DETERMINING EMOTIONAL EFFECTS OF INFERTILITY, ITS EFFECT ON MARITAL AND SOCIAL RELATIONSHIPS AMONG INFERTILE WOMEN ATTENDING GOPC AT THE GARISSA COUNTY REFERRAL HOSPITAL.

A MIXED-METHOD STUDY.

DISSERTATION SUBMITTED AS PARTIAL FULFILLMENT FOR THE DEGREE OF MASTERS OF MEDICINE IN OBSTETRICS AND GYNECOLOGY AT THE UNIVERSITY OF NAIROBI.

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JUNE 2022

DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other university. To the best of my knowledge and belief the dissertation contains no material previously published or written by another person except where due reference is made in the document itself.

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DEDICATION

This project is dedicated to my mother, Duba Ibrahim for her constant prayer and encouragement throughout this research process. I also dedicate it to my three sons Muad, Maahir and Ismail for their endless love and patience while I was preparing this work.

DEFINITION OF TERMS

Infertility: Infertility is a disease of the male and female reproductive system defined by the failure to achieve a pregnancy after 12 months or more of regular unprotected sexual intercourse.

Dyadic adjustment scale: This is a 32-item questionnaire that measures an individual's perceptions of his/her relationship with an intimate partner.

Psychosocial: Relating to the interrelation of social factors and individual thought and behavior (oxford dictionary).

LIST OF ABBREVIATIONS

DAS ---------- Dyadic Adjustment Scale

FertiQoL ---- Fertility Quality of Life Questionnaire

GOPC ---- Gynecological Outpatient Clinic

PCOS ---- Polycystic Ovary Syndrome

WHO ---- World Health Organization

WHOQoL-BREF -----World Health Organization QoL Scale

FGD ---------- Focused Group Discussion

KNH---------- Kenyatta National Hospital

UoN ---------- University of Nairobi

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ABSTRACT

Background: Infertility has physical, psychological, social, emotional and financial impacts. Personal reactions to infertility include guilt, confusion, denial, anger, despondence, withdrawal, unworthiness and social isolation. Women are solely blamed for infertility in African set-ups. Divorce and polygamy are liberal among Muslim communities with possible grave psychological trauma to the childless woman. This study sought to understand the emotional, relational and social effects resulting from this.

Broad objective: To determine emotional effects of infertility, its effect on marital and social relationships among infertile women attending GOPC at the Garissa county referral hospital.

Methodology: A mixed-method study design was employed. For the quantitative arm, the Fertility Quality of Life Questionnaire was administered to 85 infertile women attending GOPC at the Garissa county referral hospital using a consecutive sampling technique. Data collection was done from March 2022 to May 2022 and analyzed using SPSS version 26. Descriptive statistics such as means and standard deviations were used for continuous variables while for categorical variables frequencies with their percentages were tabulated. Qualitative data was collected using focus group discussions in Somali and Swahili and transcribed verbatim. Transcripts were then translated to English and data analysed. Identified meanings were clustered into themes. A conclusion was drawn from the data obtained by the two methods regarding each objective of the study.

Results: A total of 78 questionnaires were analyzed. Secondary infertility was predominant at 49 (63%). The mean FertiQol score was 54.3 ± 20.03. The mean scores for each domain were: Emotional - 47.6 ± 27.20, Relational - 61.6 ± 24.63, Social - 66.6 ± 21.29. In the qualitative component, emergent themes included: **emotional** (stress, depression, anxiety, sadness, despair, resentment, and hope), **relational** (fear of the husband marrying another

wife, male spouse not accepting himself as the cause of infertility, fear that childlessness will affect their marriage), and **social** (unsupportive friends, allegations of contraceptive use by in-laws, societal pressure, being mocked for their infertility, own family members were supportive).

Conclusion: Infertile women in Garissa faced negative emotions such as stress, depression, anxiety, sadness, despair, and resentment. Infertility had affected their marital relationships but their average score was above average. This could be a result of their coping strategies or shyness to disclose their marital issues.

Recommendation: Psychological support should be offered to infertile women. Counselors should be stationed at infertility clinics.

CHAPTER ONE: INTRODUCTION

1.1 Background

According to WHO, infertility is a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse"(1). Nurturing children has been a part of life since the beginning of mankind in different cultures and is seen as a fulfillment of married life (2). The problem of infertility is huge with estimates of its existence varying from region to region. Throughout their reproductive lives, approximately 50-80 million people worldwide encounter some form of fertility-related problem which is about 8% of couples. Infertility levels are especially high in Sub-Saharan Africa where the number of infertile couples may be as high as 20-40 % in some of the countries that form the low fertility belt, that is; Central African Republic, Cameroon, Democratic Republic of Congo (DRC), Gabon, Togo, Tanzania, Sudan and Kenya(3). In Kenya alone, the national infertility estimate is about 11.9%, (over 5 million people) with western and coastal regions having the highest rates. Primary infertility accounts for less than 5% of infertility cases, while secondary infertility affects more couples ranging from 10-to 30%.

Becoming a parent is one of the major passages into adult life and the stress associated with the lack of it bring about emotional effects that include rage, depressive symptoms, feelings of worry, problems in marriages, and feeling of desperation and helplessness(4)(5). Infertility affects both physical and mental health (2). Women experience their infertility more strongly than men and show an intense desire to have children(6)(7). There is a higher rate of depression among infertile women than in the general population. Infertility causes great personal distress while its treatment compounds this by being time-consuming, expensive, and sometimes requiring invasive procedures(7).

In African societies, the ability to have children is highly valued and its inability is considered a curse for couples(8). There are beliefs among some communities that infertility could be a result of either social or biological factors. This includes supernatural powers such as being cast on spells, not obeying social norms, terminating a pregnancy, masturbating, and sometimes contraceptive use. Infertile couples usually go to traditional healers in search of a cure for their condition. A childless woman is stigmatized resulting in isolation, neglect, marital instability, domestic violence, and polygamy. Childless women were commonly referred to as being barren in the past. Infertility was taken to be a problem primarily of women and their status was low in society. A study conducted in Kenya among the Luo infertile women revealed that childlessness was burdensome in the form of social alienation and stigmatization, loneliness, being despised, shame, and guilt (9). Kinsmen sometimes pressurized men to marry another woman. In many cases, childlessness leads to disharmony in the family. The study also revealed that a childless couple might suffer loneliness. This loneliness reaches its peak in old age and may cause great psychological distress. In Africa, children are named after their grandparents or after their ancestors and childless couples will not have offspring to remember them hence becoming “mortal”.

Despite the high prevalence of infertility, and the resultant psychosocial consequences, health policymakers including governments in low- and middle-income countries have continued to neglect infertility care. To reduce the negative effects arising from depression in infertile women, appropriate measures, planning, and policy need to be established in low- and middle-income countries (23).

CHAPTER TWO: LITERATURE REVIEW

2.1 Emotional Effects of Infertility

By use of the QoL questionnaire from infertile couples Namdar et al., found that the general well-being of about a half of the women indicated some form of the disorder (10). They face the risk of feelings of worry, instability, and dysfunction socially and sometimes depression. Major factors influencing the QoL included monthly earnings, level of education, and location of residence (rural/urban). As shown by the findings of a qualitative study of sub-fertile couples by Loke et al, participants reported feelings of emptiness, remorse, self-blame, and felt they are cut off from the 'world of the fertile people'(11). The couples also agreed to the fact that the sub-fertility problem had effects on their marital relations. They blamed themselves for not seeking care early. Some couples discovered alternative ways to fill their 'loss' and deal with their circumstances, while others rationalized it by unearthing excuses that approved of them being infertile.

In a bid to explain how Iranian infertile women respond to infertility psychosocially; Hasanpoor-Azghdy et al used a qualitative content analysis study(12). The results themes were summarized into four topics: cognitive responses arising from infertility itself, cognitive responses to the treatment process, emotional-affective responses arising from infertility, and emotional-affective responses to the treatment process. The psychosocial health of couples with infertility in Jordan was examined by Mahadeen et al.(13). They used a cross-sectional descriptive study to evaluate data on perceived social support, depression, stress, and coping mechanisms. More than a half (66%) of couples had average to the above-average levels of depression. They experienced an outstanding level of psychological distress, and a low level of life satisfaction, but were significantly optimistic that the fertility problem is short-term.

Couples had a medium level of coping mechanism, they perceived highly of their families' social support.

2.2 Marital Relationships and Infertility

Several factors affect the psychosocial impact of fertility problems on women. As reported by Winkelman et al. Personal distress as well as sexual dysfunction were significantly higher in women who had female-only factor as the cause of infertility(14). This was noted to be high also among women of age less than 40 years. It is also clear that having a child earlier and infertility lasting for longer periods lowered these distresses but worsened levels of marital distress. Infertility may result in repercussions like exclusion socially, separation, and abuse both physical and verbal(15). Gender differences may exist in terms of infertility's sequel on marriage relations as well as a couple's quality of life. However contrary to this, a comparison of Turkish couples (fertile vs. Infertile) by Gu¨ liz Onat et al. Found no difference in gender regarding QoL for these couples(16). Both groups scored well when das was used and more so was better among infertile women than their fertile counterparts. In almost all domains regarding QoL infertile men scored higher than their fertile counterparts. A positive correlation was noted between the scores of das and QoL. There is a high prevalence of depression in women with infertility and family dysfunction is negatively associated with its severity. Lack of support from husband and in-laws also contribute to the likelihood of depression and anxiety

There exists a predictive effect of stress that is related to stress on both emotional and marital distress(17). This was according to Gana and Jakubowska in their study done in France consisting of 150 infertile men and women. They used structural equation modeling to estimate this relationship. However, stress relating to infertility was found to have more impact on emotional distress than on marital satisfaction.

2.3 Social Expectations and Infertility

Infertility can significantly affect the overall quality of life more so the physical, mental, and social health of infertile patients(5). However, contrary to other studies Bakhtiyar et al. Illustrated that infertile women can have higher scores in the social subscales compared to the fertile women but lower scores in other subscales. The study was done in Iran where a number of 180 infertile and 540 fertile women participated in a case-control study. For each infertile woman, three fertile women were randomly selected and data was gathered through the WHOQoL-BREF questionnaire.

Quality of life relating to fertility may depend on the cause of infertility(7). Santoro et al. In the USA examined this phenomenon by comparing women with PCOS and those with unexplained infertility. They found that those who had a diagnosis of PCOS scored lower than the ones with UI (72.3+14.8; 77.1+12.8; p 0.001 respectively); other than the relational subscale, this was the case for all domains. Factors such as the age of the woman, PCOS symptoms like hirsutism, and level of BMI, as well as the age and level of income, contributed to this variation. The study also noted that women scored lower than their male counterparts in the overall assessment. Of note is that partners of women with PCOS scored higher than those of the women who had UI (84.9+10.2 versus 83.3+10.8; p ¼ 0.003). Rates of pregnancy and conception had no relationship with the quality of life scores.

