get children may imply poor reproductive health that may also have roots in sexual ill health (Wilkinson &

Kitzinger, 1995). In many communities worldwide, producing a child especially a son is a public proof of a man's virility, as well as of his adulthood. As a result, men are often reluctant to admit being responsible for inability to contribute to conception.

Lack of children is not only believed to be a problem for the parents, but for all members of the extended family or lineage. Children guarantee the continued existence of the family and lineage as a whole. Among the Kikuyu, it is believed that when people die, children mourn and bury the dead (Mugi, 2011). Childless women across many ethnic groups in Kenya explicitly expressed worry and fear that their family would die out if they did not have children (Mugi, 2011). Women who had only one child foresaw problems when they die. For instance, a number of women felt that they would be left without the support network when they get old because the child might be living far away hence no one to look after them (Gerrits & Boonmongkon, 1999).

Infertility is both an individual and social condition. An individual suffering from unwanted childlessness suffers from an ailing body, an unfulfilled human identity, and disrupted relationships with direct social, political and economic impact (Evens, 2004). Furthermore, lack of acknowledgement of infertility as a social concern confines the condition to the realm of private, usually feminine suffering. These attitudes, as well as pervasive vertical approaches to family planning provision and STI management ultimately disconnect the goals of reproductive health care, with infertility services inevitably falling behind.

The effects of infertility leave no doubt as to its harms. Infertility interacts with a complex network of kinship, social relationships, cultural expectations, and societal needs; it is both a medical and social issue. Ultimately, a reduction in the ability to

reproduce ourselves imperils the continuation of society. As Jadva et al (2003) concluded, infertility is a failed biological reproduction, but when enough individuals are unable to bear children the reproduction of society is threatened as well.

A Study done by Lyttleton (2002) in Thailand concluded that the success of HIV/AIDS preventive campaigns that were based on sexual behaviour depended on both what the campaigns advocated for and how local people interpreted and made meaning of those messages in relation to their social, cultural and economic context. Even though issues of sexuality are widely experienced as a private behaviour that display a personal and private aspect of self, people are socialized to act their sexuality in particular normative manner in various contexts depending on the community they come from. This is due to the fact that sexuality and sexual practices are products of interacting cultures and social practices (Weeks, 1988).

According to Blurr (1996) the way one comprehends, conceives, voices and makes meaning of phenomena transpires through discourse, language and interactions that are discursive. Thus meanings, perceptions, understandings and knowledge of phenomena are not pre-given, but rather actively constructed (Blurr, 1996). Therefore meaning does not occur naturally, but it is suctioned by language and culture. In this regard language determines how an individual makes meaning and understands certain sets of knowledge in his/her everyday life experience (Blurr, 1996).

The current research is of the opinion that normally in most parts of the world, women are blamed for infertility and thus they are the ones who are more affected by infertility problems. There are quite some differences in how infertility is viewed in Western Nations and as compared to other countries especially African Nations. In the West couples can decide not to have children with various reasons such as

personal happiness in mind. This is so because of the promotion of individualism and people are free to do what they perceive as best. In developing countries like Kenya, couples do not have a choice, but to have children for if they do not, there are many negative consequences which they can face in their families and the larger society.

In developing nations, infertility is an important issue because it is perceived negatively almost in all communities. Children are valued in the family because of certain reasons such as maintenance of name, children provide for their elderly parents and they also offer security among others. Therefore, when one is infertile the community sees him or her as not being normal. Psychological tortures, social and economic consequences of infertility experienced in developing nations like Kenya make infertile people to be viewed negatively from those who are fertile. This evidence is closely linked with objective one of the study which is all about social construction which helps in understanding the meaning of infertility.

2.4. Motivation for Childbearing

Studies indicate that motivations for childbearing play significant role in understanding the meaning of infertility, and the attitude of people towards the whole issue of infertility (Okonofua et al., 1997; Maithya, 2006; Kamau, 2011). According to Larsen, Hollos, Obono and Whitehousehouse (2010), the motivations for childbearing tend to come not only from within self but also as a result of notions that parenthood is part and parcel of gender role, that parenthood is an essential part of marriage, and the idea that having children is natural and instinctive.

In Chinese culture, a woman is positioned in the genealogical tree as a member of the husband's family (Lee et al., 1995). Women are honoured primarily for their ability to

produce sons. Although today there are a lot of Chinese with high-education, Chinese women and men are still subject to traditional ways of thinking (Lee & Kuo, 2000). Therefore, if the hope of becoming a mother ends in disappointment, not only the individual but also her parents would feel faceless and ashamed to face the husband's family. It is not surprising to find that wives with female factor infertility expressed more distress than their fertile husbands (TY Lee, 2001). In addition, wives with male factor or female factor infertility expressed less satisfaction with marriage and sex than their husbands.

In many African societies, marriage tends to be defined in terms of producing and raising children. In Sub-Saharan Africa, the traditional belief systems based on continuity of lineages place a high premium on parenthood (Donkor & Sandall, 2009). As a result, the perception of people regarding childlessness particularly in a woman, whose main gender role is equivalent to childbearing, and whose economic and social status is often hinged on their ability to have children, is often derogatory and judgmental. It is worth noting that the need for children is a substantial component of socio-cultural beliefs and practices (Ali et al., 2011), wielding immense power that is more noticeable in a society where women command far much less power than men in the public domain. Parenthood is perceived not as an isolated episode but as an event, which is integrated with other aspects of life (Larsen et al., 2010). For example, having a baby designate a new status and identity as well as define new roles assigned to couples.

Motherhood is believed to be the most important role for women and the perceived essence of a woman's identity. Infertility not only undermines a woman's relationships with others, it also represents a potent threat to their social well-being and security

(Benyamini, Gozlan & Kokia, 2005). Many infertile women question their self-worth and their identity as an infertile woman often receives more emotional investment than anything else in their lives (Benyamini, Gozlan & Kokia, 2005). As it were, it can be said that children are insurance for the old age and assurance of personal and lineage immortality, and the desire to procreate is as old as the human race (MOH, 2007). In the traditional African setting one important process of marriage is the payment of bride wealth by a man to the woman's family to ensure the monopoly of her conjugal rights and ownership of the offspring of the marital union. In essence a woman appears to serve as a mere tool facilitating the man's procreation and sex needs. A woman's social; status, direction in life, economic achievement, well-being and the very meaning of marital life hinges around her ability to beget and rear children (MOH, 2007). The ability to beget children is therefore, seen as a true mark of womanhood and pride of a man. A childless marital union is plagued by tensions resulting from numerous man-made problems, social stigma, economics exploitations, and psychological pressure from the husband's relatives (Kamau, 2011). Infertility has been observed as one of the common problems for which adult women seek help from traditional healers (Kamau, 2011).

Couples suffering from infertility especially woman goes through deep sorrows in African society. For instance, it is said that "a woman who has children does not desert her home" (Barra, 1960, p.60). This means that bearing children gives the woman the security and joy of a family of being taken care of in her old age besides being respected by the husband and the wider society. So "the woman whose sons have died is richer than a barren woman" (Barra, 1960, p.60). Subsequently, a woman whose son has died was excused for losing her child unlike the one who does not bear a child was hardly 'excused'. Proponents of childbearing add that: "A barren wife

never gives thanks and that nothing else is as valuable as children (Kalugila, 1977, p.5). If a woman has everything else, except children, she would have no cause or joy to give thanks. The sentiment is expressed in African societies, that the more children one has the better.

The traditional Ghanaian society is pro-natal where the ultimate purpose of marriage is to bring forth children to perpetuate the family name (Upton, 2001). Voluntary childlessness is uncommon in Ghana, and married women with no live children are likely to be those with fertility problems (Schmidt, 2010). In Ghana most women and men want to have children for various reasons, such as status identity and economic security in old age. Thus, motherhood is considered a major role of women and a respected female identity. However, there are some women who experience fertility problems. Some of the cultural practices may exclude or seclude childless women and some of the traditional rituals performed or not performed at their death may suggest that the society is against childlessness (Ernestina, 2008). In view of the importance attached to the role of motherhood, the inability to meet this expectation could be expected to incur the displeasure and unfavourable attitudes of society.

At most funerals in West Africa the number of children that one had would be mentioned at the gathering when the family read its tribute. So it would be mentioned that such a person had no children. Further, it was the responsibility of children to bury their parents, so where there were no children involved, the onus rested on the extended family to take care of their departed (Araoye, 2003). Other rituals were performed by the community to stop the spirit of barrenness from spreading to the upcoming generation (Ernestina, 2008). For instance, a dead childless woman was buried in the forest outside the home. This was to ensure that her spirits do not return

to haunt future parents. Culturally, there was the belief that people reincarnate after death. So in order not for the dead to reincarnate with barrenness, these rites were performed. Differences exist in the rites that were performed, but the rationale behind them was the same. The bottom line was that something hurtful was done to the dead body of the childless woman so that she would not reincarnate with barrenness. This may suggests that infertile individuals are often denied proper death rites (Daar & Merali, 2002). These socio-cultural beliefs and practices confirm how communities have negative attitude towards people experiencing inability to contribute to conception.

Various societal attitudes towards the childless women exist. Sometimes people are sympathetic and show concern towards the childless. Often times, attitudes can be negative, with all kinds of pressures from the family (Ernestina, 2008). Sometimes words and deeds from the childless person's own family and in-laws might stress her. A childless woman will have to spend all her years and life serving her relatives until she gets a own child. Otherwise she remains the centre of gossip. Van den Akker (2007) explains that those associating with childless couples are only driven by the financial gains and support from such couples.

Among the Kikuyu, an impotent husband may provide another sex partner for his wife. Among the Nandi, a married woman can continue to have sex with her former lover or other members of her husband's age set. In contrast, the Maragoli of Western Kenya regards extramarital sex as adultery. Thus, the sexual culture shock in urban areas comes not only from contact with Western ideas and media, but also from interaction with diverse traditional value systems. Drawing on many literatures, it is clear that childbearing was and is still a sacred duty of the married couples and of

immense cultural significance in most communities since it is linked to the very survival of the group (Mburugu & Adams, 2004). In Kakamega, among the Luhya, God is always acknowledged for enabling one to have children hence removing the obvious shame of childlessness (Mburugu & Adams, 2004).

Among the traditional Agikuyu, a thanksgiving prayer was conducted to God of wealth and fertility (Mburugu & Adams, 2004). In addition, a couple with plenty of wealth and no children is considered as having nothing. This argument is supported by many reasons. First, children make the marriage stable by giving it meaning and a sense of social besides ensuring economic security during old age. Second, children also provide social and biological continuity. A couple who dies without a child is considered forever dead as there will be no heir or child to perpetuate his or her name (Mbula, 1977).

Among the Luos, couples who die without siring children are viewed negatively because they are unable to ensure continuity of the ancestors' names. Third, children elevate status of the couples, their parents and the community in general. Motherhood and fatherhood are social experiences that many look forward to in Africa. Hence, marriage is incomplete without children. When both marriage and motherhood are combined, a woman commands more respect in the Kamba community, because these are statuses that not only construct a morally upright and respectable woman but they also ensure socio-economic security for her and for her children's future (Mbula, 1977).

2.5. Significance of Childbearing Among the Luos

It is estimated that 15% of Kenyan men and almost a fifth of Kenyan women have infertility related problems, according to the recent statistics from the University of

Nairobi, while most people do not know their fertility status (Muhoro, 2012). In Nyanza Province, KDHS report released for 2008-2010 documented at a total of 862 new cases of infertility (KNBS & ICF Macro, 2010). According to the latest figure on infertility for 2011-2012 in Kisumu County, there were 145 cases in Winam, 100 in Kadibo, 11 in Maseno and 5 cases in non Kisumu regions including Bondo, Kabondo and Mombasa (KNBS & ICF Macro, 2012).

The Luo community is one of the largest ethnic groups in Kenya today, and reside primarily in Luo-land (Nyanza Province) in Western Kenya (Onyango, 2009). The Luos have a unique way of understanding illness and disease aetiology (meaning understanding causes). Fabriga, cited by Sindiga et al. (1995) defines ethno-medicine as the study of the different ways in which people of the various cultures perceive and cope with illness, including making a diagnosis and obtaining therapy.

The traditional political structure among the Luo revolves around *ot* (household), *dala/pacho* (homestead), *anyuola* (clan, extended family lineage system) *oganda* (nation) and *piny* (that is a conglomeration or nations) (Ogutu, 2007). Like other communities in African and Kenya, the Luo culture is patrilineal and patrilocal. Family life is centered on the lineage as defined through male descendants. The Luos value marriage and any other responsibilities that come with it. Upon marriage, a woman moves to where her husband's family is located (Tertilt, 2005).

During the marriage, husbands and families exchange bride-wealth for the reproductive and productive capabilities of women (Ocholla-Ayayo, 1976). Marriage is actualized when the woman relocates to a geographical place of residence agreeable to the man. Hence the common saying among the Luo that marriage is not a mutual affair. The man marries the woman and the woman gets married to the man in

reference to the idea of relocation of the woman. Consequently, virtually all power lies in the hands of the elderly males. Men make most decisions, which women are expected to follow. The man is expected to be the head of the family.

According to the Luos, infertility is the most serious maternal problem. Mbiti (1969, p.44) observes that for African people, marriage is the process, is the focus of existence, and the marriage and procreation are unity, without procreation marriage is incomplete. It follows that inability to bear children is the greatest misfortune among women. The Luos believe that infertility problem may result from human causes. For instance, infertility can be caused by human intention (*Lwet dhano*). In this case, destructive charms may be obtained from a witch (*Jandagla or Janawi*) to 'tie' (*tweyo/tudo*) the womb of somebody.

The concept of *tudo,* however, does not apply to infertility alone. One may 'tie' somebody so that he/she does not marry, go to school, pass examinations, secure a job and so on. In this cases, any item which has been in physical contact with the victim's body such as piece of cloth, shoes, soil from foot marks (*lop tielo*) pen, or book or part of the body as nails, hair (especially pubic hair), urine and stool, are discretely obtained for use by sorcerers in causing the infertility.

The Luos believe that infertility may also be caused by the spirits of the living dead (*Juogi*) whereby the ancestral spirits may refuse to "open the womb" of a woman if they have been offended by either the couple and/or their relative(s). For instance, if a son or daughter marries from/ into a sworn enemy's family, the spirits might be angered and revenge by making the couple childless. In other words, the ancestors could not want to be perpetuated from such a union. If parents and grandparents of the

childless couple were witches (*jojuogi*) or sorcerous (*Jandalada/Janawi*), this could be a punishment meted out by the victims who died from their witchcraft.

Another cause of infertility is due to the act of breaching taboos and customs. This takes many forms. For example, marrying a blood relative however far the link is. Marriage was not even allowed between members of different clans whose founders were brothers and sisters. Ocholla-Ayayo (1976, p.104) says that incest is one of the highest orders of offences in the society resulting in *chira* which may prevent a woman from giving birth at all, or causes miscarriage, still birth or lead to death of infants. If infertility does not arise in such a union, children born may be physically and/or mentally handicapped.

Infertility may occur if a wife has a child outside marriage bond. The Luo have ritual called "*Kalo nyathi*" which is a situation where the parents place a child between them on their bed sometimes after delivery so that if it was conceived on another bed (implying conception by another man) then either the baby would die from *chira* or the mother would stop having more children or both. This belief helped to check unfaithfulness in women.

Also infertility maybe genetically perpetuated. Childless female relatives of a wife was seen as a sign that the problem was somewhere in the blood and this was and still is known to have ended some marriage negotiations. Acute menstrual pain (*segete*) is also believed to delay the first conception, while abnormal ailments from *yamo* (literally, boils associated with wind and seasonal changes) usually cause sub -fertility but may also lead to complete infertility. However, malnutrition is also a cause of infertility (Sindiga, 1985: Golapan & Rao, 1985). This view is hardly conceptualized by the rural based Luo people.

In the Luo community, infertility is considered as one of the serious maternal problems as it is responsible for some of the failed marriages. Without children, marriage is incomplete in this community and this shows the importance of children in marriage. Luo culture is patrilineal and as such family life is mainly focused on lineage maintained through male descendants. Therefore, boys are more valued in Luo community as compared with girls. A woman who cannot give birth to boys is sometimes termed as infertile.

A section of the community believes that infertility is mainly man-made and may be caused by going against customs and taboos besides marrying a blood relative. However, some people are also of the belief that infertility can be due to natural cause such as hereditary factors. The concept of childbearing is related with objective three examining socio-cultural beliefs and practices associated with infertility in Kisumu County.

2.5.1. Marriage among the Luo Community

The purpose of marriage in most communities in the Sub-Saharan Africa is reproduction, and marriage is defined as the transfer of a woman's reproductive rights from her father to a husband (Mayaud, 2001). Since a man acquires reproductive rights at marriage, he typically makes all fertility decisions (Mayaud, 2001). Men prefer to marry women who are significantly younger, because this will make them more submissive and conceive easily (Mayaud, 2001).

Marriage is seen as an agent of life continuity, forming an assurance of continuity of inheritance and a good social standing even economically as it has some form of responsibilities and status (Tabong & Adongo, 2013). Marriage was traditionally considered the most significant event in the lives of both men and women. It was

thought inappropriate for anyone to remain unmarried (Ocholla-Ayayo, 1976). Large families ensured adequate numbers of workers. Like most communities in Kenya, the Luo marriage system is exogamous. The woman comes from outside the lineage or clan. The Luo also do not marry blood relations, however distant these might appear. Thus, the wife is often a stranger who must be integrated fully into the family she is married to. She has all the rights to property including land, livestock and household goods. Her privileges include full membership to the family, right and privilege to have a say and to determine the upbringing and future of her children.

Under normal circumstances, marriage was entered into following an extended process of courtship, often involving go-betweens (*ja-gam* plural). The forms of marriage included *sepo* (analogous to modern Christian wedding), *por* (where a woman just moved in with a young man), *ywecho* (abduction either while the bride wealth was being paid or before) and *Siweho* (where a woman brought her sister, cousin or niece to be her co-wife) (Ocholla-Ayayo, 1976).

In the Luo community, it is the dream of every woman to have a child of her own at some point in life. By having children, a woman greatly enhances her power and influence within the lineage of her husband. As the children grow, they take special care of woman's interests (Ogutu, 2007). Some women plan the number of children they would wish to have as this is a subject that is dear to them. However, unlike in the past, there have been rising medical concerns over the cases of infertility with some attributing the situation to a change in lifestyle. The situation gets even worse because majority of people with infertility problems are usually unaware of their condition and only discover their conditions after several misdiagnoses (Sindiga, 1995). In some cases, barren women are divorced, shunned and sometimes they are not even allowed to live in the village (Nyarwath, 2012). This is so because

community members believe that evil spirits were keeping them from getting pregnant and the community does not want the evil spirits to attack them. In some places in Luo land, barren women were often buried in forested lands.

Among the Luo community, both men and women commonly accept polygamy provided traditional ideas and regulations are maintained. These include, for example, a special recognition for the first wife or "great wife," whose house and granary are located prominently at the back of the homestead opposite the main gate. Subsequent wives have homes alternatively to her right and left in the order of their marriage (Onyango, 2009). However, the practice of polyandry (a woman having more than one husband at the same time) is rare among the Luo. Nevertheless, there are known cases where a woman marries other women and solicits the services of men to bring up children for her. In all these cases, marriage rights, privileges and responsibilities are adhered to. The couples are guided by the normative Luo rules and regulations. The time tested traditional norms and values are also strictly adhered to (Ogutu, 2007). The Luo community also has high regards for the widows and orphans. Thus, taking care of the widows and orphans is a noble and respectable responsibility (Ogutu, 2007). This explains why widow inheritance is practiced. Widows are viewed as part and parcel of the family, and community at large. Therefore upon death of the husband, a widow is taken care of by the younger brother who will ensure continuity of his lineage (Onyango, 2009). Death of a spouse did not dissolve marriage. As such, the woman remains (*chi liel*) wife of the grave. Therefore, a woman should not remarry but have an inheritor (Nyarwath, 2012).

In spite of the inevitable change and continuity in the Luo belief systems, it needs no emphasis that marriage remains a powerful institution among the Luo with deeply

rooted and protected rights and privileges that are entrenched by ritual and ceremony (Ogutu, 2007). Whereas the processes of socialization and preparation for marriage have changed, the Luo cultural ethos, relating to marriage remains generally intact. Parental roles and responsibility in the upbringing of children are still taken very seriously (Ogutu, 2007). Thus, marriage and childbearing among the Luo community is mediated by aspects such as knowledge, attitude and the various socio-cultural practices of the community.

As an agent of family lineage, forming an assurance of continuity of inheritance, marriage is seen as important thing and gives a social and economic status as it has some form of responsibilities. In marriage exemplified by children, is viewed positively in Luo community. This is because it is the dream of every parent especially woman to have a child of their own at some point in life. However, in recent times, a lot of changes have taken place. Marriage has been reduced to a casual deal between two individuals, the husband and the wife. The Christian vow, "until death do us part", is taking its toll. As far as cleansing is concerned, sexual intercourse is given the center stage to the extent that widows think that once they make love with any man following the death of their husbands then the 'job' is done (Ogutu, 2007). Consequently, there has emerged a group of people commonly known as professional *joter* (commercial 'wife inheritors' or sex terrorists). These kinds of *joter* are a social nuisance and are culturally unacceptable. This is a recent phenomenon created by affluent Luos in their quest for shortcuts to the restoration process (Onyango, 2009).

In the Luo community, in a situation where a married couple is unable to become pregnant, they often never go to the hospital for fertility test (Evans-Pritchard, 1950). Rather, they ‘test’ their fertility by having sexual relations outside marriage. In some

cases, the woman may conceive and deliver kids with another man. It is no surprise that after delivering a baby, the woman may still go back to her wedded husband. These sexual practices have health implications in the community and they poise challenges to effective sexuality education. The high prevalence of HIV/AIDS in the region and high mortality rate are blamed on these risky sexual behaviors.

Widow inheritance and sexual cleansing among the Luo ethnic community in Kenya are cultural practices that are nurtured and perpetuated by gendered socialization processes that put most decisions about women, including their sexuality, within the control of men. Shisanya, (2004) explains that since sex is an integral part of the two practices even when a widow is HIV-positive, both have been associated with the rapid spread of HIV in the community, and in other populations where the practices are still valued. The author argues that among the Luo, death of a spouse is believed to make widows unclean thus, they have to undergo purification before being accepted back into the society. Oduyoye (1995) posits that sometimes the purification process involves sexual intercourse between widows and their male in-laws to symbolically separate the deceased from the widow.

The literature review has elaborately shown that in Luo community, the main aim of marriage is procreation of children and infertility can thus negatively affect the marriage institution. All married Luo women and men have a dream of having their own children. In most marriages men are the head of the families and they make decisions about reproduction processes. When couples are unable to have a child, the woman takes the blame because infertility is highly feminized by the community members. As part of the solution, the man was encouraged to marry another woman and in most cases it was the sister to the woman assumed to be infertile. This was

done so that the cordial relationship which existed between the man's and woman's families could be maintained. In some extreme cases, the man could divorce the infertile woman and marry another lady. However, in cases where it was the man who was infertile, his brother could sire a baby or babies for him under strict and confidential terms. However, children born out of such arrangement carried the name of the infertile man.

2.6. Levels of Knowledge about Infertility

The level of knowledge on infertility is an important variable in understanding the construction of the meaning of infertility as well as the community's health seeking behaviors. Authors appreciate the fact that epistemology points to a philosophical reflection on knowledge, including its origin, foundations, language, limitations, nature and the means of acquiring it (Tiles, 1998). Also as Schwandt (1997, p.39) noted, epistemology can be viewed as the nature of knowledge and justification as it further justifies the application of one particular approach in preference to any other for a particular research project like the current one.

From epistemological perspectives, there are two basic levels of knowledge. The first one is the first-order knowledge, which deals with the conditions according to which a particular person or individual can know that some given proposition is true (Cohen, 2005). This level could be understood as the most elementary one, the object of the larger part of epistemological debate. This in epistemology epitomizes the relation between a person's beliefs about empirical events and the content of these beliefs (Schwandt, 1997). In other words, the first level is confined on the affairs concerning the suitable connection between the beliefs and the truth, regardless the believer's awareness of her believing, knowing or capturing the truth.

The other level is what is popularly known as the level of second-order knowledge or meta-knowledge and it is concerned with the conditions according to which an individual is convinced that a given proposition is true. One of the necessary conditions for second-order knowledge is first-order knowledge since it is not possible for any subject to know whether a particular proportion is true if he or she is not aware that the said proportion is true in the first place. The requirements for second order knowledge may very well include some (or even all) conditions for first order knowledge, but by necessity they will never be the same.

From an epistemological point of view, the second level of knowledge in emphasizes on the subject's reflections on her knowing – or believing – that a proposition describing empirical events is true (Cohen, 2005). One way to describe the second level in epistemology is to say that it embodies the relation between a person who has beliefs about empirical events and her own believing. This relation brings in the person's reflection on her specific epistemic condition. The second level is, in one way or another, related to the affairs concerning the connection between beliefs and truth as well, but in this case regarding the awareness of the believer on her believing, knowing or capturing the truth.

In the context of this study, the most basic prerequisite for the successful communication of the message is to understand the study population and their own definition of infertility and the strategies locally perceived as more appropriate in coping with their situation. It is important to note that high levels of knowledge on infertility can decrease the incidence of infertility by minimizing the risk factors associated with it. In addition, a correct knowledge of infertility can help the society

empathize with the infertile couple hence decreasing the psychological burden of the subject at hand (Mostafa et al., 2013).

Unfortunately, knowledge about infertility is inadequate in many parts of the world. As had been noted, a global survey of almost 17,500 women (mostly of childbearing age) from 10 countries revealed that knowledge regarding fertility was poor (Boivin & Bunting, 2008). Apart from the low level of knowledge, there are a number of misconceptions regarding infertility all over the world. In Tanzania for instance, evil forces are often thought to be the cause of infertility (Gijsels & Mgalla, 2001). These misconceptions eventually lead to practices ranging from the absurd post-coital exercise of standing on one's head to the unpleasant and dangerous traditional remedies of eating feces and inducing vomiting in Tanzania (Daniluk, 2001). The present study is hoped to achieve a better understanding knowledge on the meaning, attitude and socio-cultural factors associated with infertility, consequences and coping with infertility.

As already highlighted, epistemological perspective goes beyond scientific validation and includes social construction of infertility, which describes how ideas, practices and beliefs are expressed. Perhaps, this is why at least as far as social sciences are concerned, metaphysics (in the form of human intentions and beliefs) cannot be eliminated, observation cannot be pure in the sense of altogether. In this study the concept epistemology of infertility is used to describe the meta-aspect of knowledge which is may go beyond the scientific understanding or scientific validation.

2.7. Attitudes towards Childlessness/Infertility

The concept of attitude means different things to different people. Generally, attitudes entail long-standing evaluations of individuals, places, ideas and may determine a

range of behaviour such as health behaviours, intergroup relations among other things. It is assumed to have two components which work together: beliefs about consequences of the behaviour (behavioural beliefs) and the corresponding positive or negative judgments about each of these features of the behaviour (Kruger & Grafman, 2013).

Attitudes have been regarded as the most distinctive and indispensable concept in the contemporary society, especially because the concept allow us to comprehend not only the preferences and behaviours of individuals but also offer broader insight into the actions of groups and cultures. Bearing this in mind, attitude has been conceptualized as "a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon people's response to all objectives and situations with which it is related" (Kruger & Grafman, 2013, p.71). Attitude as a concept also denotes the degree to which performance of the behavior is positively or negatively evaluated (Ajzen, 2005). From this definition, the subjective norm is the perceived social expectation to follow a certain behavior. The subjective norms involve major beliefs about how other people, who may be in some way important to the person and how they would like him or her to behave when confronted with uncertain health conditions.

There is overwhelming evidence that attitudes are very important variables in predicting people's behaviour. The importance of attitude can be traced back to the functional analysis of Smith, Bruner and White (quoted Pratkanis, Breckler, & Greenwald, 2014, p.3). They argued that attitudes serve functions designated by labels such as utilitarian, social adjustment and value expression. Attitudes towards childlessness vary from one region to another. For instance, studies indicate that in certain Western cultures, childlessness is a more open condition hence a balanced

attitude to it (Bays, 2014; Koropeckyj-Cox et al., 2007). On the contrary, people tend to have negative attitudes towards those unable to bear children in African cultures.

Along similar lines, socio-economic circumstances have influential effect on the attitude of the masses. For instance, it is generally observed that positive attitudes are found among the young, less traditional, the educated, less religious and those with good income (Gubernskaya, 2010). In fact, previous research has demonstrated that young adults may not have strong motivation for child-bearing; hence their attitudes towards the infertile are more likely to be positive. Another study reported that the majority of sexually active college students are concerned about pregnancy (Miller, 2011), while other studies indicated that most of the young adults tend to avoid pregnancy at all levels hence have a more balanced feelings towards childlessness (Frost, Lindberg & Finer, 2012).

A further study by Kemkes (2008) found that participants responded negatively to childless women, viewing them as less committed to family, having inferior parenting skills, less faithful, honest, mature, attractive, and generous, but more ambitious than women with children. In Peterson, Pirritano, Tucker and Lampic (2012) study, when explaining childlessness in single men and women, participants wrote stories with themes of emotional incapability, selfishness, social rejection, negative childhood experiences, and the need for mental health services. Moreover, the childless individual was viewed as misguided, likely to change his/her mind in the future, or delighted in motherhood following an accidental pregnancy (Peterson et al., 2012). Finally, a meta-analysis conducted by Ganong et al. (quoted in Bays, 2014, p.17) confirmed the finding that family structure has a significant bearing or role in stereotyping. Although this assessment of six studies did not calculate effect sizes

based on target gender, parents were perceived more favourably compared to infertile individuals.

In general, attitudes toward childlessness vary significantly (Merz & Liefbroer, 2012) with negative attitudes being predicted by a number of socio-economic characteristics. In most cultures, those who view infertility unfavorably tend to be older, married, less educated, and of lower socioeconomic status (Gubernskaya, 2010; Noordhuizen et al., 2010). Those who report conservative religious beliefs are also more likely to report negative evaluations of the infertility.

Although the current study assesses attitudes toward infertility in Kisumu County in Kenya, cross-cultural research and reports like described in this section, are nevertheless informative in so far as patterns and predictors of attitudes toward childless couples is concerned.

In the context of this study, the term attitude refers refers to a pattern of mental views established by cumulative prior experience of the community on various life issues. Attitudes are cognitive in nature, formed through interactions with the environment. It reflects the person's innermost convictions about infertility situations good or bad, right or wrong, desirable or undesirable. Attitude can also be a tendency, based on an individual's beliefs and experience, to react to events in certain ways and approach or avoid events that confirm or challenge personal values.

2.8. Socio-Cultural Beliefs and Practices Associated with Infertility

Infertility is surrounded by many mistaken beliefs about its causes, such as witchcraft and possession by evil spirits, and these beliefs negatively affect its management. In Africa infertility is attributed to two factors grouped as traditional factors and Western

biomedical factors. Traditional factors are categorized as mystic and natural factors (Gerrits, 1997). Mystic factors involve interpersonal conflicts and manipulation by witches and traditional healers. There is a strong connection between mystic and biomedical factors. Some societies believe that spiritual forces can be invoked to hinder a woman from ovulating and hence unable to conceive. As a result of this, there is a very thin line between the natural and biomedical explanations on infertility. The correct knowledge of infertility is limited amongst the population. Only a small number of people can correctly identify when infertility is pathological and know about the fertile period in women's cycle (Ali et al., 2011). Beliefs in evil forces and supernatural powers as a cause of infertility are still prevalent especially amongst people with lower level of education. Seeking alternative treatment for infertility remains a popular option. IVF remains an unfamiliar and an unacceptable option for infertile couples (Namujju, 2013).

Infertility in a couple can be caused by factors that are attributed to the male's condition. Conditions leading to male infertility are often referred to as the male's factors (Obeisat et al., 2012). Such factors play a bigger role in household infertility. In at least one third of couples, infertility cases are attributable to a male factor. The male factor accounts for 40% to 50% of the causes of infertility in Kenya (Nation, 2008). Screening done at Kenyatta National Hospital in 2008 revealed that occlusion of the *vas deferens* was the key factor in male infertility. Similar studies have also revealed anti-sperm antibodies and genital infections as responsible for male infertility. Maheshwari, Fowler and Bhattachanya (2006) assert that several factors make the male to be vulnrable to infertility and these include: testicular injury, abnormal sperms, history of STIs, urinary or hernia surgery and infection. However, the study lack emperical data to support its conclusion.

Further literature reveal that knowledge about infertility is limited in the population and a lot of misconceptions and myths are prevalent in the society. Alternative medicine is a popular option for seeking infertility treatment (Obeisat et al., 2012). The cultural and religious perspective about assisted reproductive technologies is unclear, which has resulted in its reduced acceptability (Namujju, 2013). In a previous study by Nwobodo and Isah (2011) on an adult population in Pakistan, only 25% correctly identified when infertility is pathological and only 46% knew about the fertile period in a woman's cycle . Evil forces and supernatural powers were widely held as causes of infertility. In Kuwait, the most educated women blamed infertility on nutritional, marital, and psychosexual factors, but those who were not literate blamed their infertility on supernatural causes, such as evil spirits, witchcraft, and God's retribution (Waterton & Wynne, 1999). A breach of a taboo was believed to cause infertility among the Macua of Madagascar. In the same way, infertility was attributed to a husband's and wife's blood failing to mix, a woman's marriage to a spirit, or burial of pubic hair (Greil et al., 2010). Among the Macua of Madagascar, the initiation rites conducted after menarche involves the burial of pubic hair. If this is tampered with by a witch, there is a belief that infertility may result.

In Africa, aside biomedical causes of infertility, traditional explanations of infertility are still socially important. The meaning assigned to infertility is for a considerable part mediated by socio-cultural factors that vary among regions (van Balen, 2000). Research studies in Ghana and other parts of Africa and Asia (Dyer, 2000) have cited perceptions of both biomedical and traditional or religious causes of infertility. The commonly traditional causes of infertility include supernatural causes, voodoo, curses by ancestors or deities, evil spirits and witchcraft.

Previous studies (such as Gerhard et al., 2014; Okonofua et al., 1997) have looked at socio-cultural beliefs and practice associated with infertility. In their study about the search for fertility among the Sara of Southern Chad, Gerhard et al. (2014) observed that women are born with an unknown number of children in their bodies, except for a few women who are born infertile (without children in them) and cannot be cured. These children can be "*used up*" through abortions and contraceptive use, and one could find herself infertile when she decides to have a child (Gerhard et al., 2014).

