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The experiences of infertility of West African women

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Abstract

This thesis aims to explore women's experiences of Infertility in West African countries. The study intends to find out what kind of emotions and implications infertile West African women have, what they go through in life. The theoretical framework used to be reflected in the results is from the theory of suffering human beings by Katie Eriksson (2006). Life suffering and the drama of suffering is discussed.

The research methodology applied in this study is a Systematic Literature Review. The articles that were included in this study were searched through databases, PubMed, CINAHL, and Google Scholar. The resulting materials were then scanned and screened for inclusion/exclusion criteria. Data search yielded in a total of 6 qualitative peer-reviewed articles for data analysis. The results from the study were analyzed by the aid of the qualitative content analysis by the inductive approach.

The findings suggest that infertile women of West Africa are faced with stigmatization and discrimination, whereby family and society encourage husbands with infertile wives to practice polygamy. Infertile women are blamed for Infertility in marriages regardless of male Infertility. The study indicated that infertile women are more prone to experience psychological turmoil of fear, loneliness, sadness, anxiety, and depression caused by their families and society. And some infertile women were hesitant to seek infertility treatments due to the high costs; instead, they tried treatments from herbalists.

Language: English
Key words: Infertility, women, discrimination, superstition, systematic reviews, content analysis, suffering, West Africa.

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1 Introduction

Fertility is highly desired in different countries globally, and some mothers without children are considered hopeless. Infertility is a public health problem with a global impact (World Health Organization, 2010). It is estimated that 8-10 % of people are facing the challenge of infertility across the world. The infertility rate differs in different regions of the world. For instance, in some West European countries infertility rate is approximately 12% and, in some West African countries is about 50% (Roupa, Polikandrioti, Sotiropoulou, Faros, Kouloui, Wozniak, and Gourni, 2009). Among other various regions in the world, Sub-Saharan Africa and South-East Asian countries have the highest infertility prevalence (Mascarenhas, Flaxman, Boerma, Vanderpoel and Stevens, 2012). The primary female infertility rate in Ghana is estimated to be 2%, while the secondary infertility rate is 14% (Larsen, 2000). According to Larsen 2000, the high rates of infertility in West Africa are mainly due to untreated or poorly managed reproductive tract infections such as sexually transmitted diseases and complications related to pregnancy such as iatrogenic infections, post-abortion, and postpartum ailments. Across West Africa, access to proper health services is limited, and this prevents women from early detection and management of infertility problems (Dimka & Dein, 2013).

Not everybody has the desire of becoming a parent. For those who do not wish for a child, making one might feel like pressure on their freedom. Additionally, men and women who do not want children think that other things are essential in life. Yet many people perceive it as life's most valuable achievement. Women are often distinguished with their ability to reproduce offspring. For some, men and women are supposed to pass on their genetic and generational legacies (Langdridge, Sheeran & Connolly, 2005). For those who want kids, being unable to conceive is a complex, painful reality. Failure by either party can be stressing, depressing, and emotionally destructive (Tarlatzis, Diakogiannis, Bontis, Lagos, Gavriilidou, Mantalenakis, 1993).

In African societies, human reproduction is highly valued, and the inability to conceive is considered a personal tragedy and a curse for couples, impacting the entire family and the local community. Childless women are frequently stigmatized, resulting in isolation, neglect, domestic violence, polygamy, and all other forms of psychosocial and physical suffering (Solanke, Bisiriyu, & Oyedokun, 2018; Dimka & Dein, 2013). It is not consequentially a life-threatening illness, but infertility has been identified to be having psychosocial effects

on families as well as individuals. Its ability to cause physical, social, and psychological impact is a public health alarm that calls for maximum attention and preventive-based solutions (Terzioğlu & Özkan, 2018; Dimka & Dein, 2013). The issue of childlessness is experienced as a stressful situation by individuals and couples globally. The effects of infertility are diverse from social, economic, physical, and financial, and many more. In Africa, having children is a socioeconomic pressure fueled by the beliefs rooted deeply in religious and cultural traditions. Women more specifically are intertwined in the attempts of trying to achieve their one social and evolutionary need, namely, to have a child (Patel, 2016).

How women perceive infertility is highly influenced by their cultural and social backgrounds (WHO, 2010). The concept of infertility in West Africa is mostly socially and culturally constructed to be a problem for women even though the problem affects both genders (Dimka & Dein, 2013). In Africa, several factors contribute to infertility among them cultural, environmental, and socioeconomic factors. Sexual behaviors, marriage practices, and access to health care services are all influenced by culture. Poverty, poor maternal and child health services, and unsafe abortion practices are some of the contributing factors to peak the prevalence of infertility in Africa (Araoye, 2003).

This is a systematic literature review study, aiming at analyzing past studies about infertility in West African women. The author intends to gain an understanding of the experiences these women go through. The author had developed a personal interest regarding the infertility issue since It takes her back to those days when she used to live in Kenya. She grew up in a community where childless women were disrespected, rejected, called names, and went through domestic violence daily. The family and community members always concluded that it is the woman's fault for not procreating children. The women were always under pressure to produce children as soon as they get married. By failing to get pregnant, it led to polygamy whereby a man could remarry. Infertility is still unspoken in most communities as it is considered a shame to the family.

2 Background

According to WHO, Infertility refers to the fact that pregnancy has not begun within a year or more, even though there has been regular sexual intercourse without contraception (Araoye, 2003). Infertility is classified as either primary or secondary. Primary infertility is

the failure to achieve (conceive and carry) a successful pregnancy, with no previous history of pregnancy carried to live birth. Secondary infertility is the failure to deliver (conceive and carry) a successful pregnancy to live delivery following one or more successful pregnancies (Larsen, 2000 and Berger, Paul, and Henshaw, 2013).

2.1 Factors Affecting fertility

Factors that significantly affect fertility consist of age, weight, and substance intakes such as tobacco, caffeine, or alcohol. Several studies have found out that infertility is increasingly high at the extremes of BMI in individuals trying to conceive spontaneously. Age is the most critical factor affecting a woman's fertility. The most fertile period to become pregnant is between 19 and 26 years for women. Fertility begins to decline more clearly after the age of 30, and the chances of a 35-year-old becoming pregnant are significantly lower. As the age increases, there is a decline in the success of in vitro fertilization (IVF), (Soto and Copperman, 2011:1-6).

Smoking is linked with an increased risk of spontaneous abortion, ectopic pregnancy, and it impairs the functioning of the reproductive system. Smoking can advance the menopause time 1 to 4 years; moreover, a smoker may need more IVF attempts to conceive than nonsmokers (Soto and Copperman, 2011:1-6).