Infertility has psychosocial consequences on women's personal life with the husbands blaming them for infertility and sometimes threatening a second marriage(18). Fatima p et al. In Bangladesh explored this by asking a total of 400 infertile couples to fill up questionnaires and later interview them. About 37.3% of the male partners believed that the situation of their women was temporary and that someday they will conceive. However, 31.3% of them were not intending to marry a second wife, while 13% were undecided on this. 11.3% of the male

partners put the blame solely on their female counterparts as the cause of their infertility and 4.8% of them gave threats to marry a second wife. Among friends, 57.3% were suggested to seek care from a gynecologist, 29.8% experienced no pressure from family. Around 11.3% of them, close relatives pressured the male to marry a second wife, and 1.8% to seek divorce from the wife. As a way to cope with their situation, couples relied on family members for support and also avoided conversations relating to their condition(15).

In the African context, women have many beliefs about the situation of infertility. F. Naab et al. Did a study on infertile women in Ghana and explored their beliefs on infertility. There were significant levels of stress relating to their infertility, medium to low levels of social isolation and anxiety, minimal levels of stigma, and high symptoms of depression. These consequences of infertility were positively related to the fact that they believed infertility had a negative sequel and also had little knowledge concerning their condition. Some believed that personal control could help in managing their infertility and this had a negative impact on the levels of depressive symptoms. Beliefs about the aftermath, understanding of their illness, and individual control were some of the relating factors leading to low levels of negative psychosocial effects.

As described by Hollos et al. In their study in Nigeria, a woman that never sired her own child was termed as “useless” (19). To curb this situation some women, manage to gather wealth or attain good literacy but a good number of them were scared about loneliness during their sunset years. Women who ever gave birth even if they lost that child were respected. The process of pregnancy and childbirth allowed women to get mature and enter into an adult. In the stages of life important periods that inflicted suffering was transitioning from ereso(girl) to erera(mature woman) and the old age period. Women received lots of pressure from their partners, in-laws, and the entire community due to the high premium status that comes with parenthood(20). Fehintola et al. Found that how couples thought of the causes of

their infertility had many influencing factors but around 33% of the participants had no clue about the cause and 79% were under pressure to become pregnant.

Here in Kenya Ephraim Ochieng examined the burden of childlessness on Luo women(9). The findings of the study indicated that the Luo childless women faced challenges such as alienation, stigmatization, and ridicule. These challenges affected their lives within the families and the entire community. Infertility was mostly identified with delay in seeking treatment and hence decision-making in the ultimate management(21). In a bid to understand this, Koigi PK et al., examined the relationship between interpersonal relationships in tubal factor infertility couples and delay in the final decision on mode of treatment. Longer durations to fruitful communication on conception difficulties (≥ 25 months), and being blamed by the male spouse had a negative impact on the timing of treatment initiation. Conversely, when the male partner was supportive and did investigations such as semen analysis, it had a negative impact on the delay of definitive treatment. Marital relationship issues that were strongly associated with delay in treatment were threatening for a divorce, sexual constraints, and physical violence.

All these studies have concentrated on different aspects of the psychosocial effects of infertility. They were also conducted among different populations, both in Africa and outside Africa. This study focused on a population of Muslim African community with strict adherence to cultural and religious norms that is highly patriarchal. The religion here has also simplified divorce since it can be granted by the man without mutual agreement between him and the wife. Polygamy is permissible in this population, making it more distressful for the woman in dealing with infertility

2.4 Problem Statement

In Kenya, the national infertility estimate is about 11.9%, (over 5 million people) with western and coastal regions having the highest rates. Primary infertility accounts for less than 5% of infertility cases, while secondary infertility affects more couples ranging from 1to 0-30%. Approximately 30% of all gynecological consultations at national referrals and 15% in county hospitals are due to infertility (national infertility survey).

In African societies, the ability to have children is highly valued and its inability is considered a curse for couples(8). In Kenya, women are called by the name of their child as in “mama (the mother of) so and so”, hence a childless woman loses identity among her peers. A study conducted in Kenya among the Luo infertile women revealed that childlessness was burdensome in the form of social alienation and stigmatization, loneliness, being despised, shame, and guilt (9). Kinsmen sometimes pressurized men to marry another woman. In many cases, childlessness leads to disharmony in the family and loneliness which causes great psychological distress.

In the northern part of Kenya, early marriages, divorce, and polygamy are highly practiced. This being a Muslim community, polygamy is legal. It is also permissible for a man to divorce a woman without a mutual agreement between them. The societal pressure arising from infertility among women often leads to stigmatization, loneliness, and hopelessness. This society is also highly patriarchal, meaning there is a low literacy rate among women and low levels of empowerment. This puts them into a more fragile state since they cannot make a living for themselves and live freely.

Psychosocial effects of infertility are more so experienced by women, they deal with the stigma that comes along with it. This study sought to answer more specifically how these

women deal with the issue of infertility in this community and its psychosocial effects. The study findings will help inform policy directed at protecting these vulnerable women.

2.5 Theoretical Framework

2.5.1 Grounded theory of identity as infertile

The grounded theory was developed by two sociologists, Barney Glaser, and Anselm Strauss. It is a general research methodology, used in studies of diverse populations in areas like remarriage after divorce and professional socialization.

Grounded theory of identity as infertile: According to this theory, women who are distressed by their infertility status assume themselves as infertile as a form of their identity. By so doing they detach themselves from other important positions for example being a friend, partner, or family member. This will eventually lead to social isolation. These identities become less important while the identity as infertile becomes central(22). Infertility becomes the overriding matter in many infertile couples' marriages, and other identities are pushed to the periphery, including their marital problems. Hence giving them less chance to address other complex issues facing their marital relationship generally. Therefore, these couples are at risk of facing marital discord(22). Infertile women may even push their career identities to the periphery while infertility takes the central role putting them at risk for social isolation(23). The findings of this study on the effects of infertility on women's marital and social relationships at the Garissa County Referral Hospital agree with this theory's hypothesis.

2.6 Conceptual Framework

Infertility is associated with psychological and social problems. These in turn are influenced by socio-demographic and personal characteristics – (age, occupation, education, marital status) and parental (length of marriage, number of marriages, prior pregnancy/childbirth experience, and period of infertility) in nature. Infertility affects the psychosocial wellbeing of a woman in terms of; emotional, relational, and social responses. The emotional aspect shows how infertility causes negative emotions such as insecurity & bitterness, sorrow, and depressed moods which in turn have an impact on life's quality. The relational aspect shows the impact fertility problems have on the components of a relationship or partnership such as sexuality, communication, and commitment thus affecting a woman's quality of life. The social component shows how social interactions are influenced by issues of fertility including stigma, social inclusion, support, and expectations.

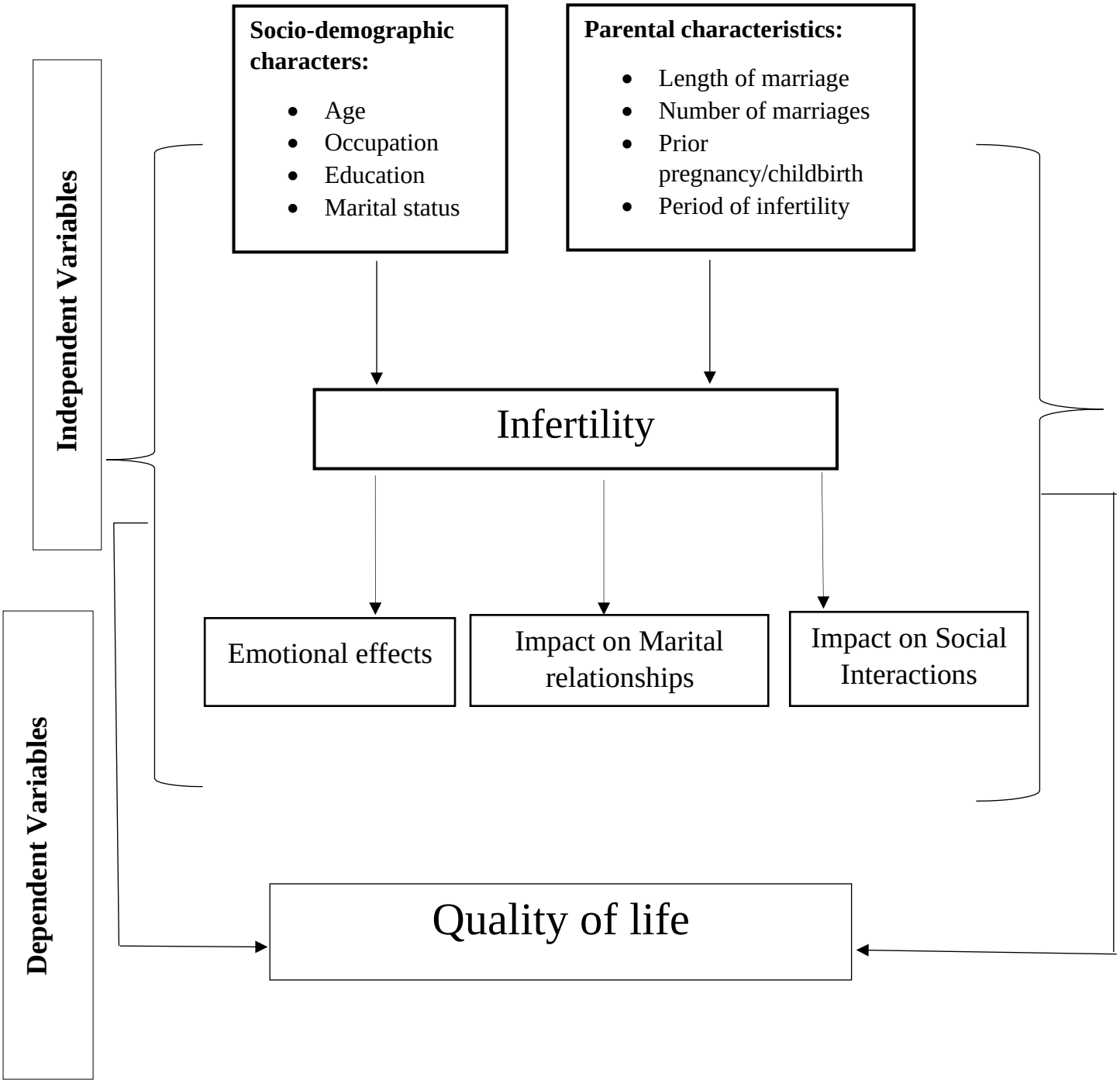

Figure 1: Conceptual Framework

2.7 Justification

In assessing the quality of life by use of different tools (WHO-QOL, FertiQoL, Beck Depression Inventory, Coping Styles Questionnaire, and others), it is clear that many infertile women display some degree of psychosocial disorder and face risks of anxiety, social dysfunction, and even depression. In LMICS, while there is the issue of overpopulation, infertility is also a cause of the burden on the psychosocial status of the people that requires some attention. Women's life is greatly influenced by infertility and can be a cause of a lifetime crisis. NGOs and governments are reluctant in investing in this matter. Women often do not expose their infertility issues and in many African communities, infertility is usually taken as a woman's problem although there is evidence of high prevalence of male infertility.