In Nigeria, there is a strong belief in the phenomenon of *Ogbanje* where infertility is determined by destiny; women giving birth to a child who is not destined to live beyond the first birthday (Okonofua et al. 1997, p.211). Among the Yoruba of Nigeria, it is believed that all women have a fibroid (*iju*) which is natural and allows conception to take place. It only causes infertility when the fibroid becomes big, blocking out the sperms or causing hotness, thus preventing the sperm from fertilizing the female eggs. Another commonly held belief among the Yoruba is that all women have a worm called *aranginisa* which has some teeth, but causes no harm to the baby in the womb. Infertility can only take place when this worm, "*aranginisa*," gets cruel (Oyekan, 1999, p.19).

A study by Dyer (2002) about South African women revealed a close link between superstition, religion, and use of contraception as factors responsible for infertility. Specifically, witchcraft, failure to adhere to cultural taboos, God's will, partner incompatibility, weak sperms, male impotence, abortion, and promiscuity were among the main factors associated with infertility. There are harmful traditional practices associated with infertility. For instance, the narrowing of the vagina using foreign substances, which can hinder conception. Other practices include inserting

some herbs and washing detergents into the vagina. Such practices can also make sexual intercourse uncomfortable.

Kamau (2011), in her study among urban community living in a slum area in the City of Nairobi - Baba Dogo (multi-ethnic with experiences drawn from the numerous tribes in Kenya) and a rural community in the Muranga County (one ethnic group, Kikuyu), found that in both communities infertility was perceived from the standpoint of traditional practices and taboos such as lack of respect for the elders, curse, religious beliefs and incompatibility of blood between the spouses. Both communities were found to have inadequate knowledge of the causes of infertility, except for the secondary and post-secondary students, who tried to explain medical causes such as the relationship between STIs and blocked tubes.

A number of communities in Kenya such as the Luos and Luhyas believe that breaking traditional rules can lead to childlessness. For instance, among the Luos, if a girl delivers at home while her mother is still fecund, the mother should not cook for her until she is over puerperium and get her first period. If the mother cooks for her before this period is over, the girl will not conceive again (Kimani, 2001). In his study of the Luo cosmology, Ocholla-Ayayo (1976) explains that *chira* (a kind of curse) underline all moral acts, the consequences of which may inflict misfortune, suffering and punishment upon the individual and his family. According to the author, "the breaking of the law may prevent a family from giving birth to children or may prevent a family from producing one sex; female or male children" (Ocholla-Ayayo, 1976 , p.146) . The article is particulalry helpful as a background material in the study of infertility among the Luo community. However, the author stresses on the importance of historical background on all social obligations and rules of conduct including beliefs and and values. Besides, the study cannot be emperically tested as it is based

on secondary data. The current study goes beyond *chira* to examine other perceived sociocultual beliefs about infertility.

Among the Luhya, one is referred to in a derogatory manner as *india avana*, literally, transmitted to mean, 'the greedy baby eater'. Among the Agikuyu, the contant loss of pregnancies and babies is often associated to the woman's past promiscuity including induced abortions. Such a woman receives very little sympathy, especially from her in-laws, who considers themselves the aggrieved party, as they feel cheated.

According to Maithya (2006), childbearing is both a biological and a cultural affair and that due to its biological nature; childbearing has health implications for both the mother and the child. Furthermore, biomedical and demographic negative effects related to reproduction are maternal age, marital status, and birth intervals (Bledsoe, Banja & Hill, 1998). According to Bledsoe, Banja and Hill (1998), the cultural construction of reproduction leads to depletion of bodily resources in a person. Therefore, the cultural meanings and people personal interpretations of behaviour and events related to childbearing may give more insights into the meaning of reproduction and well-being.

A study by Thiessen (1999) concludes that the notion of strength is closely related to gender, sexuality and reproduction. Based on the Akamba culture, the notion of *vinya* (strength) is linked with reproduction and marriage. Among the Kamba community, a man without strength is viewed as a person who is unable to fulfill his reproductive and sexual duties like being able to pregnant a woman or having daughters only. A man who has reached the marriage age must marry so that he can earn respect in the community and attain full adulthood. Moreover, not being able to marry after reaching marriage age may shows that a man has sexual complications such as being

infertile. Male gender identity is mainly understood in relation to one's sexual and reproductive strength. Infertility is the greatest misfortune, especially in African cultures, that a woman can experience. Kawango (1995) says that barrenness is a painful and humiliating state for which there is no source of comfort in traditional life. Women are affected more by infertility because they have few resources under their control as compared to men who have many resources under their control.

Boivin et al.(2007) conclude that the age of the mother is the main determinants of infertility. They acknowledge that for women below 26 years of age, cumulative conception rates is 60 per cent at six months and 85 per cent at a year of regular sex, but conception rates are more than halve by age 35. After 35 years there is a decrease in the number of eggs which ovulate as well as a decrease in the quality of eggs (Boivin et al., 2007). The study provides very insightful ideas and background. However, it is not true that age is the main factors influencing infertility. There are other numerous factors that make people to be vulnerable to infertility which needs to be explored. The current study put more emphasis on social–cultural beliefs and practices which explain infertility in Kisumu County.

Previous studies have used infertility as the inability to produce a biological child by White, middle-class women's problem (Chandra, Martinez, Mosher, Abma & Jones, 2005; Bell, 2009). This belief tends to be reinforced by the fact that most of these infertility research consists of clinic-based samples of high-income women, when in fact numerous studies indicate that low-income and poor women actually have higher rates of infertility (Chandra et al., 2005). Poverty status of an individual does not determine whether one is infertile or not. However, poverty impact negatively on women who may want to seek medical health when they have infertility problems

(Chandra et al., 2005). Therefore, wealthy women are able to get help when confronted with infertility while poor women cannot.

In a nutshell, infertility is surrounded by many socio-cultural beliefs and practices**.** In the same way socio-cultural beliefs and practices influence by the knowledge and attitude towards infertility. Masese (2011) observes that social construction of HIV/AIDS has resulted into various responses and perspectives from different communities. These perspectives and responses are mainly influenced by a person's knowledge and experience (Farmer, 1992). A person's knowledge and experience originate from the social, cultural and economic contexts which provide explanatory models on which any illness is interpreted, understood and managed (Farmer, 1992). Furthermore, Treichler (1998) noted that while it is important to understand the disease as medical problem, but it is equally important to understand its meaning and significance in different social and cultural contexts.

From the current research viewpoint, there are many incorrect beliefs related or associated with infertility. Due to the limited knowledge about childlessness there are aspects of cultures that are wrongly associated with infertility. For instance, some people believe that breaching of taboos and customs, dirty womb, watery warms (sperms), witchcraft and supernatural forces as the main causes of infertility. Such beliefs can be difficult to ascertain medically. Infertility is considered as the greatest misfortune in many African communities and it is especially bad for women. The infertile women experience more negative effects as compared with men. As such women could be blamed even if the man is the one who is infertile. A perception in majority of African communities that women are more likely to be infertile as compared to men is widespread. Because of this wrong notion, women bore the brunt or tag of infertility. This sub topic is closely related to objective three of the study

which examined socio-cultural beliefs and practices associated with infertility in Kisumu County.

2.9. Effects of Education on the Attitudes and Socio-Cultural Practices among Infertile Couples

Education is concerned with the development of personality. Here personality is regarded as an organized whole and all-inclusive, comprising the physical, mental, emotional and spiritual characteristics of a person (Ottaway, 2010). Educational status has a huge bearing on the knowledge, attitude and the level of socio-cultural beliefs and practices of the infertile couples. As previously stated being educated is especially important when one is dealing with fertility problem because of the need to understand what is happening medically to be able to make informed choices especially on type of coping strategy. The level of education may influence an individual choice in the utilization of health facilities as well as the understanding of the importance of seeking health care promptly.

Low educational status has been identified as a major barrier to the utilization of health care services especially reproduction health. Lack of education can also negatively affect ones comprehension of important information and the ability to make informed decisions including the awareness of their own rights. According to Aflakseir and Zarei (2013), high educational levels of both husband and wife have been observed to promote positive health seeking behaviours. In a previous study on an adult population among Kuwaiti women, respondents with low knowledge /educational background blamed their infertility on supernatural causes and practices, such as evil spirits, witchcraft, and God's retribution. However, the most educated

participants blamed infertility on nutritional, marital and psychosexual factors (Bunting & Boivin, 2013).

Knowledge about infertility is inadequate in many parts of the world. A global survey of almost 17,500 women (mostly of childbearing age) from ten countries revealed that knowledge regarding fertility and the biology of reproduction was poor. That infertile couples had more favourable attitudes than did fertile couples toward various interventions suggests that when couples are confronted with more information and personal necessity, their attitudes about infertility interventions become more positive (Nwobodo & Isah, 2011). It has been found that the level of education is also related to coping strategies. The most educated people were those who knew that it was possible to adopt a child in Cameroon and knew structures to go to.

Avidime et al. (2009), found that 77% had good attitudes towards adoption and that there was an association between the number of living children and the desire to adopt a child. The scholar also observed in his study that 42.6% of the patients wanted the option of adoption only if there was no solution to the infertility. Olandokun et al. (2009), in a similar study done in Nigeria found that 64% thought that adoption is culturally unacceptable. Whereas in a study done by Nwobodo et al. (2011), 71.6% of participants with infertility did not want to adopt because adoption of children did not permit them to fulfill their role of conception as women. Ezugwu et al. (2002), found that 69.3% of patients did not want adoption for fear of abnormal behavior from the adopted child, the past history of his parents, and mainly because according to them adoption was not a solution to the problem of infertility.

As reported by Serour (2008), infertility is not only a medical but also a social problem in Saudi society, as cultural customs and perceived religious dictums may

equate infertility with a failure on a personal, interpersonal, or social level. Women are verbally or physically abused in their own homes, deprived of their inheritance, sent back to their parents, or even have their marriage dissolved or terminated if they are unable to conceive. In Islamic law, polygamy is permissible; however, it is neither an allowance nor a prohibition in the Quran. The Quran has only referred to this practice, prompting the Muslims to take care of the orphans and widows in society. However, it cannot be denied that polygamy was an accepted norm of Arab society, where the wife, under normal circumstances, would not object to her husband taking another wife. In fact, evidence suggests that the number of wives was considered to be an indication of a person's high social standing.

Many women have little awareness of the time of the month at which they are most fertile and when to seek treatment. In addition to the low level of knowledge, there are a number of misconceptions regarding infertility all over the world. In Tanzania for instance, evil forces are often thought to be the cause of infertility. Kjellberg, Glebe and Sundelid, (2000) argue that these misconceptions and myths may eventually lead to practices ranging from the absurd post-coital exercise of standing on one's head to the unpleasant and dangerous traditional remedies of eating faeces and inducing vomiting in Tanzania. As Odek (2006) observes that for sex education to be effective there is need to include opportunities for young people to develop skills for healthy sexual life, as it can be hard for them to act on the basis of only having information (Bandura, 1992). The kinds of skills young people develop as part of sex education are linked to more general life skills. For example, being able to communicate, listen, negotiate, ask for and identify sources of help and advice, are useful life skills and can be applied in terms of sexual relationships. Effective sex education equips young people with the skills to be able to differentiate between accurate and inaccurate

information, discuss a range of moral and social issues and perspectives on sex and sexuality, including different cultural attitudes and sensitive issues like sexuality, abortion and contraception (Kirby, Barth, Leland & Fetro, 1991). In Luo community, traditionally, sex education was undertaken as part of the initiation process. It, however, began much earlier in the extended family and social structures of particular ethnic groups. Sex instruction does not often come from parents. In the presence of their children, they are expected to avoid any words, acts, or gestures of a sexual nature. Cultural norms may allow openness about sexual matters with a grandparent.

2.10. Coping Strategies among Infertile Persons

As a result of the pressure and burden of being infertile, people seek and follow different coping strategies in order to cope with the distress resulting from infertility experiences. Folkman and Lazarus (1984) identified eight specific coping strategies: confrontational coping, distancing, self-controlling, seeking social support, accepting responsibility, avoidance, plan problem-solving, and positive reappraisal, in addition to two more general categories – problem-focused and emotion-focused coping. Avoidance strategy is one of the common coping mechanism used by childless couples (Agha-yousefi et al, 2012; Hashim, Soliman & Mansour, 2012). However, Joshi, Singh and Bindu (2009) believe avoidance coping is a predictor of poor adjustment to infertility and tends to increase distress among couples.

Positive reappraisal coping strategy involves strategies for reframing an event to see it in a more positive light. How a person copes with stressful situations depends upon how it is interpreted with respect to the significance of the stressful situation for him or her (Lazarus, 1991). This has important implications for regulating emotions successfully. Positive reappraisal helps to generate positive effects which enable one

to effectively regulate negative emotional experiences. It is often taught and encouraged in cognitive behavioral therapy and assessed with coping measures. It has been associated with positive affect in stressful events and it involves values, which are very deeply held. These values are activated by stressful situations. Therefore, painful exhaustive and stressful experience of being a caregiver is reappraised as very worthwhile. This awareness also has motivational effect on subsequent care giving. Hence, these values may encourage and support efforts at care giving. For example, an infertile couple can cope with infertility by looking at it in a positive manner and not by merely analyzing its negative impacts. When an infertile person understands that his condition may have some positive implications his emotions will be regulated. For example, infertile couples may perceive that inability to contribute to conception is the will of God and this is fulfilling to them. In such a situation, the couple reframes the event and sees it positively.

Problem focused coping strategy refers to efforts which are aimed to solve problems which cause stress. It involves various skills of collecting information, decision-making, and planning as well as conflict resolution. These skills are used to solve the problems in an instrumental, situation specific and task-oriented manner (Lazarus & Folkman, 1984). It involves identifying particular goals that engage an individual attention. It requires giving up goals that are no longer tenable and to substitute them and pursue other goals which are tenable and realistic to achieve. Infertile couples should first determine the causes of their problem by gathering information, decision-making, and planning as well as conflict resolution. Such elaborate process assist couples in overcoming infertility related stress besides minimizing wastages of time and resources.

Distance coping strategy is a response which sometimes emerges in primary appraisal. Distancing or denial is somewhat controversial. Denial has been defined here as refusal to believe that the stressor exists or of trying to act as though the stressor is not real (Lazarus, 1991). Denial has often been suggested as useful in lessening distress among the ill. On the other hand, it can be argued that denial causes more problems unless the stressor can profitably be ignored. That is, denying the reality of the event makes it more critical hence causing the eventual coping more complicated. Another view is that denial is beneficial at initial phases of a stressful transaction, but hampers coping afterwards. When couples experiencing infertility do not want to acknowledge that they cannot contribute to conception, distancing coping may help them for a while in controlling and minimizing the effects of infertility. Nevertheless, this coping strategy can be more dangerous because infertility is a life issue and may posed difficulties in dealing with later in life.

The opposite of denial is acceptance. Accepting responsibility coping strategy is a type of coping whereby one's role in the problem is acknowledged while simultaneously trying to put things right. It is argued that acceptance is a practical coping response, whereby the person who accepts the reality of a stressful situation seems to be engaged in attempting to manage the situation. Acceptance takes the place of two features of the coping process. First, acceptance of a stressor as it really takes place in primary appraisal. Second, acceptance of ensuing absence of active coping strategies is associated with secondary appraisal. One might expect acceptance to be of essence especially in situations in which the stressor is something that must be adapted to, in contrary to situations in which the stressor can easily be manipulated (Lazarus, 1991). Accepting responsibility is an effective coping strategy for people faced with infertility problems. An infertile person who accepts and acknowledges

that infertility is real would be more willing and ready to look for other ways of dealing with the problem. This would enable the couples to accommodate and live with unexplained infertility.

Seeking social support is yet another coping strategy that can be regarded as pertinent to problem focused coping. People can seek social support for two major reasons, which differ in the extent to which they imply problem focus. First, is seeking social support for practical purposes which include seeking advice, help or information. This is problem focused coping. Second, is for emotional reasons for instance getting moral support, sympathy or understanding. This is an feature of emotion focused coping.

In practice, these two reasons often co-occur. That is to say that the tendency to look for emotional social support is a double-edged sword. It could be regarded as practical in many ways. In other words, someone who is made anxious by a stressful transaction can be reassured by getting this form of support. This strategy, hence, is capable of promoting a return to the problem focused coping. Alternatively, sources of sympathy may be used more as openings for one to ventilate of his/her feelings (Lazarus & Folkman, 1984). Infertile couples who seek social support from their families, and friends will easily cope with infertility problems because of the encouragement, sympathy, security and love they will get. However, majority of infertile people do not always share their problems, hence this coping strategy is not often used.

Cognitive avoidance coping strategy involves blocking or denying thoughts or feelings about the stressor. Avoidance coping may be a type of defense mechanism employed to protect oneself from the unpleasant emotions related to the stressor. The

reappraisal process also includes a defensive-type reappraisal, denying or detaching psychologically from the stressor and reframing the situation defensively as a non-threatening or even a desirable situation (Lazarus & Folkman, 1978). Other research has also demonstrated that avoidance coping is associated with fewer personal and environmental resources (Holahan & Moos, 1987). An infertile person may simply deny infertility problems and view it as a condition of no consequences to him or her. However, such denial does not change the inability condition of the couples.

Self-controlling coping strategy is engaging in efforts to regulate and control one's emotions and behaviours towards a specific stressful situation. Increased use of self-control is associated with reduced stress. Individuals using self-controlling strategies inhibit feelings and actions towards a stressor, focusing their attention on controlling their emotions and concealing the situation and their stress rather than managing and overcoming the problem, which increases their stress levels (Lazarus & Folkman, 1984). Infertile couples may try to minimize effects of infertility through control of their feelings and emotions. But, this method cannot last longer as they will have to deal with the real problem of infertility. In this method, infertile persons will not deal with the real issue of infertility but, they will concentrate more on controlling their feelings from the negative effects of infertility.

The confrontational coping strategy involves fighting back against difficulties of a stressful situation in life. During crises an individual can commit herself that the problem will not get better of her and that she will prevail. In confrontation coping, infertility patients acknowledge that there is a problem for which a solution must be found. The hallmark of confrontational style of coping is making the intense efforts to find the problem and to fix the problem and this can include going to the hospital for treatment. For instance, this may include everything from testing to drug therapy.

It is common for these kinds of patients to want to push the doctor at every meeting of the month to come up with the new plan of action. These patients can also do independent reading and may usually try to help in the plan of action. Confrontation such as taking positive action based on their understanding of infertility is more likely to make patients select fatalistic mechanisms such as consumption of untested medicinal concoctions to manage infertility.

The influence of social relationships on the ways in which individuals cope with life stressors in a variety of areas has been examined by researchers. Some reports investigated the extent to which people affected by infertility confided in and sought additional support from family members and friends. In particular, Batool et al. (2011) focuses on the coping strategies, personality trait and social support as the main social and psychological factors on infertility stress. The authors argue that infertility related stress has negative and significant relation with emotion-oriented coping method and perceived social support.

Homan, Davies and Norman (2007) investigated the influence of perception of social support, privacy preference and level of depression on marital adjustment by couples accessing infertility treatment. Their study findings indicated that when using couples scores, perception of social support from significant other and privacy reference for solitude explained a significant amount of the variance in couple marital adjustment. When using husbands and wives scores, perception of social support from significant other and privacy preference for solitude contributed significantly to the explained variance in couples. Perception of social support from significant other was significant contributors to the explained variance. The authors further argue that social support provided by friends serves to provide a referral to evaluate one's own health and social role, thus, protecting against negative self-evaluation. This support

then acts as a buffer in that it allows the recipient to gauge and appraise him or herself positively. However, the authors argue that social support provided to infertile individuals may exacerbate rather than alleviate infertility related stress. The main strength of the study is the inclusion of privacy preference and exploratory-based analysis of marital adjustment in the face of infertility. The study considered qualitative approach, which clearly brings out the lived experiences of couples suffering from infertility. These previous studies have contributed, largely, to the understanding of the coping mechanism available for dealing with infertility related stress. The current study has benefitted from those previous studies by domesticating relevant aspects of the same. Further, the current study has made effort to fill the gaps exposed in the previous studies.

Ultimately what heals is the acceptance of the self with all of its weaknesses and failures. The goal, then, is to reach a point where you can accept what you see as failure and no longer have to conceal these feelings of shame. The process of coming to terms with infertility is long and gradual, but it is possible to transform the sense of failure into an empathy with yourself, an affirmation of your strength, an acceptance of your limits, a pride in your endurance, and maybe most of all, an empathy with others who, as partners in the human condition, also face defeats. In time, the shadow cast upon your life can fade and the light can shine through again (Jordan & Revenson, 1999).

2.10.1. Consequences of infertility

Having considered the meaning and the types of coping strategies, is it reasonable to look at how the social, psychological and economic consequences of infertility influence various coping strategies. Since ancient times, marriage has remained central in traditional African setting. Its absence means an insult to both the man and

woman and further threatens the acuity of masculinity and femininity besides causing psychological stress (Audu et al., 2013). As a result of the unanticipated nature of involuntary childlessness, conception failure is normally perceived as a loss of a primary life goal. In the face of such a loss of a primary life goal, childlessness brings about negative attitude from the unsupportive community members. Further, lack of education hinders couples from accessing other readily available coping options. As a result of negative attitude from the families and the communities, the affected couples' reactions include denial, anger, isolation, guilt and depression (Audu et al., 2013). More and more infertility studies emphasize much premium placed on children in traditional African setting (Hsu & Kuo, 2002), experiences of involuntary childlessness in both men and women further lay an enormous burden on the marital relationship.

A closer look at the literature disclosed that the nature and severity of the consequences of infertility differs between developing and developed countries. Although effects vary depending on multiple factors, the consequences appear greater in the developing world (Bruce, 2009). In general, few health conditions affect a person's well-being more profoundly or pervasively than infertility in developing countries where the private agony of infertility is transformed into a harsh public stigma with devastating consequences.

Given the current debate on the consequences of infertility, it is vital to have a look at Klementi et al. (2010) studies conducted in Sweden and entitled *"Infertility, Mental Disorders and Well-Being: A Nationwide Survey"*. They specifically examined mental disorders, depression, psychological distress, perceived health and quality of life among women and men who have experienced infertility. The study reported that both women and men reported having experienced infertility. In addition, it showed

that childless women exhibited increased adjusted risks for anxiety disorders. On the other hand, childless men showed signs of poorer quality life as compared to men without infertility. The authors strongly affirmed that infertility led to mental instability especially dysthymia and anxiety. Being a cross-sectional study, the study was vulnerable to bias brought about by non-response by a segment of the society. Besides that, the study omitted views of people that had not experienced infertility yet their attitude affects the health of those experiencing childbearing problems hence influencing their coping too. Equally significant finding is that "Couples suffering from infertility exhibit stigmatization" (Jegede & Fayemiwo, 2010, p.116). Schmidt, Christensen, and Holstein (2005) add that in Sudan, children are a source of pride for a woman hence infertility threatens this power. Having said that, children connect the society to its ancestors besides playing a vital role in subsistence production. VanBalen and Gerrits (2001) believe that individuals perceived to be experiencing failed childbearing process are inferior and labeled as an unproductive. Daniluk (1997) sums it up that a woman who is infertile suffers from the loss of not being able to conceive a child and also the loss of a meaningful relationship with close friends who tends to have negative attitude towards her. Certainly, any infertility care, curative and preventive measures must be anchored on such severe consequences of infertility.

There seems to be compelling reasons to confirm that social stigma due to infertility is especially common across South Asia. For example, in Andhra Pradesh, India, 70% of women experiencing infertility reported physical violence and punishment. In this work and in related references, it has been observed that women are verbally or physically abused in their own homes, deprived of their inheritance, sent back to their parents, or even have their marriage dissolved or terminated if they are unable to

conceive (Serour, 2008). Interestingly, even Islamic countries like Saudia Arabia acknowledge the fact that infertility is not only a medical but a social problem, as cultural customs and perceived religious dictums may equate infertility with a failure on a personal, interpersonal, or social level.

Earlier, A South African study reported that 43% of women felt that their inability to conceive had serious negative effects on their lives, particularly their sexual relations (Edwards, 2000). Similarly, fertility-problem stress was found to have a stronger negative impact on a woman's sense of sexual identity and self-efficacy than on a man's (Andrews, Abbey & Halman, 1991). In contrast, another study found that although couples were generally satisfied with their sexual relationship. However, at advanced-stage (assessed by the duration of infertility) patients experienced lower levels of sexual satisfaction than either early- or intermediate-stage patients (Berg & Wilson, 1991).

Not long ago, Hollos, Larsen, Obono and Whitehouse (2009) study examined how socio-economic contexts of infertility and how the prevalence of infertility affects community. Their interdisciplinary study included 100 infertile women and a matching sample of 100 infertile women. They adopted in-depth ethnographic interviews with infertile and fertile women in two communities. The study disclosed that infertile women in Ijo society are not only disadvantaged economically but also are prevented from attaining full adult womanhood.

A study on female infertility in Tanzania found that women experience many grave hardships and serious social consequences because of infertility (Evens, 2004). In this setting marriage is considered an exchange of productive and reproductive capacities between a woman and her husband's family. The main aim of marriage is

reproduction and an infertile woman is considered a loss in both reproductive and economic terms. Both men and women greatly desire children and no one chooses a life without them (Van den Akker, 2007). A large family is needed because infant mortality is high and life spans are limited due to lack of health care. Children also provide economically for their parents in old age and improve their parent's status in the domestic hierarchy. Consequences of infertility (in this setting include diminished identity and status, stigmatization, and even ostracization (Evens, 2004). Infertility can engender spousal neglect and a withdrawal of economic support; it almost always signals the end of marriage through divorce or abandonment. If the marriage is not ended a husband will often take an additional wife in the hopes of proving his fertility and producing children. Other consequences include unpleasant or dangerous traditional remedies undertaken in the hopes of curing infertility such as eating faeces and inducing vomiting (Evens, 2004). In view of these above debate, much of the evidence are indicators that infertility is not only biomedical condition but is also a public health condition.

Previously, while studying the experiences of infertility among married Kenyan women, Kamau (2011) revealed that infertility has negative social, emotional, psychological, financial and political consequences on the lives of married Kenyans. In his qualitative inquiry, the author adoped the phenomenological tradition to gain an understanding of the experiences of infertility among married Kenyan women in Nairobi. However, his work focused more on the reliance of responses from women yet men are also affected by the problem. The current study targets both men and women in order to avoid biases that may be brought about by the gender differences in experiences and knowledge.

With regard to the studies on the male suffering from infertility, one study showed that infertile men expressed more negative emotional responses. Similarly, a number of men felt stigmatised, isolated and ignored (Fuentes and Devoto, 1994). This study also reported that regardless of the presence or absence of diagnosis of female infertility, women were obvious victims of blame. In contrast, individuals with diagnosed male infertility reported greater sexual concern than those with either idiopathic or female infertility (Lampic, Skoog, Scanberg, Karlstrom & Tayden, 2006). However, the study never captured any strong association between gender issues and infertility diagnosis.

Available evidence suggests that culture shapes people's thinking, understanding, practices and attitudes towards infertility. Ernestina (2008) argued that childless women may encounter a gamut of unfavourable treatments from their society. The author gives the example of a barren woman risks being expelled from the house either by the husband himself or by the husband's family. Ordinarily, her husband could be encouraged to marry another wife. In some cases, childless women have reportedly been excluded from some important activities and celebrations (Ocholla-Ayayo, 1976). Other writers like Nukunya (2003) support the view that children are of such importance that in traditional society, the inability to bear children is considered a great tragedy, and the woman who fails to bear children suffers humiliation and sometimes ridicule or abuse. Attempt to manage infertility must put into consideration social and psychological consequences.

It is important to note that the pressures to marry and raise a family can be enormous to the extent that women who are unable to do have children can feel as though something must be deeply wrong with them or sorely lacking in their lives (Baby Centre, 1995-2015). On the contrary, men are not pressured in the same way to

become fathers. At the same time, many men are brought up to repress their feelings or at least keep them to themselves for fear of being mocked. A man may be feeling similar frustration and disappointment as his partner yet he would not show it. This kind of situation affects one's decision to access care and treatment.

Gerhard et al. (2014) pointed out that in a situation where a man is confirmed to be responsible for failed reproduction, such a man loses respect and becomes a sense of humour. Suddenly his life, which may have been well-planned and successful, seems out-of-control. Not only is his physical body not responding as expected but it feels as if his entire life is on hold. Consequently, infertility has a strong impact on self-esteem. Over time, facing the disappointment of childlessness month after month can lead to depression for both the male and the female (MacCarthy et al., 2012).

With regard to psychological consequences of infertility, several examples are evidenced. For instance, childlessness leads to searing shame, painful feeling associated with faltering self-esteem and a sense of inadequacy, defectiveness and helplessness (Pinpawun, 2006). As repeated attempts to get pregnant come to naught, a realization that this intensely strived for goal has not been, and may never be, attained sets in. As this failure becomes more and more evident, one's self-image is assaulted. It is easy to keep remembering failed attempts or procedures then progressed to a complete feeling of failure. At the same time anguish, self-doubt, and chronic sadness converge as couples come to think of themselves as failing, not only in realizing their own dream to reproduce and nurture, but failing their spouse, parents, and siblings as well (Pinpawun, 2006). Undoubtedly, shame embodies the painful sense of self-defect and it is often hidden and disguised, even from oneself.

In the final analysis the tragic story of chronic infertility is that, over a period of time, the sense of failure gradually and imperceptibly spreads like a shadow over a person's experience, while simultaneously the sense of other competencies gradually becomes obscured (Schmidt, 2010). The evidence presented has shown that infertility generates numerous consequences in the infertile people as well as in the community in general. Hence the strength of the discussion of such consequences is that they can be used to inform various coping strategies towards infertility.

2.10.2. Use of the New Reproductive Technologies (NRTs)

Building on the idea that any attempt to address infertility must be driven by numerous consequences of childlesseness, the next paragraphs focus on the specfic coping strategies. One of the means of overcoming the infertility problem is the New Reproductive Technologies (NRTs). Recently, NRTs has become a widespread means of contribution to conception around the world since the birth of world's first test-tube baby (Louise Brown in 1978 Inhorn and van Balen, 2002). This technique is found world-wide, including the petro-rich Arab countries and North African countries. NRTs has brought 'new freedom' by preventing unwanted pregnancy and the birth of 'undesired' ('wrong sex', 'unhealthy') children through prenatal diagnosis technologies (Dewett & Jones, 2001). Moreover, it has given the possibility of motherhood to infertile women and single lesbian women through artificial insemination or IVF. However, NRTs has also created a 'new dependency' on technologies and service providers. Besides being expensive, they it has side effects on a segment of women's health. In the most of the world, access to NRTs is determined by people's economic status. For example, the elites in Egypt who are

able to access NRTs are able to bear test-tube babies while the infertile poor people did not access its services (Inhorn, 2003).

Equally important is the gestational surrogacy which happens when both the commissioning mother and father use their own gametes (usually) and the genetically related embryo is transferred into the surrogate mother via IVF. Subsequently in genetic surrogacy, the baby is genetically related to the surrogate mother and intended father (Poote et al. 2009; Saito and Matsuo, 2009; Bruce-Hickman et al, 2009). Recently, Iran is an Islamic country in which practice of gestational surrogacy has attracted the attention of many infertile married couples as a solution to infertility. This has been common amongst the majority of Shiite (one of the main branches of Islam the majority of Iranians are Shiite) (Aramesh, 2009). It is important to note that in Iran, there are at least 50 IVF clinics. For that reason this is one of the highest numbers of clinics found within an Islamic country in the Middle East. The number of infertility clinics in Iran is only comparable to Egypt. Surprisingly, Iran is the only Muslim country that uses assisted reproductive technologies such as IVF using donor gametes, embryos and surrogates having been legitimized by religious authorities and passed into law by the parliament (Abbasi- Shavazi et al, 2008).

Nevertheless, these technologies have their own set of specificities and implications in Islamic countries such as Iran, since most of these countries have their own traditional socio-cultural values. Further, different aspects of such technologies lead to many serious socio-cultural, ethical and religious problems especially amongst Muslims (Aramesh 2009). In general, some different issues like procedures available, money matters, time, stigma, appropriateness, assessment/quality control and genetic link considerations affects the popularity of ARTs (Van den Akker 2007). Van den Akker

(2007) suggested that the response of fertile population towards ARTs appears to be mute until they refine their definition of parenthood as genetic, gestational or social also. Therefore, the viewpoint of fertile women about traditional and non-traditional parenthood is likely to differ from those of infertile women.

It is important however not to overemphasize the strengths of ARTs in some places since some infertile women as compared to the fertile women dissent and doubt the ownership of their babies. This may be due to their lack of biological relatedness to the child. Interestingly, the result of a study done in UK revealed that 75% of women who used their own egg and their partner spermatozoa, through IVF, believed that biological link was important and only 31% of women who use surrogate egg said the biological link is important (van 2000). In contrast, in Iran regardless of the importance of biological links between child and their parent, in a cultural and religious manner woman's own pregnancy is essential.

In recent times, Assisted Reproductive Technologies has exhhibited some little success in Nigeria. Until now it faces challenges that include dilapidated medical infrastructure and poverty in rural areas (Adedeji, 2011). Evidently, the rural women are poor and cannot afford the high cost and the challenges that go with modern interventions in developing countries (Inhorn, 2003). For example, in Nigeria, one cycle of In Vitro Fertilization (IVF) is estimated to cost between US $2,000 and U.S. $ 2,700, but the minimum wage in Nigeria is typically no more than U.S. $720 a year (Giwa-Osagie, 2002). Two cases of successful Intracytoplasmic Sperm Injection (ICSI) was reported from a private IVF clinic in Lagos, Nigeria (Ajayi, Parsons & Bolton, 2003). However, the number of people accessing IVF has since gone up.

In this work and in related references, Kenya seems to be showing noticeable improvement in the development of interventions offered to couples having fertility problems. However, treatment for infertility is marked by genetic link questions among family members, societal stigma, perceived normative perceptions of parenthood and negative attitude (Van den Akker, 2007). Coupled with that, the use of modern reproductive services is often expensive and may be rejected by the community members who fail to understand or accept a child who is biologically different. Earlier on, in the first 2 years of its introduction, the IVF based treatment cost more than KSh300, 000 per every administration (Muhoro, 2012). Such high cost of IVF treatment is likely to lead to isolation of the couples suffering from infertility at large (Meyers, et al., 1999).

In addition, IVF progress has been followed by criticism and debate concerning the moral and ethical issues involved in the use of it. As early as 1951, infertility IVF interventions were at the centre of the debate (Halman et al., 1992).