In women, obesity is often associated with ovulation disorders, which can be corrected by even a slight weight loss. Being overweight increases the risk of miscarriage and cause some pregnancy risks, such as the increased risk of gestational diabetes, hypertension or poisoning, and fetal structural abnormalities. Optimizing body mass index improves the outcomes of infertility treatments and influences treatment planning. The doses of medication needed for treatment are usually lower at a healthy weight, thus reducing the risk of side effects and miscarriage. Underweight can impair the onset of pregnancy and the likelihood of successful infertility treatment. Before treatment for infertility, eating disorders should be treated, and weight should be restored to normal. It’s also recommended for childbearing women to take folic acid supplements of 400 ug per day since it can reduce the occurrence of neural tube defects (Soto and Copperman, 2011:1-6).

A woman's heavy use of alcohol can make it difficult to conceive, cause more miscarriages, and impair the success of in vitro fertilization. During pregnancy, alcohol intake should completely be avoided since it is not known the safe amount of alcohol consumption

(Homan, Davies, and Norman, 2007). Infertility has also been associated with heavy caffeine intake, especially female caffeine consumption is connected to an increased spontaneous abortion risk, failure to achieve a live birth, and a decrease in the gestational age of the infant (Soto & Copperman, 2011:6).

2.2 Causes of infertility in female

The literature points out infertility to be a multidimensional public health issue. That not only results from health-related problems of the fallopian tubes, the ovaries, and the endometrium, but also due to the choices imposed by lifestyles, such as the higher average age of women, stress, and non-conducive legal framework for assisted reproduction (Roupa et al., 2009).

The typical causes of female infertility are ovarian dysfunction, i.e., ovulation disorders (30-40%), ovarian damage (10-20%), and endometriosis (10-20%). Less common are uterine related defects and female sexual dysfunction. However, it is essential to inform the doctor because an Involuntary muscle spasm around the vagina (vaginismus) may prevent sexual intercourse. Another contributing factor may be the reduced quality of male semen. The large myomas and especially those that grow inside the uterine cavity can prevent the egg from attaching to the uterine cavity. Large uterine polyps, congenital malformations of the uterus, and uterine adenomyosis may interfere with the onset of pregnancy (Tiitinen, 2019).

Endometriosis can affect fertility through inflammation or by endometrial-like tissue that grows inside and between the fallopian tubes, outside the uterus, ovaries, pelvic peritoneum, and rectovaginal septum. The growths can sometimes appear on the diaphragm, pericardium, and pleura (Giudice, 2010). The leading cause of infertility related to the fallopian tubes is any condition that affects its normal anatomical function, preventing the fusion of sperm with the ovum and after that a subsequent conception (Roupa et al., 2009). The fallopian tubes may be blocked entirely, or the adhesion surrounding them will impede the passage of the egg in the fallopian tube. The leading cause of tubal blockage is the post-inflammatory condition. Surgery around the hip area or endometriosis can also cause adhesions (Tiitinen, 2019). Finally, using contraception methods, for instance, intrauterine spirals, can contribute to infertility because they can cause inflammation and destruction of the fallopian tubes (Roupa et al., 2009).

2.3 Female Infertility Examinations

The extent and urgency of the examinations are determined according to the couple's preliminary information and tests of the doctor. Infertility examinations aim to determine if ovulation occurs, whether the uterus is healthy, and if the sperm is of good quality (Tiitinen, 2019). In health care, infertility examination includes a thorough history that includes past fertility, sexual history, past and current illnesses, and medications, including treatments, genetic diseases, radiation, surgeries, exercise, eating disorders, alcohol, tobacco, and working environments. Detailed information about the menstrual cycle, when it started, its length, regularity, amount, and pain is taken (Matthews, 2011:8)

Measurement of length, weight, and blood pressure, at the same time, hair and breast development is assessed. The laboratory blood tests like complete blood count (Red blood cells, white blood cells, hemoglobin, hematocrit, platelets) and check for thyroid hormones are performed. If necessary, other basic laboratory tests, such as for blood glucose and liver values, will be determined (Tiitinen, 2019).

More frequent hormone tests are required for irregular menstrual cycles. These include, for example, the measurement of prolactin and pituitary hormones LH and FSH (Luteinizing hormone and follicle-stimulating hormone) days 3-5 of the menstrual cycle. AMH (anti-Mullerian hormone) test can be done to measure the number of remaining ovarian follicles. Pap smear and chlamydia tests are conducted, especially if there is an underlying infection or if there were some changes in the woman's previous pap smear results. Further check-ups are often done at a gynecological clinic or infertility clinic (Tiitinen, 2019).

Normal egg cell release (ovulation) is ensured by measuring progesterone hormone about a week before the onset of menstruation. The condition of the uterus and ovaries can also be monitored by transvaginal ultrasound examination. The doctor determines whether the follicles are working normal, checks for developmental abnormalities (bicornuate, unicornuate), even for acquired abnormalities (polyps, synechiae, and fibroids). Hysterosalpingogram (HSG) can be conducted by injecting liquid dye to the uterus, and a series of x-rays of the fallopian tubes is taken to assess tubal blockage. The laparoscopy is done to search for scarring, endometriosis, or other conditions. Laparoscopy is done by inserting a small incision through the abdomen (Tiitinen, 2019 and Matthews, 2011: 9-12). The initiation of treatment is decided upon ascertaining the results of the tests (Tiitinen, 2019).

2.4 Female Infertility Treatments

Whether or not there is an explanation for infertility, infertility can nowadays be treated with the current treatment methods. The treatment is planned according to the cause of infertility and the wishes of the clients. Adoption or abstaining from treatment may be the best option for some. It is good to remember that treatment should not be started too early if the possibility of a spontaneous pregnancy is still being evaluated. The first thing to do is to correct the factors that impair fertility; Weight problems and smoking are the most important of these factors (Tiitinen, 2019).

Ovulation Induction with Fertility Drugs

Ovulation induction therapy results are usually good, but the right diagnosis is required. If the ovulation problem is due to thyroid dysfunction or hyperprolactinemia, it will be treated with medication. If obesity or overweight is the cause of ovulation disorder, healthy weight should be sought before the commence of drug treatment. And it is also essential to treat all underlying diseases and taking of folic acid supplements before starting the treatment. Polycystic ovarian syndrome commonly causes ovulation problems (Tiitinen, 2019).