A few studies were done in Africa concerning the psychosocial effects of infertility involved mostly in non-Muslim communities. This study was designed to fill this gap. Somali communities that comprised a bulk of the studied population were Muslims**.** FertiQol has been used as a tool worldwide to assess the quality of life of infertile individuals. The results are usually low scores among these populations. This study additionally employed FGDs to discuss specifically the issues affecting the population in this setting. This was really of significance considering that polygamy and divorce are freely practiced here. In some instances, the men may keep marrying a new wife and divorcing the previous one in search of the one who shall bear their children. They will be very hesitant on getting investigated and treated themselves regarding the issue of infertility. This means the infertile woman is left with the burden of worrying about her childlessness and seeking care to find a solution for this.

The first three objectives gave a general idea on the psychosocial kind of lives infertile women live. This may be comparable with results from other populations in different parts of

the world. The fourth objective gathered specific information regarding this particular population. The study then provided a methodological triangulation in order to draw a conclusion regarding the subject matter. It informed the need for provision of psychosocial support to women seen in infertility clinics particularly in the setting of Garissa county serving a Muslim population. It also informs policy regarding screening and timely provision of psychosocial support to infertile women.

2.8 Research Question

What are the emotional effects of infertility, its impact on marital and social relationships among women attending GOPC at the Garissa county referral hospital?

2.9 Specific Research Questions:

1 To what level has infertility affected the emotional state of infertile women?

2 To what level has infertility affected infertile women's marital relationships?

3 To what level has infertility affected infertile women's social interactions?

2.10 Objectives

2.10.1 Broad Objective

To determine the emotional effects of infertility, its impact on marital and social relationships among infertile women attending GOPC at the Garissa county referral hospital.

2.10.2 Specific Objectives

Among infertile women attending GOPC at the Garissa County Referral Hospital to determine:

1. The emotional effects resulting from infertility.
2. The effects of infertility on women's marital relationships.
3. The effects of infertility on women's social interactions.

CHAPTER THREE: METHODOLOGY

3.1 Study Design

A mixed-method approach was used to assess the psychosocial status of infertile women. It will be a partial concurrent, dominantly qualitative mixed method design. The quantitative data obtained was useful in quantifying the psychosocial problems and helped uncover the pattern of responses. This was used to formulate facts that can be generalized to a larger sample population. On the other hand, the qualitative method helped in further understanding and getting insight into the underlying women's feelings and opinions. For the quantitative aspect, it was a cross-sectional descriptive study design, while the qualitative one was an exploratory method by use of a phenomenological approach. This explains how individuals interpret lived happenings/experiences and how they are conveyed (Parahoo 1997). It is a qualitative, inductive methodology to elicit participants' experiences, attributing meanings to participants' narratives, presenting an overall picture of the phenomenon under study (Omery 1983, Munhall & Olier 1986). Data were collected from women diagnosed with infertility.

3.2 Study Site and Setting

Garissa is part of the larger northeastern part of Kenya, semi-arid with the majority of its residents nomadic. The study was conducted at the Garissa county referral hospital, a level five hospital. The hospital serves as a referral hospital for Garissa county and neighboring counties including Kitui, Tana River, Wajir, and Mandera. With a bed capacity of 224, the hospital offers services including specialized clinics (internal medicine, general surgery, orthopedics, obstetrics and gynecology, urology, diabetic, nutritional, and others), immunization, tuberculosis diagnosis and treatment, modern laboratory, blood bank, radiology as well as treatment including chemotherapy.

The hospital runs an outpatient gynecological clinic every week. Patients with diverse obstetric and gynecological conditions are attended to including infertility. The hospital can perform some basic laboratory and radiological investigations important in screening and diagnosing infertility. These include; pelvic ultrasound, STI screening, HSG, and hormonal profile. Patients with reversible infertility like uterine leiomyomas are operated on in the facility while some are managed with medications like ovulation induction regimens. However, patients requiring IVF or IUI are referred accordingly since the services are unavailable in the entire county.

3.3 Study Population

The study population was women seeking care for the problem of infertility at the Garissa county referral hospital. There is a concentrate of women coming from as far as the refugee camps seeking the services every Tuesday at the facility. In this gynecological outpatient clinic, approximately 32 patients with infertility are attended to monthly. Due to the nature of the societal and cultural expectations that "infertility is a female problem" men rarely present themselves for visits. This, emanates from a community that is highly patriarchal, and the likelihood of feminine socio-economic suppression and extreme socio-cultural negative consequences. This, therefore, makes this population very suitable for fulfilling the objectives of this study.

3.4 Inclusion Criteria:

1. Women diagnosed with primary infertility and specified in clinical records;
2. Women diagnosed with secondary infertility and specified in clinical records;
3. Infertile women who ascent and consent to participate in the study.

3.5 Exclusion Criterion:

1. Actively/overt psychosis
2. Women aged or older than 49 years of age

3.6 Sample Size Determination.

This study made use of the fisher et al (1998) formula.

$$n = \frac{Z^2 p(1-p)}{d^2}$$

Where;

n = desired sample size

Z = value from standard normal distribution corresponding to desired confidence level (z=1.96 for 95% ci)

P = the expected proportion of negative psychosocial effects in the population. P =5 0%

D = absolute error or precision

$$\frac{1.96^2 \times 0.50 \times (1-0.50)}{0.05^2} = 384$$

Factoring for population size:

N= population size.

From the hospital records an average of 8 patients visit the clinic per week. This gives us an estimate of 32 patients per month. Since the study will be conducted for 3 months this gives an estimate of 96 patients as the population size.

New sample size = $\frac{nN}{n+(N-1)}$

$$\frac{384 \times 96}{384 + (96 - 1)} = 77$$

The final sample size was 85 after factoring in 10% for incomplete responses during data collection. 13 individuals out of this 85 participated in the focused group discussions**.**

3.7 Data Collection Tool

Data collection was done from in April and May of 2022, using a clinician-administered questionnaire (FertiQoL) and Focused Group Discussions. FertiQoL is the first internationally accepted tool to assess the quality of life of individuals suffering from infertility. It has two sets of questions; the Core-FertiQoL which consists of 24 questions, and the (optional) treatment set. The treatment set of questions are used to examine feeling and thoughts relating to the treatment of the fertility condition and will not be used in this study. The Core-FertiQoL assesses 24 items. 22 of them are directly related to infertility itself while two are used to assess general health. It consists of the analysis of 4 subscales; mind-body- it has 6 questions that give information about how infertility has affected the day-to-day work of the respondent; relational-6 items on how it affected marital relationships; social- six items on the social sequel for infertile patients and; emotional- 6 items assessing how they have been coping with infertility. The latter three were analyzed in detail for this study.

The superiority of the FertiQoL is that it evaluates more accurately the effect of fertility problems while avoiding the effects of other stressors on QoL. If one of the subscales shows an abnormality more specific tests/tools can be used to assess the individual. Such tools include a depression inventory (emotional domain) and a marital inventory (relational domain). By use of such methods attention can be given to patients' specific needs in terms of counseling and making it easier to integrate QoL issues with clinical practice. The tool is available in many languages including Swahili and Arabic. It was administered in Swahili/English in the language the respondents were comfortable with. This questionnaire helped in fulfilling the quantitative aspect of the objectives of the study.

To fulfill the qualitative objectives of the study 13 infertile women were recruited to conduct 2 focused group discussions. These were infertile women who were part of the quantitative arm. Purposive sampling was done to recruit 6 and 7 participants in each discussion respectively. The discussions lasted for 60 and 62 minutes each respectively. Data saturation was attained regarding the topic of discussion and the objectives of the study.

3.8 Data Collection Procedure

The researcher met with the medical superintendent of the Garissa level five hospital as well as the head of the department of the obstetrics and gynecology department and explained the data collection process.

Two research assistants helped collect the quantitative data. Once a woman was seen by the doctor in the clinic (GOPC) and established the diagnosis is infertility, he was requested to notify the research assistants. The patient was then taken to a private room prepared prior for this purpose. They were then assessed if they qualify for the study and met the inclusion criteria. If they met the inclusion criteria, their consent was sought. The research assistant then explained details about the study and was able to respond to all their concerns. They

were asked to sign the consent form or give a thumbprint. Participants were assured that the information gathered were for the sole purpose of the study and were informed that they had the right to pull out of the study at any period within the study and that this will not influence the quality and level of care that they receive. A questionnaire was administered to each participant individually. The questionnaire was administered in either English or Swahili, whichever language the participant found comfortable. For uniformity, the questionnaires were administered by the research assistants. This is prompted by the low literacy rate in the target population hence many participants were not able to self-administer the questionnaire. Overall, FertiQol scores were computed immediately, and women scoring poor scores were referred to the psychology department for counseling and further management. These data were put into an excel sheet weekly and kept in a password-protected computer accessible only to the principal investigator and persons concerned with the research process.

The FGDs were moderated by the principal investigator and observed by a research assistant. Participants were recruited from the quantitative arm, and those who were found to be able to provide rich data concerning subject of study were selected. It consisted of thirteen (13) women suffering infertility. The first group had seven participants while the second one had six (6). It took place in a private room, initially prepared for this purpose. First, the necessary information was given to the participants. This included the purpose of the study, the motive behind their selection, how they will be useful in the study, the benefits they will gain from doing this, information on issues of confidentiality, their rights as participants, and how they can contact the researcher. Informed written consent was then taken from participants. Participants were asked to discuss their experience with negative emotions regarding their infertility, its impact on their marital and social relationships. The discussion was recorded using audiotapes. Field notes were also taken that included participants' facial expressions.

The recorded material was kept in a password-protected computer accessible to the principal investigator and persons concerned with the research process only.