In Mombasa, Kenya, an IVF centre was created in 1995, and nearly 50 patients had attended by early 2003, according to an obstetrician/gynaecologist from Mombasa's Coast General Hospital. At a regional obstetrical conference, it is reported that 19 of the patients seen at the IVF centre had conceived with the help of simple ovarian stimulation, and two babies have been born using IVF (Kibwana, 2003). Certainly, the practice of surrogacy, which is a situation where one woman bears a child for another woman, also faces social and ethical dilemmas in the field of infertility treatments (Jadva et al., 2003). Nonetheless, the introduction of IVF technology and surrogacy in Kenya has enhanced possibility of reducing childlessness among couples.

2.10.3. Child Fostering

Whilst the discussions of the preceding paragraphs focused on the IVF technology and surrogacy as strategies for coping with infertility, the next paragraph introspect the role of child fostering in addressing childlessness. Having said that, it is important to note that in some parts of the world, infertile couples resort to foster care initiative to make up for the failed reproduction. Foster care initiative is a situation whereby a biological parent or a legal guardian is not interested in caring for the child. Such a child is declared dependent and can be placed in foster family home, foster home of a relative, group home, emergency shelter, residential facility, child care institution or pre-adoptive home (van den Akker, 2005).

This initiative is being practiced particularly by the urban based population as an alternative strategy in the management of infertility aimed at bringing succor to the affected couples. Child fostering as one of the coping mechanism had gained wider acceptance in developed countries even before the era of reproductive technologies (van den Akker, 2005). However, it is in contrast with the initiative undertaken by many ethnic groups in Anglophone Africa countries. In these regions, many ethnic groups cope with infertility through surrogate fatherhood or a situation whereby a woman whose husband is considered infertile is allowed to have intercourse with her husband's brother or another close relation in an attempt to become pregnant (Evens, 2004). Such a coping strategy is not discussed openly and any resulting child is raised by the woman and her infertile husband as their own child.

The counter debate is that this process is similar to the modern medical treatment for infertility known as donor insemination. Donor sperm insemination is a situation where a sperm from a person besides a woman's husband or partner is placed inside a women's cervix in attempts to achieve pregnancy. Despite that sperm donor

insemination is still very rare in developing countries. Similarly, in some African cultures, an infertile woman "marries" a younger wife to bear children for her husband when she is unable to do so (Aramesh, 2009).

Child fostering is a common institution throughout developing countries, where up to 25 percent of children are fostered (Greil et al., 2010). Many cultural beliefs hold that children belong to the common property of the lineage or community. Odek , Masinde and Egessah (2014) rightly observe that child fostering is widely practiced in Gambia and other West African countries because of several reasons. First, though not widespread, adoption and child foster care has proved to be an alternative parenthood initiative. Second, foster care solves two problems at once, not only does it address infertility among couples but it also proves handy for the children who would have lived their childhood years without parental love or care (Odek et al., 2014). Third, despite the fact that foster care children are a valuable source of labour, they cannot be compared to biological children in terms of social status, emotional satisfaction, or old age security.

In fostering, the child's position within the genealogy of its birth kin remains unchanged while child often also becomes part of its foster family's kin relationship. Studies have shown that child fostering couples adopt griefless strategy and also have better emotional support compared with their childless peers (van den Akker, 2005). Perhaps this may be attributed to temporary consolation brought about the presence of an alternative child (Oladokun et al., 2009).

In recent times, many couples with incurable infertility in advanced countries have opted for child adoption. However, the concerns of many infertile couples that usually constitute a barrier to this infertility management option include fear of disloyalty by

the child and future claim by the biological parents, lack of genetic linkage with the child and religious reasons (Oladokun et al., 2009). Besides, this coping strategy has been limited by the few babies available for adoption because of the high rate of contraceptive use and liberalized abortion laws (Serour, 2008). In African countries, cultural and communal acceptability appears to have strong influence on people's attitude towards child adoption. This has reduced made the procedures less tortuous may ease the process. In one study in Nigeria, it was disclosed that many infertile couples were more reluctant and wary of choosing child adoption as a way of resolving their infertility and associated challenges because of cultural factors (Okonofua et al., 1997). In southern Chad, Leonard (2002) did a research that aimed at exploring infertility-related health-seeking behaviour. He found that people used different ways to address failed reproduction processes. Majority in rural areas prefered the use of herbal medicine to cure childlessness because they consider adoption as an act that is less valuable and incomparable with biological parenthood. Similarly, adopted sons and daughters do not address community's parenthood since they do not ensure biological generational continuity of the community (Aseffa, 2011).

Ali and Sami (2007) investigated adoption practices among couples with secondary infertility in Karachi using a triangulation study design. Specific objectives of the study were to explore the perceptions and experiences of couples with secondary infertility regarding adoption practices, to estimate the prevalence of adoption among couples with secondary infertility and to find out the adopted child preference pattern. From the study, it was clear that child adoption was viewed as the last resort for most infertile couples. Child adoption was viewed as a "*Totka*", (a term used to refer to ability to have own child at one time after early adoption of one or many children)

(Ali & Sami, 2007). The researcher found out that main the decision makers for adoption of a child are the husband and the mother-in-law. Although most of the women received support from their husbands, their in-laws and relatives were reluctant to pursue this child adoption as an option. Ali and Sami (2007) concluded that sometimes couples may consider adoption after prolonged duration of secondary infertility. The study recommended counseling for both the couples and the in -laws. However, the study faced selection bias as it relied on the respondents from the hospitals only, hence excluding potentially rich data from those not in the hospital but experience infertility.

The current study has deliberately included vital segment of the key informants from the community to ensure rich data. Again, lessons can be learnt from others to institute post-adoption care as part of the whole adoption process. Aniebue and Aniebue (2008), suggest a rethink and a review of socio-cultural beliefs and practices that hinder adoption of new technology as means of coping with infertility. Specifically, putting in place measures like public awareness, advocacy, community mobilization and enactment of supportive laws will help in promoting acceptability of child adoption. The present study sought to find out whether or not strategies such as child fostering is a viable option for the childless in Kisumu County.

2.10.4. Traditional Medicine for Managing Infertility

The concept of traditional medicine (TM) is usually loosely applied to a variety of diverse activities which sometimes may not be acknowledged among indigenous practitioners, and their clients. It frequently refers to medical knowledge developed by indigenous cultures that incorporates plant, animal and mineral-based medicines,

spiritual therapies and manual techniques designed to treat illness or maintain wellbeing (Abbott, 2014).

According to Randall (2014), the term denotes the indigenous health traditions of the world and complementary and alternative medicine (T/CAM). Further, it encompasses health based practices, methods/approaches and knowledge as well as beliefs incorporating plant, animal and mineral based medicines. Similarly, it also includes spiritual therapies, manual techniques, and exercises, applied either singularly or in combination with the aim of treating diagnosing and preventing illnesses or maintaining well-being (Abbott, 2014). World Health Organization adds that TM is about the overall knowledge, skill and practices based on the theories, beliefs, and experiences indigenous to different cultures for maintenance of health, as well as in the prevention, diagnosis, improvement or treatment of physical and mental illnesses (WHO, 2011).

The Report of the Royal Commission on Aboriginal Peoples (1996) brings in a new dimension by viewing TM as Practices designed and established to enhance mental, physical and spiritual well-being based on ancient beliefs which go back to the time before the spread of western 'scientific' bio-medicine (RCAP, 1996, p. 348). According to RCAP, TM "include a wide range of activities, from physical cures using herbal medicines and other remedies, to the promotion of psychological and spiritual well-being using ceremony, counseling and the accumulated wisdom of elders" (RCAP, 1996, p. 348).

Interestingly, traditional medicine has different faces which are highly specialized namely believe in the efficacy of herbal drugs, spiritualists, healers, traditional birth attendants, medicine men/women and other forms of complementary and alternative

medicine (Thomas, Vandebroek, Sanca & Van Damme, 2009). Unlike Modern medicine, TM have the benefit of substantial and stronger cultural associations, hence can provide evidence of safety and efficacy and result in TM being more readily accepted by some populations (Abbott, 2014). Consequently, it is worth noting that TM tends to be practiced outside of allopathic medicine (also known as biomedicine, conventional or Western medicine), which is the dominant system of medicine in the developed world. In many cultures, TM functions as a comprehensive system of health care refined over hundreds or even thousands of years (Abbott, 2014). The popularity of TM has been mainly due to the long historical and cultural reasons.

Today, TM is used in virtually all regions of the world especially as primary or complementary sources of health care. In the developed world, adaptations of traditional medicine are commonly referred as Complementary or Alternative medicine. For instance In Europe, North America and other industrialized regions, more than a half of the population have adopted complementary or alternative medicine at least once. The use of TM seems more widespread in developing world. It is estimated by the World Medicines Situation that between 70% and 95% of the population in developing countries use TM and that every country in the world uses it in 'some capacity' (WHO, 2011, p. 3). In Africa, up to 80% of the population uses traditional medicine for primary health care.

Many Kenyans including rural and urban, illiterate and literate, spanning myriad ethnic and religious affiliations, use TM at one time or the other (Sindiga, Nyaigotti-Chacha & Kanunah, 1995). For most of the rural Kenyans, modern health care is both inaccessible and unavailable, and hence use TM as a matter of course. A research conducted some two decades ago found that 17% of 2.6 million people sought non-

licensed, non-institutional treatment in traditional medicine, obtained it from traditional healers (Good, 1980). The figure may be much larger as people are unwilling to admit openly that they consult with traditional healers. Good (1980) found that in the sprawling Mathare slum of Nairobi, there was one healer to a population of 847. This is relatively high patronage. Kenya's Quest for a healthy population has prompted a reorientation towards the primary health care approach which has incorporated TM and its practitioners in official health care delivery (Sindiga et al., 1995).

Holistic approaches to infertility management such as Traditional Chinese Medicine (TCM) might address some of the needs of the couples experiencing infertility not met in the Western Medical approach. Traditional Chinese medicine treatment encompasses herbal medicines, acupuncture and lifestyle counseling based on the individual's underlying traditional Chinese medicine pattern diagnosis using tools such as pulse, tongue, general physical and emotional wellbeing, and menstrual history. In Traditional Chinese medicine, different conditions such as idiopathic infertility, polycystic ovaries, recurrent miscarriage or unexplained stillbirth, may have similar underlying traditional Chinese medicine pattern (Kidney Yin Deficiency Heat), and treatment would therefore be approached with similar therapies (Tremayne, 2001).

A study done by Bardaweel, Shehadeh, Suaifan and Kilani (2013) found among 1,031 Jordanian individuals struggling with infertility, 45% used spiritual healing and herbal medicine in addition to mainstream medical interventions. The use of complementary medicine is common in developing countries including Jordan and may be associated with strong religious beliefs. The Kenyan situation is not any much different, and

many communities especially from the poor rural areas still rely on herbal remedies. In addition, many Kenyans believe in the potency of herbal medicine, even when they can access modern medicine. In many cases they would choose to combine both herbal and modern medicine, especially if they are afflicted with chronic ailments such as HIV/AIDS, hypertension, infertility, cancer and diabetes (Nagata, Jew, Kimeu, Salmen, Bukusi & Cohen, 2011).

Every cultural group handles its medical problems in a relatively unique manner. The handling largely depends on the group's cosmological views, value system, beliefs and practices as well as institutions that have developed over the years to cater for different diseases and illnesses. Furthermore, each culture has a unique understanding of illness and disease causation, peculiar medical semantics and classification and variety of practitioners. These attitudes are however not static but dynamic hence people's beliefs and response to disease and illness change over time. According to the Luo custom, failure to have children is believed to be the fault of the bride. In this regard, several measures were proposed to address the situation. One, a bride that was not able to have children was divorced or replaced by another wife. Second, the elders could asign a brother of the man to contribute to conception in his brother's household. This meant that a person who was contracted to contribute to conception had to be involved in sexual intercourse with infertile man's wife. Children born from such arrangement belonged to the barren man (Kamau, 2011). Third, frequent sex was proposed as away of addressing infertility. If conception takes place due to frequent sex, the man was motivated to continue with sex as frequent sex ensured a strong baby besides nourishing the foetus too. With this in mind, it must be noted that a person who contributed to conception in his brother's household was not viewed as a prostitute. On the contrary, Kimani (2004) asserted that the term prostitution is

viewed by Luo community as a social construct and thus depended on the interpretation of the various clans within Kisumu County.

Africans, argues Aguwa (1995), uphold the naturalistic and super naturalistic views concerning disease and that diseases are dichotomized into those that require the attention of biomedicine and those that can be handled by traditional medicine. That being said, the concept of health encompasses all aspects that contribute to preventive and curative care. Health is not the absence of disease or infirmity, but a state of complete physical, mental and social well-being (WHO, 2008). With regard to the above WHO definition of health, Meade et al. (1989:89) add that health is a dynamic quality continually changing to cope with and adapt to social and physical environments. The definitions blend support to the bio-psychosocial perspective that ensures eclectic approach to understanding health issues in Kisumu County.

The Luo have preventive, adaptive and curative strategies to cope with ill-health, drawing from their culture and the ecological environment. To them, people's behavior and interpersonal relationships are directly linked with their health status. They have regulations governing all aspects of behavior including married life, pregnancy and social relations. Any violations of the above have specific health implications requiring certain remedies. Infertility among the Luo community by and large is seen as being human induced rather than inherited. This point is sustained by the argument that, among the Luos, herbal medicine is the first line of therapy taken to remove the impurities from the womb and cure bad wind *(yamo)* causing illnesses in the womb. If the condition persists, a diviner (*Jakoro*) is consulted to decipher the cause. He uses paraphernalia such as cowrie shells (*gagi*) and other things as gourd (*puga*) to reveal the causes. The therapy involves the ritual of untying (*gonyo*) of the

charm that tied the womb through sacrifices and other ritual manipulations accompanied by herbal medicines and sometimes ash (*buru*) from some concoction with the power to ward off evil.

There seems to be adequate compelling reasons to argue that among the Luo community most diseases and ailments are perceived within the framework of cultural background. The diseases are explained in terms of human agency through ancestral spirits and from breaching taboos and customs. Subsequently, among the Luo community, biomedical therapy is usually embraced for only acute symptoms and natural diseases. Traditional medicine is consulted to deal with underlying causes of human agency, ancestral spirits, evil spirits or breaching of taboos. Infertility and sub-fertility health problems are treated using traditional medicine. Therapies for these ailments range from herbal medicine to rituals done to undo the harm, appease the ancestors or cleanse a person whose womb is dirty. Undoubtedly, coping strategies is shaped by knowledge and attitude embedded in the socio-cultural beliefs and practices about child bearing.

In summary, the type of coping strategies adopted by an individual, couple or community depends on consequences of infertility, the level of knowledge, attitude and socio-cultural practices associated with infertility.

2.11. Theoretical Framework

Having considered literature review, it is therefore reasonable to look at the three theories which are developed to describe, explain, predict or change (manage) behaviour or reproduction processes in this study. The objective of life crisis theory, bio-psychosocial theory and symbolic interaction theory is to improve the

understanding of the previous conditions that led to infertility thought, behaviour, interaction, or phenomenon. Specifically, the three theories are helpful in terms of giving in-depth understanding to the psychosocial aspects childlessness in Kisumu County. In this study, the three related theories were used to guide the study.

2.11.1. Life Crisis Theory

Menning (1977) as cited in Schlossberg, Waters, and Goodman, (1995) proposed the life crisis theory of infertility similar to the grief model used with dying patients and their families. He believed in his life-crisis theory that life crisis was as a major negative social setback. Proponents of this theory believe that infertility can increase anxiety and stress and negatively affect life coping skills of a woman (Schlossberg, Waters & Goodman, 1995).

The term "*life crisis*" refers to the occurrence of something unexpected that negatively affects the recipient. Sremac (2013) suggests that a crisis can be understood as a state of disorganization and disequilibrium for which a person does not have adequate coping skills. On the other hand, Ganzevoort (1998, p.261) defines crisis "as a mental disturbance due to the appraisal of events as too demanding and resources as too limited (p.261). That said, Sremac (2013) adds that in as much as stressful periods, as painful as they may be, do represent a crossroads, a point at which the individual may have to choose among paths that lead to very different directions. Moreover, Schlossberg, Waters, and Goodman (1995) contend that a crisis may be because of the lack of an expected transition to childbearing, otherwise known as "nonevent".

As can be seen in the Luo community, many persons who are infertile have often made decision to have children, only to find that they are unable to do so. In view of

that, inability to achieve the presumably obvious parenthood and to fulfill personal and societal goals, is thus associated with long term agony, regrets, pain, suicidal tendencies and consequently with a life crisis. Studies by Battrerman (1985), Blenner (1985) and Rosenthal (1998) observed that the effect that infertility has on an individual depends on his or her type of personality, coping style and motivations for children. Menning (1977) argued that helping professionals to use crisis intervention techniques and grief or loss interventions when working with couples who are infertile ensures quality care. On the other hand, other authors have suggested that the initial crisis often escalates into a chronic condition and requires additional long term interventions (Wilson, 1991; Forest & Gilbert, 1992; Ganzevoort, 1998). The crisis is associated with severe emotional distress, or state of disequilibrium encountered by individuals or couples.

Life crisis theory suffers from several weaknesses. For instance, scholars argue that it is more of an exageration than a reality (Galambos, Barker, & Krahn, 2006). Besides, the theory lacks a universal mechanism for crisis resolution. The other weakness is that although crisis progress through three such stages: disorganization at onset, working through, and integration, the variables involved in each of these stages are not specified. For instance, it is not clear the point at which say for instance infertility denial turn toward openness or suggestibility, or reduced defensiveness. In reality, the intervention and helping process tend to vary according to the state of the crisis along these dimensions.

Notwithstanding such criticisms, this theory serves as an appropriate framework for understanding the dynamics of infertility, its effects on individuals and in couples. In the context of this study, infertility can be considered a major life crisis to couples

especially women. One of the major assumptions of life crisis theory is that it has some identifiable or unique beginning which is often triggered by some event which may be so devastating consequently developing into a crisis. For instance, infertile couples perceive the inability to conceive to be one of the most upsetting life events and may exhibit depressive reactions such as hopelessness, despair, feelings of failure and reduced self-esteem.

In Kisumu County, inability to conceive often leads to a feeling of inadequacy and incompleteness to individuals. Under those circumstances, some couples blamed their parents for bringing them into this world as incomplete beings hence becoming objects pity and redicule. A feeling of crisis was brought by inability to understand what was going on in ones body or body parts that led to childlessness. Some couples in Kisumu felt that nature was unfair to them and that is why they cannot do natural things like concieving and delivering children like other people in the community. In fact, the feeling of lost dreams of concieving and having children made some couples to mourn and live in regret. The levels of anxiety and depression are more likely to be higher among couples with low levels of knowledge about the cause of infertility compared to those with good knowledge. The suffering and experiences of the infertile can be made worse in the community set up where most people have negative attitudes towards infertility in general.

2.11.2. Bio-Psychosocial Theory of Infertility

Infertility may lead to stress, a view supported by Pasch and Dunkel Schetter (1997) who assert that infertility alters a couple's expectations. Besides that, Gove and Carpenter (1982) postulates that biological, psychological and social factors interact in complex ways to create health disorder. On that note, bio-psychosocial perspective

attempts to explain human behaviour in a way that addresses the interaction of biological, psychological and social factors. It views infertility as an acute life crisis which has long-term complications for the individual, his or her partner, their relationship, family and friends. This notion is reinforced by the important role played by children in connecting the community with the ancestors. Schmidt (2010) asserts that children provide existential meaning, identity and status; they grant parents the traditional means of participating in the continuity of family, a culture and the human race. The ability to have a child is linked to cultural and social belief about identity. Additionally, inability to conceive or carry a child to term may affect an individual's views of feminity (Carmeli & Birenbaum-Carmeli, 1994).

Individuals diagnosed with infertility frequently feel defective, unattractive and unacceptable to others (Battreman, 1995; Valentine, 1996). Also, Greil (1998) advances that failure to conceive creates doubts for the individual about competencies in other roles such as parenting and marital relationship. Ferber, (1995) and Valentine (1996), likewise, are of the opinion that infertility revives insecurity and inferiority complex among couples. It also strains relationships and communication within families.

The Bio-psychosocial theory reveals that social support and coping are two important tools to mediate the effects of infertility. This view is supported by L. Eisenberg (2004) and Valentine (1996) who found that social support was an important factor in responding to infertility. In addition, the theory stipulates that persons suffering from infertility are more likely to seek treatment from traditional health practitioners. Becker and Nachtigall (1991) report that the relationship between persons suffering from infertility with health care providers often gets strained. This, according to Ghaffar, Kazi and Salman (2002), may be attributed to a shortage of human resources

to cater for clients, leading to poor client–provider communication and a deterioration in the quality of care provided. Indeed, a human person is a being in relationship—biologically, psychologically, socially and transcendentally. Research suggests that illness disrupts all of the dimensions of a relationship that constitute the patient as a human person and therefore, only a holistic or bio-psychosocial-spiritual model can provide a foundation for treating patients holistically (Eriksson, Perfilieva, Bjork-Eriksson, Alborn, Nordborg, Peterson & Gage, 1998).

Although bio-psychosocial perspective offers useful framework to the understanding of infertility, it has several shortcomings. For instance, this model has been criticised for lack of clear boundary which can be partly attributed to its inclusiveness which results in an unscientific, pluralistic approach which potentially justifies a morass of everything in health. From the critics' perspective, the potentially confusing and convoluted aspect of this theoretical framework becomes particularly clear when one tries to define the various terms and their boundaries as well as their interrelationships (Eisenberg, 2004). For example the question one may be curious to know exactly where biology end and psychology begins.

Levels of knowledge about infertility can be important predictors of the coping strategies adopted by the infertile couples. The levels of knowledge may determine when the couple begins seeking treatment. Couples with higher levels of knowledge are more likely to seek treatment more often and earlier than those with limited knowledge about infertility. The levels of knowledge may also influences attitudinal characteristics of community members and how they relate to the childless in the society.

Community members with positive attitudes are more likely to provide adequate social support to couples suffering from infertility compared to those with negative attitudes. As already been mentioned, bio-psychosocial theory holds that social support is one of the important tools mediating the effects of infertility. Becker and Natchtigall (1991) , clarify that social support is vital in addressing a decrease in the support network caused by negative myths, stigma and misinformation.

2.11.3. Symbolic Interactionism Theory

The symbolic interactionist approach was adopted as one of the theoretical orientation. This approach is anchored on the idea that people do not respond directly to the world around them. It also assumes that society, its institutions and social structure exist as a result of human interaction. This means that reality is what members of society agree to be reality and this is shaped in social interaction (Audu et al., 2013). This theory also portends that many unique features of the human thoughts are captured through symbols and that the use of symbols enable individuals to predict possible actions, and to derive common meanings among the community members. In the process, objects and symbols are developed and used which denotes things in the real world whose meaning is defined by the actor. Therefore, different objects have different meanings for different individuals. For example, people interact based on how they see and understand a situation and the meaning they attach to the situation or encounter. Consequently, each person's definition of the circumstances surrounding the interaction influences others definition. This means that the meaning attached to social interaction can be modified because people bring their own definitions of situations. These definitions shape the way people see and experience the world (Audu et al., 2013).

Symbolic interactionism appreciates the value of interaction with other community members. It is through such interaction that individual and group meanings of infertility related issues are realised. Ideas from this framework were reflected in the study of infertility in Kisumu. In particular, infertily is a reality and cuts across all genders, men and women. The couples who experience childlessness face not only physical but also social, economic and psychological distress.

The researcher is congnisant of the weaknesses sorrounding symbolic interactionism. One of the weaknesses is the tendency to overlook macro-social structures including norms and culture since besides focusing more on the micro-level interactions (Audu et al., 2013). In other words, symbolic interactionism suffers from its inability to take the larger social picture into account yet social interactions is sometimes affected by forces which are beyond the control of individuals. Thus, the knowledge about infertility as influenced by agents of socialization such as education ilustrates the dynamics of Symbolic interactionism. This further influences people's attitudes. In Kisumu County, the community has ensured that infertility is feminized such that women bear the greatest consequences of infertility. This conceptualized framework appreciated the role of community members in coping with infertility related consequences. For instance, husbands, in-laws, friends, neighbours doctors and other community members have marked influence on the coping mechanism.

From the extensive review of theoretical literature, the study confirms that infertility is not only a medical condition but is also socially constructed. However, clinical research seems to persist in the Western world and in many urban hospitals. The quantitative techniques of the study have been used to study infertility with an intention of improving services to couples suffering from infertility while the qualitative techniques that this study embraced focused more on the experiences of

infertile couples in socio-cultural context. Sociological approach to the study is critical to improvement of services to infertile people.

In this study, both life crisis and bio-psychosocial theories are relevant as they both apply to persons struggling with infertility issues. The two theories also complement each other and so it is important to combine them in this study. The life crisis theory explains the negative effects of infertility in an individual. Infertility then leads to crisis that is mental and hence leads to stress which in turn affects other body parts. The bio-psychosocial theories put more emphasis on social and community issues. For instance, infertility affected individual's relationship with relatives, friends and community in general.

The two theories have been used by researchers to understand coping mechanisms against infertility related issues. While the life crisis theory postulates that successful resolutions depend on an individual's resources, the biopsychosocial theory illuminates the consequences of infertility over a period of time and across family relationships. Symbolic interaction, on the other hand, explains the construction of the meaning, consequences and coping strategies with infertility.

2.12. Conceptual Framework

The conceptual framework of this study focuses on the knowledge, attitude, socio-cultural beliefs and practices, as well as coping strategies of infertility. Similarly, it presents infertility as an experience associated with different meanings, attitudes, socio-cultural beliefs and practices, and different coping strategies. It is evident that motherhood and fatherhood is embedded in the meaning of infertility, which is closely linked to procreation and value of childbearing. Figure 2.2 confirms that infertility is influenced by people's knowledge, attitudes and their socio-cultural

beliefs. When the level of knowledge of people about infertility was examined, the survey results supported the fact that the meaning of infertility is determined by their levels of education, religious attachment and duration or time factor it takes in coping with infertility. Particularly, individuals with high levels of education are more likely to have correct knowledge of infertility as compared with people of low level of education. This is backed up by the findings of the study where only a few respondents correctly identified the right meaning of infertility. This clearly indicates that there is low level of knowledge on infertility in the study area. However, a puzzle I have is why the rich and educated also suffer from infertility in large numbers. A possible assumption in responding to the puzzle is that it seems that couples from rich families are also exposed to chemicals or substances, safe abortions that may go wrong at times and delayed procreation time. From the study, attitudes of infertility in Kisumu County are a product of many factors. Therefore, the attitudes of people towards infertility is influenced by the community stereotypes or fixated minds, and which in turn leads to limited interactions among persons suffering from infertility and the community at large. Community stereotypes and fixated minds limit peoples' interactions. Due to such, the community tended to have negative attitude towards the infertile persons.

Drawing from the findings, it is clear that strong attachment to socio-cultural beliefs and practices influenced community's negative perception of persons experiencing childbearing challenges. This situation led to isolation and discrimination of persons suffering from infertility. The isolation could be attributed to the Luo community belief that any productive relationship could not exist without children. Therefore, the infertile people suffered from alienation and discrimination not only from the community at large but also from their own spouses. Further, the deliberate isolation

of persons experiencing childbearing difficulties made such persons to loose their sense of worth and self-esteem. Thus results into a feeling of failures in so far as womanhood and fatherhood is concerned. Interestingly, the coping strategies with childlessness were influenced by ones economic status. For instance, the infertile people in rural set up often experienced economic difficulties as most of them tended to adopt many tedious, costly and different coping strategies. In addition, poverty among the infertile is also high because they never receive community wealth inheritance and other forms of support. Figure 2.2 represents conceptual framework which guided the current study.

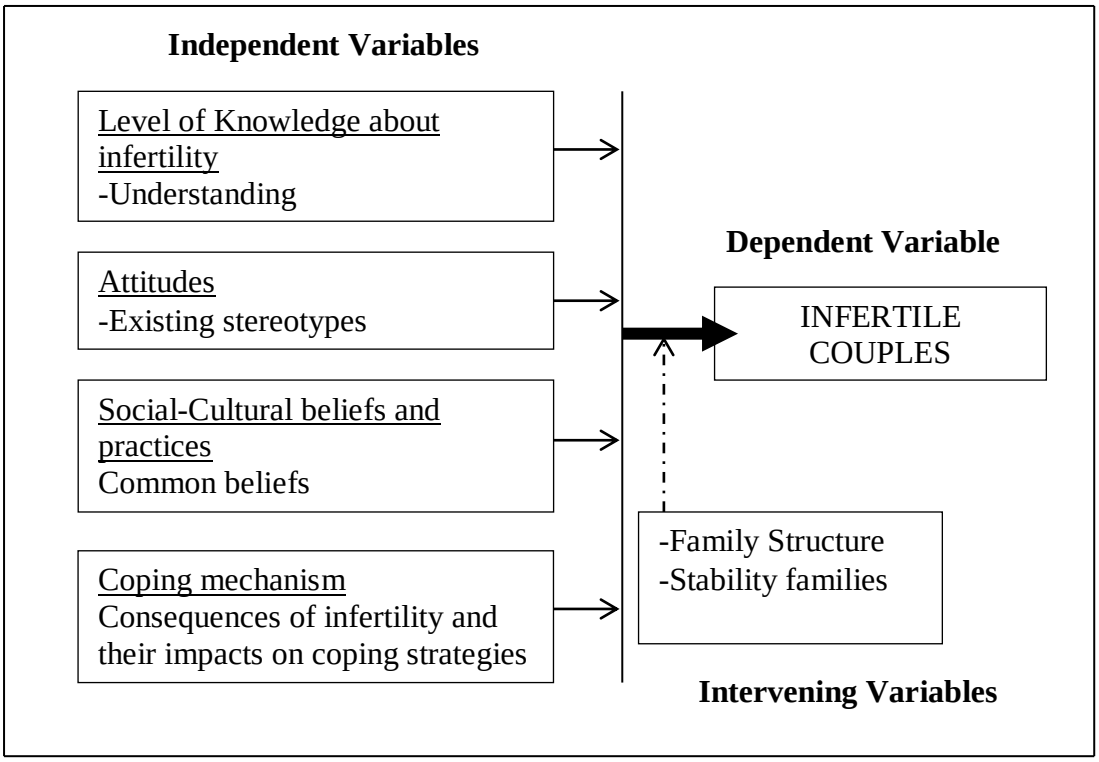


Figure 2.2. Conceptual Framework

Inability to inherit wealth is supported by the Luo community belief that children provide wealth to their families. Some infertile people are not able to concentrate in their work due lost hours trying to access treatment while others sell their property so that they access treatment. Women experienced negative feelings besides being quarreled by their in laws and their own husbands. In some cases blames and separation led to divorce and suicide tendencies. However, consequences of infertility can be either be reduced or increased by the family structure. For instance where there is strong family structure infertile persons may find it easy to cope up with infertility issues.

A strong structured family offers a safe 'holding environment' in which people with infertility problems can reevaluate themselves and take appropriate remedy. It is also through a strong family structure that couples suffering from infertility get hopes. Such hope makes life worth living and is rewarding. Last, a family with strong structures ensures social support and cohesiveness during the couples failed reproduction processes.

2.13. Summary of Chapter Two

In summary, primary infertility is a global public health issue that affect couples who have never contributed to conception before, while secondary infertility denotes infertility in couples who have contributed to conception at least once. From the literature review, it is clear that the definition of infertility varies from culture to culture and that in the Western countries clinical definition may not capture variation in cultural perceptions on childlessness. Parenthood is believed to be the most important role for couples and the perceived essence of a woman's identity. This chapter has also covered the socio-economic and psychological consequences of

infertility and coping strategies of infertility like NRTs, child fostering and social support. Similarly, life crisis theory, bio-psycho-social theory and symbolic interactionism theory have been used to illuminate various issues in infertility coping within Kisumu.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter defines and gives the rationale for using specific research design and methodologies for this study. It presents the site description and units of analysis, research design, study population and samples selection methods, methods of data collection and analysis, ethical issues/concerns and the limitations of the study. Methodology is the theory of methods which informs the researcher on a range of issues to adopt in a study (Kothari, 2005; Skeggs, 1997).

3.2. The Research Site

This study was conducted in Kisumu County (See Appendix 1), which is one of the one of the new devolved counties of Kenya. The county borders other counties like Nandi County to the North East, Siaya County to the West, Vihiga County to the North, and Kericho County to the East (Musita & Ariga, 2012). It is also borders Nyamira County to the South and Homa Bay County is to the South West (Omwoma et al., 2014). Kisumu county has a total of 7 sub-counties namely: Kisumu Central, Kisumu West, Kisumu East, Seme, Muhoroni and Nyando as well as Nyakach(ibid). Similarly, it has seven constituencies namely: Kisumu East, Kisumu West, Kisumu Central, Seme, Nyando, Nyakach and Muhoroni Constituencies(Maoulidi & Salim, 2011).

Kisumu County is one of the most populated Counties in the country. According to the 2010 census, Kisumu County has a population of 968,909 people, with male 48.9% and the female 51.1% (CBS, 2011). After promulgation of the new Constitution 2010, and with devolution, there have been administrative changes in the

areas or naming. The name Kisumu is derived from a Luo word, “Kisuma” which means a place where the hungry get sustenance. This name could have been due to its role as a regional centre for barter trade. The Maragoli, Nandi and Luo people used to exchange tools, food stuff and livestock there (UN-Habitat, 2005). It is the third largest urban centre in Kenya with an area of 417 km^2 (157km^2 of water and 260 $km^2$of land) and a population estimated at 500,000 (Omwoma et al., 2014).

Topographically, Kisumu County is divided into two, the hilly North and Southern plain. The Southern plain is the floor of the geographically complex Nyanza Rift System. Originally, the city only covered the residual hill at the tip of Winam Gulf, which has better drains and therefore attracted earlier settlements (UN-Habitat, 2005). The area is characterized by plains occasionally broken by low ridges and rivers. Due to floods, the residents suffer consequences such as lose of human lives and livestock. There is always need for evacuation from the villages because the floods sometimes destroy their houses. Also crops get destroyed which often results to famine. Flooding do cause overflow of the latrines which pollutes the wells, which in most cases are the only source of drinking water for the inhabitants of the villages (Omwoma et al., 2014). Contaminated drinking water always is the cause of several diseases whereas stagnant floodwater results in waterborne diseases and higher occurrences of Malaria (Kweekel, 2008). Floods are a problem every year in many parts of Kenya and extreme rainfall can turn to disaster. Among areas that experience floods in every year is Kisumu County. Kisumu is part of Kano plain, low-lying part of the Lake Victoria Basin. Floods have been a problem in this area for decades. Besides floods, Kisumu County generally has semi-arid climate, which can result in many problems. It is estimated that the total annual financial damage of the flooding of Kano Plain by river

Nyando is US $850,000. Another US $600,000 is annually spent on relief and rehabilitation measures (Musita & Ariga, 2012).