The tablet-form Letrozole is a commonly used drug usually taken for five days, starting on day 3 of the menstrual cycle to support the growth of an ovarian follicle containing an egg. Response to treatment is monitored by ultrasound to ensure that one or at most two good follicles mature in the ovary and that at the same time, the uterine mucosa is sufficiently thickened. The best function of the corpus luteum can then be confirmed by measuring the level of the progesterone in the blood approximately one week after the estimated ovulation. Gonadotrophin subcutaneous injection is given daily, usually 1-2 weeks, but sometimes it can take longer, even up to a month; to directly stimulate the ovary to produce multiple eggs. It is essential to monitor treatment with ultrasound examination. At the same time, blood estradiol levels can be measured, which indicates the proper growth of the follicle. Treatment is carried out with the lowest possible dose of medication, to grow one follicle. The above pharmaceuticals may also be combined during the same treatment cycle (Tiitinen, 2019).

Surgical Treatment

Moderate or severe endometriosis associated with infertility should be treated with surgery. Endometriosis surgery is necessary if there is severe pain or a large endometriosis cyst in the ovary. Uterine and large (more than 5 cm) intramural myomas should be removed.

Likewise, large polyps of the uterine cavity are removed. It is recommended to surgically repair the mild fallopian tube damage if there are no other factors that impair fertility. The surgery can also be a preparatory treatment before the in-vitro fertilization procedure. Removal of blocked tubes improves the chance of successful in vitro fertilization (Tiitinen, 2019).

Reproductive assistance

The commonly used reproductive assistance methods are, for instance, intrauterine insemination (IUI) and assisted reproductive technology (In-Vitro Fertilization). In IUI, the sperm is injected into the uterus of a woman. The insemination must be done at the right time, that is, at the time the egg is released. The chance of success is increased by using medication for stimulating ovulation. In vitro fertilization (IVF) can be used for infertility caused by virtually all causes, either on their own or in the donated embryo. In the treatment, the woman is given hormone treatment to mature several follicles. Egg cells are collected through the vagina guided by an ultrasound. Egg cells are fertilized in a dish in a laboratory when embryonic development has started; one embryo is transferred to the uterus. If more embryos are obtained, they can be frozen for later use (Tiitinen, 2019).

2.5 West African Cultures And Women

West Africa is amidst the most culturally rich places globally. The fascinating gathering of cultures in the region leads to various complicated issues that West African countries must deal with daily. The effects range from the complex mixture of multicultural relationships, the women's position in society to the role of older cultures in modern societies. In West Africa, a family creates a basal unit of social life. A family compound surrounds homes in most villages in traditional communities (Sudarkasa, 1987).

A family is an essential source of support in which family members make crucial decisions, feast, and mourn together. In the pre-colonial period, most West African societies were organized along hierarchical lines. The social status of the family determines one's position in society. Women in African communities have been characterized by most authors as jurally minors for the entire of their lives, since they fall under the guardianship of their fathers and then their husbands. However, some early literature has shown pre-colonial women in Africa to be independent and holding high places in society such as queen mothers, chiefs, and princesses (Sudarkasa, 1987).

They were also highly involved in valuable activities such as craftwork, trade, and farming. The general view in West-African societies is that female and male role are separate but complementary. However, men are regarded to hold higher status and in better situations. Women are often associated with domesticity, while men are portrayed to be involved with more activities' outside' the world. In recent studies, it has shown that some women in the Gambia hold the position in the parliament and many organizations are committed women rights focusing on the harmful cultural practices even though some women have less access to education and economic resources (Dierickx, Coene, Evans, Balen, & Longman, 2019).

Ghana is well known for its strong adherence to pronatalist cultures, and childless or infertile women are social misfits. Having children is considered a way to continue a family name (Osei, 2016 citing Gyekye, 1996 and Nukunya, 2003). Often women who have no children go through lives full of grief, sufferings, social stigma, and economic deprivation. There is a common stereotype in West Africa that married women who do not give birth are witches and embittered, and thus they are commonly avoided by other women because of their jealous anger (Dimka & Dein, 2013). Families with many children were an indication of wealth high social status and prosperity. For example, in Ghana, individuals without children are a disgrace to their family and are not considered in any traditional role leadership (Larsen, 2000).

Female genital mutilation (FGM), is common throughout West Africa. Usually, the procedure involves the removal of the entire clitoris (infibulation). Even though more often, many believe that FGM has a link with Islam, it has more to do with progressing cultural traditions than a religious concept (Sipsma, Chen, Ofori-Atta, Ilozumba, Karfo, & Bradley, 2012).

Traditional midwives usually do the procedure on girls by using modern surgical instruments, but more often they use a razor blade or a piece of glass. The girl is not under anesthetic if they do the process in a traditional setting. Nowadays, families take girls to specialized doctors. Complications for FGM can be extreme pain, excessive bleeding which can lead to death, infections like HIV and hepatitis, formation abscess, sepsis, tetanus, urinary retention, obstructed menstruation, hard to conceive, prolonged labor and post-traumatic stress disorders. In West Africa, the traditionalists see FGM as essential for maintaining traditional society. For a woman not to undergo circumcision would be dishonoring her family and lower its status in the community, also reduce her chances of getting married. A mutated girl is believed to be a mortal woman, while others believe that,

the clitoris can make a woman infertile if not circumcised or kill the unborn baby. In some parts of West African countries have introduced laws against FGM, but because of its weak enforcement, FGM practice continues as before in some regions (Sipsma, Chen, Ofori-Atta, Ilozumba, Karfo, & Bradley, 2012).

3 Purpose, Aim and Research Questions

The aim and purpose of the study are to find out the experiences of infertility in West African women and to understand what these women go through in life and other perceptions.

1. And the question asked is: what kind of experiences does infertility impose on West African women?

4 Theoretical Framework

The respondent has chosen the theory of suffering by Katie Eriksson (2006) to be reflected in the research question findings. Suffering is of three forms: illness suffering, the suffering of care, and life suffering. Life suffering and the drama of suffering is discussed.

A suffering human being

Living means suffering, among other things; The suffering is part of all human beings. Suffering is something of all evil and has no meaning, but a person can, by going through her suffering, attribute it to a purpose. All people experience some suffering in their life. The use of this is that one cannot escape from her suffering, but the only way to the other side is to keep ongoing. Because it is harrowing, one may try to avoid it as much as she can, but still, get stuck. One stays in the evil unless a change of attitude towards the suffering. Suffering consists of a struggle; a person has feelings of anxiety, fear, and agitation. Even though suffering is not the same as anxiety, a suffering being can get anxiety (Eriksson, 2006: 22).

Understanding suffering

Every person who is suffering asks at some stage the question Why? Sometimes she gets an answer, but just often does not. When one ceases to ask the question Why? She has won her first fight, and she is free to suffer the inevitable. Suffering is defined as, among other things,

being tormented or fighting. In the most profound sense, suffering can mean that one cannot be made into what she is intended for, that she cannot realize her essence. Going through the suffering and finally accepting what has happened means that one is reconciled with what has happened. One cannot change it, so must take it (Eriksson, 2006: 28).