3.9 Study Flow Diagram

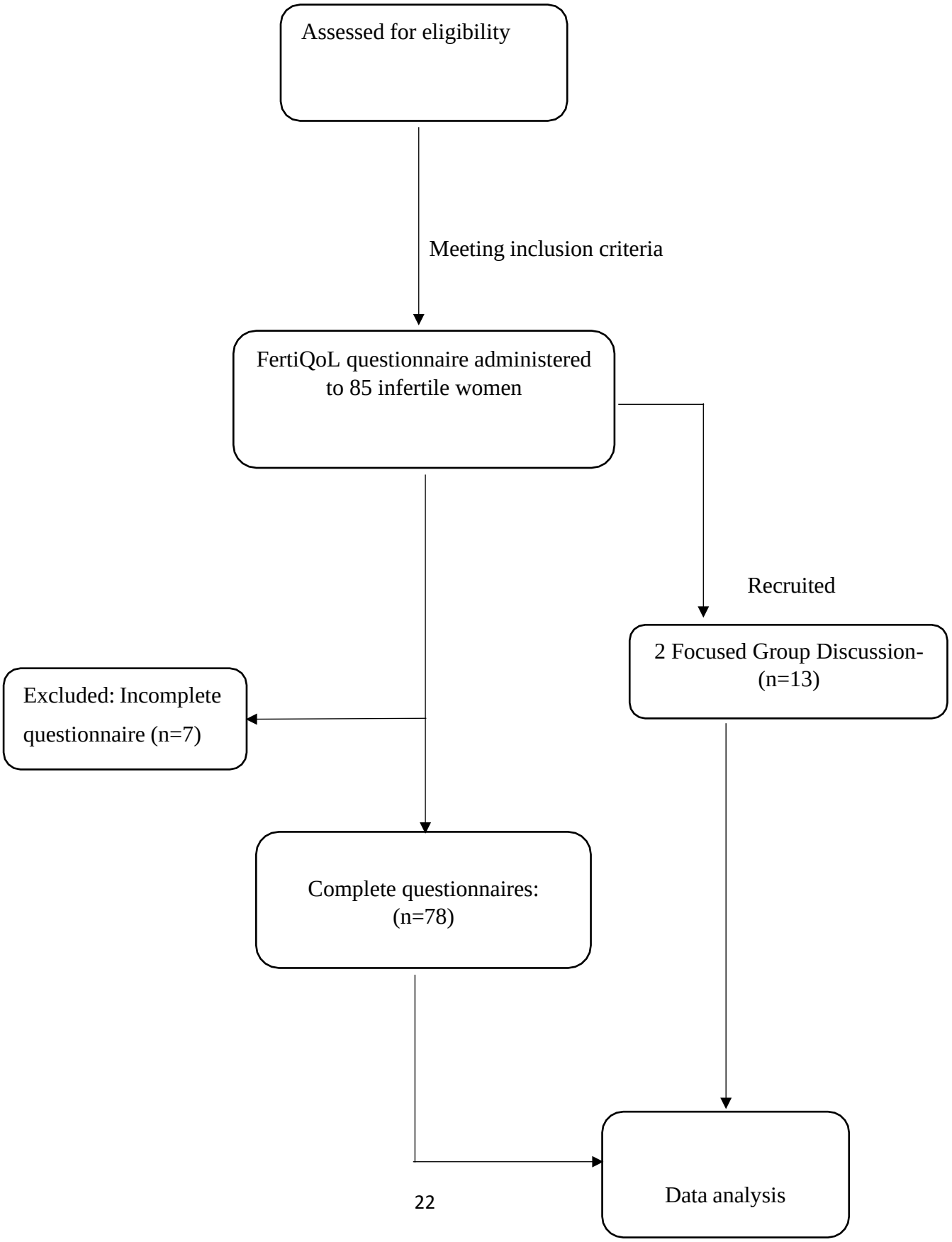

Figure 2: Study flow diagram

3.10 Data Variables

In determining the first objective of the study the exposure variable was infertility and the outcome was the emotional impact of infertility which includes feelings of jealousy & resentment, sadness, and depression. This was assessed through the FertiQoL questionnaire in emotional domain subscale questions as well as the FGDs. In determining the second objective of the study the exposure variable was also infertility and the outcome was the impact of infertility on relationships including sexuality, communication, and commitment. This was then assessed through the FertiQoL questionnaire in relational domain subscale questions and the themes emerging from the FGDs. In determining the third objective of the study the exposure variable was also infertility and the outcome was the impact of infertility on social interactions such as social inclusion, expectations, stigma, and support. This was assessed through the FertiQoL questionnaire in social domain subscale questions and FGDs.

Table 1: Data Variables

Objective	Exposure variables	Outcome variables	Sources of data
1. To determine the emotional effects resulting from infertility	Primary or secondary infertility	The emotional effects of infertility which include feelings of jealousy & resentment, sadness, and depression	-FertiQoL questionnaire (emotional domain) subscale questions -FGDs
2. To determine the effects of infertility on women's marital relationships	Primary or secondary infertility	Effect of infertility on relationships including sexuality, communication, and commitment	-FertiQoL questionnaire (relational domain) subscale questions - FGDs
3. To determine the effects of infertility on social interactions	Primary or secondary infertility	Effect of infertility on social interactions such as social inclusion, expectations, stigma, and support	-FertiQoL questionnaire (social domain) subscale questions - FGDs

Table 1:Data Variables

3.11 Data Collection and Management

For the quantitative aspect data collection was done by two research assistants who administered structured questionnaires, that is; the FertiQoL questionnaire. Questionnaires were allotted random codes and no personal identifier was included. Completed questionnaires were coded and data entered into an excel database. Data was then cleaned

and entered in IBM SPSS statistics version 26 weekly. For the qualitative section, the theoretical and analytical framework of Colaizzi (1978) on interpretative phenomenology was used to guide data collection. Two (2) FGDs were conducted in April. The first one was conducted in Somali and had a total of seven participants. The second one was conducted in Swahili since all the participants were able to speak in Swahili while all were not able to speak Somali**.** Field notes were also taken during the discussions of the informants' gestures or tone of voice, facial expressions. This served as a reference in analyzing the data later on. All study records including the audio recordings were kept in lockable cabinets accessible only to the principal investigator and persons concerned with the research process.

3.12 Data Analysis Methods

The quantitative data was analysed using SPSS version 26. Descriptive statistics were used to describe the sociodemographic and marital characteristics of patients. Categorical data was summarized as frequencies and percentages while continuous data described as means and standard deviations.

The raw FertiQoL scores recorded were converted into scaled scores. For each subscale, the raw scores were multiplied by 25/k where k is the number of items in the subscale. A score of above 50 was categorized as a good score while those scoring 50 and below were categorized as having a poor score.

To determine the emotional effects resulting from infertility we made use of the emotional subscale of the FertiQoL questionnaire. The mean scaled score was determined by its standard deviation. The proportion of women with a poor score was determined and presented as frequencies with percentages.

To determine the effects of infertility on women's marital relationships we made use of the relational subscale of the FertiQoL questionnaire. The mean scaled score was determined by its standard deviation. The proportion of women with a poor score was determined and presented as frequencies with percentages.

To determine the impact of infertility on social interaction we made use of the social subscale of the FertiQoL questionnaire. The mean scaled score was determined by its standard deviation. The proportion of women with a poor score was determined and presented as frequencies with percentages. The core FertiQoL score was finally computed to determine the average quality of life in all domains.

As for the focused group discussions, the digital audio recordings were subjected to a multi-stage translation and transcription to ensure data quality. First, for the FGD that was conducted in Somali, the recordings were transcribed verbatim by the principal investigator. Second, the anonymized transcripts were then independently reviewed by a Somali-speaking translator that also doubled as a researcher with a qualitative background. The transcripts were checked against the original audio recordings for accuracy, spelling, and content. Any differences detected between the two formats were identified, discussed, and resolved between the original transcription and the translator. Thirdly, finalized transcripts were translated from Somali to English by the principal investigator and counter-checked by a bilingual Somali-speaking translator. The finalized translated version was then subjected to qualitative analyses. The same procedure was done for the FGD that was conducted in Swahili with counter-checking done by a Swahili-speaking bilingual translator. The transcriptions of the focused group discussions were analysed, by the principal investigator with the help of a qualitative researcher by use of the Colaizzi (1978) procedure used in the phenomenological analysis. First, the researcher read and re-read the collected data, then identified participant responses that were of direct relevance to the objectives of the study.

The Transcripts were then imported from the files in the PC into the NVivo. Using the NVivo Plus software, the words, phrases, and sentences that recur were picked and assigned to various codes. Themes were then generated for similar items. The themes were reviewed to ensure they have been appropriately assigned and categorization done under the various objectives. The researcher then wrote an inclusive description of the phenomenon, incorporating all the themes produced earlier. The exhaustive description was then condensed down to a short, dense statement that captured just those aspects deemed to be essential to the phenomenon under investigation.

As a form of methodological triangulation, from the combination of the results of both the qualitative and quantitative data analysis, the researcher captured the women's lived experiences on negative emotions regarding their infertility, its impact on their marital and social relationships.

3.13 Research Ethics

Ethical approval to carry out the study was sought from the KNH/UoN Research Ethics Committee. Informed written consent was obtained from all research subjects before the administration of questionnaires. Respondents were assured of confidentially and that they were free to withdraw from the study at any point. Twenty patients who got low FertiQoL scores (less than 50), and all the participants in the FGDs were referred to the psychology team for further evaluation and management. The filled questionnaires and the audio recording of the FGDs were kept in a secure place for confidentiality after data entry, cleaning, and dissemination of results.

3.14 Study Limitations

This study focused on women alone suffering infertility and may not be used to generalize the actual problem facing couples as a whole. It was not able to answer the question of how men perceive and deal with infertility. For this reason, a recommendation is made for conducting further studies on couples or men separately to gain more insight into the issue. Another limitation is the measurement error (social desirability bias) - since it involved social interaction with the interviewer, it may have led to respondents taking social norms into account (respondents present themselves in the best possible light), resulting in the over-reporting of desirable behaviors. This was reduced by assurances of confidentiality and anonymity.

3.15 Study Strengths

Using the FertiQoL tool evaluates more precisely the true impact of infertility and reduces errors on other stressful events that could potentially affect the quality of life. This cannot be accomplished through generic measures. Also, by the use of focused group discussion, the study provided more information regarding how infertility affects women's life in this setting, considering it is a highly patriarchal community. This was used to complement the FertiQoL scores, and through a methodological triangulation, a conclusion was made regarding the objectives of the study.

CHAPTER FOUR: RESULTS

4.1 Introduction

In this chapter, we highlight the demographic information, FertiQol scores and themes identified from the FGDs of infertile women at Garissa county referral hospital.

4.2 Socio-demographic Characteristics

Demographic information was based on age, religion, level of education, occupation, marital status, and type of marriage (monogamy or polygamy). This is shown in the table below (Table 2).