According to Kweekel (2008) the major livelihood in Kisumu County is agriculture and this is confirmed by the 75% of the inhabitants who are involved in both subsistence and small scale food production (Omwoma et al., 2014). Fishing and petty commerce are also important sources of income. Even when surplus cash is earned, there is general lack of capital to start larger businesses. Loans from banks are mostly not accessible to small businesses. These problems result from the fact that 53% of the inhabitants of Kisumu County live below poverty level line (KDHS, 2014). Kenya Integrated Household Budget Survey (KIHBS) of 2011 reports high poverty rate of 47.8% in the County (GoK, 2011). As a result of high poverty rate, many families are not able to access better health services (Owino et al., 2012).

The county is dominated by the Luo community. Culturally, the Luos are among the few Kenyan communities or tribes that do not practice male circumcision as a form of manhood, but instead removes six teeth from the lower jaw. The community is also known for wife inheritance whereby, if a man dies, one of his brothers or close relatives inherits his widow and ir required to meet all of her marital obligations (Omwoma et al., 2014). However, these practices are slowly dying out due to the influence of formal education and interaction with other tribes. Like other tribes in Kenya, children are higly regarded among the Luos.

Kisumu County was considered an appropriate research site because it exhibits serious infertility and general reproductive health challenges. There are many cases of infertility. The County has highest unemployment rates (15.4%) and the highest HIV prevalence rate of 27.1% (Owino et al., 2012). The challenges are compounded by

poor health services and high poverty index as illustrated by a large proportion of people living below the poverty level.

3.3. Reseach Design

Drawing on methodological best practice of previous works, the study adopted an integrated or triangulated study approach or design. It used a combination of quantitative and qualitative approaches. Both quantitative and qualitative data were used to enhance the results in a manner not always possible with one type of data.

A qualitative research design was adopted to explore the knowledge, attitudes and practices of infertility in Kisumu County, Kenya. Qualitative data gathering tools such as in-depth interviews, focus group discussions and Key Informants Interviews (KIIs) were used in the process. This approach enabled the researcher to get inside the community's world. The qualitative method assisted in capturing a rich and deeper understanding of the concepts under study. The choice for this approach was also informed by the fact that it is more appropriate than quantitative methods in understanding people's subjective interpretations (Myers, 2009). A quantitative research design was used to identify statistical pattern between infertility variables in Kisumu. Various statistical analysis tools were employed such as descriptive statistics including percentages and frequencies. It was used to quantify data and generalize results from a sample to the population of interest. This method aimed at measuring the incidence of various views and opinions of respondents concerning effects and remedies of infertility. Presentation of the findings are in form of tables, graphs and charts as they are able to communicate very efficiently with people under severe time shortages and information overload.

The mixed method approach has a number of advantages and they include triangulation, complementary, development, initiation and expansion. Triangulation refers to the convergence or corroboration of data gathering and interpretation about the same phenomenon (Lewis & Sheppard, 2006). Mixed method approach focuses not only on overlapping or converging data, but also on the different facets of phenomenon thus, providing a greater range of insights and perspectives (Williams, 2007). It also combines, or uses, the findings from one method of studying a phenomenon to develop another method (Williams, 2007). For example, focus groups are sometimes used to gain feedback on a questionnaire before it is piloted. Moreover, it involves the intentional analysis of new perspectives on a phenomenon of interest. Last, it widens the scope, breadth, or range of a study (Lewis and Sheppard, 2006). Therefore, through the inclusion of both quantitative and qualitative data, the researcher was able to generate a wider or more complete picture of the phenomenon under study while avoiding the biases common in using single method. However, the use of mixed methods study as opposed to a single method approach is not without disadvantages. To start with, it can be more costly and time consuming for the researcher (Myers, 2009). In addition, the approach demands significant degree of competency by the researcher in using various methods.

3.4. Target Population

The study targeted the infertile Luo women from the four specific sub-Counties namely Kombewa, Winam, Maseno and Kadibo in Kisumu County. The respondents were in the age brackets of between 20 years to 44 years and were currently living in the research site. The study also targeted herbalists, TBA, religious leaders and health practitioners. It is however, important to note that the study area is predominantly occupied by the Luo community.

3.5. Sample Size

In general, the sample size chosen for a given survey ought to be based on how reliable the finanl estimates. In practice, various trade-off must be made between the ideal sample size and expected cost of the survey (Maina, 2012). According to Kisumu County gynecological records, there were 484 reported infertility cases reported between 2010 and 2012 (KDHS, 2012). To get the desired sample size, the formula of Fisher et al.(1998).

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n represents is the sample size

N connotes population size

e is the margin of error

Therefore based on the formula,

$$\text{the sample size} = \frac{484}{1 + 484(0.05)^2}$$

From the calculation above, n was 219. However, the study considered a sample size of 200 respondents because of financial constraints and time. According to Maina (2012) various trade-off are usually made between the ideal sample size and expected cost of the survey.

For the key respondents, a sample of 36 was considered. This comprised of 20 health officers/practitioners, 4 religious leaders, 4 herbalists and 8 TBAs. The 8 TBAs were selected from the four sub-Counties comprising 2 TBAs per each sub-County. Last, 4 herbalists 1 from each of the four sub-Counties was recruited for the study.

3.6. Sampling Techniques

The researcher employed the use of simple random sampling technique in recruiting the 200 respondents who provided the quantitative data analyzed. The sample was composed of patients with infertility problems obtained from Rabuor , Kombewa and Maseno health Centres as well as Kisumu County Hospital. The other groups were selected randomly from the research sites and included people from various occupations such as boda-boda, fishermen, business men and women and traders. Decision to use simple random sampling was informed by the fact that it is more appropriate and offers the best opportunity to generalise the results of the population.

Purposive sampling and snow-ball sampling techniques were used to select thirty six (36) Key Informants Interviews who provided qualitative data. Purposive sampling is a method where the researcher select respondents with a purpose in mind and the researcher often have a particular predefined groups he or she is seeking. Purposive sampling helped the researcher to reach the targeted key informants interviews with ease and quickly (Webb & Doman, 2008). Therefore, this technique assisted the researcher to save time and money. Some of the Key Respondents especially herbalist was recruited into the study using Snow-ball sampling. This method is often appropriate when there is a very small population size. This is where the researcher asked the initial Key Informants Interview to identify another potential respondent who meets the criteria of the study. Although, this method is hardly representative of the population, it was very useful in getting expertise opinions concerning a particular problem. Though this technique, the researcher was able to get the right respondents who gave appropriate information.

Participants in FGD were mainly selected using purposive sample technique. The selection was based on gender, locations and experiences of childbearing problems as well as health seeking behaviours at Rabuor (Winam), Kombewa (Kisumu Rural), Joel Omino (Kisumu Town) and Maseno health centres. Other FGD participants were selected based on information from the community members and due to the fact that they were qualified to provide key information needed for the study. Again, the respondents were selected from the four sub-Counties and they represented different occupations and educational background.

It is worth noting that the age interval 20-44 years was deemed ideal since men and women are expected by their families and the society at large to accomplish their reproductive roles within this age bracket. In addition to the above point, those who fall pregnant at this age bracket cannot be termed at teenage pregnancies. Age 44 was used as the upper limit to accommodate women's reproductive age. Unlike their male counterparts, women often experience menopause at the average age of 44 (Dutta, Ruma, Dcruze Lawrence, Anuradha , RaoShivani & Rashmi , 2012). However, the probability of getting pregnant decreases significantly after 40 years coupled with increased risks of infection (Makoba, 2005, p.47).

3.7. Methods of Data Collection

3.7.1. Documentary Sources

Secondary sources of were employed to give background information to the study. This process continued throughout the study. The sources were obtained from the Ministry of Health Offices, the National Archives, Kenyatta National Hospital, University Libraries, and from Non-Governmental Organizations (NGOs) such as

Aphia11 Nyanza and Engendered Health. In addition to that, the researcher collected materials from the World Wide Web (internet).

The secondary sources of information were based on cases of infertility, consequences and coping strategies. Such information was then systematically scanned and filtered to identify and retrieve relevant information in order to meet the priority of the study as well as identifying gaps in the area of infertility. Secondary sources of information are relatively cheap to obtain, less time consuming to retrieve and in most cases reliable depending on the credibility of the source (Ndegwa, 2010). However, since they are usually gathered for purposes that differ from the researcher's objective, one may be faced with challenges like lack of means to evaluate the data collection process hence its credibility, and finally some data may be old and outdated rendering it irrelevant (Ndegwa, 2010).

3.7.2. Survey Questionnaires

The study employed the use of semi-structured questionnaire which was made simple enough for the respondents to understand (Appendix II). The sampled respondents were requested to present their views on socio-cultural belief and practices as well as coping strategies used by couples suffering from infertility.

A semi-structured questionnaire was suited for obtaining relevant information on meanings, identity and contexts related to health behaviors among people in a community especially the young generation (Bowling & Ebrahim, 2005). The sampled respondents may have preferred to complete questionnaires individually as opposed to talking in groups. Moreover, semi structured questionnaire helped in getting more information which respondents cannot give through other data collection mechanism.

The questionnaires provided the interviewers with some focus, with a set of pre-determined questions but with a flexible format that allows the in-depth investigation of issues as they arise in the interview (Morse & Field, 1996). The first section of the questionnaire focused on eliciting information related to socio-demographic profiles of respondents, such as age, income gender levels of education, religious affiliations and marital status. Starting with these kinds of question items assisted both the respondents and the researcher to ease into the relatively more sensitive information about couple's infertility in Kisumu County. The middle section concentrated on questions about knowledge, attitudes, and practices regarding the subject of infertility. It also included questions related to social-cultural beliefs and practices about infertility. The final section probed for more explanations and details consequences of Infertility and coping/management options within Kisumu County.

3.7.3. Key Informant Interviews

A total of key informants interviews (KIIs) were conducted. In total, thirty six (36) Key Informants Interviews (KIIs) were conducted. These included 20 health practitioners, among them gynaecologists, who take care of infertile couples. Four (4) religious leaders (one each from the four sub-Counties covered by the study), were also interviewed to provide expert view on infertility and childbearing. Four traditional medical practitioners/herbalist, who provided care for the infertile couples were interviewed each from the four sub-Counties. Furthermore, Key Informant Interviews are vital in collecting in depth information on a specific topic and particularly when there is need to have a proper understanding of behaviors, motivation and perspectives (Wisenerand National Collaborating Centre for Infectious Diseases of Canada, 2014). The method is thus very relevant and essential in this research as the research focuses on the attitudes, socio-cultural beliefs and knowledge

of infertility. To effectively understand infertility, factors which motivate couples to have children are discussed and this can be made possible through Key Informant Interviews as the motivations will be got.

According to Aral, Douglas and Lipshutz (2007), KIIs are those interviews that are conducted with key/important persons in the society and especially those who have knowledge and experience in the topic being studied. They provide the researcher with adequate qualitative information in relation to attitudes, experiences, socio-cultural beliefs, impressions and opinions of the study topic. This data mechanism is important in collection of data in heath research and particularly in topics where researchers want in depth information which covers all aspects of the study objectives. Using few resources, a researcher can get all the data he wants as the method is not expensive. Because the interviewees are knowledgeable and have fast hand experience in a particular issue, more relevant and vital information about infertility were collected and thus realization of the four study objectives.

KIIs can also be used in supplementing quantitative data through provision of greater context to the quantitative data collected. Since the study uses both quantitative and qualitative data collection methods, this technique is very important and relevant. Unstructured interviews also enable interviewees to freely express themselves and enable the researcher to get additional information was more useful to the understanding of the study. Moreover, the researcher probed the interviewee to get some clarifications.

3.7.4. Focused Group Discussions

Focused Group Discussion (FGDs) was also held with respondents. FGDs have been used extensively within the health arena to explore a range of issues affecting

communities (Fallon and Brown, 2002). FGD is a valued qualitative technique, where group interaction is explicitly used to generate data (Kitzinger, 1995). FGDs consist of small numbers of people mobilized by the researcher to discuss a particular topic. The discussion is often guided by one or more "moderators" (usually the researcher) who "focus" the group discussion (Webb & Doman, 2008). This approach of data collection is particularly suited to studying attitudes and experiences, and can encourage participation from those who are reluctant to be interviewed on their own (Kitzinger, 1995). Moreover, the collective nature of the group interview decreases the power of the interviewer in relation to the participants and validates their choices and experiences. The potential for democratizing the research process by giving more control of the proceedings to the participants through the use of focus groups has also been highlighted by Kevern & Webb (2001).

Despite the many benefits, there are also some drawbacks or limitations associated with FGDs especially in relation to the decrease amount of control of the course of discussion and the role of the moderator, which is quite fundamental to the effectiveness of the focus group (Webb & Doman, 2008). However, in this study, efforts were made to identify and explore the experiences of the participants with limited control of content by the moderator. FGDs have a number of advantages and a few disadvantages. In the context of this study, FGDs ensured that there was no discrimination against people who could not read or write. Besides, it also encouraged participation from boda-boda people (cyclists) who are often reluctant to be interviewed on their own, and gave the participants the opportunity to speak more freely about their negative infertility experiences (Kitzinger & Willmott, 2002). In addition, the researcher also gained access to "community" responses to the infertility issue, thus enhancing the understanding of group beliefs and practices that would

have been more difficult to discern via individual interviews. Again through the discussions, the study explored the processes through which the meaning of infertility were jointly constructed including the level of knowledge, attitudes and practices associated with infertility, and those aspects interact to influence decisions on coping strategies.

The focus group discussants were taken through the various research questions. This was vital in confirming the previous responses by other data collection methods used by the researcher. The researcher utilized six (6) focus groups composed of between 10 to 12 members and whose members were selected purposively. Out of this number, three (3) homogenous groups comprised women members only while the remaining three (3) were constituted by males only.

3.8. Pilot Test

Prior to the main study, pilot test was conducted on the research instruments in order to check possible ambiguities and appraise the instruments' appropriateness. The pilot test also enabled the researcher to have a rough estimated of the time which was required for the study. Maina (2012) advices that it is important that data collection instruments be as accurate as possible. The pilot test assisted the researcher to refine, redesign and re-write the questionnaire and interview schedules with assistants of supervisors and experts well conversant wth statistics. The instruments were adjusted to ensure that all information were well captured during data collection.

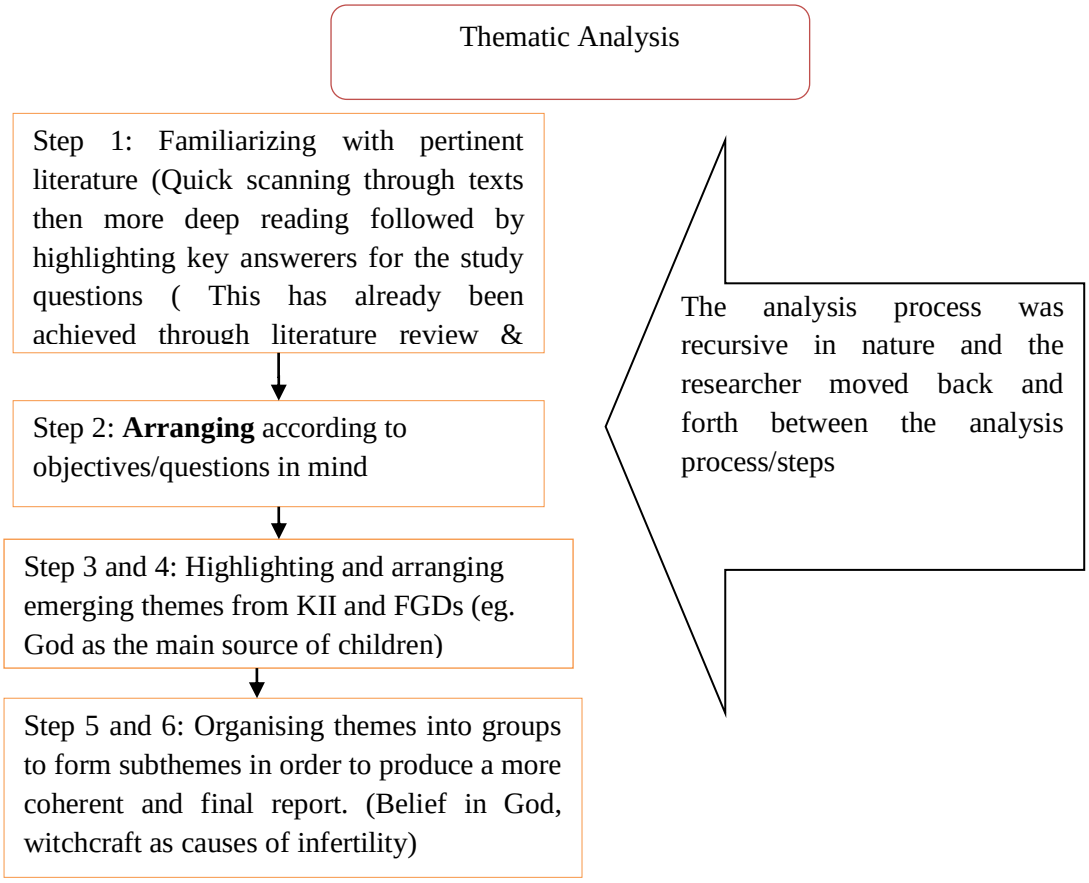
3.9. Data Analysis Techniques

Data analysis and presentation form a crucial step in every dissertation. An effective and efficient data presentation does not only enable a researcher in analyzing data, but it also assists users of the dissertation in understanding the data. The study adopted

both qualitative and quantitative approaches in analyzing the data. Descriptive design was adopted in analyzing quantitative statistics such as frequencies and percentages. Standard deviations and mean scores were computed for likert type of questions and data presented in form of tables, graphs and pie charts. SPSS (Statistical Package for the Social Sciences) was quite useful for the purposes of graphical representation of the raw data. With the help of the SPSS application, different graphs based on different complex data were drawn easily and effectively (Cottrell & McKenzie, 2011).

On the other hand, qualitative data from FGDs and KIIs was analysed using thematic analysis technique . This allowed the researcher to identify, analyze and report themes in the data. Thematic analysis entailed familiarization with the data, scanning and scrutiny of the data followed by identification of emerging themes for interpretation. Maithya (2006) posits that thematic analysis entails a detailed reading and re-reading of the material so as to understand and generate explanations regarding the meaning of reproductive processes and outcomes and how they are linked to the Luo notions of misfortune causation, health and well-being.

Various steps were followed during thematic analysis. In step 1, the researcher read through the information and scanned the study findings. The second phase was to realign it with the set objectives. One of the objectives was to establish the socio-cultural beliefs and practices associated with infertility in Kisumu County, and subsequently examine coping strategies. Figure 3.1 depicts the process used in thematic analysis. As evident from the figure, the process involves a number of steps.



Source: Modified from Creswell (2003)

Figure 2.3. The Process of Thematic Analysis

3.10. Ethical Issues

In order to meet ethical standards, a number of steps were taken during this study. First, local authorities based in Kisumu were requested to approve the study. The researcher obtained approval prior to any research activities at the specified locations. The researcher also sought the approval of the area heath facilities and area leaders. In this process, accurate information about the research was provided. A written letter that explains the research idea, as well as a copy of the research proposal was provided to each study site. Accordingly, the respondents were first presented with the study information and the first author's contact. All the participants were required to give their informed consent prior to their inclusion in the study. Participants were assured of privacy, and that their responses remained anonymous. In addition, participants were free to choose whether to participate in the research or not. Furthermore, the researcher established a good working environment with the respondents and this ensured that the respondents were free and gave the required information.

CHAPTER FOUR

SOCIAL CONSTRUCTION OF INFERTILITY

4.1. Introduction

This chapter presents findings on the social construction of infertility. The background profiles of the respondents is first presented in order to come up with an idea on the respondents characteristics. These areas include gender, age, education/knowledge, marital status and religion), labels and level of income and are closely linked to the meaning of infertility. Hence they confirm the social construction of the meaning of infertility in Kisumu County. In addition, a careful examination of the existing labels given to childless couples has also been unearthed. This is followed by an enquiry into the time or duration in which one is expected to have a child as well as his main motivations for desiring children. These views have been useful in the social construction of the meaning of infertility. The findings have been discussed in relation to other findings in different parts of the world. The next paragraph covers an introduction to demographic characteristic of the respondents, followed by a dicussion of the framework within which social-construction of infertilility is framed.

4.2. Demographic Characteristics of Respondents

A sample of 200 respondents was interviewed for this study as the primary source of data. The data were supplemented with interviews with 6 focus groups, 20 health practitioners, 4 religious leaders, 4 herbalists and 8 TBAs. The demographic and social profiles of the 200 respondents as presented in Table 4.1 revealed that a larger fraction of participants were females and comprised of 54% of all respondents. The dominant age bracket was 30-34 years constituting 39%.

Table 4.1. Respondents' Socio-Demographic Profiles

	Kadibo		Winam		Kombewa		Maseno		Total	
Description	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Gender										
Male	28	14	20	10	24	12	20	10	92	46
Female	26	13	32	16	26	13	24	12	108	54
Total	54	27	52	26	50	25	44	22	200	100
Age(yrs)										
20-24	6	3	6	3	12	6	4	2	28	14
25-29	14	7	20	10	18	9	10	5	62	31
30-34	22	11	20	10	16	8	20	10	78	39
35-39	10	5	6	3	4	2	10	5	30	15
40-44	2	1	0	0	0	0	0	0	2	1
Total	54	27	52	26	50	25	44	22	200	100
Education										
Primary	18	9	18	9	18	9	10	5	64	32
Secondary	14	7	10	5	4	2	14	7	42	21
Tertiary college	16	8	16	8	12	6	12	6	56	28
University	6	3	8	4	16	8	8	4	38	19
Total	54	27	52	26	50	25	44	22	200	100
Marital status										
Married	44	22	42	21	42	21	32	16	160	80
Single	4	2	6	3	4	2	8	4	22	11
Divorced	6	3	4	2	4	2	2	1	16	8
Widowed	2	1	0	0	0	0	0	0	2	1
Total	56	28	52	26	50	25	42	21	200	100
Religion										
Christian	42	21	46	23	46	23	42	21	176	88
Muslim	4	2	2	1	4	2	0	0	10	5
Traditional religions	8	4	6	3	0	0	0	0	14	7
Total	54	27	54	27	50	25	42	21	200	100

n=200

(Source: Field Results, 2012)

The study respondents were mainly women from Kisumu County. Majority, 80% were married except for a few individuals 11%, who were single, 1% who were widow and 8% who reported being divorced. Table 4.1 shows that 32% of respondents achieved primary level of education, followed closely by 28% who received tertiary college education. On the other hand, those who had not gone beyond primary level were 21%, whereas 19% were graduates. This outcome is important because there is a strong connection between the level of education of people and their knowledge on causes, socio-cultural beliefs and practices associated with infertility as well as coping strategies. About 88% of the respondents were Christians, only 5% were Muslims and the remainder 7% belonged to traditional religions.

In terms of occupation, skilled workers were mainly 41%. Further, the findings revealed a marked difference in the monthly incomes of community members. About 27% had a monthly income of between Ksh10, 000 and Ksh. 12, 000. Whereas 19% received a monthly income of Ksh. 18, 000 and above, 11% earned the least between Ksh. 2, 000 and Ksh. 4, 000. This low income clearly demonstrates that a section of the community lives below poverty line and this might have strong association with their health seeking behaviours. Table 4.2 below depicts that most people were either employed or self-employed except for only 4% who were unemployed.

Table 4.2. Percentage Age Distribution of Respondents' Occupation and Income Levels

n=200

	Kadibo		Winam		Kombewa		Maseno		Total	
Description	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Professional	16	8	8	4	6	3	8	4	38	19
Skilled	24	12	22	11	18	9	18	9	82	41
Semi-skilled	14	7	16	8	28	14	14	7	72	36
Unemployed	4	2	2	1	0	0	2	1	8	4
Others	0	0	0	0	0	0	0	0	0	0
Total	58	29	48	24	52	26	42	21	200	100
Income (Ksh.)										
2000-4000	10	5	4	2	2	1	6	3	22	11
6000-8000	14	7	12	6	10	5	12	6	48	24
10000-12000	10	5	16	8	12	6	16	8	54	27
14000-16000	12	6	4	2	22	11	0	0	38	19
18000 and above	14	7	12	6	4	2	8	4	38	19
Total	60	30	48	24	50	25	42	21	200	100

(Source: Field Results, 2012)

The researcher also assessed areas from which the respondents resided. Their responses were catergorised into rural, peri-urban and urban areas. Based on Table 4.3, the largest proportion 43% of respondents resided in the rural areas in Kisumu County while 30% and 27%, respectively, resided in peri-urban and urban areas of the County. Rural areas denoted those which were very far from Kisumu town while peri-urban areas represent location within the outskirts of the town. All urban were represented by areas within Kisumu town.

The fact that a large proportion of the respondents came from rural areas can be closely linked to levels of education and perceptions about the socio-cultural beliefs

and practices associated with infertility. In rural areas, people with low levels of education were strongly attached to socio-cultural belief and practices. From these findings, the researcher believes that the couple's place of residence has significant influence on their level of health exposure and their knowledge on the meaning of childlessness. It is important to note that those in urban areas are more likely to have adequate access to media and health information as compared to those in rural and remote parts of the County.

Table 4.3. Distribution of Responses as per the type of Area in the Study

n=200

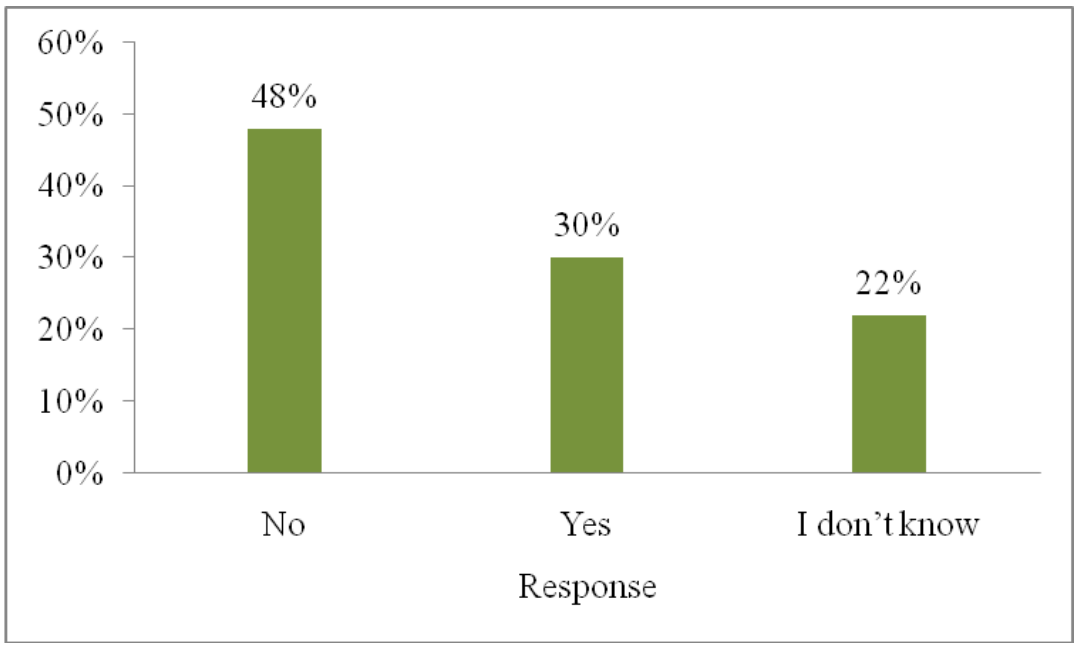
Type of area	**Frequency**	**% Ages (%)**
Completely Rural	86	43
Peri-urban	60	30
All Urban	54	27
Total	200	100

(Source: Field Results, 2012)

4.3. Level of Knowledge about Infertility

One of the major interests of this study was to interrogate the level of knowledge on infertility. To achieve this, the researcher sought to know how fertility is diagnosed or how one knows he/she is fertile. This was also linked to the time one takes to confirm he or she is infertile. The community's meanings of failed reproduction processes were then the compared with the standard understanding of infertility given by WHO where infertility is diagnozed after 1-2 years of regular unprotected sex. The respondents included couples suffering from infertility.

From the study, only few respondents correctly identified the right meaning of infertility as a condition that is proven after 1-2 years. The survey showed that the levels of knowledge of infertility is generally low in Kisumu County as shown in Figure 4.1. A third (30%) of the participants recognized that infertility is usually diagnosed after 12-24 months of regular and unprotected sex. However, almost a half (48%) of respondents believed that infertility is usually not diagnosed after 12-24 months of regular and unprotected sex. Accordingly, and as the figure portrays, 22% of the respondents did not know when one is said to be infertile. Figure 4.1 illustrates the findings.



(Source: Field Results, 2012)

Figure 4.1. Distribution of Responses on whether Infertility is Confirmed after 1-2 years of Regular Unprotected Sex

On the questions targeting the period or the time it takes to be confirmed childless, the respondents had divergent views as is captured in Table 4.4. Evidently, the duration ranged from 12 months to over 9 years. The analysis of the findings show that a majority, 61%, had attempted to get pregnant for 12 to 24 months while only 2% had tried for more than 8 years. This implies that many couples delayed seeking health services because they were not aware of the medical duration for one to be proclaimed or confirmed infertile. Such delay in seeking treatment compounded and complicated the health condition of the affected couples.

Table 4.4. Distribution of Respondents by Length of Time before Pregnancy/to be Pronounced Infertile
n=200

Length of Time	Frequency	% Ages (%)
12-24 months	122	61
3-4 years	60	30
5-6years	8	4
7-8 years	6	3
9 years and above	4	2
Total	200	100

(Source: Field Results, 2012).

The findings from the FGDs and KIIs indicate that most participants never linked the meaning of infertility to some timeline. This situation exposes effects of inadequate information on the lives of the couples besides complicating future effort to find quick treatment on childlessness. Some respondent especially women accepted the blame for their infertility. On the other hand, a section of the women felt that they were not responsible for infertility. The following are various expressions of the participants:

> *I can say this problem started after I met the man a currently living with. You know after you marry, you sleep together, and even if you do not plan, but you at least expect a child to be born. Therefore, since, we met, from around 2008, but nothing has happened* (FGD Participant, Female, 32 years).

> *I knew I was infertile after marrying my second wife. I married my first wife and we stayed for four years without getting a child. I accused my first wife of being infertile and I chased her away. I then married a second wife with whom we stayed for two years without a*

> *child. It is then that we went for a medical check up and it is when I was told I was infertile* (FGD Participant, male 28 years, 2012).

> *" I don't know whether or not am infertile….I have been married for more than three years now, and I have been sleeping with my husband as an obligation in marriage without using any contraceptive method. Despite this, I have not been able to become pregnant. I guess I should just wait because the Lord is the giver of all children* (Female FGD, 32 years).

> *"Generally, infertility means the inability to conceive a child despite trying for one year. In other words, it means having regular and unprotected sex for one year. I must say this definition also applies to women who are able to get pregnant but then have repeat miscarriages."* (Health Officer, 2012).

A segment of the respondents seemed to have an agreement that the issue of infertility was a complex one. For instance, during KIIs, one of the health officer stated that:

> *"Conception is a complex process. In particular, it's dependent on enough numbers of healthy sperm passing through open pathways and penetrating a healthy egg . The egg must implant itself in the uterus and the uterine environment must remain conducive for its development. Therefore, Infertility occurs when any one of these factors is impaired."*(Health Officer, 2012).

Another health practitioner had this to say:

> *As a health practitioner, the first, and sometimes one of the most challenging thing I have to accomplish is to assess a couple's understanding of how the whole issue of becoming pregnant ……..... naturally or otherwise – happens. I may say that awareness levels about infertility in entire Kisumu County is still quite low….perhaps, it because we have not had serious awareness campaign on the same. Many people still don't really understand it (*Medical Officer, 44 years).

For some respondents, infertility was viewed as having a child of the wrong gender especially the girl child. This is well captured by the following quotes:

> *"My husband decided to marry another wife arguing that I was only giving birth to girl. So far I have three girls and I love them so much."* (Female FGD, 33 years).
>
> *Personally, I have been facing a lot of decrimination especially from my in laws. According to them, am not considered a full wife, despite the fact that am having two children who are girls* (Female FGD, 33 years).

From the findings, it is clear that the construction of the concept infertility deviates from the biomedical understanding. For instance, this community views infertility as a situation where a couple is unable to give birth to a live child within one year of continous and unprotected sex. The respondents and participants understood failed reproduction processes as taking too long to conceive, giving birth to only girls, not having enough children and being unable to concieve naturally.

The understanding of infertility among the Luo community is more than negotiation between couples or individuals and health practisioners, but also involves the entire community. From the researcher's perspectives, social construciton of infertility is signaled, not only by the presence of biomedical or pathological symptoms, but according to the absence of a desired state by the community. In the context of this study, the desired state for most respondents and participants is that of being able to give birth. The construction of infertility also revolves around the issue of being able to give birth to a boy child, and consequently being able to play social roles of parenthood. Nonetheless, infertility can be difficult to define and construct because effective coping strategies within the community demistfies its very existence. It is also worth noting that infertility as socially constructed by Kisumu County residents relates to both men and women hence inconsistent with the WHO's definition which is biased towards women. From the study, it is evident that women play crucial role in managing consequences of infertility. This include laying strategies of diagnosis

and coping with infertility in women and men. Specifically, women were involved in selecting their core-wives to birth for them, while in some situations, old women were involved in selected strong men with "desired seeds" to sire children within the households. Further, women who could not give birth had ways to have babies without adopting any and men who could not sire had other men "allowed" to sire for them. These intriguing ways however, did not form the core focus of this study and can be studied on later.

The finding of the presents study is consistent with that of Mostafa et al. (2013) who also observed that infertility was defined as a social condition and was enhanced by low level of knowledge among Saudi couples. The authors advocate for special emphasis on enabling couples suffering from infertility to access the correct knowledge and practices about childlessness.

The respondents were also asked to clarify who between men and women was to blame for infertility. Table 4.5 gives the findings.

Table 4.5. Frequency and % Distribution on who is believed to be Responsible for Infertility

Person responsible	Frequency	%
Males	58	29
Females	94	47
Both	48	24
Total	200	100

(Source: Field Results, 2012)

From Table 4.5, close to a third (29%) of respondents believed males were mostly responsible for childlesseness. About 24% indicated that both males and females were vulnerable to infertility and both shared the blame. However, 47% of the sampled population blamed it on females.

One of the respondents who claimed females were responsible shared the following:

> *"As women, we bear the most blame. Because of this, men are allowed to re-marry. On the other hand, women have very limited choices…..most of the time, they just have to follow the decisions made by their husbands or in-laws."* (Female respondent, 31 years).