Eriksson talks about 'loneliness' whereby aloneness can cause suffering when one is excluded from all communion. But not all aloneness can cause suffering since some people enjoy being alone, and when not given time to be alone can as well cause suffering. One can experience loneliness when they lack something they once owned, or they wish to have (Eriksson, 2006: 35-36).

Eriksson also speaks about 'to be not welcome'. When one expects something, but it fails, she can suffer. Everyone wants to feel welcomed and invited to communion, that someone longs and waits for them. No matter what one's situation, when she experiences that she is not welcome, it can deprive her joy of living and hope. By showing someone, she is welcome, it can be done by showing respect and support (Eriksson, 2006:36).

To alleviate suffering

Even though suffering is part of every human being, no one wants to suffer. That is why one tries to alleviate the suffering regardless of its cause and how its seen (Eriksson, 2006: 66).

For the suffering to be alleviated, hope is needed. Hope has a reciprocal link between giving and taking. The fact that one can conquer suffering by going through it, it's a motivation to enter the suffering. The person does not become an object for suffering and the suffering the subject when one's soul is determined. One is not consumed by the suffering when she actively struggles, nor does she become the object of that suffering. The suffering takes over one's life when it becomes a subject. No matter how the suffering present itself, love has a durable power to alleviate it (Eriksson, 2006: 69-70).

The drama of suffering

Eriksson 2006 further describes the drama of suffering as something that everyone's suffering plays out. For a person to live the drama of suffering, a fellow actor is needed to help alleviate the suffering. When one enters the drama of suffering, it takes place in the form of what she wants most out of everything. If she fails to find a co-actor, she is forced to change her likeness repeatedly until she finds one. Eriksson emphasizes that suffering nowadays is reduced to an expression of illness or physical suffering. The drama of suffering

consists of three different acts. The first act of this drama is about being confirmed in its suffering of the opponent. The second act consists of suffering itself, that is, time and space to suffer, and the last act is reconciliation (Eriksson, 2006, 46).

In act one, the confirmation can be done in different ways. It may be enough with a glance or a few words. The essence of approval from the opponent is that the sufferer sees that there is someone who can meet her. For the sufferer, it is safe to share the suffering burden and creates confidence that the opponent is available. (Eriksson 2006, 46-47)

Also, in the second act, the opponent plays a significant role in the sufferer. The second act thus indicates that the opponent must give the sufferer time to suffer. Just as in the first act, it is not about neglecting, but the sufferer also needs space to suffer. Eriksson 2006 argues that a suffering person wants to suffer in solitude but not feel isolated. Around the suffering, there must be people who can convey hope. A suffering person goes back and forth between hope and despair. In this fight, it is essential for the sufferer to feel that there is a community around her. A person who feels isolated in their suffering can stagnate in despair, and this can jeopardize the possibility of reconciliation with their suffering. Despair means that you no longer feel hope, and then no new life can be created (Eriksson 2006, 47)

To describe the third act, Eriksson (2006) uses the concept of reconciliation. It is about the sufferer to integrate her suffering into a new life by attributing suffering to a new meaning. Eriksson thinks that the third act always has a happy ending, but that does not mean that all people with suffering reach a reconciliation. For the person who cannot play the drama of suffering, or for that stuck in one of the acts does not achieve reconciliation. If there is no opponent in act one or two, happiness does not result in act three. The reconciliation can come through a humiliating fight against the suffering that can bring victory or loss. Whatever the road to reconciliation, it gives liberation experience and freedom for the suffering person (Eriksson 2006, 47).

Life suffering

Life suffering means the suffering that is experienced about one's own unique life. Life suffering is related to all the suffering that life can mean to one's everyday life, among all other people. By being a patient, poor health or illness means a change and suffering that affects one's entire life situation. One's way of life is disturbed, and suddenly something is taken away. One faces the suffering that surrounds her whole life situation. Life suffering can cause a threat to one's existence at the same time, and one can lose the chance to go after

the assorted social tasks. The meaning of life and being a human being among other humans has everything to do with the suffering of life (Eriksson, 2006:85).

Life suffering can result in someone not being able to fight anymore, and one gives up. One can be in a hopeless state and feel less worthy when their life expectations cannot be fulfilled (Eriksson, 2006:86).

5 Methodology

Research methods are all those methods/techniques used to conduct the research. While the research methodology is away, the research problem is systematically solved. It is a science of studying how scientifically the research is done (Kothari, 2018, 24-26). This study adopts a systematic literature review.

5.1 Systematic Literature Review

The systematic literature review is a summary of the essential content of previous studies in a topic, both quantitative and qualitative articles can be used. This study will be done qualitatively. Sometimes, a systematic literature review is interpreted as a technique that supports other methods and mainly builds research methods. Like traditional approaches of literature reviews, the aim is to identify, collect, and analyze the studies that are already done in certain areas (Okoli and Schabram, 2010). Below are some essential guidelines while writing a literature review which makes a study scientifically rigorous (Okoli and Schabram, 2010).

- Research objectives that clearly define self-evident propositions
- Clearly stated and predefined criteria for exclusion and inclusion of literature
- A predetermined strategy for literature search in the collection of data in a systematic way.
- A predefined approach for selecting sources to be used in the review.
- A systematic method of evaluating the quality of sources used in the review
- A technique for excluding sources of literature and justification for exclusion

- Analysis of collected data through comparison of results and qualitative synthesis of data

- Outline of errors and incoherencies found the reviewed material (Okoli & Schabram, 2010).

In general, systematic literature will follow five stages, as shown in the flowchart figure below from the concept of Khan, Kunz, Kleijnen, and Antes, 2003.

Adapted from: (Khan, Kunz, Kleijnen, and Antes, 2003).

Figure 1: Stages for Systematic Literature Review

The first stage involves the definition of the research objective and questions (Okoli & Schabram, 2010). This study aims to investigate the experiences infertility impose on women in West Africa. The second stage is to find relevant articles for the research and to set the search strategy. The sources selected must meet the search criteria set; otherwise, they will be excluded. Whereby, a PRISMA flow diagram is followed in the selection of materials for the research. The third stage involves the assessment of the methodological quality of the selected sources. Literature with low-quality methodological approaches will be excluded. The quality of the systematic review approach relies heavily on the validity and reliability of the materials included in the study. The study will utilize an assessment tool adapted from Appendix D of Hawker, Payne, Kerr, Hardey, and Powell, 2002, p 14-15. The reviews will be characterized based on data available in the selected articles. This stage will help to identify missing data such as sampling, data analysis, method and data, introduction and aims, abstract and title, ethics and bias, results, transferability and implications, and usefulness. The fourth stage is consisting of data synthesis by content analysis inductively. The selected articles will be read several times and form categories and subcategories. And the final step is the presentation of synthesized data. The presentation of results includes interpretation of patterns found in the studies in qualitative forms. At this stage, the methodological and theoretical conflicts in the sources are interpreted and analyzed then the final principal conclusions are drawn (Khan, Kunz, Kleijnen, and Antes, 2003).