Table 2: Socio-demographic Characteristics of Infertile Women at Garissa County Referral Hospital

N=78		**Frequency (n)**	**Percent (%)**
Age (Mean ± SD)		30 ± 5.52	
Age (years)	20-29	37	47
	30-39	38	49
	≥40	3	4
Religion	Christian	12	15
	Muslim	66	85
Level of education	None	46	59
	Primary	25	32
	Secondary	5	6
	Tertiary	2	3
Occupation	Employed	1	1
	Self-employed	17	22

	unemployed	60	77
Marital status	Married (Monogamous)	63	81
	Married (Polygamous)	15	19
Previous Marriage	Yes	6	8
	No	72	92
Length of current marriage (years)	1-5	15	19
	6-10	30	38
	11-15	23	29
	>15	10	13
Age at first marriage (years)	<18	22	28
	18-25	51	65
	>25	5	6
Type of Infertility	Primary	29	37
	Secondary	49	63
Duration of infertility in years (Mean ± SD)		7 ± 4.13	
Duration of infertility (years)	1-5	32	41
	6-10	33	42
	>10	13	17

Table 2:Sociodemographic characteristics of Infertile Women at Garissa County Referral Hospital

As shown in table 2 above, those aged between 20-29 years were 37(47%), 30-39 years were 38 (49%), and those who were ≥40yrs were 3 (4%). 12 (15%) were Christians and 66 (85%) were Muslims.The majority 46 (59%) had no education, 25(32%) had primary education, 5 (6%) had secondary level of education and 2 (3%) had tertiary level of education. Those who were employed were 1(1%), self-employed 17(22%), unemployed 60(77%). Infertile women who were married in monogamous marriages were 63(81%) while those in polygamous marriages were 15(19%). 6 (8%) of the respondents had been in one previous marriage and 72(92%) had never been married before. The ones who were in marriage for 1-5 years were 5

(19%), 6-10 years were 30(38%), 11-15 years were 23 (29%) and more than 15 years were 10 (13%). Those who were first married before age 18years were 22(28%), 18-25 years were 51(65%), and above 25years were 5(6%). Primary infertility was 29(37%) and secondary infertility 49(63%). Women who experienced infertility for 1-5 years were 32(41%), 6-10 years were 33(42%) and for more than 10 years were 13(17%).

4.3 FertiQoL Questionnaire Scores

Table 3: FertiQoL Questionnaire Scores of Infertile Women at Garissa County Referral Hospital

		Frequency n	Percentage %	Mean Score
Emotional	Poor	47	60	47.6 ± 27.20
	Good	31	40	
Mind/Body	Poor	48	62	41.3 ± 22.5
	Good	30	38	
Relational	Poor	29	37	61.6 ± 24.63
	Good	49	63	
Social	Poor	17	22	66.6 ± 21.29
	Good	61	78	
Core FertiQol Total	Poor	33	42	54.3 ± 20.03
	Good	45	58	

Table 3: Fertiqol questionnaire scores of Infertile Women at Garissa County Referral Hospital

In the Emotional domain of the FertiQoL, those who scored below 50% (Poor) were 47 (60%), and those who scored above 50% (good) were 31 (40%). The mean score was 47.6 ± 27.20. In the Relational domain of the FertiQoL, those who score below 50% (Poor) were 29 (37%) and those who scored above 50% (good) were 49(63%). The mean score was 61.6 ± 24.63. In the Social domain of the FertiQoL, those who scored below 50% (Poor) were

17(22%) and those who scored above 50% (good) were 61(78%). The mean score was 66.6 ± 21.29.

Overall Quality of life: In the Core FertiQol Total score, those who scored below 50% (Poor) were 33(42%) and those who scored above 50% (good) were 45 (58%). The mean score was 54.3 ± 20.03.

4.4 Emotional effects of infertility

4.4.1 Stress

These women were stressed majorly due to their condition as well as the responses from others. They were conscious and worried about the fact that their childbearing period has a limit and that they believed their male partners had less worry because they knew they can have children even at an older age. Stress was also explained by the fact that, if one was in a new marriage and had children with the previous husband, they still felt much desire to have children with their new spouses. This had applied also to those with primary infertility with their current first spouse.

One member of the FGD said:

'You see if … when initially you have children with this person and then later cant… there is no stress. But when you are new to each other, you will be stressed.' [FGD1_P_3:5-5(0)]

Another member of the FGD said:

'Being childless has its challenges…children are a source of joy and if someone does not have one… surely their thoughts will not be pleasant.' [FGD1_P1:15-15(0)]

A member of the FGD said:

'When you meet some people, you will be asked 'how many children do you have?'…and then…sometimes I tell them I left them back at home.' [FGD2_P_6:22-22(0)]

The stress was reflected in unpleasant thoughts that pre-occupied and distracted the participants and led to them resorting to pretending they have children to survive pressure in their social interactions outside their homes.

4.4.2 Depression, anxiety, sadness, and despair

Few issues were apparent that led to depression in these women. It was noted from the discussion that they felt incomplete and had a feeling that their husbands will leave them sooner or later. Those who were in polygamous marriages felt frustrated by the mocking comments the husband makes regarding their fertility. These insecurities led them to desperation so much so that they would try anything they were advised to do just to conceive. They mentioned they would go to a traditional healer, herbalist, and Sheikhs or see different doctors.

One participant said:

'I tell myself if at least I have seen something (pregnancy), even if I miscarry it would be better. People tell you labor is very painful…I tell myself if at least I could have felt it… and a child calls me "mum" …it could have been something.' [FGD1_P_1:10-11(0)]

Some mentioned they can even tell the doctor to write them a fake pregnancy report and later tell their husbands that they miscarried. Secondly, they were constantly asking themselves what the issue was, and if the cause of infertility was themselves or their husband. They felt constant worry regarding their condition and wondered why others had children and they do not.

An FGD member said:

'You feel bad, you ask yourself why this person has a child but you are not getting.' [FGD2_P_5:31-31(0)]

Another one said:

'Sometimes you see someone getting married and they get pregnant, then give birth. Another one gets married too...then the same thing…you ask yourself a lot of questions…you won't stop asking yourself this question every day.' [FGD2_P_4:29-30(0)]

Participants were desperate for children to a point of wishing for labor pains in order to know how it feels and were frustrated seeing others have children yet they got married after them. This led to depression and anxiety.

4.4.3 Emotional insecurity, self-pity, and resentment

It emerged that infertile women felt lonely. Two adults in a household could easily get bored so they just hoped to get at least one child. They also questioned why they even need to work and get an income since they don't have a child to raise. They felt the money was of little use especially at old age.

A member of the FGD said*:*

'If your friends have children, for example, you go to a place together you hear them say…" oh my children this or that…what could they be doing now?" or you hear someone say…" if I get money now, I will buy for my kids this and that." But I ask myself since I don't have a child, what am I going to do with the money?' [FGD2_P_2:44-45(0)]

Another member of the FGD adds:

'Sometimes you try to forget but you can't…you just lie to yourself over and over but it will reach a time…you tell yourself if God wills you will get because…if you keep silent…even if

you try to endure…you will just be trying to lie to yourself… and your soul.' [FGD2_P_1:12-12(0)]

A member of the FGD remarks:

'Your house is always clean…but if you go to your neighbor…kids create a mess everywhere…but you…it is just you and husband…' [FGD2_P_6:18-18(0)]

4.4.4 Beliefs, faith and hope

Despite all the above, it was apparent that they hoped one day they will be gifted by God with a child. They believed their patience will pay and their faith in "God was their fallback strategy". Those who had a child before were thankful for what they had and hoped to get more and those without any also hoped they would be gifted someday with the help of the treatment they were receiving. They also had this belief that if a person is not meant to have a child with someone by God they won't, even though they could both be having no issues (with infertility).

A member of the FGD says:

'God has given me children. If I stopped (having children) midway then, I don't have any problems and worries, if God gifts me the I will thank Him.' [FGD1_P_5:25-25(0)]

Another member said:

'If Allah has willed this person will be born… he will be…that you have a child together, you will have that child together whatever you do…' [FGD1_P_7:27-28(0)]

4.5 Effects of infertility on women's marital relationships

The main fear that emerged among the participants was that their husbands would marry another wife. They said that as two adults in a house alone they easily get bored with each

other leading to more frustrations in the marriage. Since men were also unwilling to go to the doctor with them they also wondered what the cause of the infertility was. They felt a man will never accept he is the cause of the problem.

One participant said

'He will never accept it…he will tell the woman you are the problem… and say he will take you to the hospital…' [FGD1_P_3:42-42(0)]

An FGD member in a polygamous marriage says:

'He said "you have ceased childbearing! it's over for you!" … Now, he does not take the medication that we are given, I am just collecting medicines myself. … And when you talk about it that is the response you get… Wallahi! (swear by God) it makes me angry, when he speaks that way.' [FGD1_P_7:26-27(0)]

There was also the issue of women being insecure about their men's intentions. They would leave the house in the morning and come back at night, so they were not sure what they are up to. They could be having secret marriages.'

An FGD member said:

'You know he is a man… he goes out during the day and at night he comes home…these days there is something called 'gaagabey' (secret marriages).' [FGD1_P_1:19-19(0)]

Some husbands seemed ok with their infertility so the women had doubts that the man could have been in a marriage before and knows probably he is the cause of the problem.

4.6 Effects of infertility on women's social relationships

4.6.1 Relationship with friends

They felt it was not easy to make new friends in the first place. And the few they had, all they could ask was if they have delivered or not. Few will also advise them to leave the current marriage and try someone different, maybe they could have a child. Majorly they felt they had very minimal support from friends and they mostly gave them pressure to have a child.

A member of the FGD said:

'Women cannot make friends… they only ask you… 'have you given birth…?''

[FGD1_P_5:35-35(0)]

Another member adds:

'*A friend of mine once told me… 'release your husband… allow him to marry another wife…if he sires a child, get a divorce…marry another man…' this is my problem with the community.'* [FGD2_P_3:20-21(0)]

The participant's identity of infertility is affirmed by friends and used it to pressure them to break their marriages. This is a blow to friendships around the participants marital homes where their friends sympathize with their husbands for their childlessness.

4.6.2 Relationship with in-laws

The in-laws will advise the husband to leave the woman or marry a second wife. They may claim the woman is using family planning and is avoiding having a child with him. Especially if the man has money, they will claim he is only feeding the women while he has nothing (children) to show for it.

One woman in the FGD said:

'It depends on the person, if the in-laws have money…they see they are feeding you for free…they say and she is not giving birth… all she does is go to the toilet…they just talk…and stress you… you know sometimes…as women we go through a lot.' [FGD2_P_1:47-48(0)]

Another member of the FGD adds:

'Myself, I stayed for five years (without conceiving), so his family were saying this lady has been taking family planning… so it is full of stress.' [FGD1_P_2:10-10(0)]

Another member says:

'Stress is there…because now…from your in-laws' side there is a problem…they say 'leave alone with a woman who doesn't give you a child'…but it is not your wish.' [FGD2_P_5:15-15(0)]

Infertile women in Garissa also felt pressured by their in-laws as they advised the husbands to leave them and marry other wives since they were not giving them children. They were hurt by remarks made by in-laws about contraceptive use yet they knew themselves it was not their own wish and this hurt them more.