The bad ordeal of women as responsible for infertility was further exposed by one of the male FDG participant who explained that:

> *"Childless women especially the old, are usually viewed as witches. This is because most of them tend to envy those who are blessed with children*" (Male participant, 41years).

The prior observation implies that only few of the respondents correctly identified that both male and female were equally responsible. In contrast, the bulk of people interveiwed maintained that it was women or females who were to blame and therefore supporting the contention that women bears all the burden and repercussions of childlessness than men (Mugi, 2011). When asked who was most responsible for infertility between males and female, a health practisioner vividly explained as follows:

> *"I believe various social, historical, cultural, and religious factors have made people to believe that that infertility always arises from the female side. ....though this may not be an illogical assumption, the reality is that men can also be cause particularly when issues such as low sperm count is the main problem."* (Female Nurse 33 years)

Evidently, the concept infertility has been understood wrongly by different people in the County. The researcher is of the view that the problem as it appears to these two health practitioners is that there is inadequate awareness about infertility. As evident from the study, the blame on infertility is majorly placed on women though men also have their share of blame. The discussions with the key informants disqualifies the assumptions made by the respondents that females were mostly responsible for infertility, hence confirming the low level of knowledge and awareness.

In summary, the findings (quantitative and qualitative) clearly demonstrate inadequacy of knowledge about the meaning of infertility throughout the study. This lack of knowledge explains why residents of Kisumu County have unfavorable attitude towards infertility as will be seen later in the chapter. The inadequacy of knowledge about the meaning of infertility is closely related to socioeconomic profiles/characteristics of study population. That said, most of the people interviewed have primary level education. Similarly, their places of residence and levels of income

also seem to influence their level of exposure and by extension, the meaning of childlessness. Due to vast information and access to health services, people living in urban areas view infertility differently from those in rural areas. In other words, those in urban centers tend to have a much more favourable and positive stand on the failed reproduction processes. Hence, the study has clearly demonstrated how gender shapes the meaning of infertility as the community views failed reproduction processes as a woman's responsibility.

4.4. Concept of Labeling and the Meaning of Infertility

Equally of central concern to objective one of the study is the relevance of the labelling concept in understanding the meaning of infertility. The study revealed that the interpretations of infertility tend to revolve around the existing connotations and meanings based on the community's social-cultural background/context. Specifically, participants associated infertility to a number of expressions and phrases . Evidently, the concept infertility has been understood wrongly by different people in the County.

The analysis of figure 4.2 disclosed that 16% of the respondents agreed that they were labelled as childless. Similarly, persons experiencing childbearing problem were also labeled as unlucky, a witch, mule (unproductive animal), and one child like a donkey as was represented by 19%, 8%, 3% and 30% of the respondents, respectively. The other category of respondents representing 24% alluded to being called pathetic persons, cursed persons and bewitched persons. In view of such descriptions, it can be seen clearly that infertility attracts various deragoratory terms in Kisumu County (Refer to figure 4.2). Each of those derogatory terms support the negative undertanding of the meaning of childlessness.

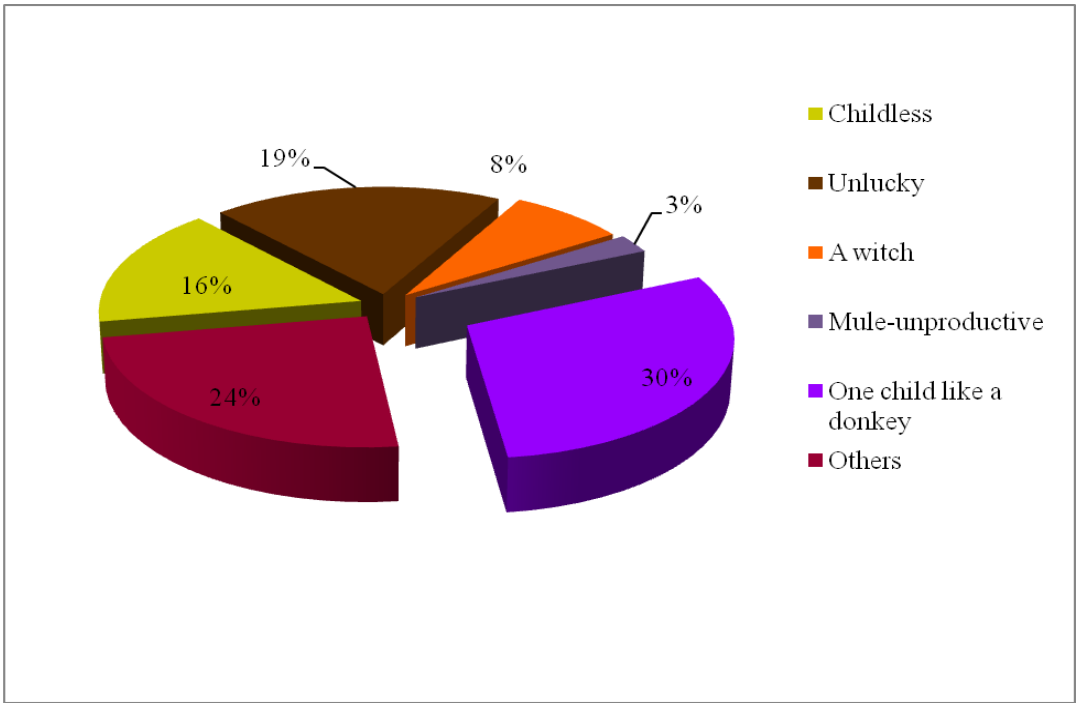


Figure 4.2. Percentages of Infertility Labels
(Source: Field Results, 2012)

An equally significant aspect of the meaning of infertility is the fact that social construction of the meaning of infertility also revolves around the various motivations for child bearing. Table 4.6 shows the distribution of responses on reasons for wanting children. From the findings, there was a general consensus reached by most people interviewed that the desire for childbearing was motivated by the need to maintain the family lineage as generally agreed by sum total of 70% of all study subjects. Out of this, almost half (47%) agreed that children are needed to maintain the name of family. This view confirms the traditional beliefs by the Luo community of naming children after their forefathers or dead relatives. This was done in order to maintain the presence of forethers or the dead presence among the living. Symbolically, the presence of children was vital in maintaining lineage hence validating this strong tradition of maintaining lineage. Again, a total of 78% were in consensus that couples were motivated to have children as away of obeying God's

Command. This motive, though spiritual, could not be aptly ascertained, as it was hard to determine whether indeed it was the reason behind child bearing. An equally significant motive was that children ensured inheritance and this was strongly argued for by more than half of all the respondents (59%).

Table 4.6. The Different Motives for Seeking Children

Reasons for Children	SA	A	NS	D	SD	Overall Agreement	Overall Disagreement
To maintain lineage	23	47	19	0	0	70	11
To ensure inheritance	59	30	0	0	0	89	
To assist at home	37	49	2	0	0	86	12
To act as security in old age	74	13	1	1	0	87	12
To obey God's Command	21	57	9	2	10	78	13
To have joy and companionship	70	19	0	0	0	89	11
To gain respect and status in the society	32	51	6	0	0	83	15
Others	59	10	2	0	10	69	29

Multiple response=total % >100

(Source: Field Results, 2012)

Key: SA (Strongly Agree), A (Agree), NS (Not Sure), D (Disagree), and SD (Strongly Disagree)

Among the Luo community, it is strongly believed that the wealth of a family should be taken care of by children once parents pass on and hence the motive behind having them. Further, a child is a source of joy and good companionship as was strongly supported by 70% of the respondents. The idea behind this is that the presence of children brings warmth between couples and in the house hence the desire to have them. Moreover, couples felt that children bond their parents together unlike couples who do not have kids.

The study also indicated that a total of 83% of those interviewed were in general consesus that the desire to have children was motivated by the need to gain respect and status in the society. Out of 83%, more than a half (51%) agreed while 32% stronly agreed. 74% of the respondents strongly agreed to the fact that children acted as security in old age in so far as financial support, caretaking and keeping company were concerned. Last, 5% of respondents were in agreement with other reasons not listed.

Responses from some of the sample groups are illustrated below:

> *"The tradition is that marriage eventually leads to having a family..... like other couples I want children"* (26 year old Female respondentt, 2012)

Since an individual is not an independent entity in a family system, it was the duty of each individual to secure the continuation of the generation. Children are valued as they offer the needed support for their family/parents. Most people are keen to bring out the best in their children knowing that they might need their support especially in old age. As such children form one of the greatest pillars of parents' strength. They are often valued especially in old age as they take care of their parents. This parent-child reciprocity was aptly captured during KIIs:

> *To have children is the wish of every couple. Personally, I think my children would take care of me during my old age otherwise I might eventually end up alone with only my wife" (*An Interview with TBA).

Therefore, there were several emergent themes related to the value of children. The desire to bear children was to maintain the family lineage and inheritances. Children usually bear the family's name particularly that of the father. The participants in the study revealed that the names were supposed to be passed on to their children to protect the family lineage. This finding is typical of the patrilineal system of inheritance. In fact, according to participants, there are numerous situations where families lost their lineage as a a results of childlessness. Therefore, nobody cherishes infertility as it it hinders generational transition, continuity and parenthood roles.

Further, a child is a source of good companionship. The idea behind this is that the presence of children brings warmth between couples and in the house hence the desire to have them. Children were also viewed as sources of consolation, and are signs of achievement for the married partners. During old age, grandchildren were seen as companions for the grandparents, thus a source of hapinness and long life. Participants felt that children brought social status and a sense of identity. Children affirm both womanhood and manhood. Children were valued because they easily engaged in conversations and helped to prevent loneliness. For most female participants, the role of children in strengthening marriages emerged. The quotes below from a participant clearly show how important childbearing is to the community members:

> *''They bring joy and this is the greatest achievement one could ever think of.... ...we respect people with children in this community especially male child"* (Male FGD, 30 years).

> *I think in marriage, it means a lot to have children, because it makes a happy marriage and increases love in the family* (Female FGD, 25 years).

Demographic characteristics of respondents formed an important component of the study. An examination of these revealed that majority of participants were females and they constituted 54% of all respondents. The overrepresentation of female respondents in this study was attributed to their willingness to express their issues freely as far as infertility is concerned contrary to their male counterparts who were often shy. These results are consistent with the finding of Sami and Ali (2006) who revealed that females found it easy to express their health condition than men. Similarly, Tremayne (2001) adds that childbearing in many African communities is seen as a valuable role of women and not that of men. There is also a higher fraction of participants in the middle age group . Possible explaination is that the study focused on a period when one is sexually active in a marriage life and in procreation.

The bio-medical meaning of infertility requires that couples must be involved in unprotected sexual intercourse for a period ranging between 12-24 months to confirm his or her ability or inability to contribute to conception. Besides that, one is also able to tell his or her fertility status more accurately in marriage than when not in marriage.

In support of these findings, other studies too have reported limited knowledge about the meaning of inferility. One such study is that of Nukunya (2003) who not only observed limited knowledge about infertility but also noted a lot of misconceptions and myths among his study population. For Nukunya (2003), alternative medicine was the most preferred option especially for those with less education. Similarly, Kjellberg et al. (2000) in their study "*Knowledge of and Attitudes towards Infertility Held by Members of two County Councils in Sweden*" noted that awareness level

about infertility is inadequate in most parts of the world. This assertion is supported by a global survey of some 17,500 women from 10 nations which disclosed a low level of knowledge on fertility and biology of reproduction. The study adds that many women have little awareness of the period of the month in which they are most fertile and when to seek treatment. Okonofua et al. (1997) while studying the social meaning of infertility in South West Nigeria also revealed that most respondents had little knowledge about infertility. Other authors (see for instance, Meera Guntupalli and Chechelgudem, 2004; Sundby 1997) also identified limited knowledge on the meaning of infertility among people living in rural areas.

The study findings confirm the influence of socioeconomic status in defining infertility within Kisumu County. Social construction of the meaning of infertility is influenced by levels of education, levels of awareness, place of residence, income levels religious attachment and duration or time factor it takes in coping with infertility. The fact that majority of respondents were of low educational status partly explain why the inability to have children has strong cultural connotations. This premise is based on the assumptions that individuals with low levels of education are more strongly attached to their socio-cultural beliefs. Moreover, those with high levels of education are more likely to have correct knowledge of infertility as compared with people of low level of education. Awareness levels are also relatively low in Kisumu County. This is well illustrated by feminization of infertility responsibilities. Again, this is informed by the level of education and place of residence. The study respondents were majorly based in rural areas (Table 4.3) and have low educational status (Table 4.1). The study findings also reveals the existing gender differences in the social constuction of infertility. Women were inclined to give long and elaborate views on the meaning of infertility. On the contrary, men

tended to be rather brief and casual in defining childlessness (Table 4.4). The study findings from FGDs and KIIs further reflect this dilemma where blaming the victim is the norm. The other aspect is the age factor which postulates that people in the higher age groups are more grounded in socio-cultural beliefs and practices, and view childlessness as a situation that can be addressed through traditional cleansing. On the other hand, the younger generation below 25 years views infertility as a situation complicated by frequent abortions.

The findings conform to the social constructionist's concept used in this study. This concept holds that reality of ill-health is socially constructed. In other words, it is through ascribing meanings to situations and the surrounding world that we can understand and act in the world, and in that sense both ourselves and our world are the meanings we ascribe to them. With this at the back of our mind, it is clear from the study findings that the meaning attached to infertility among the residents of Kisumu County conforms to social constructionist approach.

The meaning of infertility is generally drawn from the social context. Interpretations of infertility associates and coping mechanisms are socially constructed from the ideology and social structure of the society in which people live. The study found that interpretations of infertility revolve around the existing connotations and meanings based on the community's social-cultural background/context. For instance, the study found that the meaning of infertility is directly intertwined with family issues because it represents the inability to enlarge a family. This strongly suggests that a couple is not a family by virtue of not having children. It further emphasizes a society that is bent towards child-bearing and parenthood (pronatalism). Inability to contribute to parenthood makes couples to be labeled "unlucky, a witch, a mule, childless, one child like a donkey".

The study findings also confirm symbolic interactions' perspective which is anchored on the belief that human beings do not respond directly to the world around them, but put a lot of attention to the meaning they bring to it. This implies that reality is what members of society agree to be reality and this is shaped in social interaction. This was clearly shown from the enquiry about the time or duration in which one was expected to have a child which range from year one to over nine years. Meanwhile, from the first year to over nine years, the couples faced a lot of pressure from the community to do the natural thing which is conception. For example, one community member commented: "why are they taking too long to have a baby?"

In addition, from a symbolic interactionist's perspective, childbearing is one of the social roles described as cultural responsibility that is "acknowledged, accepted, and used to realize pragmatic interaction within the community of human beings (Audu et al., 2013). The same view is captured in this research, especially the idea that childbearing among the residents of Kisumu County is seen as vital in maintaining family lineage besides validating the strong tradition of respect to the departed ancetors wanting to be named. The survey shows that 89% of the respondents felt that children brought joy and good companionship. In the same way, 89% acknowledged that children are a source of inheritance for future. About 87% indicated that childbearing was motivated by the need for some sort of (social) security in old age such as provision of financial assistance, looking after parents and giving ensuring company. As evident from Table 4.6, a big number of respondents (86%) were of the opinion that children assist at home while 83% were in consensus that desire to have children is motivated by the need for social status within the community. Furthermore, the survey showed that 78% of respondents believed childbearing was motivated by the need to obey God's commandment while 70% listed maintenance of

lineage as the main reason for wanting children. Among the Luo community, siring the boy child ensures continuity of the family lineage hence it ensures parental support at old age. In the absence of old age (social) security systems; children are responsible for taking care of their aging parents. Thus, childless informants were worried about their future. Above all, having ones' own children is a necessary condition to achieve full womanhood and manhood.

Infertility is influenced by among other things, the role expectations played by men and women through social interaction in defining childlessness within the community. Men and women bring in the aspect of social interactions in the interpretation of reality of childlessness according to the people of Kisumu County. In their study titled "the problem of infertility in Nigeria", Hollos et al. (2009) also acknowledged the role played by societal context/social interaction in shaping the local meanings of infertility and how the prevalence of infertility affects its meaning. Although it is difficult to measure the value of children, this study established that childbearing is closely motivated by social, economic and emotional values for parents. In the context of Kisumu County, which is largely pronatalistic in nature as revealed in the study, the infertile were often viewed as abnormal or as not fulfilling their responsibilities to continue the human race. Inability to have children is therefore culturally constructed as abnormal and imposes a social blemish for the childless couples. It was seen as failed motherhood and fatherhood experiences. Thus the study findings further confirms to the ideas of social constructionist approach and symbolic interractionism that people tend to understand reality through ascribed meanings emanating from their social settings and social interactions respectively.

On the motivation for children, the study findings are consistent with the assertion made by Menning (quoted in Makoba, 2005, p.99) that children are usually raised with the belief that they will be parents one day and they must therefore prevent the possibility of an illegitimate pregnancy. Such failed motherhood and fatherhood are said to be due to the fact that ones mother is a witch, one could have carried out abortion when young or got involved in sex before time, among many other factors.

This finding has also been in the past reported in other research outcomes done in different parts of Kenya. For instance, Maithya (2006) maintained that children among the Kamba helped in carrying the family lineage. Furthermore, Tabong and Adongo (2013) in their study about the social meaning of infertility and childbearing explained that most couples sought to have children to take care of their property and support them especially in old age as well as being a source of joy and companionship. In most cases, people in Kisumu County view children as a source of joy and blessing. In light of these findings, it appears that infertility leads to negative psychosocial consequences such as abuse and name-calling. The inhabitants of Kisumu County attached strong cultural values to parenthood, traditional marriage and childbearing practices. This implies that the meaning of marriage is attached to bearing of children.

In summary, it is clear that couples do not define themselves as fertile unless they embrace parenthood as the main motive for child bearing and as a desired social role. The presence of infertility is signaled, not by the presence of pathological symptoms, but by the absence of a desired state. The motives for child bearing are enhanced by the existing socio-economic characteristics and levels of awareness, and together they all take centre stage in the construction of the meaning of infertility. For most

respondents, as shown in Table 4.6, the desire to have children is motivated by the need to ensure inheritance, to have joy and companionship, to gain respect and status in the society, to maintain the family lineage among others. At the time of marriage all are geared towards fulfilling social roles of motherhood and fatherhood. The social construction of infertility is quite relative and therefore it can be argued that the interpretation of infertility in Kisumu County varies. This variation is influenced by the social, psychological, economic and cultural context of the community, and the meanings attached to infertility. All these factors confirm the interpretative repertoires through which the community in general make meaning of infertility and associated labels embedded in socio-cultural beliefs and practices. Among the community in Kisumu County, the meaning of infertility does not have any time limit. Again, the meaning of infertility is not only pegged on having a child but also having many children, some of whom must be male children. In other word, the meaning of infertility is pegged on couple's ability to contribute to parenthood. The reverse meaning of infertility invokes the usage of derogative labels like Luo-Lur; Kiswahili-Tasha; Kikuyu-Thata; Kamba-Ngungu and Luhyia-Mgumba. In some circumstances, the Luhyia community in Kisumu County refers to an infertile woman us "india avana" meaning "the greedy baby eater". As such birthing is considered as part of marriage, a new status, and identity and power acquisition.

CHAPTER FIVE

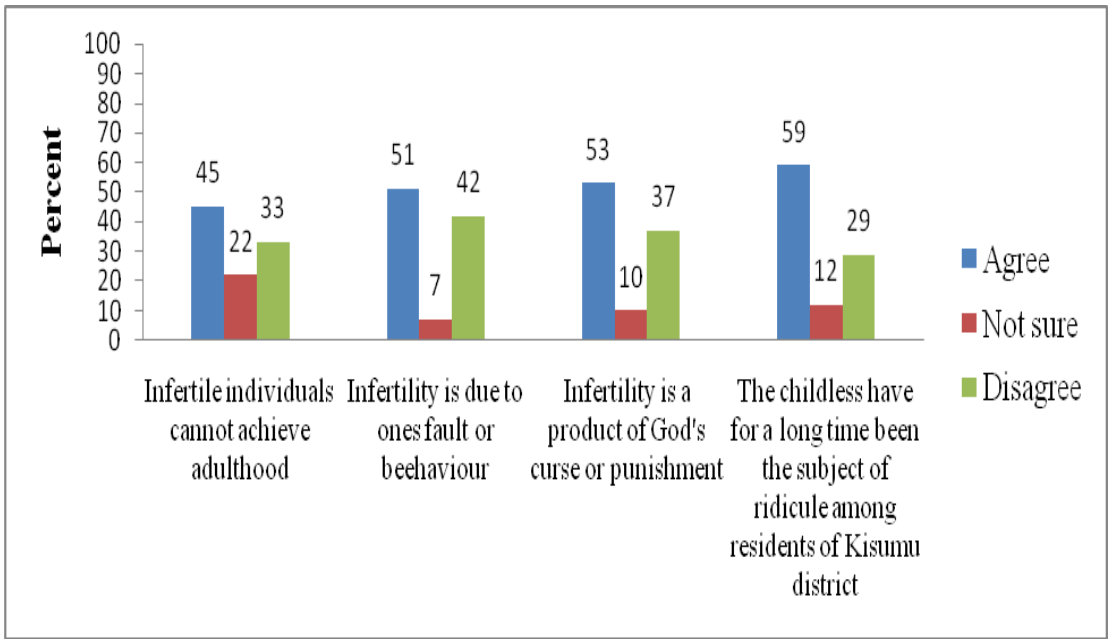
ATTITUDES TOWARDS INFERTILITY

5.1. Introduction

One of the main points of interest was the assessment of Kisumu County residents' attitudes towards the infertile couples. This was done using both questionnaires, FGDs and KIIs. This chapter discusses findings on attitudes of Kisumu residents towards infertility. Questions were posed to the study sample with an aim of assessing their varrious attitudes towards the infertile couples. Below are findings on the attitudes towards infertility experience. The findings are then compared with previous studies on the topic and discussed against the literature available.

5.2. Attitudes toward Infertility

Whilst the previous chapter analysed and discussed the meaning of infertility, the central theme in the current chapter focuses on the assessment of the attitudes of Kisumu people towards infertility. Certainly, there is enough evidence to support the objective. In general, the views analysed in this section range from favourable attitude to negative attitude towards infertility as shown in Figure 5.1. From the figure, it is clear that for a long time, issues of infertility have remained subjects of ridicule as confirmed by 59% of respondents compared to only 29% who believed otherwise. Again, 53% and 51% of respondents, agreed that infertility was either due to God's curse or as a result of one's behaviour respectively. Still , others, 45% agreed to the statement that infertile individuals could not achieve adulthood. The negative attitude was further confimed during the focused group discussion. It emerged that emotional harassment is often expressed by the childless couples especially women.



(Source: Field Results, 2012)

Figure 5.1. Percentage Distribution and Response on Attitudes towards Infertility

Negative attitudes was also potrayed through the use of derogatory terms. The use of derogatory term like *"lur",* was also common among the residents refering to women who were unable to bear children. The communities used various ways to insult and intimidate them, with a constant reminder of their worthlessness. Below are typical excerpts as examples:

> *"More often that not, my mother-in-law fights with me and sometimes she will see to it that I am divorced and my husband remarried"* (Female FGD, 26 years).

> *"People unable to bear children suffers a lot. You will find that everywhere you go, you are likely to be insulted and called names. Sometimes when someones child wrongs you, you cannot report him/her since you have no child of your own"* (Female FGD, 33 years).

The prior findings (from quantitative and qualitative data), clearly demonstrates that residents of Kisumu County have negative attitude towards infertility. Infertility is particularly portrayed as a source of distress for couples. Residents in Kisumu County seem to equate infertility with incompleteness, weaknesses and failures on a personal or interpersonal level. It is worth noting that attitudes towards infertility may not be static over time in a society or even during the lifetime of an individual.

The current findings confirm that aspects of culture determine people's thoughts, perceptions and attitudes about childlessness. Culture also influences people's beliefs and practices. The community expects married women to bear children, failure to which they carry all the burdens of childlessness and blame. From the study, respondents recounted several occasions where some women were barred from their marital houses, isolated and their male partners urged to remarry. Women were excluded from some important activities and celebrations. The tragedy of childlessness led to humiliation, ridicule and abuse on the couples. From such experiences, majority of people had negative attitude towards the infertile couples.

Attitude towards infertility is closely associated with socio-cultural values attached to childbearing. For many couples, the inability to bear children is a tragedy. Childlessness leads to conflict at personal and interpersonal levels. High religious expectations about parenthood brings a sense of failure, loss and exclusion to those who are affected couples. Socially and culturally, most societies are organized such that children are necessary for care and maintenance of older parents, an assurance of continuity of the family lineage and any failure to that effect is viewed negatively. Consequently, childless couples may be excluded from taking leading roles in important functions and events such as birthdays and weddings. A lot of

values are attached to parenthood. The inability to meet parenthood expectation led to the displeasure and unfavorable attitudes from the community.

The Individual demographic factors, such as levels of education, income, place of residence and religious affiliations also determine the attitudes of the study subjects towards childless couples in Kisumu County. For instance, most of the respondents had low levels of education and reside in rural areas as indicated in Table 4.1. This partly explains the low level of awareness and strong attachment or adherance to socio-cultural beliefs and practises.

People with limited knowledge about infertility may engage in ineffective behaviors that could delay seeking effective interventions. When infertile couples have access to more information and personal necessities, their attitudes about interventions for infertility become more positive. Inadequate public education campaigns leads to erroneous beliefs about the risk factors associated with negative attitude affected couples.

Such strong adherance to cultures justifies the existing negative attitude towards couples experiencing infertility. The place of residence explains the levels of awareness, exposure, income level and by extension, the kind of knowledge one has which in turn informs his or her attitudes . Unlike the rural and remote based people, the urban residents were more likely to be exposed to issues of infertility and their probable causes. However, from the study, most respondents were majorly from rural areas and therefore it is not a surprise that most of them tended to have negative attitudes towards infertility (see Table 4.3). As per the findings of this study, the misinformation based on hearsay, nuances and antidote shape people's views on the

meaning, causes, consequences and coping with childlessness. In the same way such talks shape people's attitudes about couples experiencing childlessness.

Religious affiliations also command some important influence on attitudes of Kisumu resident towards infertility. This group of people ascribed to traditional religion and therefore are more likely to have negative attitudes towards infertility. However, some also have negative attitude towards infertility as being infertile is perceived as not being blessed and that God is punishing them.

In many Muslim communities, infertility is still considered a taboo topic. Many Muslims are still struggling with their infertility in silence. Many women fear that they will be blamed for their infertility or that they are being punished for past wrongdoings. In Islam, people believe that their trials are simply the will of God. Although understanding the reasoning behind such a trial is hard to understand, people have to somehow come to terms with what God has decreed for them. It does not seem fair and, unfortunately women are often blamed where there is no blame to be given. Infertile women just need to pray more and they will get pregnant (Brockopp and Eich, 2008). It is important to point out that attempting to cure infertility is not only permissible, but may be a duty for the infertile couple since procreation and preservation of the human race is principal goals in marriage. The treatment itself, however, should never go beyond the boundaries of what is permissible by Allah. The ends do not always justify the means, and in the case of infertility, this principle should be readily apparent (Dubey & DeCherney, 2012).

In today's world of medical technology and advancement, there are many options available for couples who are struggling with infertility. Unfortunately, many of these options are morally and religiously unacceptable. In general, it is easy to remember

that any procedure that makes use of sperm or eggs that do not belong to the husband or wife is absolutely unacceptable in Islam. This would entail making use of what is commonly termed donor eggs or donor sperm. The obvious reason for their prohibition is that they involve mixing of lineage, confusion as to who the real parents are and, in reality, an illegitimate child.

Insufficient family income, poor quality of life, life stress, and discontentment with daily routines as well as bad' relationships among family members are significant correlates of couple infertility. Therefore, poor infertile couples may have negative attitudes toward infertility as compared to wealthy infertile couples who can access ART services easily. Moreover, wealth is closely related with higher education while poverty is related with low level of education. This implies that wealthy people are more likely to be knowledgeable about infertility issues and as such they would have positive attitudes toward infertility as opposed to poor people.

The findings are a reflection of typical African setting which can be described as pro-natalistic, where marriage finds meaning with the bearing of children hence perpetuating the family's name. Consequently, infertile persons were excluded or secluded from some of the traditional rituals performed at their deaths. A good number of the community members exhibited negative attitude towards infertility. According to most couples, childlessness is a source of distress. Infertility is equated with ones incompleteness, weaknesses and failures.

It is thus evident that socio-cultural beliefs are major determinant of the community attitude towards the infertile couples in Kisumu County. This is because socio-cultural beliefs and practices are closely linked to procreation and to child rearing. Previous studies, for instance by Ocholla-Ayayo (1976), have repeatedly highlighted this aspect

of the Luo culture that puts a premium on couples having many children hence portraying failed conception negatively.

The study findings also resemble that of Nukunya (2003) who highlighted the role of culture in controlling people's attitudes towards infertility. The author also observed that infertile couples suffered from community's negative mental image attitudes. According to Ali et al. (2011), the need for children is a substantial component of socio-cultural beliefs and practices, and that parenthood is perceived not as an isolated case but as an event, which is integrated with other aspects of life. Due to the existing cultural belief in procreation, couples who cannot have children are regarded as having failed in a fundamental way and are seen as failures.

The study confirms the relevance of symbolic interactionism perspective which revolves around the use of language, symbols and interpretation of meanings. By this logic, infertility is therefore a symbol. Symbolic interactionism has two important aspects. They are the internal perspective and the external perspective. The internal perspective is what the individual believes about his or her condition in so far as infertility is concerned. This could have far reaching consequences on upon their coping strategies. The external perspective concerns how individuals and society as a whole interprets and defines meanings of symbols. The two aspects explain perspectives and perceptions held by Kisumu County people.

As seen from the study findings in Figure 5.1, more than a half of the respondents have confirmed that in deed infertlity is a subject of redicule as such, childless couples encountered unfavorable treatments from their society. Couples who fail to bear children continued to suffer humiliation and sometimes ridicule or abuse. This is well illustrated by the use derogatory term such as *"lur",* common among the

residents refering to infertile women. As revealed during FGDs, the communities used various ways to insult and intimidate those unable to bear children with a constant reminder of their worthlessness.

The study findings also correspond to the conceptual framework depicted in Chapter two where attitudes of people towards infertility are informed by existing stereotypes and fixed minds of the community members, which in turn compromises the interactions among persons suffering from infertility and the community at large as depicted by Figure 2.1. As a result of this, community members tend to be more inclined to negative attitude towards the childless couples. That these stereotypes and stigma still surface in the contemporary popular culture is telling of present-day attitudes towards the condition of infertility and the victims who suffer from it, informing how members of our society, particularly in Kisumu county including those who are infertile think about infertility.

CHAPTER SIX

SOCIO-CULTURAL BELIEFS AND PRACTICES ASSOCIATED WITH INFERTILITY

6.1. Socio-Cultural Beliefs and Practices Associated with Infertility

This section illuminates socio-cultural beliefs and practices that predispose men and women to infertility, with an emphasis on factors that characterize relationships and activities within the commuity. Varied opinions were obtained from the respondentss in this regard. Table 6.1 displays the frequency and percentage distribution of responses.

From the table, it is clear that 88% of the female respondents linked infertility problems to God's plan. About 55% of the females interveiwed were of the opinion that having multiple sex partners predispose women to infertility. However, about 70% attributed infertility to premarital sex, 71% to witchcraft, 69% to bad omen from evil person, while 73% believed that being slapped by a ring might predispose one to infertility. Accordingly, about 66% of female participants linked infertility to inner vows while, others, 79% claimed it was as a result of parental curse and 74% believed that women ended up with infertility problems if their spouses worked far.

Table 6.1. Females' Views on Socio-Cultural Beliefs and Practices Associated with Infertility in Women
N=107

	Disagree		Not Sure		Agree	
Views and Practices	Freq.	%	Freq.	%	Freq.	%
Having many sexual partners	29	27	19	18	59	55
Having sex before marriage	22	21	10	9	75	70
Witchcraft	9	8	22	21	76	71
A bad omen from evil person	8	8	25	23	74	69
A slap with a ring	16	15	13	12	78	73
Rituals performed with a cloth	18	17	7	7	82	77
God's plan or decision	5	5	8	8	94	88
A vow never to have a child	18	17	18	17	71	66
A parental curse	8	8	15	14	84	79
Blood does not rhyme	14	13	14	13	79	74
Spouse works far	18	17	11	10	79	74

Multiple response total %>100
(Source: Field Results, 2012)

The findings from the male respondents as shown in Table 6.2 revealed that the bulk of the male respondents (91%) were of the views that infertility in females was due to God's plans. Some 75% of male respondents indicated that infertility result from blood incompatibility while 74% indicated that parental curse was the cause. A large proportion of respondents (70%) did link infertility to premarital sex and 68% associated infertility in women to rituals performed with a cloth and spouses working too far. Another 66% of the male with respondents explained that infertility in women was as a result of bad omen from evil person and being slapped with a ring. Witchcraft was stated by 60% of respondents to be the cause of infertility in women as compared to 57% of respondents who viewed infertility in women to be as a result of a vow never to have a child. Lastly, 42% of males interviewed believed that multiple sex partners lead to infertility in women (See Table 6.2).

Table 6.2. Males' Views on Socio-Cultural Beliefs and Practices Associated with Infertility in Women
n=93

Socio-Cultural factors that	Disagree		Not sure		Agree	
Predispose Women to infertility	Freq.	%	Freq.	%	Freq.	%
Having many sexual partners	29	31	25	27	39	42
Having sex before marriage	24	26	4	4	65	70
Witchcraft	12	13	25	27	56	60
A bad omen from evil person	13	14	19	20	61	66
A slap with a ring	24	26	8	9	61	66
Rituals performed with a cloth	18	19	12	13	63	68
God's plan or decision	2	2	6	7	85	91
A vow never to have a child	21	23	19	20	53	57
A parental curse	8	9	16	17	69	74
Blood does not rhyme	10	11	13	14	70	75
Spouse works far	19	20	10	11	63	68

Multiple response=total % >100
(Source: Field Results, 2012)

As it was in the case of female participants, the same was the case with men as shown in Table 6.3. Males gave varying responses on socio-cultural beliefs and practices associated with infertility in men. Most men, 91%, believed that too much work leads them to be infertile while 89% said that it was as a result of God's plan or decision. About 79% thought it was because of too much bicycle cycling and 72% believed it is caused by parental curse. Blood not rhyming was cited by 68% of male respondents as compared to 67% of the male respondents who listed a vow never to have a child and a bad omen from evil person as the causes of their infertility.