5.2 Literature Search Strategy

The adopted research method in this study depends on the existing literature to come up with findings. The study intended to search preceding published peer-reviewed articles on infertility in West African women. The literature search was done through online databases and digital libraries such as PubMed, CINAHL, and Google Scholar. The process involved searching for keywords such as "childlessness in West Africa", "infertility in West Africa", "cultural perceptions of infertility", "Experiences of infertile women in West Africa" and " Implications of infertility in West Africa."

The work published from the year 2012 to 2019 was more relevant. The relevant articles were screened and scanned to form a PRISMA flow diagram. The PRISMA flow diagram illustrates the flow of data and information through different stages of a methodical examination. PRISMA flow diagram maps out records that have been identified in a study, those excluded, and the reasons for exclusion and inclusion. (Moher, Liberati, Tetzlaff and Altman, 2009). The table below shows the search keywords and the hits that came up.

Source	"childlessness in West Africa"	"infertility in West Africa"	“cultural perceptions of infertility”	"Experiences of infertile women in West Africa"	"Implications of infertility in West Africa "	Total
CINAHL	14	1	1	1300	1012	2328
PubMed Central	21	542	66	15	38	682
Google Scholar	0	31	46	1	3	81

Total= 3091

Table 1: search strategy

PRISMA 2009 Flow Diagram

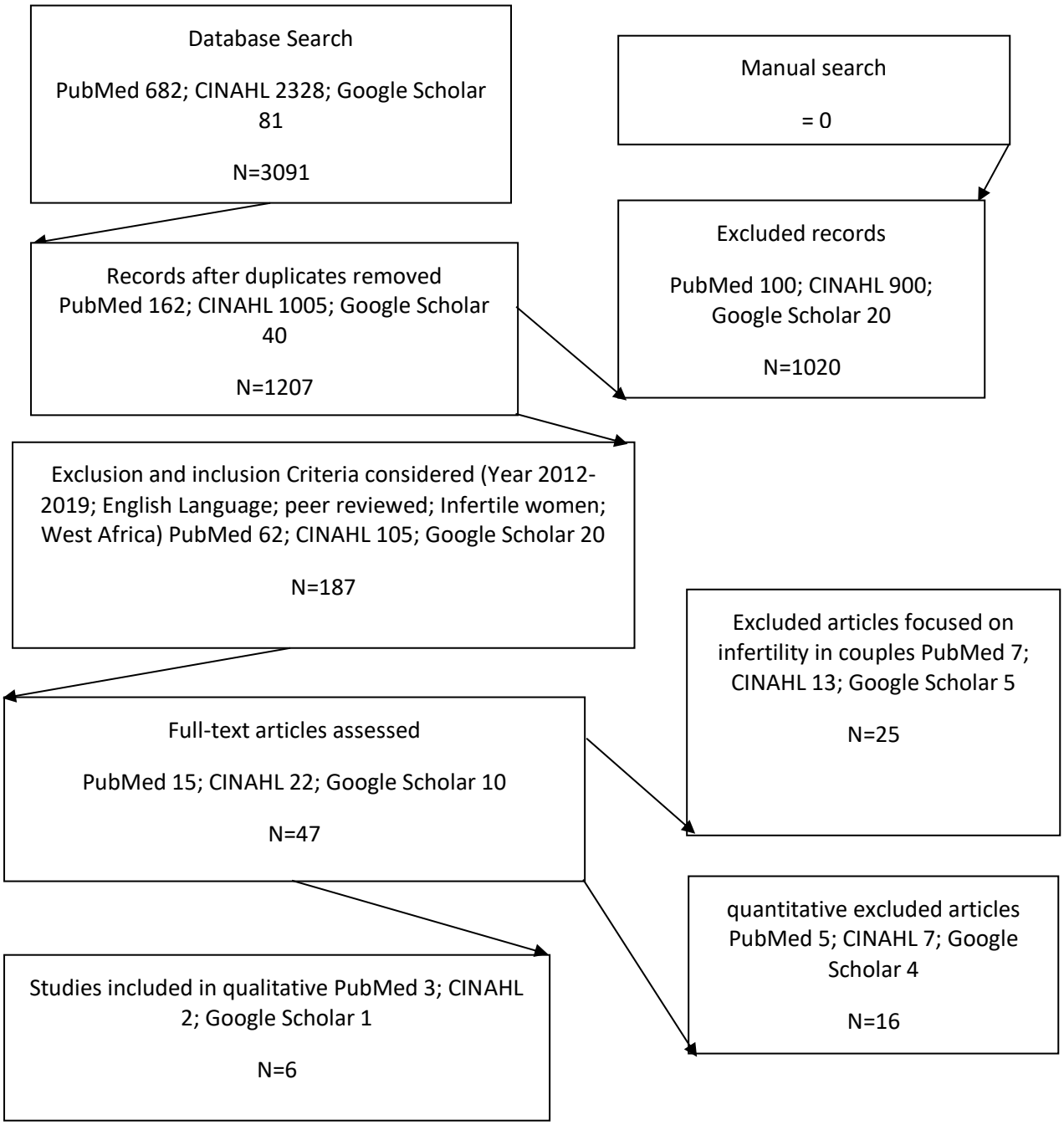

Figure 3: Prisma Diagram Flow:

From: Moher, Liberati, Tetzlaff, and Altman (2009).

The following criteria shall be used for article inclusion and exclusion.

Criteria for article inclusion
Language: articles published in English
Articles published between 2012 - 2019
Infertility in married and non-married women
Full-text articles
Source reliability: Peer-Reviewed Articles
Qualitative articles
infertility among women in West Africa
Criteria for articles exclusion
Articles about infertility in couples
Articles published earlier than 2012
Infertility in men
Language: none – English
Contents: No reference to West Africa women
Non-qualitative articles

Table 2. Inclusion/exclusion criteria

5.3 Quality Assessment for Literature Review Articles

The study utilized an assessment tool sourced from Appendix D of Hawker, Payne, Kerr, Hardey, and Powell, 2002. There are nine questions answered by either 'very poor', 'poor', 'fair', or 'good'. The studies were then converted to numerical scoring ranging from a single point (very poor) to four points (good). The study thus got a minimum of nine points and a maximum of 36 points. Each section of a study was assessed to create a better-quality picture of the studies being used. High-quality studies could score between 30- 36 points, while medium quality studies could score between 24- 29 points while low-quality studies could score between 9-24 points. The assessment results are presented in Appendix B.