4.6.3 Relation with members of the community

From the study, it was evident that these women were told that they have been using family planning, either pill or injection and that is why they are not conceiving. Some claim they did an abortion before and that is why they can't conceive now. This felt traumatizing emotionally since they knew it was out of their control to have a child and that they desperately wanted to have one. Everyone will question them why they are not having

children including other small children. These children will always ask them why they are not having small babies as their mums and neighbors do.

A member of the FGD said:

'For example, a child asked me…why is it that my mum gave birth…my child is 9years now…why is it that my mum gave birth…our neighbor too and you don't...life is full of stress' [FGD1_P_1:37-38(0)]

People will sometimes throw insults indirectly and say mocking words concerning their infertility. They say since they haven't had a child of their own, they will never understand some things (concerning childcare) and the pain of childbirth.

An FGD participant said:

'for example, you don't have a child and there are children there, even if you did something little…for example, a child slips…you will hear people say…someone who hasn't had a child that has not felt the pain of childbirth does not have compassion with other kids…it could just have been an accident…' [FGD2_P_2:31-32(0)]

These women feel shy and uncomfortable attending the gathering and social events. They feel the societal pressure and expectation to have children. It makes them jealous that others here have children while they don't. They felt inferior to other women who are having children.

One participant of the FGD said:

'How shall you not feel inferior…a woman you gave birth with yesterday…for example for me… a lady we gave birth at the same time with my daughter…she has two more children…she is my sister in law…another sister in law of mine too…they wonder with me…asking me every time… what is wrong with you…why are you not going to the doctor…even us we went to see the doctors…I tell them children are a gift from God…May

God bless what he has given you…and as for me …pray to Allah for me…they are my sister's in-laws.' [FGD1_P_7:48-49(0)]

Participants were under stress from the community including small children since they were constantly asking them about not having children. They also felt others had little concern to their feelings regarding how they treat other people's children and it made them feel inferior.

4.6.4 Relationship with family

Members of the discussion felt that their own families were very supportive, especially their mums. They frequently phoned them to advise them not to waste time and that they should go see a doctor since they had a limited period. They advised on all sorts of therapies including herbal ones and Qur'an4 recitation. Their families also gave them psychological support, told them to be patient and that they will one day conceive, and offered prayers for them constantly, especially their mums.

A participant of the FGD said:

'But the people who care about you… only your family and relatives care about you… these people will call you, go to the doctor… why are you sitting around… that is what I am told every time over the phone.' [FGD1_P_4:30-30(0)]

Family were their strongest support and it made them hopeful that they will also be blessed with children one day by the grace of God.

CHAPTER FIVE: DISCUSSION

5.1 Emotional effects of infertility

Participants of this study scored low on the emotional subscale of the FertiQoL. The findings were also consistent with the emergent themes during the FGDs.

5.1.1 Stress

Participants in this study felt that they were more stressed than their male counterparts because mainly they thought of the fact that they have a limited period to be able to conceive. This is supported by Kamel and Sylwia (17), who reported that women (M=145.43, SD=24.80) had higher fertility-related stress than men (M=136.53, SD=23.64), F(1, 148)=5.08, p=.026. They had more stress regarding their infertility more so if the partner was new to them. This could be explained by them believing that children will strengthen their marriage and provide happiness as is in African societies

5.1.2 Depression, anxiety, sadness, and despair

This was caused by the feeling that their husband will leave them sooner or later to look for a second wife, and those who were in polygamous marriages felt frustrated by the mocking comments the husband makes regarding their infertility. They felt constant worry regarding their condition and wondered why others are having children and they are not. This is comparable to the results of Mahadeen (13)who showed couples had alarming rates of moderate to severe depression that merit clinical evaluation and follow-up; (29.4%) - moderate depressive symptoms and (70.6%)-severe depressive symptoms. The findings were also similar to that of Hasanpoor (12) where infertile women experienced sadness one way or the other due to expressed worries by the family members, the bitter reactions of their

community, or being blamed by their husbands for infertility. As is in our findings, Anokye (15)also reported 40% of these women felt their life had been put on hold, 28% indicated that infertility has led to low self-esteem while 17% mentioned distress, and 15% mentioned depression. Florence in Ghana (24) also reported similar findings of high levels of depressive symptoms.

5.1.3 Emotional insecurity, self-pity, and resentment

Infertile couples were lonely and felt bored by just spending time with their partners in the house alone. Sometimes they question themselves why they even need to work and get an income since they don't have a child to raise. Sometimes participants got angry in case their periods came after some delay. They felt the money was useless and was not of use once you attain old age. This is similar to findings from a study by Hasanpoor who reported infertile women had feelings of loneliness and guilt and felt their home was silent from morning to night(12). Repeated failures (to conceive) were also frustrating for some of the participants in his study.

5.1.4 Beliefs, hope, faith, and religion

Participants in the study had good levels of hope that their infertility problem is temporary. They were optimistic that with the Help of God they shall eventually have a child. They had God to fall back on. Those who have a child before were thankful for what they had and hoped to get more and those without any also hoped they will be gifted someday with the help of the treatment they were receiving. They also had this belief that if a person is not meant to have a child with someone by God they won't, even though they could both be having no issues (with infertility). These findings were similar to those of a study by

Mahadeen in which couples had a high level of optimism, with a mean score of 34.0 (6.3) (13).

5.2 Effects of infertility on women's marital relationships

The FertiQoL score for the relational domain was slightly above average. This shows that despite their infertility status they had a moderate level of satisfaction in their marriages.

Although during the FGDs the participants were generally a bit reserved regarding their marital relationship, it was apparent from the emerging themes the issues they faced. Women feared that the husband will marry another woman eventually if they don't give birth to a child for them. This could lead to marital conflict (21) including threats of divorce and hence delay in the management. The men were also blaming them entirely and weren't ready to see a doctor. This could explain why the women were working so hard to find out about their problems and find a solution so that they can conceive.

As explained also by P.K Koigi in a Kenyan study, the prolonged duration of effective communication (with a spouse) on the difficulty in conception (≥ 25 months), as well as a blame from the male spouse is able to cause a delay in treatment of these couples(21).

5.3 Effects of infertility on women's social relationships

In our study, it was found that infertile women scored high in the social relation's domain of the FertiQoL. This might have caused a large overall score of quality of life among infertile women in our study. However, this high score might be explained by the fact that women were getting good support from their own families. This was apparent from the FGDs.

In a study done in Ghana it was found that social effects of infertility on the lives of respondents revealed that 56% believed infertility has led to social exclusion, 41% they are

subjected to verbal and physical abuse and 3% indicated that it has led to marriage breakdown (divorce)(15). This was the case in our study too.

5.3.1 Relationship with members of the community

From this study, infertile women felt that some behaviors of the people were traumatizing, like being told they were using family planning or they could get annoyed by kids constantly asking them why they are not having babies. Sometimes people could mock them that they don't know the pain of childbirth and hence have no compassion towards other kids. This was similar to the study by Hasanpor in 2014 in which sometimes participants were upset by hearing about the pregnancy or childbirth of a woman, like the kids, and humiliating behaviors of some people(12).

Due to societal pressure to have kids, they are uneasy attending social events. They usually ask themselves why others are having kids and they are not. They also felt inferior to other women. This is also in support of Ochieng's study who concluded that children were a form of social status and gave couples pressure to have them. Anokye R. also reported that infertile women had a feeling that their life was not in motion because they did not attend any functions again and were not invited to certain programs leading to social exclusion.

The findings of the FertiQoL results are similar to a case-control study in which the social health dimension of life quality among infertile women attained a higher score than that of the control group(5). This could be due to the high perception of perceived social support from others(13).

From the FGDs it was apparent that there was good family support, especially from their own families. They are mainly advised to go see a doctor and get help. This was similar to a study by Fatima who found that regarding in-laws and relatives where 57.3% insisted on consulting

a good gynaecologist, 29.8% had no family pressure, 11.3% insisted the male partners remarry, and 1.8% insisted the husbands divorce their wives(18). However, in our study we, found that most of the pressure came from the in-laws to a point of advising the husband to get a second wife. This is in support of Fehintola A. O. et al. 2017, who found that 79% of the infertile women were under pressure to get pregnant from their mothers-in-law (40%)(20).

5.3.2 Relationship with friends

Generally infertile women in Garissa felt that they were not getting psychological support from friends and it was difficult for them to make friends. All they did was ask them if they had a child already, hence causing societal pressure to have a child. Others gave suggestions for divorce. The findings were comparable to the study by Mahadeen who found that the perception of social support from friends was low, with a score of 18.0 (5.2)(13).

5.3.3 Relationship with family

Own families were supportive of these infertile women and mostly advised them to go see a doctor and get help. There was a high perception of perceived social support from family(13). However, this was conflicting with a study by Fatima P in 2015 in which, regarding in-laws and relatives; 57.3% insisted on consulting a good gynaecologist, 29.8% had no family pressure, 11.3% insisted the male partners remarry, and 1.8% insisted the husbands divorce their wives(18).

5.4 Theoretical framework and the findings

5.4.1 Grounded theory of identity as infertile

Women in this study were generally stressed and worried about their infertility status that it was the main issue that affected their relationship with other people. Regarding friends, they were unable to make new friends, the few they had were not supportive, they felt uneasy attending social events and they were constantly worried that their partner will leave them someday. This is in support of the hypothesis of the Grounded theory of identity as infertile. According to this theory, women who are distressed by their infertility status assume themselves as infertile as a form of their identity. By so doing they detach themselves from other important positions for example being a friend, partner, or family member. This will eventually lead to social isolation. These identities become less important while the identity as infertile becomes central This theory also hypothesizes that infertile women may even push their career identities to the periphery while infertility takes the central role putting them at risk for social isolation. These study findings, established that women were even questioning why they have to work and get an income since they did not have children to support. This also supports the core hypothesis of the grounded theory.

5.5 Conclusion

Infertile women in Garissa faced several challenges arising from their infertility status, that in turn affect their fertility quality of life.

They faced negative emotions including depression, anger, anxiety**,** sadness, despair, stress, self-pity, and resentment. However, they were hopeful that one day their prayer/wishes to bear a child (more children) will be answered by God.

In Garissa infertile women had poor social relationships and their marital relationships were negatively affected.

5.6 Recommendations

Psychological support should be offered to infertile women. Counselors and/or psychologists should be stationed at infertility clinics.