As shown by views of some of the respondents, infertility is closely connected with belief in God as the sole provider and that His time is the best. The attribute of God's wisdom is one of the significant beliefs about God among the Luo for it proves that God knows everything. This attribute is significant to the Luo way of life and belief because in their daily lives they allude to God's wisdom in managing their affairs. For instance when faced by a difficult situation they would usually say, "*Nyasaye ong'eyo*" translated as "God knows." Therefore, we see that God's justice is closely connected to His Wisdom and thus the two complement each other when looking at the life and beliefs of the Luo.

Table 6.3. Males' Response on Socio-Cultural Beliefs and Practices Associated with Infertility in Men
N=93

Socio-Cultural factors that Predispose Men to infertility	Disagree		Not Sure		Agree	
	Freq	%	Freq	%	Freq	%
Male having too many sexual partners	29	31	7	8	57	61
Having sex before marriage	29	31	2	2	62	67
Witchcraft	8	9	33	36	52	56
A bad omen from an evil person	10	11	21	23	62	67
Being circumcised	27	29	6	7	60	65
Rituals performed with a cloth	24	26	21	23	48	52
God's plan or decision	1	1	8	9	83	89
Vowing never to have a child	7	8	23	25	62	67
Parental curse	8	9	18	19	67	72
Blood not rhyming	12	13	18	19	63	68
Sex with older women	18	19	20	22	55	59
Using sperms for rituals	25	27	6	7	62	67
Improper handling of a child at birth	22	24	10	11	61	66
Too much bike cycling	2	2	18	19	73	79
Too much work	4	4	14	15	85	91

Multiple response=total % >100
(Source: Field Results, 2012)

Having considered factors that predispose both male and female to infertility, it was reasonable to look at females views on factors that predispose men to inability to contribute to conception and Table 6.4 summarizes the findings. Women like their male counterparts were of the opinion that infertility experience was in line with God's plan and decision as was indicated by about 91% of all females interviewed. Unlike the males, 67% of female respondents associated infertility in men to rituals performed with a cloth. An equally significant finding was that 60% of women interviewed linked infertility with circumcision of males. Interestingly, about 63% of all females who participated in the study indicated that the male infertility was also due to male's sexual affairs with old women. Subsequently, a correlation test was conducted to test association between infertility and socio-cultural beliefs and practices in both males and females.

Table 6.4. Females' Views on Socio-Cultural Beliefs and Practices Associated with Infertility in Men

N=107

Socio-cultural related factors in men	Disagree		Not Sure		Agree	
	Freq	%	Freq	%	Freq	%
Male having too many sexual partners	30	28	15	14	62	58
Having sex before marriage	28	26	5	5	74	69
Witchcraft	7	7	31	29	69	65
A bad omen from an evil person	9	8	17	16	81	76
Being circumcised	28	26	11	10	64	60
Rituals performed with a cloth	22	21	13	12	72	67
God's plan or decision	1	1	9	8	97	91
Vowing never to have a child	4	4	19	18	84	79
Parental curse	6	6	16	15	85	79
Blood not rhyming	13	12	22	21	72	67
Sex with older women	19	18	21	20	67	63
Using sperms for rituals	24	22	19	18	64	60
Improper handling of a child at birth	16	15	8	8	83	78
Too much bike cycling	8	8	10	9	89	83
Too much work	9	8	8	8	89	83

Multiple response=total % >10

(Source: Field Results, 2012)

It is interesting to note that more female respondents as compared to their male counterparts held the view that God was responsible for their situation. There was a considerable proportion of males, 91%, were of the views that infertility was due to God's plans. However, 75% of the males indicated that infertility result from blood incompartibility. About 70% and 42% of the males interviewed believed that multiple sex partners and premarital sex predisposed infertility in women respectively. Other socio-cultural beliefs and practices that predisposed females to inferitility according to male respondents were as follow: spouse works far by 68%, the same number 68%, attributed infertility to rituals performed with a cloth while 74% indicated parental curse, 66% bad omen from evil person and 60% believed that infertlity was as a result of witchcraft.Evidently, 91% of the men believed that too much work predisposed them to infertility while 79% thought it was because of too much bicycle cycling. A relatively high number of male participants, that is 89%, believed infertility was a result of God's plan and 65% related it to circumcision. Infertility was least associated with rituals performed with a cloth according to 52% of total males interviewed.

This finding appears to support the suggestion that women are closer to nature and are more spiritual than men (Nga, 2005). An explanation to this point is that childlessness condition is a sign of punishment for sins people committed in the past. Nonetheless, this finding is in sharp contrast to the one realized by Barden-O'Fallon (2005) whose study in Malawi revealed that economic factors predisposed many to infertility as compared to social factors. The close association between infertility and witchcraft as reported by the respondents is confirmed by Dye (2002) who link it to failure to adhere to cultural taboos to childbearing problems. The findings also concur with that of Foster and Anderson (1978) , who in their study observed that infertility was

caused by some bad or evil spirits. In the words of Dye et al. (2004) witches could conspire with in-laws , co-wives or even jealous neighbours to cause infertility. Witchcraft is a mystical power by which some people are thought to be able to harm or kill others when they do not like them, whereas sorcery is the use of some material object for the same purpose (Van Rheenen 1991, p.162).

Witches and sorcerers among the Luo communities are known as "*jojuogi*". Witchcraft power is seen as misapplied and abused power, leading to misfortunes, illness, and death to others. Usually, the act takes place between people in close relationship, in the neighbourhood, or with co-workers. When in harmony, people tend not to interpret problems in terms of withcraft, but when in conflicts, attributions of witchcraft are likely to occur as pointed out by Sami and Ali (2006). Conditions like infertility are then more likely to be linked to witchcraft, concludes Mabasa (2002). Explanations about infertility in this context imply that the infertile person is not responsible for his/her infertility. Apart from the spiritual causes, some respondents were convinced that infertility was brought about by certain cultural factors. These cultural factors are closely linked with couple's reproductive processes. For instance, failed reproductive processes were blamed on blood incompatibility and being circumcised.

Several studies associate socio-cultural beliefs and practices with infertility. Feldman-Savelberg (1994), Upton (2001), Meera Guntupalli and Chenchelgudem (2004) and Neff (1997) view infertility as any deviation or transgression from certain behavioural norms for instance unfaithfulness or premarital sex, disrespecting elders as factors that can block ones reproductive tract. Similar sentiments are shared by Upton (2001) who mentions that infertility can be caused by transgression of sexual norms by men. For instance, being involved in sexual intercourse with another woman

when one's wife is pregnant is seen as a risk factor for miscarriages. Sundby (1997) explains that in many West-African countries, infertility is regularly related to misuse of the body, which includes promiscuity or abortion-violation of taboos. On the other hand, Feldman-Savelberg (1994) is of the view that disrespectful treatment to parents and husbands is one of the principle causes of infertility. It must be noted these are respondents views have not been medically confirmed.

Findings from FGDs and KIIs confirmed witchcraft as a determinant of infertility. A number of participants viewed witches as responsible for obstructing or preventing pregnancy and inducing miscarriages. Jealous female relatives are more often than not responsible. A young woman gave an example of this during the FGD when she stated that:

> *Some people are jealous of others, they go about consulting traditional doctors and they destroy the mother's womb (*Female FGD participant, 27 years).

Echoing these sentiments, one female respondents narrated her odeal by remarking as follows:

> *Personally, I have waited for quite some time now. At some point, I felt something was wrong with me, perhaps I was cursed or something, it got to the point that I almost considered going to a native medicine man*" (Female respondent, 22 years).

During key informant interview, some TBAs explained infertility resulted from "*tuech*" litterally meaning to be "bound or tied". Among the Luo community, it was believed that the grandmother controlled fertility/infertility. one of the KIIs explained that

> *"Grandmother used to take especially the underwear or the soil which has one's menstrual blood waste and hide somewhere in the kitchen in the thatch by the fire place where some passes as a sign to prevent the girl from getting pregnant –so in case she dies before she had told you, you might not get children*."(TBA, 40 years)

Here, to be "tied" served a dual and often a binary opposing purpose. For a young unmarried girl, to be kept offered protection against unwanted pregnancy and the shame, dishornour of lossing out on a marriage partner. This meant that one had to cultivate a cordial relationship with the grandmother to ensure that she can "unbind" one at the oppurtune time. It is for this reason that the grandmother was feared and respected.

One of herbalist leaders during KIIs opinioned that in some cases, witches and spiritual forces was also responsible for infertility:

> *I know instances where witchcraft has resulted in childlessness. There are also occasions where witches have openly confessed of their doings. This was very common in the olden days but now you don't hear very much of this (*Herbalist, aged 45 years).

The belief in contraceptives as a cause of infertility was unanimous for both male and female participants. The study revealed that few women experienced secondary infertility after using certain types of contraceptives. Most male participants in the FGDs disliked contraceptives especially among young girls as it is associated with promiscuity. They also believed that girls on contraceptives were more likely to trouble their future husbands. One of the participants during FGD captured the situation as follows:

> *''My partner made a serious blunder by taking the family planning drugs. As a result of this, she took quite sometimes before giving me another child. In fact, I almost divorced her. I told her never to use the drugs again."*(Informant, aged 45 years)

An interesting finding was that improper handling of a child predisposed individuals especially men to infertility. On the other hand, respect and adherence to societal norms among the married was key in guiding against any possibility of becoming infertile. In the words of one FGD participant:

> *''The only way to prevent infertility is respecting the prescribed norms of the community. This discourages the gods and ancestors who often bring childlessness among married partners."(*A male FGD aged 30 years)

It also emerged during the FGD that God's power or plan exposed some respondents to inability to contribute to conception. One participant acknowledged that God has a significant power in her childlessness. The voices of females FGDs are described below:

> *"I just believe that if it's meant to be, I will have a child…""I mean people fall pregnant taking drugs, people fall pregnant doing all, everything, and, you know, if it's basically not meant to be. This is actually just there to improve your chances, but if it's not meant to be,..... If its God's will that I should have a child, I will have one…"* (FGD Participant, Female 30 years).

> *"There have been many times when I have reached out to my fellow church members, wanting their help and prayers in dealing with this situation. Once, I requested prayer from a women's prayer group and was promptly told by these women that maybe it was not God's will for me to have a child. Therefore, they were not going to pray for me. Since my religious beliefs and convictions are based on the power of prayer, I was devastated*" (FGD Participant, Female 25 years).

From the above sentiments, it is clear that the FGD participants are convinced that both her miscarriage and infertility is caused by a punishment from God although she does not know her fault, which angered God. Religious explanations of the causes of infertility are common and infertility is perceived as the test of one's patient. Religious treatments of infertility are dominant and religious leaders have the power to say that God only cures infertility. The statement below illustrates the responses in one KII with religious leaders:

> *There is nothing impossible with God. If people patiently demand from God only, it is easy to get everything, including children. We can see in the Bible that Sarah and other infertile women gave birth during their old age [post menopause]. ....Many of the popular figures in the Bible such as Isaac, Jacob, Samson, St. Mary, and John the Baptist were born from couples who faced infertility problems at first and who received God's blessings for their faith in Him. The problem is that most people have no patience and do not stick to God only. They try sorcery, commit adultery, break their marriage, or lose hope in God. As religious persons, we advise people to be strong, to stay with their husband or wife, and pray to God as He has his own time."(*KII with a 46 years old, religious leader)

However, another religious leader emphasized the difference between the New and Old Testament about the cause of infertility. As explained in the Old Testament, infertility was considered as resulting from a person's sinfulness and God's curse. According to him, infertility is considered as God's curse in the New Testament.

> *"In the Old Testament, infertile people were considered as cursed because they didn't share the blessing: "Be fruitful and multiply; fill the earth." Genesis, 1:28. Other people insult them by saying 'dry breast', 'closed womb', 'relative of mule', 'unblessed and cursed'. In the Old Testament, the religious leaders for holy services did not accept the tribute of the infertile people* (A pastor, 43 years).

In summary, it is clear that socio-cultural elements manifest saliently in general perceptions of individuals and community about the causes of infertility. Causes of infertility is more than a medical problem but includes several socio-cultural values, norms and practices such as witchcraft associated with infertility.

CHAPTER SEVEN

COPING STRATEGIES USED BY PERSONS SUFFERING FROM INFERTILITY

7.1. Introduction

Child bearing is a very important exercise among African society, and most of the time it is the determining factor in the sustainability of family and conjugal life. Consequently, couples who cannot bear children are confronted with various social, psychological and economic challenges.

In this chapter, the findings on consequences of infertility that influence coping strategies among couples in Kisumu County are presented. In particular, the main focus is social, economic and psychological consequences and experiences that influence coping strategies with infertility in Kisumu County. This is then followed by findings on coping mechanism. Life crisis and bio-psychosocial theories are discussed as they apply to findings of this study.

7.2. Coping with Infertility

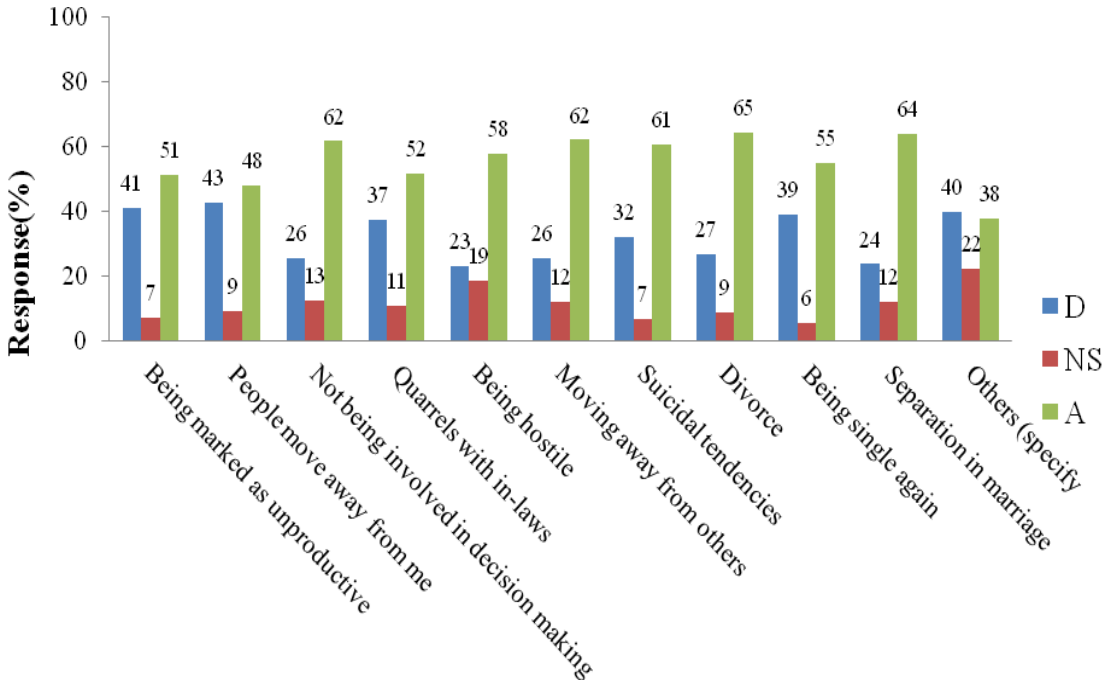
Lazarus (1991) defines the term coping as an effort put by an individual or a couple to manage and overcome demands and critical events of life that pose a challenge , threaten, harm, lead to a loss or a benefit. Coping enables an individual or a couple to adapt to adverse situations hence able to deal with the past, present and future effectively. The study study focuses on four types of coping strategies namely reactive, anticipatory, preventive and proactive coping. Reactive coping is about reacting to a past loss or problem. In this kind of situation, one reacts to compensate for the loss or to accept the situation. For instance, in the case of infertility, divorce and polygamy are two forms of reactive coping that are often adopted by men facing

childbearing problems. Anticipatory coping is a short-term coping strategy that targets a possible threat in the near future. This kind of coping is important in a situation where a bad event has not yet occurred (Lazarus, 1991).

Anticipatory coping is mainly critical for safeguarding against coming threat. For example, medical researchers may work on ways of addressing infertility using vaccines and better nutrition, besides ensuring good girl-child upbringing, good maternal health, investing in medical facilities, education and awareness. Preventive coping is a long-term coping strategy about uncertain or potential threat in uncertain future (Lazarus, 1991). It enables an individual or a couple to prepare for future by building structures like hospitals, community care, putting place health insurance and protection against any possible health problem. Proactive coping targets upcoming challenges that are potentially self-promoting. This coping strategy does not wait for the negative consequences like damages or the loss to occur but build resources that can help overcome future problems. A visionary coping strategy views risks and damages as opportunity. Through this coping strategy, one can ensure ambitious goals based on self-efficacy or inner ability.

7.3. Social Consequences of Infertility

Available findings reveal that several factors influence coping strategies used by persons suffering from infertility. A key point is social consequences of infertility which touches on individual behaviour attributable to the social values, lifestyles and behaviour of the groups to which an individual belonged. Figure 7.1 shows that there existed a wide range of social consequences of infertility as per the responses provided. In this study, A, NS and D refers to Agree, Not Sure and Disagree respectively.



(Source: Field Results, 2012)

Figure 7.1. People's Perception on the Social Consequences of Infertility

From Figure 7.1, social consequences of infertility took many forms and helped explain why human behaviour should be considered in treatment of ailments. In this study, social consequences of infertility helped the researcher understand participants' thoughts, attitudes, beliefs and actions in so far as childbearing's problems is concerned, and such also determine their coping strategies. It can be deduced from the current study results that infertility is a great challenge to marriage.

The figure shows that about two thirds (65%) of respondents cited cases of divorces as a consequence of infertility, while 64% indicated seperation as another consequence of infertility. These findings directly point to the fact that childlessness was a serious stumbling block to stable marriages. In fact, from the study, a large prortion of the females who took part in the study especially those with mysterious infertility challenges, were uncertain about their marriages. The figure further reveals that 61% of the respondents reported cases of suicide tendencies. This was confirmed by one of the study participant who stated that *"a woman strangled herself after several attempts of failed pregnancies".* Generally, it was clear that most suicides were as a result of mental stress on the infertile couples. There were also cases of isolation on persons suffering from infertility and this was confirmed by total of 62% of respondents except for 26% who disagreed. The isolation could be attributed to the Luo community belief that a meaningful relationship could not exist in the absence of children. Hence, individuals who experienced childbearing problems suffered alienation and discrimination not only from the community but also from their own spouses.

In so far as decision-making is concerned, a total of 62% of the respondents reported not being involved in family decision making. Consequently, couples affected by

infertility were often reluctant to be involved in positions of decision making, whether in the family or society, as they believed that they had no "voice", or they were denied their "voice." This is yet another manifestation of partriachal nature of our society which suppresses females voice in so far as access justice is concerned.

Other indicators of social consequences include being marked as unproductive, people moving away from infertile person, not being involved in decision making, quarrels with in-laws, facing hostilities from neighbours, self-isolation because of fear, suicidal tendencies, fear of divorce and separation in marriages. The negative names and connotations that couples facing infertility grapple with as they go about their daily lives, result in a lot of mental distress and by extension, leads to health crisis. The following phrase from a participant illustrates the point:

> *..., even when you disagree with somebody, they know they will silence you by calling you the name- lur. When a child wrongs you, you cannot report him because you have no child-you will be asked" do you know anything about pains? You will be told to go have your own. Discipline of children is the exclusive privilege of those who have experienced childbirth* (Female Participant, 22 years).

Participants repeatedly mentioned that infertility affected family unity and sometimes resulted in breakups. Most female's respondents with unexplained infertility problems were worried about their marriages and many felt their husbands were likely to leave them. There is evidence that infertility offers a good ground for divorce, separation of the general disintegration of most families. Most husbands tend to lose interests in their marriage relations with their wives. One female FGD participant's description of her marital experiences is illustrated in this regard:

> *My conjugal life was going well after my marriage. However, after three years, we unsuccessfully planned for a baby and later accepted my difficulty to conceive from medical tests. Instead of giving me mental support, my husband was dissatisfied with me; he reacted as*

> *if I was guilty. I was losing my voice in that house. It was the beginning of my marital break-up with him* (FGD Participant, Female 29 years).

Like women, men also face various social challenges due to their infertility. Some were even pressured to acquire a second wife in an attempt to prove their fertility in an effort to escape the ridicule and stigma that goes with being childless in the community. The following are some of the expressions during FGD with male participants:

> *"Infertility affected my marriage because I had to chase my first wife away thinking that she was infertile. I married the second wife, she is always supportive, and this is good*" (FGD participant, male 29 years).

> *I had to marry my second wife because I lived with my first wife for 10 years without a child. After a lot of ridicule from my family and neighbors, I was forced to marry a second wife but we have lived for 10 years without a child too* (FDG Participant, Male 45 year).

In one key informant interviews, a religious leader attested the bad experience couples face in a childless marriage:

> *Infertility is really a bad experience. I have seen men being put under a lot of pressure by the woman's family. Sometimes, they are threatened with ultimatums to dissolve their childless marriages* (Pastor, 65 years).

The issue of social isolation was clearly captured as one of the discussant in the FGD explained that:

> *Even well-meaning friends and family ask inappropriate questions, make insensitive comments, and say things that upset you and hurt your feelings. You start not answering their phone calls and think of excuses to avoid seeing them. You start isolating yourself and staying home more so you do not have to see pregnant women and babies.*
> (A female FGD, aged 33 years)

Another FGD participant drives the point home:

> *It's difficult to be a part of daily conversation where everyone is discussing having another baby, confiding whether they want a boy or a girl, how many they want altogether, and how they will decorate the new nursery room. To this day, no one seems to particularly care about my feelings. I find myself making some kind of side remark or walking away altogether…….My family seems to think I've always got a problem, but what they don't seem to ever understand is that I just wanted another baby like each of them. You would think this would be such a simple concept* (A female FGD, aged 33 years)

This statement seems to be suported by opinion of the Traditional Birth Attendant. For instance, in one KII, a TBA shed some light on the plight of infertile couples as follows:

> *I'm well aware that parenthood is one of the major transitions into adult life for both men and women. As a result, the non-fulfillment of the wish to have a child is clearly associated with a host of problems... I have particularly witnessed the problem social isolation where some members of my community have been denied leadership roles in various functions* (KII with TBA, 55 years).

The findings are reveal that sometimes the problem tends to emanate from those with the infertility problems as opposed to the social environment. For example, a pastor had this to say;

> "*I'm convinced that sometimes, the problem may not lie with other people or the society at large, but with the victims. Unfortunately, some of the victims tend to avoid others. The first thing is that one should start by appreciating that he or she is wonderfully and fearfully made and God the creator has good plans for everybody*"(KII with a 37 year old Pastor)

The prior sentiments simply confirm the fact that at times the infertile couples or individuals are solely to blame for the social isolation as opposed to the people around them or the society at large. It also emerged from the findings that infertile women were accused of being witches and had to endure various forms of family resentments.

For instance, women without children in their old age are often branded as witches, and abandoned by their relatives. Such women were not allowed to interact or take care of other people's children as they are often accused of having "eaten up" all the children in their womb and could bewitch and cause the death of other people's children:

> *Such women (infertile women) are dangerous to society in their old age because they become envious of other people's children and will stop at nothing but cause the death of other people's children* (female FGD participant, aged 26 years)

Couples suffering from infertility have to battle with being branded negatively as confirmed by qualitative results from FGDs and KIIs. The common terms were "*lur"* for infertile women and *"bwoch"* for infertile men.

From the foregoing analysis, it is important to understand that couples ability to cope with infertility is influenced by the social, economic and psychological consequences of infertility. Socially, if couples are not accepted by others, then this hinders their ability to access treatment. Further, weak family ties, social discrimination and social conflicts weaken support mechanisms that are vital in recovery process and care. Psychological consequences like low self-esteem and withdrawal syndrome hurt the couples hence hindering their healing processes. In the same way, depletion of resources as couples try out different healing methods render them poor hence they may not have enough money for ART.

The study findings conforms to the principles of both the life crisis and bio-psychosocial perspectives. The meaning of life-crisis perspective became even more relevant in relation to the negative consequences of infertility. One of the key principle of life crisis theory is that it has some identifiable or unique beginning which is often triggered by some event which may be so devastating consequently

developing into a life crisis. Infertility is seen as the begining devastating experience which consequently developes into a life crisis like suicidal tendencies. In addition, infertility has made some couples to be involved in multiple sexual advances and contracted HIV/AIDS virus. This has wiped out segment of families within Kadibo sub-county hence demonstrating life crisis among the community members.

Bio-psychosocial perspective explains how human behaviour is a product of the interaction of biological, psychological and social factors. As such couples suffering from inferrtility have to bear with long-term complications which influence relationship with family, friends , coallegues and the larger community. As shown in Figure 4.4, infertility is associated with serious social problem in the study area. A sizeable number of interviewees making up 65% of the respondents mentioned that infertility is a common ground for divorce. In addition, 64% of respondents reported separation in marriages as one of the social consequences of infertility. Similarly, infertile couples are excluded from engaging in family decision making according to 62% the interviewed. This is enhanced by the fact that among the Luo community, a meaningful relationship cannot exist in the absence of children. Hence, individuals who experienced childbearing problems suffered alienation and discrimination not only from the community but also from their own spouses.

The foregoing findings are in agreement with previous observations on the social consequences of infertility in Ghana, Nigeria and South Africa. For instance, Tabong and Adongo (2013) found that infertile men in Ghana were being described in local terms such as *Lankpolosoba* (man with rotten testes) or *Yokuusoba* (man with a dead penis) in the Upper West Region. Similar findings were reported in South Africa by Dyer et al (2004) where it was reported that infertile men were verbally abused and

lose their social status in the community. Koster-Oyekan (1999) found that an infertile women in Nigeria could be insultingly referred to as "*agan*"meaning a woman who is unable to give birth and particularly one suffering from primary infertility.

Although childlessness among the Luo is not considered adequate grounds for divorce, there seems to be indications of irretrievable breakdown or evidence of family disintegration. One reason for this may be, as past literature suggests, that children are the foundation of womanhood. Africans value children, and the ability to procreate whether for the man or for the woman is not only considered a measure of sexual virility, but also as the natural product of love and marriage (Sami & Ali, 2006). Therefore, a woman who cannot have children is an object of pity in the family, and the community at large. This finding is also reflected in past studies examining the consequences of infertility. For instance, Feldman-Savelsberg (1994) observed that childlessness was a leading cause for divorce among the Bangangte ethnic group in Cameroon. Okonofua, Ako-Nai, and Dighitoghi (1995) also noted that infertility was a typical ground for the expulsion of the woman from the partner's house, with or without divorce. The authors gave the example of the Ewe and Ashanti of Nigeria where the childless were not seen as fully adult and therefore were denied full adult funeral rights (Forter, 1978).

It is the researcher's view that social consequences of infertility are real and include frequent quarrels, isolation, suicidal tendencies, divorce and separation. Similar revelations have been realised in other countries. Of great interest now is for sociologists to explore how societal processes and institutions can be re-engineered to address social consequences of childbearing problems as they greatly influence coping with the same.

7.4. Economic Consequences of Infertility

An equally important factor that influences the type of coping strategies to be in place to address child bearing problems is economic consequences of infertility. In general, social economic consequences of infertility included the cost of coping with infertility, financial activities and implication of such in the lives of the individuals and couples reporting childbearing problems. Notably, economic consequences of childlessness concerns problems experienced by the individual or couple because of the condition. Such consequences focus on the participants' experiences as characterized by individuals or couple's drastic economic disruption, diminished health and economic loss. At national level, by understanding such consequences a country can reduce the cost of disease through appropriate preventive action, care or treatment strategies.

Table 7.1 indicates that a large fraction of respondents totaling 93% were in agreement that they faced difficulties in meeting treatment costs and only a few, translating into 2%, did not identify this factor as a challenge while those who were not sure comprised of 5%. Those who strongly agree were 63%, while 30% agreed. The participants also indicated that infertility led to poverty. This is according to a joint of 77% of those who took part in the study compared to only 10% with contrary opinion. However, about 14% of the respondents were not sure.

Table 7.1. Responses on the Economic Consequences of Infertility

Economic Consequences of Infertility	SD	D	NS	A	SA	Overall Disagreement	Overall Agreement
Poverty	8	2	13	55	22	10	77
Difficulty in meeting treatment costs	-	2	5	30	63	2	93
Difficulty in concentrating at the work place	16	8	27	27	22	24	49
Susceptibility to sacking	13	3	17	45	22	16	67
Underpayment at the work place	11	6	17	24	41	17	65
Repayment of bride price	20	4	17	43	17	24	60
Loss of land	21	6	9	28	37	27	65
Less or no inheritance	15	6	11	34	34	21	68
Others	2	-	8	16	74	2	90

(Source: Field Results, 2012)

Key SA (Strongly Agree), A (Agree), NS (Not Sure), D (Disagree), and SD (Strongly Disagree)

From the foregoing analysis, it can be concluded that the community in Kisumu County believe children are associated with riches or wealth. Similarly, in the Luo traditional setting, girls brought a lot of riches in terms of cows, goats and sheeps when they get married. In fact, childbearing is a duty and responsibility of every household that must be fulfiled. According to the findings, slightly more than a third, that is 34%, of respondents were worried about the likelihood of less or no inheritance because of their infertility challenges. On the contrary, about 11% were not concerned about their inheritances. The current study results confirm the belief among the Luos that only the 'normal' people, those with children inherited their parent's wealth. Almost a half (49%) of those interviewed disclosed they were unable to concentrate on their work for fear of losing those jobs. About 24% of those interviewed expressed fear of losing job. The strong desire for children emerged during the study. In fact, some of the respondents were prepared to solve their infertility problems at all cost including selling their assets or properties.

Many of those who participated in the study disclosed instances where they had to repay their bride prices, lose their land and sometimes were underpayed in their work place. These arguments were raised by 60%, 65%, and 65% of respondents in that order. Infertility also resulted in selling away of belongings, starting expesive adoption processes and sometimes others were exploited by different traditional healers or herbalists. Other forms of social consequences of infertility are repayment of bride price, loss of land and lastly, less or no inheritance. Wealth distribution and inheritance was skewed in favour of couples with children. This view is confirmed by respondents assertion that the elderly often transfered privileges through inheritance to the next generation of kin and specifically to the eldest son. Inability to have children thus hindered wealth inheritance and distribution especially to families

experiencing childlessness. From the study, childbearing problems influenced negatively daily livelihood of the couples and the community at large. Hence any effort aimed at managing infertility must ensure that issues of property rights and the costs of care are put in place.

The available qualiative evidence attest to the fact that that infertility contributed to poverty in the lives of couples in various ways. First, on the cost associated with seeking treatment. This was best captured during KII with health practitioner as follows:

> *Infertility is a big challenge since it require high cost of seeking treatment, travelling, purchases of medicine and meeting societal rituals. Besides, there are other indirect costs such as time spent in seeking treatment, paying debt, worries and consultations services* (Health Practisioner,33 years).

On the same vein, another health officer commented the following:

> *"The charges on infertility related treatment are one of the major economic challenges for most couples, who unfortunately may not afford the cots implications."* (KII with Health Practisioner, 42 years).

Because of lack of infertility insurance and high levels of poverty among the couples, many couples reported financial discomfort and stress in handling their childlessness condition. One interviewee had this to say:

> *If In Vitro Fertilization becomes very indispensable, then it will be the end of us since we cannot afford the treatment* (Female respondent, 36 years).

In particular, participants repeatedly mentioned that families incur loss of earnings through household expenditures for medical expenses. Two participants even cried, when their financial situation featured in the discussion. This further explains why many respondents sought for treatment from herbalists and spiritual leaders. Some

groups alluded to the escalation of poverty because of the reduction in labour productivity at both the macro and micro levels, attributed to the time spent caring for the sick or seeking for care.

From the foregoing analysis, the researcher infers that economic implication of infertility is indeed real in the lives of the victims. The costs of infertility are associated with the high cost of treatment, which involves fare, diagnosis, surgery expenses and the cost of treatment. Longer period of treatment could make couples to spend all their earnings, sell their property or even spend all their hard-earned incomes on treatments besides meeting other healing rituals. The study reported a strong relationship between poverty and childbearing problems. The present findings thus provide just the tip of an iceberg of the economic consequences which couples suffering from infertility undergo.

The proceeding findings are consistent with other previous studies. For instance, Wiersema *et al.* (2006) and a more recent work by Nieuwenhuis *et al.* (2009) reveal economic consequences of infertility in Vietnamese and Nigerian communities respectively. Medical treatment of infertility is often costly and can also impose a great financial burden on the couples. In addition, fertility treatment costs, particularly IVF, is quite expensive and can distabalize couples' resources and savings. This is the reason why childless couples resorted to either traditional healers or faith-based healers who offer relatively cheap services as compared to biomedical treatment options. Again, childless couples tended to be less motivated and manifested low productivity at work places. Although infertility treatment is available, thanks to the modern technology, they are very expensive and sometimes not even safe and accurate. In Nigeria, for instance, Giwa-Osagie (2002) observed that one cycle of In Vitro Fertilization (IVF) is estimated to cost between Ksh. 170,0000 and Ksh. 220,000, but the

minimum wage in Nigeria is typically no more than Ksh 72, 000 a year. This explains why most respondents in this study cited difficulties in meeting treatment cost. Low economic status due to poverty and low income levels as well as associated high cost that go with modern interventions in developing counties made infertility treatment inaccessible to the low income population (Inhorn, 2003).

7.5. Psychological Consequences of Infertility

Given the current analysis with regard to the consequences of infertility, it is reasonable to look at psychological consequences of infertility that health practitioners need to understand as they put in place effective coping strategies. It is evident from Figure 7.2 that the psychological consequences of infertility comprised of feelings of being unaccepted by others 50%, feelings of disappointment 52%, being unhappy with others 58%, feeling responsible for own problems 52% and loss of self-worth 58%. Other consequences included feeling like a failure 48%, being called bad names 46% and constant regrets were reported among the 46% of the respondents. The other 37% experienced anger, depression, frustration, loneliness and anxiety. These findings confirm various theoretical arguments that infertility is linked to psychological consequences. Figure 7.2 presents the frequencies of different responses and the levels of agreement on the psychological consequences of infertility.