5.4 Content Analysis

The data collected from the available and relevant articles from the literature search were analyzed using the concept of contents. In the content analysis, data can be processed either inductively or deductively. An inductive approach makes use of observations from the studies collected to formulate categories and subcategories. Whereas the deductive content analysis relies on categories that arise from theories and develops a strategy for research to test the assumptions (Fereday & Muir-Cochrane, 2006). In this study, inductive content analysis is used. This method will be applied to examine the similarities in research articles published across the years from 2012 to 2019 to discover the West African women's infertility experiences.

The first step in the content analysis is called open coding, the six chosen articles are read through several times, and notes are taken down in the essence of understanding the focal ideas and aspects in the text (Vaughn &Turner, 2016). After that, categories and subcategories are formed. Finally, conclusions are drawn or generalized. This process is referred to as abstraction; it is used to give the general idea or picture in the research (Elo & Kyngäs, 2008).

During the data analysis, it emerged three categories which include: Socio-cultural effects, psychological turmoil, and economic difficulties. Under socio-cultural emerged subcategories were discrimination, stigmatization, lack of information, and superstition. And under psychological turmoil, subcategories were fear, loneliness, sadness, reduced libido, anxiety, and depression. And finally, under economic difficulties emerged financial vulnerability as a subcategory, which is shown in table 3 below.

The coding system compromised of forming critical words used to collect required data from literature sources. The first code was social-cultural effects which sought to identify the cultural misconceptions existing in West Africa communities, on female infertility and useful information on the subject was shaded in orange, the second coded word used was psychological turmoil. The required data was shaded in green, the 3rd code economic difficulties, which was shaded in red for more natural referral during the compilation of data.

Theme	Experiences of infertility		
Categories	Socio-cultural effects	Psychological turmoil	Economic difficulties
Subcategories	stigmatization, discrimination, lack of information and superstition	Fear, loneliness, sadness, reduced libido, anxiety, and depression	Financial vulnerability
Codes	gossip, rumors, and jokes about infertility spread easily within communities. Some infertile women excluded from special events like weddings. Infertile women were called names such as barren, witches Some women seek treatment from herbalists and went through circumcision Some lacked information on the cause of infertility	Women blamed for infertility although husbands play half the role. Fear of divorce or polygamy Fear of expulsion from marital home by in-laws if widowed. No children to come home for No interest in sex	Spent lots of resources to find treatment. Women with children gained more wealth through inheritance and childless ones got next to none. More wives less financial support

Table 3: Data Analysis

6 Ethical Consideration

The writer read through the Finnish national board on research integrity, TENK 2019 about the general principles of privacy protection of people who are mentioned in the publication and participated in the research. The openness of research data was regarded as a precondition for critical evaluation and scientific progress. The gathered data in the study was preserved to make it available to other researchers to ensure transparency.

Since infertility is a sensitive subject, the ethical part is essential. An ethical approach to the issue was used throughout the work. For this systematic literature study with qualitative content analysis to be ethically acceptable, reliable, and credible, the study was prepared under good research ethics. The research process was honest, meticulous, and carefully executed throughout the process. This applies to the documentation, presentation of results, and the assessment of the selected research articles. The work and achievements of other researchers are considered by appropriately citing their work, giving their achievements credit and weight; they deserve by carrying out their research, and publishing the results (TENK, 2019).

7 Presentation of results

The respondent here reports the results that emerged from the six articles. The results have been divided into three main categories. The main categories of social-cultural effects, economic difficulties, and psychological turmoil answer the research question. Quotes are used to illustrate the different categories. The subcategories are blackened, and the quotes are presented in italics.

7.1 Social-cultural effects

In the social-cultural effects category, three subcategories have been created that describe the west African women's experiences in infertility. The subcategories are **stigmatization, discrimination, lack of information**, and **superstition.**

Among women in some communities in Gambia and Ghana, it was established that married couples were expected to bear children (Nachinab, Donkor and Naab 2019 and Dierickx, Rahbari, Longman, Fatou and Coene, 2018). These societies, like most West African

societies, put more value on family life. Women are expected to fulfill traditional roles assigned to them, while men are expected to be the primary breadwinners in the family. A woman who does not honor these traditional expectations by not conceiving can encounter **stigmatization** by the community and family. In some communities, fertility is greatly valued since it is associated with attaining adulthood (Fledderjohan, 2012). As a result of infertility, women experienced increased cases of jokes, rumors, and gossip about them spreading across the community. The infertile women were name-called such as witches, barren, and that they ate their children. Unfortunately, social stigmatization is one of the unfortunate experiences some infertile women went through since some cultures make irrational assumptions that link infertility with witchcraft. In contrast, others link infertility with infidelity and abortions (Dierickx, Balen, Longman, Rahbari, Clarke, Jarju and Coene, 2019, Fledderjohan, 2012 and Dierickx, S., Rahbari, Longman, Fatou and Coene, 2018).

"Respondents spoke of community members gossiping and insulting them; friends were more likely to gossip, and family members often placed pressure on the infertile woman or failed to support her. "(Fledderjohan, 2012).

"Therefore, sometimes community members accuse women with infertility of being witches and eating their children in the womb "(Dierickx, Balen, Longman, Rahbari, Clarke, Jarju and Coene, 2019).

"All respondents of group discussions and interviews said married people should become parents "(Dierickx, Rahbari, Longman, Fatou and Coene, 2018).

"Respondents felt that childbearing is at the crux of adult status attainment in Ghana "(Fledderjohan, 2012).

Even though some infertile men were stigmatized by name-calling and gossip, the severity was less compared to infertile women. Infertile women were always blamed, though it was the man with infertility. The reason was that women hold the physical ability to carry a child.

"Other fertile respondents felt that, if men are insulted or ridiculed at all, it is less severe than the ostracism faced by women "(Fledderjohan, 2012).

Under the **discrimination** subcategory, some childless women were discriminated from interacting with other people's children and were denied the chance to ask the children to run some errands for them. When it came to community decision making and adult conversations, some infertile women were excluded. Most infertile women experienced

difficulties in social life. Infertile women with high financial positions were less discriminated against because they had the power to negotiate with family and community members. However, the family members accused them of lacking the desire to have children "(Dierickx, Rahbari, Longman, Fatou and Coene, 2018, Nachinab, Donkor and Naab 2019 and Fledderjohan, 2012).