References

1. Elhussein OG, Ahmed MA, Suliman SO, Yahya I, Adam I. Epidemiology of infertility and characteristics of infertile couples requesting assisted reproduction in a low-resource setting in Africa , Sudan. 2019;1:7–11.
2. Antonysamy G, Maria MB. Biopsychosocial Facets of Women Undergoing Infertility Treatment in Pondicherry A Preliminary Study Pondicherry : 2019;10(2):1–5.
3. Muasya RM. Open Access The Challenge of Infertility to the Christian Marriage in Some African Societies : A Plea for an Ethical Response In The Light Of Donum Vitae. 2018;(11):4–16.
4. Deka PK, Sarma S. Psychological aspects of infertility. 2010;3(3):3–5.
5. Bakhtiyar K, Beiranvand R, Ardalan A, Changaee F, Almasian M. An investigation of the effects of infertility on Women ' s quality of life : a case-control study. 2019;1–9.
6. Jr F, Luiz R, Baruffi R, Mauri AL, Petersen CG, Felipe V, et al. Jos e. Assisted Reproduction and Genetics. 2002;19(6):0–4.
7. Santoro N, Eisenberg E, Trussell JC, Craig LB, Gracia C, Huang H, et al. Fertility-related quality of life from two RCT cohorts with infertility : unexplained infertility and polycystic ovary syndrome. 2016;31(10):2268–79.
8. Otwori CO. Causes and types of infertility amongst couples managed at Kenyatta National Hospital; Degree of Masters of Medicine in Obstetrics and Gynecology. 2013;(August).
9. Ochieng EO. East African Journal of Traditions , Culture and Religion The Burden of Childlessness to Luo Women in Kenya. 2020;2(1):1–12.
10. Namdar A, Naghizadeh MM, Zamani M, Yaghmaei F. Quality of life and general health of infertile women. 2017;1–7.
11. Loke AY, Yu PL, Hayter M. Experiences of sub-fertility among Chinese couples in Hong Kong: A qualitative study. Journal of Clinical Nursing. 2012;21(3–4):504–12.
12. Hasanpoor-azghdy SB, Simbar M, Vedadhir A. The emotional-psychological consequences of infertility among infertile women seeking treatment: Results of a qualitative study. 2014;12(2):131–8.
13. Mahadeen A, Mansour A, Al-halabi J, Habashneh S al, Kenana AB. Psychosocial wellbeing of infertile couples in Jordan. 2018;24(2):169–76.
14. Winkelman WD, Katz PP, Smith JF, Rowen T. The psychosocial impact of infertility among women seeking fertility treatment. Fertility and Sterility. 104(3):e359–60.
15. Anokye R, Acheampong E, Mprah WK, Ope JO, Barivure TN. Psychosocial effects of infertility among couples attending St. Michael's Hospital, Jachie-Pramso in the Ashanti Region of Ghana. BMC Research Notes [Internet]. 2017;10(1):1–5. Available from: https://doi.org/10.1186/s13104-017-3008-8

16. Onat G, Kizilkaya Beji N. Effects of infertility on gender differences in marital relationship and quality of life: A case-control study of Turkish couples. European Journal of Obstetrics and Gynecology and Reproductive Biology. 2012;165(2):243–8.

17. Gana K, Jakubowska S. Relationship between infertility-related stress and emotional distress and marital satisfaction. Journal of Health Psychology. 2016;21(6):1043–54.

18. Fatima P, Rahman D, Hossain HB, Hossain HN, Mughi CR. Psychosocial Consequences of Infertility on Infertile Women. Mymensingh Med J [Internet]. 2015 Oct;24(4):704—709. Available from: http://europepmc.org/abstract/MED/26620007

19. Hollos M, Whitehouse B. Women in limbo: Life course consequences of infertility in a Nigerian community. Human Fertility. 2014;17(3):188–91.

20. Fehintola A. O., Fehintola F. O., Ogunlaja O. A., Awotunde T. O., Ogunlaja I. P., Onwudiegwu U. Social Meaning and Consequences of Infertility in Ogbomoso, Nigeria. Sudan Journal of Medical Sciences. 2017;12(2):63.

21. Koigi P. K., Kamau R. K., Wanjala S. H. M., Maranga I. S. O. Association between interpersonal relational factors in couples with tubal infertility and delayed decision-making on definitive treatment : a case control study. 2016;28(2):9–14.

22. Olshansky EF. Infertility and its influence on women's career identities. Health Care for Women International. 1987;8(2–3):185–96.

23. Olshansky E. Clinical Scholarship A Theoretical Explanation for Previously Infertile Mothers' Vulnerability to Depression. Vol. 35, Journal of Nursing Scholarship Third Quarter. 2003.

24. Naab F, Brown R, Heidrich S. Psychosocial Health of Infertile Ghanaian Women and Their Infertility Beliefs. Journal of Nursing Scholarship [Internet]. 2013 Jun;45(2):132–40. Available from: https://onlinelibrary.wiley.com/doi/10.1111/jnu.12013

Appendices

Appendix 1: Data Collection Tool

Determining emotional effects of infertility, its impact on marital and social relationships among infertile women attending GOPC at the Garissa County Referral Hospital. A mixed-method study.

Section 1: Sociodemographic, Marital and Parental Characteristics

1. Age:_____Years
2. Religion:

Christian ☐ Muslim ☐ Hindu ☐

Other ☐

3. Level of education:

None ☐ Secondary ☐

Primary ☐ Tertiary (College/University) ☐

4. Occupation:

Unemployed ☐ Self-Employed ☐ Employed ☐

5. Marital Status:

Single ☐ Married (Monogamous) ☐ Married (Polygamous) ☐

Divorced/widowed ☐

6. If not single:

a. Number of previous marriages (if applicable):

1 ☐ 3 ☐

2 ☐ >3 ☐

b. Length of current marriage: _____ years

c. Age at first marriage:_____years

7. Previous conception:

yes ☐ no ☐

8. Duration of infertility:_____years.

Section 2: Guide for The Focused Group Discussion(Somali)

1. Sidee bay kuu dareensiinaysaa inaadan awoodin inaad dhasho ilmahaaga?

- Masayr
- Xanaaq ama ciil
- Murugo
- Dhammaystirnaan
- Murugo ama niyadjab
- Cadho ama caro

2. Sidee bay madhalaysnimadaadu u saamaysay guurkaaga?

    - Ku qanacsanahay xiriirka galmada?
    - Kalgacal ka yimaada lamaanaha
    - Wax saamayn taban ah ma ku leedahay guurkaaga?
    - Ma awoodaa in aad kala hadasho lammaanaha arrinta madhalaysnimada?
    - Ma ku qanacsan tahay guurkaaga?
    - Eedeynta lamaane?

3. Sidee bay bulshadu kuugu dhaqmaysay adiga oo ku saabsan madhalaysnimadaada?

    - Taageerada saaxiibbada?
    - Miyaad dareentaa cidlo?
    - Raaxo darro dhacdooyinka bulshada?
    - Qoyskaagu ma yahay mid fahmaayo?
    - Ma dareentaa inaad ka liidato dumarka wax dhali kara?
    - Cadaadiska bulshada si aad carruur u dhasho

Section 3: Guide for The Focused Group Discussion(English)

1. How does it make you feel that you were not able to sire your own child?

    - ✓ Jealousy
    - ✓ Resentment

- ✓ Feeling of loss/grief
- ✓ Incompleteness
- ✓ Sadness/depression
- ✓ Anger

2. How has your infertility affected your marriage?

- ✓ Satisfied with sexual relationship?
- ✓ Affection from partner

✓ Any negative impact on your marriage?

- ✓ Able to talk to partner on the issue of infertility?
- ✓ Contented with your marriage?
- ✓ Blame from partner?

3. How has society been treating you regarding your infertility?

- ✓ Support from friends?
- ✓ Do you feel isolated?
- ✓ Discomfort is social events?
- ✓ Is family understanding?
- ✓ Do you feel inferior to fertile women?
- ✓ Social pressure to have children?

Section 4: FertiQol Questionaire (English)

FertiQoL International

Fertility Quality of Life Questionnaire (2008)

For each question, kindly check (tick the box) for the response that most closely reflects how you think and feel. Relate your answers to your current thoughts and feelings. Some questions may relate to your private life, but they are necessary to adequately measure all aspects of your life.

Please complete the items marked with an asterisk (*) only if you have a partner.

	For each question, check the response that is closest to your current thoughts and feelings	Very Poor	Poor	Neither Good nor Poor	Good	Very Good
A	How would you rate your health?	☐	☐	☐	☐	☐
	For each question, check the response that is closest to your current thoughts and feelings	**Very Dissatisfied**	**Dissatisfied**	**Neither Satisfied Nor Dissatisfied**	**Satisfied**	**Very Satisfied**
B	Are you satisfied with your quality of life?	☐	☐	☐	☐	☐
	For each question, check the response that is closest to your current thoughts and feelings	**Completely**	**A Great Deal**	**Moderately**	**Not Much**	**Not At All**
Q1	Are your attention and concentration impaired by thoughts of infertility?	☐	☐	☐	☐	☐
Q2	Do you think you cannot move ahead with other life goals and plans because of fertility problems?	☐	☐	☐	☐	☐
Q3	Do you feel drained or worn out because of fertility problems?	☐	☐	☐	☐	☐
Q4	Do you feel able to cope with your fertility problems?	☐	☐	☐	☐	☐
	For each question, check the response that is closest to your current thoughts and feelings	**Very Dissatisfied**	**Dissatisfied**	**Neither Satisfied Nor Dissatisfied**	**Satisfied**	**Very Satisfied**
Q5	Are you satisfied with the support you receive from friends with regard to your fertility problems?	☐	☐	☐	☐	☐
*Q6	Are you satisfied with your sexual relationship even though you have fertility problems?	☐	☐	☐	☐	☐
	For each question, check the response that is closest to your current thoughts and feelings	**Always**	**Very Often**	**Quite Often**	**Seldom**	**Never**
Q7	Do your fertility problems cause feelings of jealousy and resentment?	☐	☐	☐	☐	☐
Q8	Do you experience grief and/or feelings of loss about not being able to have a child (or more children)?	☐	☐	☐	☐	☐
Q9	Do you fluctuate between hope and despair because of fertility problems?	☐	☐	☐	☐	☐
Q10	Are you socially isolated because of fertility problems?	☐	☐	☐	☐	☐
*Q11	Are you and your partner affectionate with each other even though you have fertility problems?	☐	☐	☐	☐	☐
Q12	Do your fertility problems interfere with your day-to-day work or obligations?	☐	☐	☐	☐	☐
Q13	Do you feel uncomfortable attending social situations like holidays and celebrations because of your fertility problems?	☐	☐	☐	☐	☐
Q14	Do you feel your family can understand what you are going through?	☐	☐	☐	☐	☐
	For each question, check the response that is closest to your current thoughts and feelings	**An Extreme Amount**	**Very Much**	**A Moderate Amount**	**A Little**	**Not At All**
*Q15	Have fertility problems strengthened your commitment to your partner?	☐	☐	☐	☐	☐
Q16	Do you feel sad and depressed about your fertility problems?	☐	☐	☐	☐	☐
Q17	Do your fertility problems make you inferior to people with children?	☐	☐	☐	☐	☐
Q18	Are you bothered by fatigue because of fertility problems?	☐	☐	☐	☐	☐
*Q19	Have fertility problems had a negative impact on your relationship with your partner?	☐	☐	☐	☐	☐
*Q20	Do you find it difficult to talk to your partner about your feelings related to infertility?	☐	☐	☐	☐	☐
*Q21	Are you content with your relationship even though you have fertility problems?	☐	☐	☐	☐	☐
Q22	Do you feel social pressure on you to have (or have more) children?	☐	☐	☐	☐	☐
Q23	Do your fertility problems make you angry?	☐	☐	☐	☐	☐
Q24	Do you feel pain and physical discomfort because of your fertility problems?	☐	☐	☐	☐	☐