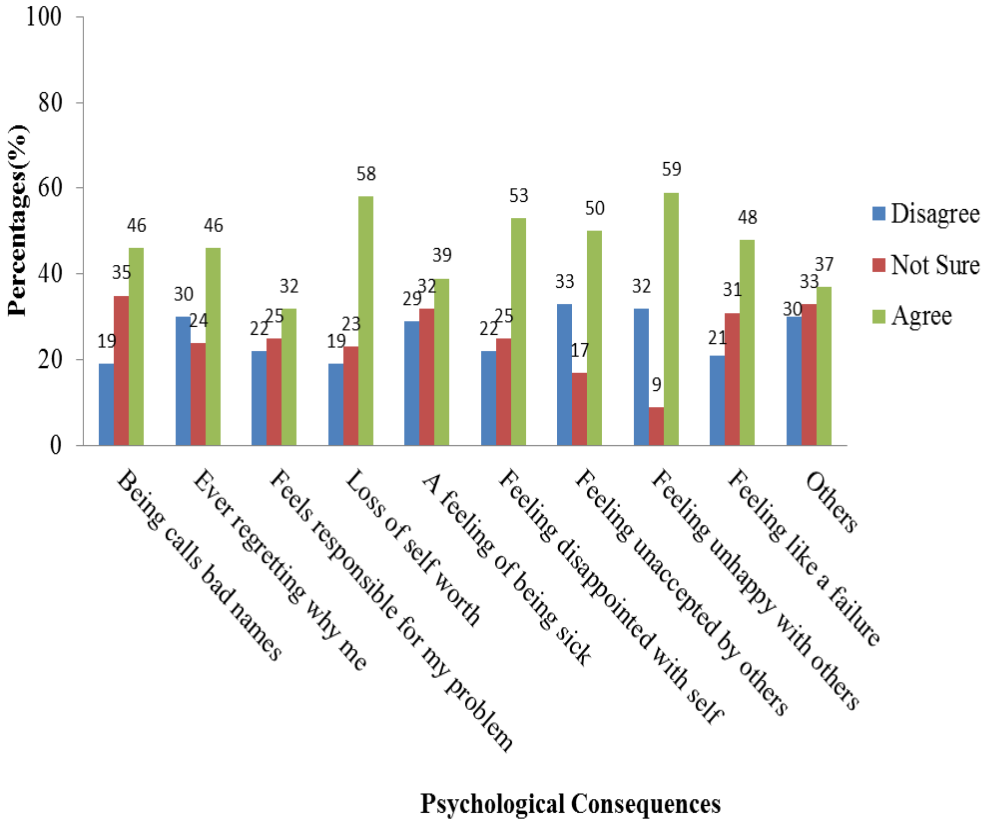


Figure 7.2. Responses on the Psychological Consequences of Infertility
(Source: Field Results, 2012)

Further, loss of self worth, increased stress, lack of identity, feeling of a failure, unhappy with others, hopelessness, disappointed with self, guilt, ever regretting why him/her and being called bad names in the society. The degree of psychological consequences were aggravated by physiological factors. For instance, some of those who took part in the study revealed physical pain due to various intrusive and invasive coping processes. Others stated that they were physically defective due to low sense of body image. One respondent had this to say:

> *"My childlessness is the rootcause of my emotional problems like anger, jealous, denials, shame and stress."* (Female respondent, 26 years).

Evidently, childless individuals and couples have to constantly worry about the sucess of their treatment and how this could impact on their marriage. Furthermore, childless couples live sorrowful life and becoming the object of gossip. Evidence to support that is found in narration by couples who often worry about their failed reproduction processes.

One of the female respondents alluded to this by stating that she sometimes worried so much that she did not even eat. In her own words:

> *...but when I am sitting alone, I become worried about this issue of a child you will find that sometimes I dont even eat because of worrying* (female respondent, 32 years).

It was also reported by one of the female interviewee that infertility was so stressful that she did not even want to be around people. According to her:

> *and now it is beginnng to stress me out up to a point that where i am starting to its like i become short tempered. I'm irritable . The thing is, I always want to be alone, i don't enjoy being with people* (Female respondent, 35 years).

In a rather extreme case, a female FGD participant, aged 35 years, opined that she sometimes wished she could just die because she is constantly worried about her infertility and did seem to cope with it. Specifically, she expressed that:

> *No, I am not coping . " I always worry a lot of the time. I mean I should die, just like that. At least i will rest. I will no longer think about having a child.* (A female FGD, aged 35 years).

It is evident from the above findings that infertility is associated with numerous negative psychological expriences. The emotional turmoil, characterised by constant worrying, increased stress makes this an unberable experiences for both men and women. For women, the experience of lack of identiy makes them feeel like they are not fulfilling thier roles as men and women in the family and the society at large.

Life crisis and bio-psychosocial perspectives becomes even more relevant to this study and was thus used to given a second level of analysis for the study findings in relation to psychological consequences of infertility. The inability to achieve parenthood and fulfill personal and societal goals is in itself a life crisis which attracts varrious challenges leading to psychological problems. A feeling of lost dreams of concieving and having children leaves many couples mourning while leading a life full of regrets. For instance some of the respondents lost their self-worth whereas others felt disappointment as indicated in Figure 7.2.

From a bio-psychosocial point of view, childlessness is not only medical and social issue but also a psychological problem. Parenthood is one of the major transitions in adult life for both men and women. Therefore, the stress of the non-fulfillment of a wish for a child brings with it various psychological consequences. According to Figure 7.2 couples faced psychological consequences of infertility. Some of the psychological consequences of infertility comprised of unhappiness with others represented by 58%, feeling of self responsiblity for problems by 52% and half of the interviewed (50%) had feelings of being unaccepted by others. Other psychological consequences included feeling like a failure (48%), being called bad names (46%) and constant regrets were reported among the 46% of the respondents. The other 37% experienced anger, depression, frustration, loneliness and anxiety. Notably, the bio-psycholosocial perspective helps interprete the sentiments expressed by the participants.

These findings are supported by other studies. For instance, Greil et al. (2010) describes infertility as an emotional roller-coaster. The authors argue that couples can feel various emotions from shame and anger to helplessness and depression. They might also fear spousal rejection and feel that they are cheating each other. Feelings

related to infertility experience can be for example emotions like guilt, inadequacy, stigmatization and powerlessness. Each partner might feel different emotions in different times, thus exacerbating the situation. Although some women got support from husbands, most of them felt responsible for their situations and some felt unhappy and let down by their conditions. Similar findings were reported by other studies elsewhere. For instance, Battreman (1985) and Valentine (1996) determined that an individual diagnosed with infertility frequently felt defective, unattractive, and unacceptable to others. This therefore agrees with this study's findings.

A feelings of failure could be attributed to doubts by the respondents on their parenthood competencies. There is a strong belief among Kenyan communities that infertility diminishes fatherhood and motherhood roles. According to Needleman (1987), children grow up believing that they will be parents one day and are never prepared for the possibility of not being able to have children. Admittedly, any contrary experience leads to crisis as was observed in crisis theory. Feminization of infertility was yet another important outcome of the study. Infertility experience is gendered in Kisumu County setting and is seen as the ultimate responsibility of a woman. A woman who cannot reproduce is considered at best a source of pity, at worst a pariah. The same view is held by Tremayne (2001) who postulates that childbearing has been viewed as a valuable gender role of women and therefore those unable to bear children experience a pervasive sense of personal failure.

In conclusion, there are very many consequences of infertility in Kisumu and they include: social, economic and psychological. Social effects are divorce, separation of the general disintegration of most families, isolation on persons suffering from infertility, frequent querrels and suicide behaviours. Economic cost of infertility is

associated with the high cost of treatment, which involves fare, diagnosis, surgery expenses and the cost of treatment. Longer period of treatment could make couples to spend all their earnings, sell their property or even spend all their hard-earned incomes on treatments besides meeting other healing rituals. While psychological consequences include, physical pain, feeling of failure, stress, shame, guilty and negative self-image.

7.6. Reaction and Coping with Infertility

The study showed that both male and female partners reacted to infertility variously. Many couples did not want to talk about their conditions while others tended to isolate themselves from the rest of the community members. Similarly, women tended to react strongly to childbearing failures as compared to men. Despite that men too were under pressure to contribute to family lineage by siring their own children. The data analysis and interpretation disclosed that a small proportion of the respondents 11% sought advice from Self Help Groups compared to 63% who consulted with their immediate relatives for advice. About 47% went to the dispensaries to seek for help, 33% sought for help from the neighbouring herbalists that are very few in the area. Surprising, a big segement 85% sought for support from friends, while a small percent 5% sought for solace from the dead ancestors. These findings corroborate qualitiave data from FGDs . For instance, in one of the FGDs, one of the participants had this to say: *Let me say have no close relative who can assist me in this area. I always alone . It is because of this that i value friendship* (A male FGD Participant, 35 years). Those respondents who got help from their colleagues were from relatively educated or from affluent background. Table 7.2 summarizes the various reactions listed by the respondents.

Table 7.2. Reaction and Coping with Infertility

Reaction	Percentages
Sought medical advice from a doctor in hospital	47
Sought treatment from a herbalist	33
Resorted to prayers	20
Sought advice from immediate relatives	63
Sought support from friends	85
Sought support from Self Help Group Members	11
Sought solace from dead ancestors	5
Other	12

Multiple response=total % >100
(Source: Field Results, 2012)

Some also sought for spiritual interventions as source of support and approach of dealing with their childlessness.

> *"I used to be a church goer....however today, i attend the church as a very different person. Honestly, I have personally seen the hand of God especially through fellowship . I believe God is faithful and one day i will get a healthy baby boy"*(A 35 years male FGD Participant).

The need to adopt appropriate coping strategy for dealing with infertility was reiterated by one of the key informed interviewee, a traditional herbalist. The following quote is illustrative of his thoughts.

> *"In my opinion, I think infertility is a serious issue….consequently, ignoring it or playing down the seriousness of affairs, not complaining about, or blaming others for relationship troubles, ……I believe does not harm than good. It may make it more difficult or harder, for the infertile to get the right assistance and support they may require"* (A Male traditional herbalist, 45 years)

7.6.1. Medical Methods of Dealing with Infertility

Table 7.3 gives a summary of the various bio-medical methods prefered by a segment of the community.

Table 7.3. Bio-Medical Methods of Coping with Infertility

Solutions to Infertility	SD	D	NS	A	SA	Overall Disagreement	Overall Agreement
Referred to next hospital	5	7	11	42	35	12	77
In Vitro Fertilization	40	21	16	12	11	61	23
Counseling	10	8	14	24	44	18	68
Given Drugs	35	20	13	12	20	55	32
Tested Diagnosis done	20	12	3	30	35	32	65
Rest	18	6	32	24	20	24	44
Injections	11	8	22	36	23	19	59

Multiple responses-total % >100
(Source: Field Results, 2012)

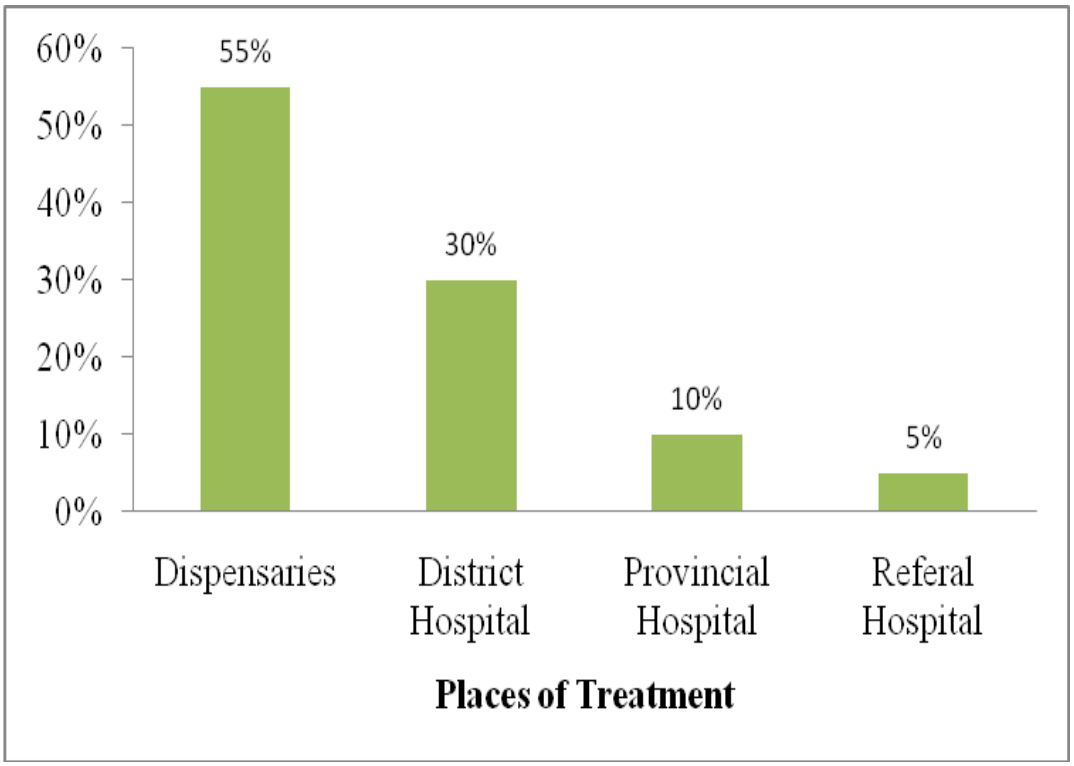
Key:SA (Strongly Agree), A (Agree), NS (Not Sure), D (Disagree), and SD (Strongly Disagree)

Wherereas traditional and community based methods seems to be prefered options of handling failed reproduction processes in Kisumu County, the urban based elites tried medical solutions. As identified by the current studies, various bio-medical methods are slowly gaining ground as viable options of treating infertility.

From Table 7.3 above and in regard to bio-medical methods of coping with infertility, the study findings disclosed that most of the respondents (77%) were referred to the next hospital when they sought medical treatment. About 68% of the respondents preferred counseling as a means of dealing with infertility issues, 65% were tested and done diagnosis given, 59% were injections, 44% were advised to have a rest, 32%

were given drugs in the dispensaries while the least number 23% preferred the use of vitro fertilization as a means of coping with their infertility problems (Table 7.3).

In terms of places where the respondents sought help, Figure 8.3 shows that majority of respondents (55%) went to dispensaries, 30% visited County hospitals and 10% went to provincial hospitals while the remaining 5% visited referral hospitals so that their infertility problems can be solved. Moreover, only two referral hospitals existed that time namely Eldoret and Kenyatta National Hospital. In recent times, there has been increase in the number of referral referrals. For instance, in Kisumu County, there is Jaramogi Oginga Odinga referral hospital and other new ones. However, there is less evidence to suggest that the new referral hospitals are ready to manage cases of infertility effectively. Refer to Figure 7.3.



(Source: Field Results, 2012)

Figure 7.3. Places of Treatment

It is important to note that some of the participants especially during the FGDs highlighted the importance of seeking the doctor's advice. Most of the participants explained that in Western countries, medical treatments consisted "tests and examinations" to determine the cause, and then 'drugs, hormones and surgery' to correct the problems. Couple of patients reported that the doctor asked them many questions and recommended medical measures that they should put in place to enhance chances of conception.

One of the female FGD participants revealed that:

> *"When I went to the doctor, I was advised to take measures, which included eating nutritious food, avoiding anxiety, being there for each other and avoiding harmful cultural practices."* (Female participant aged 29 years during FGD).

Medical coping mechanisms notwithstanding, there are a number of challenges to its effectiveness for couples dealing with childlessness as revealed during Key Informant interview (KII). For instance, one of the health practitioners had this to say:

> *Some infertility problems are more easily treated than others. In general, as a woman ages, especially after age 35, her chances of getting pregnant go down. However, her risk of miscarriage goes up* (Gynaecologist, 43 years).

7.6.2. Traditional ways of Dealing with Childlessness

It is important to realize that traditional ways of dealing with infertility proved to be attractive to the community members. Evidence suggests the use of numerous traditional methods to cope up with the effects of infertility. Such ways are depicted in Table 7.4.

Table 7.4. Indigenous Ways of dealing with Infertility

Solutions to Infertility	SD	D	NS	A	SA	General Disagreement	General Agreement
Concoctions (mixtures of substances)	6	5	27	41	21	11	62
Use of traditional soap	18	4	7	37	34	22	71
Use of spiritual powers	14	2	17	28	39	16	67
Worshipping in lakes and rivers	12	6	15	41	26	18	67
Use of an egg	14	9	12	30	35	23	65
Making sacrifices at crossroads	16	6	9	37	32	22	69
Use of plants roots or leaves	13	3	9	43	32	16	75
Use of local brews	11	4	12	36	37	15	73
Sexual intercourse with a herbalist	22	2	6	33	37	24	70
Polygamy	21	4	7	26	42	25	68
Drinking the breast milk of lactating woman	12	4	19	44	21	16	65
Drinking urine	25	3	1	30	41	28	71
Carrying other people's kids	13	8	21	24	34	21	58
Sexual intercourse with a priest	22	3	6	33	36	25	69
Adopting a child	5	2	19	36	38	7	74
Spiritual sacrifices	9	0	13	44	34	9	78
Other (specify)	2	0	6	26	41	2	67

Multiple responses-total % >100

(Source: Field Results, 2012)

Key:SA (Strongly Agree), A (Agree), NS (Not Sure), D (Disagree), and SD (Strongly Disagree)

According to the findings in Table 7.4, about 68% of community members interviewed mentioned polygamy as an alternative remedies. This is not a surprise because polygyny, the practice of getting another wife for procreation, is clearly common across many cultures in Kenya. Among the Luo community, it is normal for a man to get a second wife for childbearing purposes since it is often assumed that the woman is to blame for not being able to conceive. However, polygamy was not only meant for solving failed reproduction processes but had other significance that this study was not focusing on. The study further revealed that about 65% of the respondents indicated that couples suffering from infertility drank the breast milk of a lactating woman and according to 71%, some drank their own urine. A sum total of 67% indicated having untied own pants and carried other women's babies to unlock their barrenness, while 70% agreed having either engaged in sexual intercourse with either herbalists or religious leaders. Last, a cluster of 71% confirmed having used traditional soap to wash away infertility curse. Other participants admitted having heard cases of intercourse with either priests or witchdoctors. As a consequence, these unscientific methods like having intercourse with priests or witchdoctors predispose couples to STDs and HIV/AIDs virus further compounding couple childlessness situation in the County.

Due to the fact the fact that in most traditional African cultures are pegged on man's ability to perpetuate his name and legacy through a fertile pedigree, polygamy is a common way and alternative remedy to infertility (Perry et al.,2014). It is therefore not a surprise that polygamy emerged as one of the strategies of addressing childlessness in the study site. However, the practice is also common among other communities in Kenya. For instance, among the Kikuyu, a man would sit down with his infertile wife and strike an agreement that he marries a second wife for the sake of

bearing children (ibid). In fact, in most cases, the first wife would even assist her husband selecting the second wife. It was a mutually agreed decision and was considered quite normal.

There were other practices which also assisted in coping with infertility. A case in point is where the wife, having realized that her husband was unability to have children, would consult with senior women and aunts the possibility of engaging an in law to help her conceive. An FDG participant had this to say:

> Personally, I have witnessed where a woman, having consulted with elder women and realized that the husband is infertile, would be assigned an in law of good reputation to help her achieve pregnancy. This was a top secret and any child sired in this household belongs to the infertile man. To ensure that the unborn child resembles the woman, such a woman having conceived would cross over her husband at night daily. This increases the chance of resembles according to the community. Such traditional measure when done repeatedly ensures that the unborn child take after her infertile husband hence making it very hard to know if the husband is sexually disfunctional…… All this was intedent to protect the husband from going through the shameful ordel of being labeled as infertile (Female FGD Participant, 35 years)

The practice of gift babies is yet another traditional alternative to infertility though this is common among the maasai community. In this case a family with many children could offer one of their children to the infertile couples. (Lawson & Uggla, 2014). Further enquiries during FGDs revealed that infertility was well managed with the Luo traditional system hence debunking the stigma attached to it. One of the women during FGDs vividly explained how infertility was managed:

> "In my community, a strong man with fertile seeds was identified and allowed to sleep with the woman whose husband was infertile……the strong man was allowed to get into the home but was not allowed to enter the homestead through the main gate but would use small openings within the walls of the homesteads (Female FGD Participant, 65 years).

It also emerged that women especially the old ones and aunties played important role in the whole process of coping with infertility. For instance, the old women were involved in selecting the best treatment option. The following quotes illustrate the findings:

> "Old women together with aunties arranged for treatment using the herbal drugs. This may also involved a careful diagnosis and referrals to faith healers and herbalists.." (Female FGD Participant, 33 years).

According to Leininger and McFarland (2002), traditional methods of coping with infertility include essential support system like meaningful work, community, mobility, indigenous practices, counseling and other forms of rehabilitation, leisure, recreational and educational activities to assist the individuals in acquiring a higher level functioning. From the FGD discussion, the word *Jayath* is difficult to translate into English, but we get a clue from the word *yath, which* means medicine. The prefix *Ja* in DhoLuo is used to indicate owner, or one who possess something. The word *Jayath* is used to refer to someone who has mastered a particular form of traditional treatment. The word *"yath"* means "medicine." Medicine is thus viewed as something that attacks illness, or as something, that restores vitality. The hidden spiritual powers of *Jayath* become obvious for those seeking for treatment. *Jayath* had to make sacrifices to his gods of fertility of his ancestors. It was upon *Jayath* to ensure that the couples get babies.

The above findings were confirmed during FGDs. For instance, some participants focus group participants also mentioned the practice of polygamy, use of plants roots or leaves, use of spiritual powers and sacrifices as potential solutions to their infertility. Interestingly, participants highlighted some few success stories of others.

The following are some of the quotes from respondents and participants during the survey, FGDs and KIIs.

> *In my community, most of the men find themselves in polygymous marriage due to issues of childlessness. I know of a friend who brought her sister to be married by her husband because she was not able to give birth* (Female respondents, 45 years.)

> *We know some infertile couples who have given birth by making several sacrifices. One of our neighbours got a baby boy after a year after making some sacrifices* (Female FGD Participant, 45 years.)

Such success stories were also told at the KIIs with religious leaders. One of the religious leaders shared his experience as follows:

> *I believe the solution to infertility lies with spiritual intervention. I know of several people who have succeeded after giving their lives to Jesus Christ….getting born again (*A religious leader, 51 years).

During KIIs with herbalists, it emerged that there are several traditional methods of dealing with infertility. For instance, *manyasi,* which is a mixture of herbals or concoction, could be used to treat couples experiencing childbearing problems. Other methods involved changing of diets. It was for instance common advice and practice to consider eating food with no sugar, coffee, alcohol, dairy, wheat, spicy as part of the daily menu for those with infertility problems especially women. The following quotations clearly explain the various approaches:

> "*We use whole plants believing that is more beneficial than isolated plant constituents. Herbs are gentle, safe and effective with very few side effects. They can be used to treat specific health conditions, prevent the recurrence of health problems or to promote good health when taken on a regular basis," ... and i*ndeed *I have seen so many women, am convinced that it work*s (KII with female Herbalist, 35 years).

> "*I often get a woman's body very, very ready for pregnancy and then we are waiting for it to happen. These women do not need IVF, they do not need the invasive procedure or the expense or the drugs. I also check the tongue, the pulse, sleep patterns, whether a patient is thirsty, peeing a lot and their bowel movements. I make changes to their diet – no sugar, coffee, alcohol, dairy, wheat, spicy foods – and I encourage a woman to keep a temperature chart"* (KII with male Herbalist, 35 years).

It also emerged that not all respondents believed in herbal treatment as illustrated by one of the health practitioner during KII as demonstrated by the statement below:

> *A lot of these plants and drugs may be good and attending to the problem, but what we are not sure of are the side effects. From my own if these herbs affect the chromosomes or genes, then it is a big problem. Therefore, it is important that traditional healers are involved in different researches on medicines so that they meet the required standards in this era of science and technology* (KII Participant, Female Health Officer, 35 years).

This chapter illustrated the coping strategies of infertility and they include; medical and traditional coping methods. Some infertile couples may decide to go for medical traetment in the hospitals while others may prefer traditional ones. It is also clear that majority of people who are infertile are not always ready to talk about their infertility in public or with others. A number of respondents revealed that some husbands and parents were very instrumental in providing much needed social support. This correspond with previous studies done by Mariano (2004) who found out that some of the respondents disclosed having been supported by their colleagues, friends and even neighbours. The adoption of traditional methods of treating infertility has also been reported by Koster-Oyekan (1999). The study revealed that most treatment involves sacrifices offered to deities or ancestors, preformance of ceremonies to erase evil curses on the couples. The author adds that other aspects of traditional health care

involved spiritual healers, herbalists, fortune-tellers and visits to sacred places. Likewise, a number of other studies, for instance conducted by Ebomoyi and Adetoro (1990) and by Gerrits (1997), have highlighted the key roles that traditional methods including herbs, medicinal drinks, cleansing rituals, spiritual and religious healers played in the management of infertility in Africa.

On the bio-medical methods of coping with infertility, 77% of the couples were referred to the next level of the hospital when they sought medical treatment for infertility. Again, 68% of the respondents were counseled as a means of dealing with infertility issues, 65% were medically tested, 59% were given injections, 44% were advised to have a rest, 32% were given drugs while the 23% consulted for possibility of accessing in vitro fertilization in urban hospital as a means of coping with infertility (see Table 7.3). Some of the respondents indicated that they often turned to work to take their minds off childlessness condition. In this case work seemed to be a better option for many people.

The prior findings can also be justified from the saying; “an idle mind is the devils’ workshop”. Similar findings were realized by Blignaut, (1993) who found that people engaged in work as one of the coping mechanisms. He added that work was a way in which individuals could satisfy many of their psychological and their social needs. In keeping busy at work, one was able to focus on other things and therefore could not constantly think about infertility. However, this view is viewed by others as just mere form of denial or burrying one’s head in the sand and thus does not enhance ones ability to cope with infertility problems. Closely related to this, was that a couple of respondents indicated having shared their views with others. Blignaut (1993) confirmed that the ability to share one’s problems verbally relieved one from stress.

Furthermore, the author indicated that the more affected persons share information about their situations and ideas, the greater the chance that the affected families can access the best medical care possible.

A bulk of respondents (55%) exhibited some level of exposure attributed to their education status and majorly visited government and mission hospitals. In a research carried out in United Kingdom, Woollett (1985) established that most individuals resorted to medical based information and services in dealing with their infertility challenges. Religion seemed to take a centre stage of most lives of respondents. This view is held by Makoba (2005) who asserts that religious faith seems to instill hope in so far as health complications are concerned. He adds that, faith enables one to endure the present experiences knowing that the Lord will intervene in the future and improve the negative life situation brought about by infertility.

Given the high number of clients reporting at Kisumu District Hospital, referred patients were attended to by only one doctor every Tuesday. This was a very difficult experience for patients who had to brave long queues to be attended to and this is in agreement with Larsen (2005) who in his study confirmed that referrals from one level to other level were found to be generally disorganised and backward. He adds that lack of systematic record keeping was observed at many health centres in Africa and that this makes it impossible to assess success and failures of infertility treatment. Again, most respondents are religious thus are more likely to adopt treatments that relate to deities or even ancestors. This resembles findings by Mabetoa, (1986) who argues that misfortunes and illness in most African setting is seen as a result of ancestors' or deities' displeasure with the living. Meyer et al. (1997) in their work argue that ancestors serve an all important intervening medium and contact with God for Africans. Therefore, ancestors are very important and form an inherent part of

daily African function. Intervention from these deities is sought in the hope that things will change in future.

From the study, it was clear that herbal medicine was used by a section of respondents because of its strong adherance to socio-cultural beliefs, its availability and cheapness. According Okonofua (1996), prevention methods are less expensive and are more effective in eliminating the social consequences of infertility. He adds that prevention programmes improve the health status as well as provide impetus for the utilization of other prevention services, such as family planning. Wischmann (2008) also found that childless couples relied on the informal ways of dealing with their problems such as sharing with their friends, peers, spouse or close relatives. The point on gender issues in coping has also been reinforced by the fact that the male's first response to infertility news has not been as intense as females due masculinity and other cultural beliefs.

The stated structures for coping have been mixed and subdued due to lack of clear policies on prevention and treatment of infertility in Kenya. There is need for gender sensitive quality care, standard and, regulated diagnosis and treatment of infertility in Kenya. Coupled with that, holistic approach that entails medical, psychological, socio-economic and spiritual must be integrated together to produce a sustainable solution to the childbearing problems. The next section attempts to integrate the findings of this study with theoretical foundations by examining potential coping decisions of the childless couples.

Life crisis, bio-psychosocial and symbolic interactionism theories are applicable in this study. Life-crisis theory has relevance within this study as illustrated in the interactions between coping strategies used to manage the stress of infertility, and

their individual well-being. That infertility is a life crisis associated with wide range of socio-cultural, psychological and economic consequences. Within this study, the bio-psychosocial theory reveals that infertility is not only medical and a psychological issue but also a social problem. Therefore, social support and coping are two important tools to mediate the negative effects of infertility. The bio-psychosocial factors interact to influence the coping strategies used by infertile couples. This is confirmed by the fact that most respondents (85%) relied on support from friends (85%). Others sought advice from their immediate relatives (63%). It is therefore not a surprise that those with less or no income were more likely to seek help from herbalists who offer relatively cheaper healing services as compared to biomedical services. In addition, the bio-psychosocial theory stipulates that persons suffering from infertility are more likely to seek treatment from health practitioners, family and traditional health practitioners. The overeliance on herbal medicine by a section of respondents is linked to low level of education, low income and strong adherance to socio-cultural beliefs as well as easy access to herbal drugs. Again the use of derogatory language in defining couples experiencing infertility brings into the picture the importance of symbolic interactionism perspective in understanding health issues within the community.

In conclusion, it is clear that all efforts are made to deal with infertility including social support, seeking traditional herbs, and the practice of polygamy. To some extent, the coping strategies employed have been successfully implemented to the extent that infertility remains invisible especially among men. For instance, the use of polygamy for the sake of getting children is viewed as common practice among the Luo community since it is often assumed that the woman is to blame for not being able to conceive. In the case where a man marries a second wife and she is also

not able to conceive, some women sneak out and sleep with another man and pretend that the child belongs to the husband, futher hiding the man's inability to bear children. This is also common among other ethnic groups in Kenya. Among the Kikuyu, a man would agree with his childless wife that he takes a second wife in order to have children and fill existing gaps within his household. In fact, in most cases the first wife would even assist in selecting the second wife. All in all, getting a second wife with a view of getting children was a mutually agreed decision and was considered quite normal. In general, coping strategies employed by community members are so effective that they have been able to demystify infertility in the area.

CHAPTER EIGHT

SUMMARYOF KEY FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

8.1. Introduction

The study sought to investigate the knowledge, attitudes, socio-cultural beliefs and practices among the infertile persons in Kisumu County, Kenya. This chapter discusses the results, conclusions, implications for policy planners, future research and recommendations.

8.2. Summary of Key Findings

Driven by of the fact that Kisumu County depicts one of the highest prevelence rate of infertility compared to other counties in Kenya, the current study sought to examine how knowledge, attitude, and socio-cultural beliefs and practices affects the infertile persons in Kisumu County.

8.2.1. The Social Consruction of Infertility among the Residents of Kisumu County

The first objective was to interrogate the social consruction of infertility among the residents of Kisumu County. The study found that only few respondents (30%) correctly identified infertility as a condition that is proven after 1-2 years (Figure 4.1). The study found that most of the respondents, 61%, had attempted to get pregnant for 12 to 24 months withouth success (Table 4.4). The study found that people referred to the infertile people as unproductive, witches, mule and unfit members of the society. Women were on the receiving end because they were mainly blamed for causing infertility as diclosed by 47% of the sampled population(Table 4.5). The

study also found that most of the respondents were labbelled using derogatory terms such as unlucky, a witch, mule, one child like a donkey (Refer to figure 4.2). Each of those derogatory terms support the negative undertanding of the meaning of childlessness. It was also found that the desire for childbearing was mainly motivated by the need to maintain the family lineage as generally agreed by sum total of 70% of all study subjects (Table 4.6).

In order to achieve this objective, several questions were posed related to level of knowledge, concept of Labeling and meaning of infertility and the motives for having children. The researcher sought to know how fertility was diagnosed or how one knows he/she is fertile. Their definitions were then the compared with the standard definition of infertility given by WHO where infertility is diagnozed after 1-2 years of regular unprotected sex. The researcher also asked questions about the length of time respondents had tried to have children without success and the type of labeling. The respondent was also asked to respond to likert scale questions on various statements about causes of infertility, asked between men and women was more responsible for infertility, The researcher also relied on FGDs and KIIs to complement date collected using survey questionnaire. The study outcome was then compared with the results from other parts of the world.

From the findings, there seems to be strong of beliefs about infertility which is partly attributed to over emphasis on socio-cultural beliefs and practices. The study concludes that the meaning of infertility in among residents of Kisumu County is based on timeline, taking too long to conceive, giving birth to only girls and being a failure in the community. It is a product of level of knowledge, motives for childbearing and education level. However, better coping mechanisms debunked the stigma associated with the failed reproduction within the study site.

8.2.2. The Attitudes of Kisumu County Residents towards Infertility

The second objective was to investigate the attitudes of Kisumu County residents towards infertility. The study found that for a long time, issues of infertility have remained subjects of ridicule as confirmed by most of the respondents (Figure 5.1). Couples who fail to bear children suffer humiliation and sometimes ridicule or abuse. The negative attitude was further confimed during the FGD as it emerged that there was the use of derogatory term like *"lur",* refering to women who were unable to bear children. Couples who fail to bear children suffer humiliation and sometimes ridicule or abuse.

In order to achieve this objective, the researcher relied on questionnaires, FGDs and KIIs. Several questions were posed to the study sample with an aim of assessing their varrious attitudes towards the infertile couples. The respondents were also requested to respond to likert scale questions which directly assessed attitudes towards those suffering from infertility. The general conclusion from this study is that most resident of Kisumu County have negative attitude towards those suffering from infertility who are treated with redicule, labeling and discrimination.

8.2.3. The Socio-Cultural Beliefs and Practices associated with Infertility in Kisumu County

The third objective was to examine the socio-cultural beliefs and practices associated with infertility in Kisumu County. The first part of this objective and the findings focused on women. The study established that most of the female respondent (88%) linked infertility problems to God's plan. However, a number of female respondents indicated that infertility was caused by having multiple sex partners, witchcraft and bad omen (Figure 6.1). The study revealed that the male respondents had different opinion. According to most of the male respondents (75%), infertilily in

women resulted from blood incompatibility. Some of the male respondents (74%) associated infertility with parental curse, premarital sex , breaking of community norms , and bad omen (Figure 6.2).

The other set of questions enquired about causes of infertility in men. In terms of the opinions from the male respondents, the study found that too much work was the leading cause (91%), followed by God's plan or decision(88%) and 72% parental curse female respondents(Table 6.3). In terms of the causes of infertility in men, about 91% of the female respondents revealed that it was in line with God's plan, others 67%, associated infertility in men to rituals performed with a cloth, circumcision of males (60%) and about 63% of all females indicated that the male infertility was also due to male's sexual affairs with old women(Table 6.4).