"First was the experience of having no child to send "(Fledderjohan, 2012).

"Despite their stronger financial and social position, women with a salaried job also explained that they were confronted with stigma and occasionally community members would accuse them of not wanting to have children "(Dierickx, Rahbari, Longman, Fatou and Coene, 2018).

In the subcategory of **lack of information and superstition**, cultural beliefs had an impact on infertility in some Gambian and Ghanian communities. Women indicated that they didn't have enough information on what causes infertility and its prevention. Infertile women intended to believe their infertility was caused either by supernatural factors such as evil spirits, black magic, and witchcraft or by natural elements, for instance, fibroids and Seketoo. Seketoo is explained as a small bump in the vagina with white vaginal discharge and itchiness. Some women sought treatment from herbalists while others went through circumcision to get rid of Seketoo. According to data, one woman explained how she bled until she passed out after undergoing circumcision. It is also noted that some women visited fortune-tellers typically several years after searching for infertility treatments, whereby they could be advised to move to another village for them to conceive a child and deliver. Their reasons for them to move could be, for instance, a good healer in the new town or the Jinnoo (evil spirits) could not follow them. The women could spend a long time in the new village to receive treatment from (a Marabout) a male healer (Dierickx, Balen, Longman, Rahbari, Clarke, Jarju and Coene, 2019).

In some Ghanaian communities, it is also believed that infertility is caused by a history of abortions, an ancestral curse or witchcraft or immoral behaviours (Fledderjohan, 2012).

"Some of the interviewed women with infertility perceived themselves to be victims of 'black magic' coming from a marabout (mostly male healers affiliated with Islam ") (Dierickx, Balen, Longman, Rahbari, Clarke, Jarju and Coene, 2019).

"Beliefs that infertility arises from immoral behavior, a history of abortions, witchcraft or an ancestral curse are not uncommon "(Fledderjohan, 2012).

"In other instances, women with infertility were accused by their cowife of being witches "(Dierickx, Coene, Jarju and Longman, 2019).

7.2 Psychological Turmoil

The increased stigmatization by the community and family members had negative implications on women with infertility problems. Infertile women experienced different psychological stressors which include **fear, loneliness, sadness, reduced libido, anxiety**, and **depression**.

Some women **feared** to discuss the adoption option with their husbands because they did not know how they would react. They also feared that they would encounter negative comments as well towards the adopted child from the community. When it comes to inheritance, there was fear that the adopted child will not be accepted to inherit the family properties; instead, everything will go to the biological child. Infertile women in polygynous marriages feared being expelled from their marital homes by co-wives or in-laws upon the death of their husbands (Nachinab, Donkor and Naab 2019 and Dierickx, Rahbari, Longman, Fatou and Coene, 2018). Some women experienced verbal conflicts and physical violence from their husband and co-wife. To escape physical violence, some women sought help from support unions, and some worked long hours in their businesses or farms. But few women never accepted of being physically abused (Dierickx, Coene, Jarju and Longman, 2019).

After the co-wife delivered children, there was fear that the husband would divorce the first wife. (Dierickx, Coene, Jarju and Longman, 2019). It was noted that, even though some women were aware of male infertility, they had difficulties to ask them to go for fertility tests (Dierickx, Balen, Longman, Rahbari, Clarke, Jarju, and Coene, 2019).

"Firstly, some women experiencing infertility spontaneously said they were beaten by their husbands because of their condition "(Dierickx, Rahbari, Longman, Fatou and Coene 2018).

"Husband's approval which is vital in child adoption was seen by some participants as a major obstacle" (Nachinab, Donkor and Naab 2019).

"Several women with infertility living in a polygynous marriage escape the tensions by spending time outside the compound" (Dierickx, Coene, Jarju and Longman, 2019).

Most infertile women experienced **loneliness,** especially after a long day at work, they wished to come back home to a cry of a baby. While others longed for a baby cuddle or diaper change when they got home (Donkor, Naab, and Kussiwaah, 2017), and some of the infertile women complained most about not getting enough affection from their husbands (Dierickx, Coene, Jarju and Longman, 2019).

Several infertile women in polygynous marriages experienced **sadness** when their husbands never informed them about the decision to marry a second or third wife. But few women were positive about polygynous, where they encouraged their husbands to bring another wife for them to share the household chores. It was painful for most infertile women in polygynous marriages to see the children of their co-wives grow, which raised feelings of jealousy and sadness (Dierickx, Coene, Jarju and Longman, 2019).

" women with infertility experienced it as very painful to see the children of their co-wife growing up" (Dierickx, Coene, Jarju and Longman, 2019).

"In this study, three women with infertility encouraged their husband to take another wife" (Dierickx, Coene, Jarju and Longman, 2019).

During the infertility period, sexual difficulties had a profound effect on the marriages, reviews used for this study show how some infertile women experienced **reduced libido** due to their infertility. The reason for the decline of sexual activities was mostly because some women felt sex was useless since they do not get pregnant anyway. (Donkor, Naab, and Kussiwaah, 2017). The following are the quotes from two different women interviewed in the literature.

"I do not really enjoy sex with my husband and this is because in my heart and mind, I feel that if after all these years of regular intercourse, I have not been able to get pregnant then there is no need to enjoy sex since it does not result in childbirth. Sometimes I am not even sexually aroused since I do not see the need for sex''. (Donkor, Naab, and Kussiwaah, 2017).

"Sometimes when my husband wants to make love to me, I feel he is bothering me. I have this notion that, if all these years of lovemaking, nothing really came out of it, then there is no reason to keep bothering each other with sex. Due to this and other thoughts that run

through my mind, I always experience reduced sexual satisfaction''. (Donkor, Naab, and Kussiwaah, 2017).

Most women experienced **anxiety** when they realized that they were aging fast without getting pregnant, and the pressure increased when their friends got children before them. Some women reported being worried and **depressed** when they thought of the duration they have been married with no sign of a baby and the humiliation they got from the workplace and home (Donkor, Naab and Kussiwaah, 2017).

Some women cried while discussing during the interviews when they recalled the financial and social pressure they were confronted with. The interviewed infertile women reported being always under stress which they believed led to heart problems. Some indicated of being desperate and expressed infertility as the most significant grief they had in their lives (Dierickx, Rahbari, Longman, Fatou, and Coene, 2018).

"They reported symptoms of depression ranging from extended periods of crying to isolation (Donkor, Naab, and Kussiwaah, 2017).

"some women exhibited symptoms of depression ranging from extended periods spent crying to insomnia "(Fledderjohann, 2012).