Section 5: FertiQol Questionaire (Swahili)

	Kwa kila swali, weka alama kwa jibu lililo karibu na Mawazo na hisia zako za sasa:	Mbaya Sana	Mbaya	Sio Nzuri au Mbaya	Nzuri	Nzuri Sana
A	Unawezaje kukadiria afya yako?	☐	☐	☐	☐	☐
	Kwa kila swali, weka tiki kwenye jibu lililo karibu na mawazo na hisia zako za sasa	**Sijaridhika kabisa**	**Sijaridhika**	**Sijaridhika au kutoridhika**	**Nimeridhika**	**Nimeridhika Kabisa**
B	Je, umeridhika na ubora wa maisha yako?	☐	☐	☐	☐	☐
	Kwa kila swali, weka tiki kwenye jibu lililo karibu na mawazo na hisia zako za sasa	**Kabisa**	**Pakubwa**	**Kiasi**	**Sio sana**	**Hata kidogo**
S1	Je, uwezo wako wa kuwa mwangalifu na makini unaharibiwa na mawazo ya utasa?)	☐	☐	☐	☐	☐
S2	Je, unafikiri huwezi kuendelea mbele na malengo na mipango mingine ya maisha kwa sababu ya matatizo ya utasa?	☐	☐	☐	☐	☐
S3	Je, unahisi udhaifu au uchovu kwa sababu ya matatizo ya utasa?	☐	☐	☐	☐	☐
S4	Je, unahisi unaweza kuvumilia matatizo yako ya utasa?	☐	☐	☐	☐	☐
	Kwa kila swali, weka tiki kwenye jibu lililo karibu na mawazo na hisia zako za sasa	**Sijaridhika kabisa**	**Sijaridhika**	**Sijaridhika au kutoridhika**	**Nimeridhika**	**Nimeridhika Kabisa**
S5	Je, umeridhika na ussidizi unaopata kutoka kwa marafiki kuhusiana na matatizo yako ya utasa?	☐	☐	☐	☐	☐
*S6	Je, umeridhika na uhusiano wako wa kimapenzi hata kama una matatizo ya utasa?	☐	☐	☐	☐	☐
	Kwa kila swali, weka tiki kwenye jibu lililo karibu na mawazo na hisia zako za sasa	**Kila wakati**	**Mara kwa mara**	**Mara kadhaa**	**Sio sana**	**Kamwe**
S7	Je, matatizo yako ya utasa yanasababisha hisia za wivu na kinyongo?	☐	☐	☐	☐	☐
S8	Je, wewe uhuzunika na/au kuwa na hisia za hasara kuhusu kutoweza kupata mtoto (au watoto zaidi)?	☐	☐	☐	☐	☐
S9	Je, wewe huwa na hisia za matumaini na kukata tamaa kwa sababu ya matatizo ya utasa?	☐	☐	☐	☐	☐
S10	Je, umetengwa kijamii kwa sababu ya matatizo ya utasa?	☐	☐	☐	☐	☐
*S11	Je, wewe na mpenzi wako mnapendana hata kama mna matatizo ya utasa?	☐	☐	☐	☐	☐
S12	Je, matatizo yako ya utasa yanaingilia kazi au majukumu yako ya kila siku?	☐	☐	☐	☐	☐
S13	Je, unahisi ugumu kuhudhuria hafla za jamii kama vile likizo na maadhimisho kwa sababu ya matatizo yako ya utasa?	☐	☐	☐	☐	☐
S14	Je, unahisi familia yako wanaweza kuelewa unachokipitia?	☐	☐	☐	☐	☐
	Kwa kila swali, weka tiki kwenye jibu lililo karibu na mawazo na hisia zako za sasa	**Kwa kiwango Kikubwa**	**Sana**	**Kiwango Kidogo**	**Kidogo**	**Hata kidogo**
*S15	Je, matatizo ya utasa yameimarisha ahadi yako kwa mpenzi wako?	☐	☐	☐	☐	☐
S16	Je, unasikitika na kupata msongo wa mawazo kuhusu matatizo yako ya utasa?	☐	☐	☐	☐	☐
S17	Je, matatizo yako ya utasa yanakufanya ujihisi mtu wa chini kwa watu wenye watoto?	☐	☐	☐	☐	☐
S18	Je, unasumbuliwa na uchovu kwa sababu ya matatizo ya utasa?	☐	☐	☐	☐	☐
*S19	Je, matatizo ya utasa yameathiri mahusiano yako na mpenzi wako?	☐	☐	☐	☐	☐
*S20	Je, unaona ni vigumu kuongea na mpenzi wako kuhusu hisia zako zinazohusiana na utasa?	☐	☐	☐	☐	☐
*S21	Je, umeridhika na uhusiano wako hata kama mna matatizo ya utasa?	☐	☐	☐	☐	☐
S22	Je, unahisi msukumo wa jamii wa kuwa na mtoto mmoja (au watoto) zaidi?	☐	☐	☐	☐	☐
S23	Je, matatizo yako ya utasa yanakufanya ukasirike?	☐	☐	☐	☐	☐
S24	Je, unahisi maumivu na matatizo ya kimwili kwa sababu ya matatizo ya utasa?	☐	☐	☐	☐	☐

Appendix 2: Participant Information Sheet and Consent Form

Title: Determining emotional effects of infertility, its effects on marital and social relationships among infertile women attending GOPC at the Garissa County Referral Hospital.

A mixed-method study.

Background

The negative emotions experienced by women diagnosed with infertility causes a lot of misery. Personal reactions to the condition are usually confusion, denial, anger, despondence, withdrawal, and social isolation. The consequences of childlessness affect women more negatively than their male counterparts. Experience of infertility can differ in terms of the psychosocial and cultural background of the individual. In African societies, women are solely blamed for the problem of infertility and men are less supportive of their female partners in seeking care for the issue. This study aims to determine the psychosocial effects of infertility on women attending the gynecological outpatient clinic at the Garissa County Referral Hospital.

Principal investigator and reason for conducting the study

I am dr. Rukia aden bulle, the principal investigator in this study. I am a postgraduate student at the Department of Obstetrics and Gynaecology, University Of Nairobi. I am conducting this study because i would like to highlight the psychosocial effects of infertility on women attending the gynecological outpatient clinic at the Garissa County Referral Hospital. In so doing, my intention is to justify the need for screening and incorporating mental health support as part of routine management for infertility.

Why are you invited to participate in this study?

You are invited to participate in this study to help highlight the need for psychosocial support among women facing infertility. The information you will provide in the attached questionnaire could help inform policy on the management of infertility in Kenya.

Methods and procedures

The questionnaire will be administered to women being seen and managed for infertility at the gynecological outpatient clinic at the Garissa county referral hospital.

Risks and benefits

Agreeing to participate in this study is likely to be associated with a risk of invasion of privacy due to the nature of items included in the fertility quality of life assessment too. In addition to this, some of the questions may elicit discomfort and emotional distress. However, this will be mitigated by observing confidentiality. Information obtained from you, the participant, will not be shared outside this study. Your personal information (e.g., name, address) will not be included in the questionnaire hence there is no risk of personally identifying any respondent in the analyzed results.

Screening for psychosocial distress will be done at no extra cost to you. Should you be found to score low in the FertiQoL total score (less than 50), you will be referred to a psychologist at the Garissa county referral hospital who will assess you further and give a treatment/referral plan.

Right not to participate and withdraw

Your participation in this study is completely voluntary, and you have the sole authority to withdraw at any point. Failure to take part in this study or withdrawing from the study will not affect the quality of care you will receive at the facility.

Principle of compensation

You will not be paid for agreeing to be part of this study.

Contact persons

You may contact dr. Rukia Aden Bulle on 0704949170 should any questions or concerns on this study arise.

Should you have any concerns about this study, you are also free to contact the Kenyatta National Hospital/University of Nairobi Ethics Research Committee (KNH-UoN ERC) via uonknh_erc@uonbi.ac.ke.

If you agree to participate in this study, please indicate that by putting your signature or your left thumbprint at the specified space below.

Thank you for your cooperation

_____ _____ _____

Name of the interviewer signature of the interviewer date

If the participant is illiterate/unable to write in that case please take her/his left thumb impression

_____ _____

Code signature of the respondent date

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27th April, 2022

KENYATTA NATIONAL HOSPITAL
APPROVED
27 APR 2022
KNH/UoN-EPC
P.O. Box 20723 - 00202 NAIROBI

Dr. Rukia Aden Bulle
Reg. No.H58/34553/2019
Dept. of Obstetrics' and Gynecology
Faculty of Health Sciences
University of Nairobi

Dear Dr. Bulle,

RESEARCH PROPOSAL: DETERMINING EMOTIONAL EFFECTS OF INFERTILITY, IT'S EFFECT ON MARITAL AND SOCIAL RELATIONSHIPS AMONG INFERTILE WOMEN ATTENDING GOPC AT THE GARISSA COUNTY REFERRAL HOSPITAL (P853/10/2021)

This is to inform you that KNH-UoN ERC has reviewed and approved your above research proposal. Your application approval number is **P853/10/2021.** The approval period is 27th April 2022– 26th April 2023.

This approval is subject to compliance with the following requirements;

i. Only approved documents including (informed consents, study instruments, MTA) will be used.
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by KNH-UoN ERC.
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to KNH-UoN ERC 72 hours of notification.
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to KNH-UoN ERC within 72 hours.
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to KNH-UoN ERC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

DR. BEATRICE K.M. AMUGUNE
SECRETARY, KNH-UoN ERC

c.c. The Dean, Faculty of Health Sciences, UoN
The Senior Director, CS, KNH
The Chairperson, KNH- UoN ERC
The Assistant Director, Health Information, KNH
The Chair, Dept. of Obstetrics & Gynecology, UoN
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