To realise this objective, questions which revolved around socio-cultural beliefs and practices were provided to the study respondents, and both male and female had common views on socio-cultural beliefs and practices associated with infertility. The questions were catergorised in terms of the causes of infertility in males and females. The researcher relied heavily on the use of likert scale where respondents were required to indicate their levels of agreement or disagrement on various statements. The findings were then analysed using descriptive statistics to produce percentages and frequencies. The findings were then compared with other studies both within and without the country.

The general conclusion from the study is that infertility is linked to religious, cultural and medical reasons. However, the cultural, religious or mythical components seem to colour the etiology of childlessness in Kisumu County. In particular, members of

the community tend to associate infertility with socio-cultural values, norms and practices such as witchcraft associated with infertility.

8.2.4. The Coping Strategies used by Persons Suffering from Infertility In Kisumu County

The last objective of this was to analyze the coping strategies used by persons suffering from infertility in Kisumu County. The study found that infertility was linked to social, psychological, and economical consequences. Divorce and separation were the two most common social consequences are reported by 65% and 64% of all the respondents interviewed (Figure 7.1). The study found that meeting treatment costs was the most common economic consequnces (Table 7.1). The study further revealed that being unhappy with others, loss of self-worth and disappointment were the first three common psychological consequences of infertility as reported by the respondents (Figure 7.2).

The study found that residents of Kisumu County tend to react differently to infertility conditions. However, the most common among the respondents was seeking support from friends (Table 7.2). Coping with infertility included adoption of the biomedical and traditional methods. The study found that most of the respondents were referred to the next level of the hospital when they sought medical treatment (Table 7.3) and that most of the respondents Figure 8.3 shows that majority of respondents went to dispensaries(Figure 7.3). It emerged from the study found that most respondents mentioned polygamy as an alternative remedy to infertility. As a researcher, I realised that polygamy and other already mentioned strategies were effective to the point that it demystified infertility in the area. However, some of the respondents used unconventional means like taking breast milk of a lactating woman, some took

urine while still some visited traditional herbalists as ways of overcoming childlessness (Table 7.4).

The objective was evaluated using questions related to consequences in order to find out whether or not the consequences had any bearing on the type of coping strategy. Questions on the reaction to infertility were also presented. Unlike the other sections, all the questions linked to this objective were based on likert scale. The general conclusion from this chapter is that people of Kisumu County adopt multiple coping strategies to manage the consequences of infertility. The type of coping strategies employed by the people are partly determined by the consequences of the infertility, socio-cultural beliefs and practices as well as one's level of education/exposure. In overall, it emerged from the study that infertility was well managed

8.3. Contribution to Knowledge

In terms of the contribution of the study, the findings elaborate and confirms the meaning of infertility based on the subjective knowledge of the respondents. It is clear that infertility implies a such information is important to any health practitioner operating in the area of the study. By focusing on the community's understanding of the failed reproduction processes, both the biomedical and the traditional health attendants are able educate and create awareness that will promote health in the region. Further, this knowledge is critical to the wider discipline of medical sociology and reproductive health.

8.4. Conclusion

From the study concludes that the concept of infertility bear some social and cultural undertones. In particular, infertility is given negative labels embedded in the community's socio-cultural set up. Secondly, the meaning of infertility has to do with

the reasons/factors behind childbearing. In Kisumu County, children are quite vital and not predictive of the residents' experiences but also their future. Therefore, experiences and the nature of coping with infertility will depend upon the extent to which one is exposed to negative labels associated with childlessness and what childbearing means to the individual/couple. The meaning of infertility is thus extended to include concerns about family lineage. It is clear from the study that the Luo community is able to deal with infertility and the coping strategies put in place by the community have been able to demystify infertility in the area. My study offer suggestive evidence for the effective role played both gender in the coping with failed reproduction among the infertiles in Kisumu County. This is in contrast to the popular belief that infertility is only a women issue.

8.5. Implications of the Study

8.5.1. Practical Implications of the Study

The findings elaborate and confirm the meaning of infertility based on the subjective knowledge of the respondents. Such information is important to any health practitioner operating in the area of the study. By focusing on the community's understanding of the failed reproduction processes, both the biomedical and the traditional health attendants are able educate and create awareness that will promote health in the region. Further, this knowledge is critical to the wider discipline of medical sociology and reproductive health.

The findings also have implications on the roles played by community members in coping with infertility related consequences. For instance, husbands, in-laws, friends, neighbours, doctors and other community members have marked influence on the social capital that is vital for coping with infertility.

The findings further offer useful empirical evidence on the various ways couples in Kisumu County deal with the consequences of infertility right from their first reaction to the reports that they are suffering from infertility. The choice and decision on the strategies adopted tended to revolve around knowledge, attitude and socio-cultural beliefs and practices among infertile persons in Kisumu County, Kenya. In researcher's view, dealing with infertility has no quick solution. Instead, it requires coping strategies for adaptation and adjustment over a given period.

8.5.2. Theoretical Implications

The study findings and analysis highlight problems with common approaches to health seeking behaviour which tend to focus on individuals, whose decisions are dependent on, and informed by cognitive and biological conditions, in combination with practical inhibitors. This perspective is somehow a default approach by people in the health sector and scholars. This is partly because they neglect the social cultural context in which health related behaviours takes place occur, and the social meanings which are attached to illnesses.

This study is consistent to the growing call for more social approaches which pay attention to social, cultural and interpersonal issues which could be of relevance for individuals' behaviours, as opposed to putting more emphasis on their rationality. Symbolic interaction model, the crisis and biopsychosocial theories illuminate the relevance of social context.

The current findings not only lend support but meet these demands. First in chapter 4, the findings clearly highlight that infertility is a social constuct and is anchored on the basic premise that we come to see ourselves as we believe others see us. The

findings expose common meanings and possible actions based on the interaction of the people within the society. In the context of this research, such interaction influenced how the childless couples adjusted and coped with the consequences of infertility. This understanding has been the cornerstone of the symbolic integrationist theory.

Secondly, in chapter 5, the findings further reveal that people's attitudes towards infertility are informed by existing stereotypes and fixed minds of the community members, which is based on their social settings and meanings which in turn compromises the interactions among persons suffering from infertility and the community at large. Third, the findings presented in chapter 6 highlights on the relevance of crisis theory, since it is clear that infertility has some identifiable beginnings which may be so devastating to the point of developing into a crisis. The meaning of infertility according to the study respondents seems to compromise important life goals and potentially arousing unresolved challenges and therefore call for specific strategies to cope with the crisis.

Lastly, the findings presented in chapter 7 lend support to bio-psychosocial theory. The findings clearly show that couples suffering from infertility seek social support and employ traditional strategies as the main coping strategies to mediate effects of infertility.

Overall, the study findings casts doubts on existing rational approaches to health seeking behaviours, by drawing on how people construct meanings of illness and their in(actions) in specific social setting. Therefore, the findings offers theoretical implications and notions of health seeking behaviours.

8.6. Recommendations

From the study findings and conclusion, the following recommendations are made:

1. Therefore, there is need for a comprehensive education program within Kisumu County aimed at filling the existing knowledge gap about infertility and any myths associated with it. This can take the form of sensitization programmes and campaigns on the true biological causes, prevention and treatment of infertility. Reproductive health centres should also be facilitated by MOH particularly in the rural areas to facilitate information flow and services. There is need to facilitate and renegotiate the meaning of parenthood within the community as a way of lessening the burden on the childless couples. Masinde (1991) acknowledges the need to form groups or organizations within community that can facilitate discussions that involve male and females. He adds that creation of organisations is likely to enhance discussions which will enable the community to come to a common understanding of reproductive health issues. Additionally, we can reconstruct a different reality in which the society redefines motherhood and adopts alternative ways of parenting like child care and foster mothering. Consequently, this will be a huge step towards eradicating the negative images of biological childlessness.

2. Owing to the high demand for quality infertility treatment, educated and working families have opted for medical services in both public and private hospitals. Most importantly, the government should invest in policies, programmes, facilities and hospitals that alleviate challenges faced by those reporting childlessness or inability to contribute to conception. Similarly, there

is a need for psychological consultation such as counselling and mental support in the management of infertility. In addition to that, there is need to encourage people to adopt other different options available for hopeless cases of infertility like adoption and Assisted Reproductive Technology (ART).

3. Pharmaceuticals and universities also need to launch further investigations into the content of the herbal drugs. It is possible that some of these herbal concoctions contain strong medicinal values that can be used to cure cases of infertility.

4. In developed countries, alternatives to conception are easily available. Sperm banks, in- vitro fertilization and adoption are common. This strategy should be adopted and made more accessible to not only the urbanites but also the people in rural areas. In 2008, BBC world announced plans for sponsorship in offering In Vitro fertilization in Sub-Saharan Africa. Practices such as adoption should be encouraged in the wider society; education that would counteract traditional practices should be used to sensitize couples on adoption as an alternative way to raise a family.

5. To deal with the negative attitude towards infertility, there is need to carry out educational programs to people so that they can leave retrogressive socio-cultural beliefs and practices.

6. In terms of the coping strategies, it is important to encourage other unexploited areas such foster care for the infertility. Besides, effective coping

strategies with infertility must be anchored on clear policies and holistic approaches. Further, there is need for gender sensitive quality care, standard and regulated diagnosis, as well as timely treatment of infertility in both rural and urban parts of Kenya.

8.7. Research Challenges

The researcher experienced number of challenges during the study. for instance, due to sensitive nature of the study, some respondents were not free to disclose their infertility experiences and they had to be convinced to open up and thus, a lot of time was taken in gathering study findings. Another challenge was that some infertile respondents were overwhelmed with emotions and their interviews had to be stopped for some times so that they could recover and decide to continue with the study or not. Besides, infertility issues are often revolve around negative attitude, and socio-cultural beliefs and practices. Consequently, infertility issues tend to illicit different socio-psychological responses. This may have resulted in challenges related to the reporting of the infertility problem. In tackling this, the study made every attempt to maintain the confidentiality and anonymity of the participants. The study also required significance financial resources. It involved making long journeys to different places to collect valid literature and getting the most recent information on infertility in Kenya.

8.8. Implications for Further Research

This study has implications for research on experiences of infertile couples in general. Future research could examine experiences of men who are suffering from infertility. More research on wider scope in Kenya's communities would lead to a better understanding of such discursive formations. Notable areas of interest should include

social-cultural beliefs and practices that predispose people to infertility . For instance, being involved in sexual intercourse with the herbalists and religious leaders can lead to HIV/AIDs spread among other diseases.

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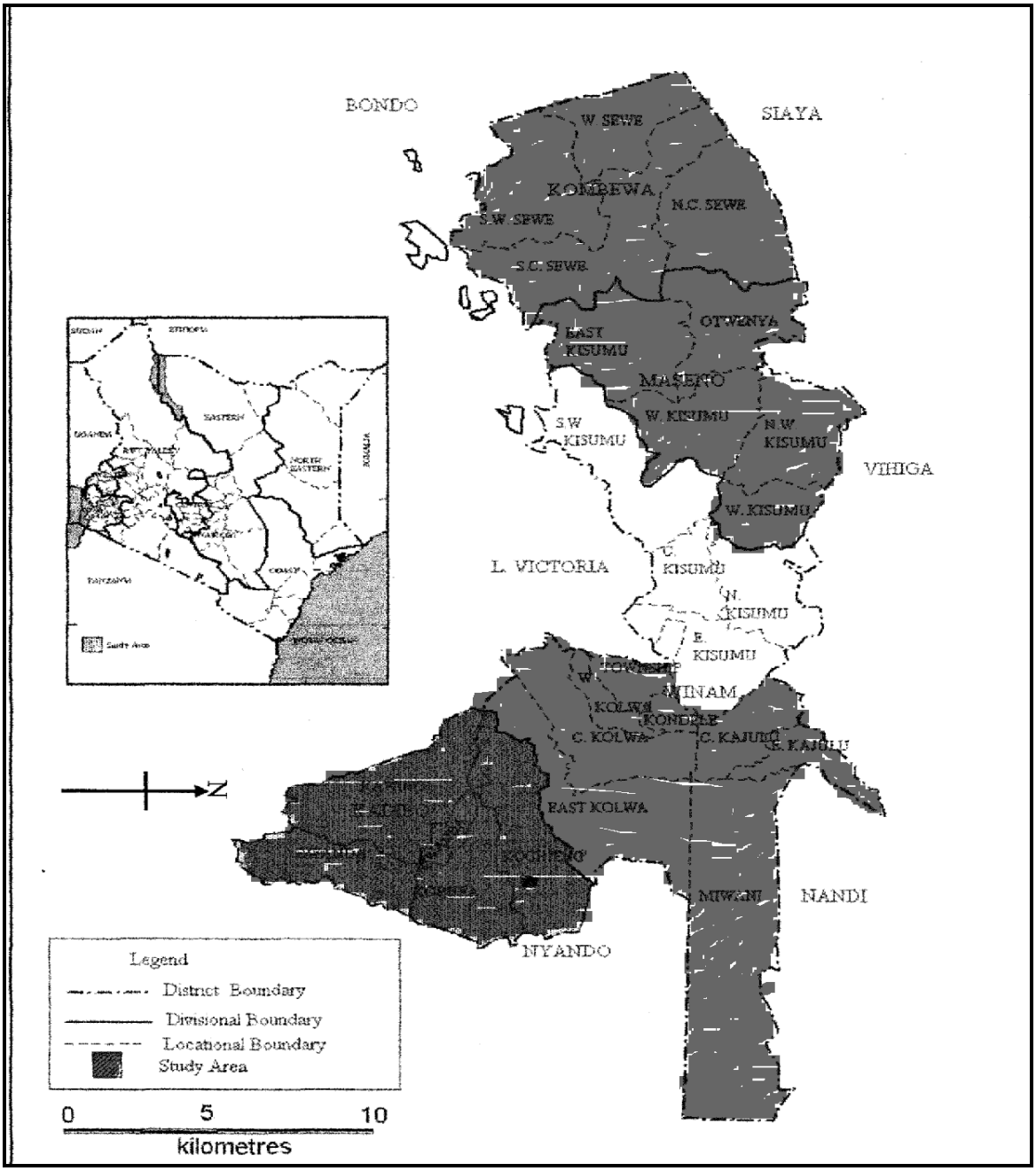
APPENDICES

Appendix I: Area of the Study



Appendix II: Questionnaire
Preamble

I'm a Post Graduate (PhD Student No. SASS/D.PHIL/16/07) in Moi University, School of Arts and Social Sciences, Department of Sociology and Psychology. I am carrying out a study titled **"Knowledge, Attitudes and Socio-Cultural Beliefs and Practices among the Infertile Persons in Kisumu County, Kenya"**. You are requested to fill in this questionnaire to the best of your ability and return it back. You are assured of confidentiality of the information given and that your contribution is very important for the success of the study. Administered by ……for Antony Wando Odek (0723552773 or 0738503793), Moi University, Eldoret.

Different categories of respondents will be attended to: A, B and C
(Circle/Tick as appropriate)

Part A-For person's reporting/childless or not reporting inability to contribute to conception

Personal Information and History

PART A: QUESTIONS

1. (a)Your age

   (1) Less than 25 (2) 26 – 36 (3) 37- 47 (4) 48-59 (5) 60 and above

2. Sex

   (1) Male

   (2) Female

3. Your level of education and that of your spouse.

		Self	Spouse
1	Primary	( )	( )
2	Secondary	( )	( )
3	Tertiary college	( )	( )
4	Graduate	( )	( )
5	Other (specify)	( )	( )

4. Your religion.

   1) Christian (2) Muslim (3) Hindu (4) Traditional Religions (5) Other (specify)

5. Marital Status.

   1 Married ( )
   2 Single ( )
   3 Divorced ( )
   4 Widowed ( )
   5 Other(specify) ( )

Type of marriage (1) one wife (2) 2 or more wives (3) None

7. Number of sexual partners outside marriage you have ever had…….
8. What is your income level per month……..

   1 Sh2,000-4,000 ( )
   2 Sh6000-8,000 ( )
   3 Sh10,000-12,000 ( )
   4 Sh14,000-16000 ( )
   5 Sh18,000 and above ( )

9. Number of living children you have ever had…….
10. Your occupation and that of your spouse.

	Self	Spouse
1	Professional	( ) ( )
2	Skilled	( ) ( )
3	Semi-Skilled	( ) ( )
4	Not Employed	( ) ( )
5	Other (specify)	( ) ( )

11. Geographical location. (1) Kadibo (2) Winam (3) Kombewa (4) Maseno

12. In what type of area are you currently living?

    (1) Rural (2) peri-urban (3) Urban

13. Age at first sexual intercourse or debut……

Levels of Knowledge, Perception and Atttitude on Infertility

14 Would you say you have had several sexual relationships with your spouse with an intention of having a child for at least 12 to 24 months without any success?

1. No. ( )

2.Yes ( )

15. If yes, how many years have you tried to have a child without success?

1	Less than 24 months	( )
2	2-4 years	( )
3	5-6 years	( )
4	7-8 years	( )
5	9 years and above	( )

15. Have you been labelled as:

1	Childless	( )
2	Unlucky	( )
3	A witch	( )
4	Mule-unproductive animal	( )
5	One child like a donkey	( )
6	Other (specify)	( )

16. Number of children you or your spouse has had within marriage and outside marriage.

Inside marriage Self…..Spouse……..

Outside marriage Self…..Spouse……..

17. Have you ever miscarried? (1)No (2) Yes

If yes, how many times……..

20. Do you believe infertility is diagonised after 1-2 years?

1. Yes( )

2. No( )

3. I don't Know( )

21. Who is mostly responsible for infertility ?
    1. Males( )
    2. Females( )
    3. Both( )

22. What is your opinion on the following statements on infertility?

Statements	Agree	Not sure	Disagree
Infertile individuals cannot achieve adulthood			
Infertility is due to one's fault or behaviour			
Infertility is a product of God's curse or punishment			
The childless has for a long time been ridicules among residents of Kisumu County			

23. Would you say having no children is associated with the following health related problems? Where 1=Strongly Disagree, 2=Disagree, 3=Not Sure, 4=Agree, 5=Strongly Agree for number 20 to 27.

1	Abortion	1	2	3	4	5
2	Contraceptives	1	2	3	4	5
3	Gonorrhoea	1	2	3	4	5
4	Tuberculosis	1	2	3	4	5
5	Worms	1	2	3	4	5
5	Hotness of womb/blood	1	2	3	4	5
6	Smoking	1	2	3	4	5
7	Being too fat	1	2	3	4	5
8	Black menses	1	2	3	4	5
9	Poor diet	1	2	3	4	5

10	Problem of sex with spouse	1	2	3	4	5
11	Problem with monthly periods	1	2	3	4	5
12	Problem of HIV/AIDS	1	2	3	4	5
13	Other(specify)	1	2	3	4	5

Social-Cultural Beliefs and Practices About Infertility

24. Would you say difficulty in conceiving of children can be associated with the following cultural factors in women?

1	Having many sexual partners	1	2	3	4	5
2	Having sex before marriage	1	2	3	4	5
3	Witchcraft	1	2	3	4	5
4	A bad omen by an evil person	1	2	3	4	5
5	A slap with a ring	1	2	3	4	5
5	Rituals performed with a cloth	1	2	3	4	5
6	God's decision	1	2	3	4	5
7	Vowing never to have a child	1	2	3	4	5
8	Parental curse	1	2	3	4	5
9	Spouse's blood does not rhyme	1	2	3	4	5
10	Spouse works far	1	2	3	4	5
11	Others (specify)	1	2	3	4	5

25. Would you say difficulty in conceiving of children can be associated with the following health related factors in men?

1	Watery sperms	1	2	3	4	5
2	Weak sperms	1	2	3	4	5
3	Natural inability to reproduce	1	2	3	4	5
4	Too small or too big penis	1	2	3	4	5
5	Weak organs	1	2	3	4	5
6	Eating certain foods	1	2	3	4	5
7	Gonorrhoea	1	2	3	4	5
8	Syphilis	1	2	3	4	5

9	Arthritis	1	2	3	4	5
10	Poor diet	1	2	3	4	5
11	Spousal sex problem	1	2	3	4	5
12	Injury to penis	1	2	3	4	5
13	Problem of HIV/AIDS	1	2	3	4	5
14	Others (specify)	1	2	3	4	5

26. Would you say difficulty in conceiving of children can be associated with the following cultural related factors in men?

1	Male having too many sexual partners	1	2	3	4	5
2	Having sex before marriage	1	2	3	4	5
3	Witchcraft	1	2	3	4	5
4	A bad omen from an evil person	1	2	3	4	5
5	Being circumcised	1	2	3	4	5
6	Rituals performed with a cloth	1	2	3	4	5
7	God's plan or decision	1	2	3	4	5
8	Vowing never to have a child	1	2	3	4	5
9	Parental curse	1	2	3	4	5
10	Blood not rhyming	1	2	3	4	5
11	Sex with older women	1	2	3	4	5
12	Using sperms for rituals	1	2	3	4	5
13	Improper handling of a child at birth	1	2	3	4	5
14	Too much bike cycling	1	2	3	4	5
15	Too much work	1	2	3	4	5
16	Others (specify)	1	2	3	4	5

Consequences of Infertility

27. To what extent do you agree or disagree that difficulty in conceiving or having children is linked to (for all):

1	Being marked as unproductive	1	2	3	4
5					
2	People moving away from me	1	2	3	4

					5
3	Not being involved in decision making	1	2	3	4
					5
4	Quarrels with in-laws	1	2	3	4
					5
5	Being hostile	1	2	3	4
					5
6	Moving away from others	1	2	3	4
					5
7	Suicidal tendencies	1	2	3	4
					5
8	Divorce	1	2	3	4
					5
9	Being single again	1	2	3	4
					5
10	Separation in marriage	1	2	3	4
					5
11	Others (specify)	1	2	3	4
					5

28. To what extent do you agree or disagree that difficulty in conceiving or having children is linked to economic factors:

1	Poverty	1	2	3	4
					5
2	Difficulty in meeting treatment costs	1	2	3	4
					5
3	Difficulty concentrating in place of work	1	2	3	4
					5
4	Loss of employment	1	2	3	4
					5
5	Underpayment in place of work	1	2	3	4
					5
6	Repayment of bride price	1	2	3	4

5

7	Loss of land	1	2	3	4
	5				
8	Less or no inheritance	1	2	3	4
	5				
9	Others(specify)	1	2	3	4
	5				

29. How much do you agree or disagree that difficulty in conceiving or having children is linked to these psychological factors:

1	Being called bad names	1	2	3	4
	5				
2	Regretting why me	1	2	3	4
	5				
3	Feeling responsible for my problem	1	2	3	4
	5				
4	Loss of self worth	1	2	3	4
5					
5	A feeling of being sick	1	2	3	4
5					
6	Feeling disappointed with self	1	2	3	4
5					
7	Feeling unaccepted by others	1	2	3	4
5					
8	Feeling unhappy with others	1	2	3	4
5					
9	Feeling like a failure	1	2	3	4
5					
10	Others (specify)	1	2	3	4
5					

30. How much do you agree or disagree that difficulty in conceiving or having children is linked to the following cultural factors:

1. Infighting and quarrels	1	2	3	4	5
2. Burial in a forest	1	2	3	4	5
3. Faking pregnancies	1	2	3	4	5
4. Spouse likely to remarry	1	2	3	4	5
5. Womb cleansing rituals	1	2	3	4	5
6. Others (specify)	1	2	3	4	5

Place a number on the line to the left of each statement to show how much you agree or disagree with the statement. Please mark every item. Use the following response categories: 5=Strongly Agree, 4=Moderately Agree, 3=Slightly Disagree, 2=Moderately Disagree, 1=Strongly Disagree

Social Concern

31 It does not bother me when am asked questions about my inability to have children.

1 2 3 4 5

32 I can not help comparing myself with friends who have children.

1 2 3 4 5

Sexual Concern

33 I feel I have lost my enjoyment of sex because of the fertility problem.

1 2 3 4 5

34 Having sex is difficult because I do not want another disappointment.

1 2 3 4 5

Relationship Concern

35 My partner does not understand the way the fertility problem affects me.

1 2 3 4 5

36 My partner and I could talk more openly about our inability to have children.

1 2 3 4 5

37 Because of inability to have children, I worry that my partner and I are drifting apart.

1 2 3 4 5

Rejection of a Child-Free Lifestyle

38 Pregnancy and childbirth are the two most important events in a relationship.

1 2 3 4 5

39 My marriage needs a child (or another child).

1 2 3 4 5

40 As long as I can remember, I have wanted to be a parent.

1 2 3 4 5

How strongly do you agree or disagree with the following statements?

Where 1=Strongly Disagree, 2=Disagree, 3=Not Sure, 4=Agree, 5=Strongly Agree

41 I feel that I am a person of worth, at least on an equal basis with others.

1 2 3 4 5

42 All in all, I am inclined to feeling that I am a failure.

1 2 3 4 5

43 I feel I do not have much to be proud of.

1 2 3 4 5

44 I take positive attitude toward myself.

1 2 3 4 5

45 I certainly feel useless at times.

1 2 3 4 5

46 At times I feel I am not enjoying sex at all.

1 2 3 4 5

47 I sometimes feel I am not satisfied with my Marriage.

1 2 3 4 5

48. Tell us how strongly you agree or disagree that the following responses are associated with infertility: Where 1=Strongly Disagree, 2=Disagree, 3=Not Sure, 4=Agree, 5=Strongly Agree.

1	Analyzed the problem for better understanding	1	2	3	4	5
2	Turned to work to take my mind off it	1	2	3	4	5
3	Time will solve it-wait	1	2	3	4	5
4	Talk to others to find out more	1	2	3	4	5
5	Criticize myself	1	2	3	4	5
6	Hope for a miracle	1	2	3	4	5
7	Ignore the problem	1	2	3	4	5
8	Express anger to the cause of problem	1	2	3	4	5
9	Inspired to do something creative	1	2	3	4	5
10	Try to forget the whole thing	1	2	3	4	5
11	Got professional help	1	2	3	4	5
12	Make a mockery of the whole situation	1	2	3	4	5
13	Accepting the situation	1	2	3	4	5
14	Leave everything to God	1	2	3	4	5
15	Others (specify)	1	2	3	4	5

49. How strongly do you agree or disagree that the following methods can help solve the problem of inability to contribute to conception or of having no children?

1	Concoctions (mixture of herbal drugs)	1	2	3	4	5
2	Use of traditional soap	1	2	3	4	5
3	Use of spiritual powers	1	2	3	4	5
4	Worshipping in the lake/rivers	1	2	3	4	5
5	Use of an egg	1	2	3	4	5
6	Making sacrifices at crossroads	1	2	3	4	5
7	Use of plants roots/leaves	1	2	3	4	5

8	Use of local brews	1	2	3	4	5
9	Intercourse with a herbalist	1	2	3	4	5
10	Polygamy(marrying more than one wife)	1	2	3	4	5
11	Drinking urine	1	2	3	4	5
12	Carrying other people's kids	1	2	3	4	5
13	Drinking the breast milk of lactating woman	1	2	3	4	5
14	Sex with priest	1	2	3	4	5
15	Adopting a child	1	2	3	4	5
16	Spiritual sacrifices	1	2	3	4	5
17	Other (specify)	1	2	3	4	5

50. What was your first action or response to inability to have a child?

1	Sought for medical advice from a doctor in hospital	( )
2	Sought for treatment with a herbalist	( )
3	Resorted to prayers	( )
4	Sought for advice from immediate relatives	( )
5	Sought for support from friends	( )
6	Sought for help from the witchdoctor	( )
7	Sought for support from self help group members	( )
8	Sought for support from NGO	( )
9	Sought solace from dead ancestors	( )
10	Other (specify)	( )

51 Do you and your spouse want more children?

a)	No	Yes
Self	(1)	(2)
Spouse	(1)	(2)

If yes, explain

b) Where 1=Never; 2=Less Often; 3=Not Sure; 4=More Often; 5=Very Often

1 To maintain the lineage	1	2	3	4	5
2 To ensure inheritance	1	2	3	4	5
3 To assist at home	1	2	3	4	5
4 To act as security in old age	1	2	3	4	5
5 To obey the command of god	1	2	3	4	5
6 To have joy and companionship	1	2	3	4	5
7 To gain respect and status in society	1	2	3	4	5
8 Others (specify)	1	2	3	4	5

52. How often have the following people been supportive when you had difficulty in conceiving or having no children? Where 1=Never Supportive at all; 2=Less Supportive; 3=Not Sure; 4=Supportive; 5=Highly Supportive

1 Spouse	1	2	3	4	5
2 Parents & grandparents	1	2	3	4	5
3 Other relatives	1	2	3	4	5
4 Neighbours	1	2	3	4	5
5 Colleagues at the workplace	1	2	3	4	5
6 People we worship with	1	2	3	4	5
7 People we socialize with	1	2	3	4	5
8 Friends	1	2	3	4	5
9 Others (specify)	1	2	3	4	5

Appendix III: FGD Guide

Persons Reporting Inability to Contribute to Conception or Childless

1.a) How do you call a person a man and a woman who is not able to contribute to conception?

b) What factors do you associate with inability to have children?

c) How do you get affected by these these conditions?

(i) An individual

(ii) The family

(iii) The neighbours and the community

Appendix IV: Interview Guide for Traditional Health Attendants

1. Please, can you explain to me how you deal with inability to have children?

2. What are the differences between male and female partners in regard to coping strategies?

3. What would you propose to be the ways of helping persons unable to have children?

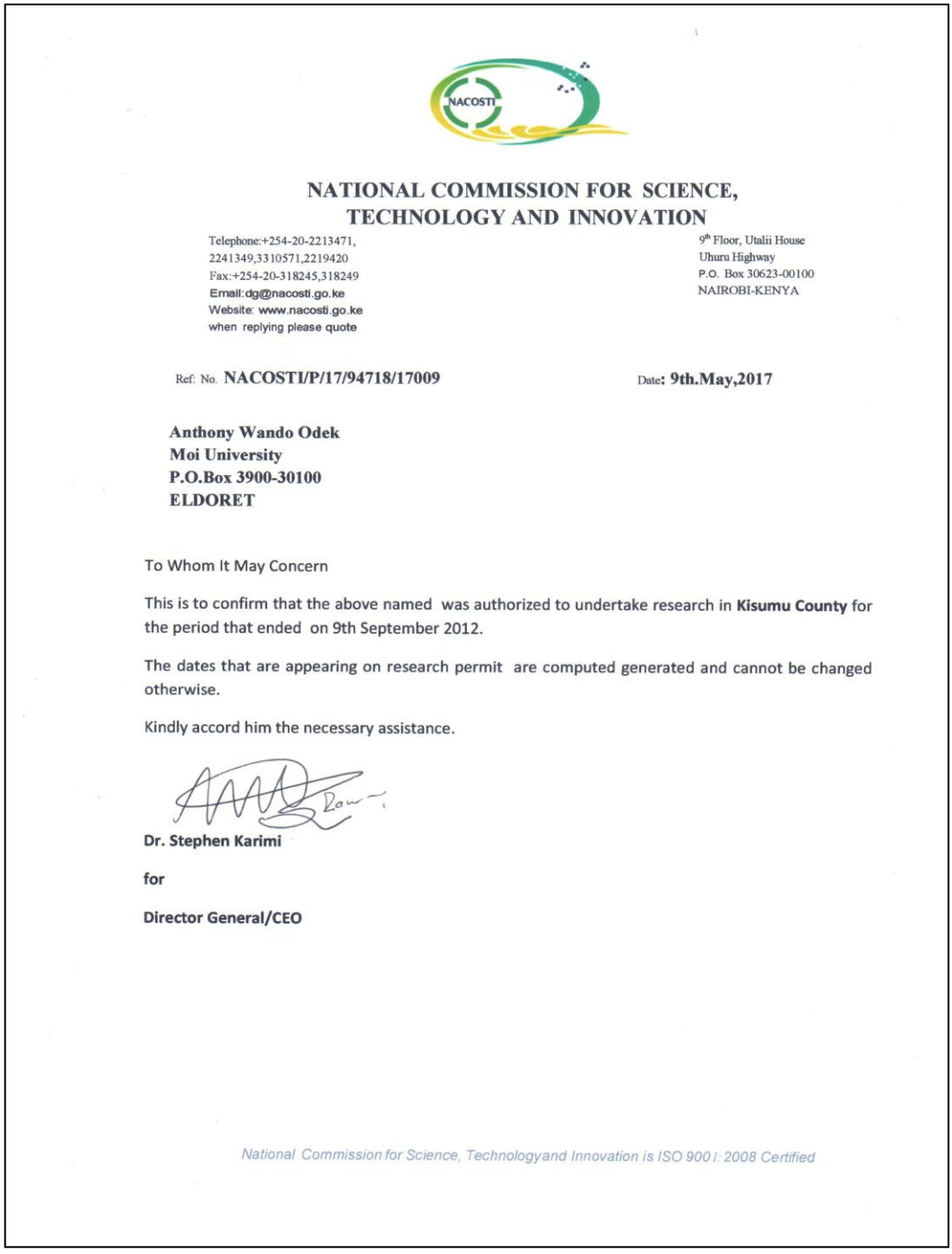
4. Where do the infertile persons get support from?

5. What are the best ways of tackling infertility?

6. Do you think there are guidelines for tackling inability to have children?

7. In your opinion, what ways are best for dealing with infertility?

Appendix V:Authorization From NACOSTI



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

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Ref: No. **NACOSTI/P/17/94718/17009**

Date: **9th.May,2017**

Anthony Wando Odek
Moi University
P.O.Box 3900-30100
ELDORET

To Whom It May Concern

This is to confirm that the above named was authorized to undertake research in **Kisumu County** for the period that ended on 9th September 2012.

The dates that are appearing on research permit are computed generated and cannot be changed otherwise.

Kindly accord him the necessary assistance.

Dr. Stephen Karimi

for

Director General/CEO

National Commission for Science, Technologyand Innovation is ISO 9001: 2008 Certified

Appendix VI:Copy of Research Permit

THIS IS TO CERTIFY THAT:
MR. ANTHONY WANDO ODEK
of MOI UNIVERSITY, 859-200
NAIROBI,has been permitted to conduct
research in *Kisumu County*

on the topic: *KNOWLEDGE, ATTITUDE AND SOCIO-CULTURAL BELIEFS AND PRACTICES OF THE INFERTILE IN KISUMU DISTRICT, NYANZA PROVINCE*

for the period ending:
9th May,2018

Permit No : NACOSTI/P/17/94718/17009
Date Of Issue : 9th May,2017
Fee Recieved :Ksh 2000

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Applicant's Signature

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Director General
National Commission for Science, Technology & Innovation

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit.
2. Government Officer will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one (1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

HARAMBEE

REPUBLIC OF KENYA

NACOSTI

National Commission for Science, Technology and Innovation

RESEACH CLEARANCE PERMIT

Serial No.A 14061

CONDITIONS: see back page