7.3 Economic difficulties

In economic difficulties, it emerged one subcategory, which includes **financial vulnerability**. Women who had infertility were forced to spend lots of resources trying to find treatments (Dierickx, Coene, Jarju, and Longman, 2019). These types of treatments varied and depended on the economic status of an individual. In some countries such as the Gambia, poor women were hesitant to seek medical advice due to the high costs associated with treatments like laboratory works and different drug regimens whereas well off women eagerly sought medical help. It was also noted that some women with children in polygonous families gained more wealth through inheritance and childless ones got next to none. And the more the wives the man had the less support for infertility treatment the woman got (Dierickx, Rahbari, Longman, Fatou and Coene, 2018).

"The economic impact is that you tend to spend a lot. Like me, I have spent a lot, a lot of my savings, three-quarters of my savings, going to doctors, doing different tests." (Dierickx, Rahbari, Longman, Fatou and Coene, 2018).

Some men contributed towards the seeking of treatment for their wife's infertility. However, if the therapy was unsuccessful, they withdrew the help to find other women who would bear them children. On the other hand, the infertile women who were employed were able to continue seeking treatment by self-funding (Dierickx, Balen, Longman, Rahbari, Clarke, Jarju and Coene, 2019).

"Most respondents explained that they continued to look for treatment even when their husband no longer provided financial support" (Dierickx, Balen, Longman, Rahbari, Clarke, Jarju and Coene, 2019).

8 Discussion

In this chapter, the study method and findings are discussed.

8.1 Discussion of the study method

The method used in this thesis is a systematic literature review whereby the process went through five stages. In stage one, the plan started by creating the question and the study objective. The study aimed at finding the experiences of infertility of West African women. To be familiarized with the subject, the author searched theoretical knowledge about infertility, its causes, tests, and different treatments, which was used as a background of the thesis. In the background, the African culture, as well as the suffering theory of Eriksson 2006, was also discussed.

In stage two, the search for relevant articles was conducted. The databases used were chosen with the motivation to try to get a wide range of suitable qualitative materials as possible, such as PubMed, CINAHL, and google scholar. This choice was made to minimize the risk of excluding relevant articles. Though some studies' titles differed from the keywords used, and some keywords were not identified. For instance, when searched from google scholar the keywords "childlessness in West Africa", yielded no results. Even though the number of search hits was high in some databases, most of the articles did not meet the inclusion criteria, or they were not relevant to the subject. For the materials to be used for the study, it had to be published in English, published between 2012 – 2019, had to be infertility in married and non-married women, full-text articles, peer-reviewed qualitative articles and infertility among women in West Africa. The studies which did not meet those criteria were

excluded. Even though the search for literature was done systematically and all the related studies assessed within the desired scope, there is a chance that some publications, e.g. studies published in 2020 were missed. The final search resulted in six qualitative articles, and the process was presented in a Prismachart flow and a table.

In stage three of the systematic literature review, the quality of the articles used in the study was assessed. The tool used sourced from Appendix D of Hawker, Payne, Kerr, Hardey, and Powell, 2002. Nine questions were answered by either 'very poor', 'poor', 'fair', or 'good'. The studies were then converted to numerical scoring ranging from a single point (very poor) to four points (good). The study thus got a minimum of nine points and a maximum of 36 points, the chosen articles scored between 30- 33 points which were determined to be of high quality.

In stage four of the review, data were analyzed inductively using content analysis. The concepts of coding were applied, and articles were read several times. It emerged three main categories and several subcategories, while the codes were shaded in three different colors for easy identification.

In the final stage of this systematic literature review, the presentation of results was done. The emerged categories of social-cultural effects, economic difficulties, and psychological turmoil answered the research question of the experiences of infertility of West African women. The quotes were used to illustrate the transparency of the study. The subcategories were blackened, and the quotes were presented in italics. The findings of this study were also reflected in the theory of suffering by Eriksson 2006. It was noted that the infertile West African women suffered from Loneliness, discrimination, and stigmatization just by mentioning few. Since the writer understood experiences of infertility, she included materials that demonstrated both positive and negative perceptions of experiences of infertility of Western African women in order not to deliberately angle the result in a desirable direction. For instance, some infertile women accepted polygamy since they wanted a cowife to share household work while others were against it (Dierickx, Coene, Jarju, and Longman, 2019).

”In this study, three women with infertility encouraged their husband to take another wife” (Dierickx, Coene, Jarju and Longman, 2019).

8.2 Discussion of Study Findings

The discussion of findings is based on a conceptual framework of suffering human being theory, literature from the six chosen articles and other studies with similar results with the current study. Katie Eriksson, the suffering human being theory 2006, hopes that the reader understands better the suffering in care and their own lives so that they can alleviate the suffering of others.

In this study, the experiences that infertile women from west Africa go through were analyzed. The findings suggest that infertile women are faced with increased chances of experiencing stigmatization and discrimination, whereby family and society encourage husbands with infertile wives to practice polygamy. These communities continue to value motherhood tremendously, and results suggest that women were mostly discriminated against and blamed for infertility in marriages regardless of male infertility. They also indicated that infertile women suffered from psychological turmoil of fear, loneliness, sadness, anxiety, and depression caused by their families and society. There are also financial constraints experienced by these women due to infertility. Despite evidence of all the sufferings the women go through, few studies have attempted to explain this phenomenon and offer a potential solution. Some of the solutions include adoption. However, most West African communities have not embraced this alternative. The men have a preference to desire their biological children and families would only recognize the same in the cases of inheritance. According to Eriksson 2006, everyone experiences some suffering in their life. For an infertile woman to escape her suffering, is to keep on going and try to look for other options like adoption and acquiring fertility treatments. As discussed in the background, nowadays all infertility problems can be treated.

In the discrimination subcategory, the respondent found out that some childless women were discriminated against whereby, they were not welcome to interact with other people's children and were neither welcome to community decision making and adult conversations. This can be related to Eriksson's statement about 'to be not welcome'. Whereby she explains that one can experience suffering if treated like she is not welcome no matter the nature of the situation. Everyone yearns for a sense of belonging (Eriksson, 2006:36).

Under the loneliness subcategory, most infertile women suffered from loneliness, where they wished to come back home to a crying baby or at least have a baby to change the diaper (Donkor, Naab and Kussiwaah, 2017). The feeling of loneliness was also noted from the

data of Dierickx, Coene, Jarju and Longman, 2019, whereby some of the infertile women complained of not getting enough affection from their husbands. According to Eriksson, one can experience loneliness when they lack something they once owned, or they wish to own (Eriksson, 2006: 35-36). Infertile women longed to have their children and those who did not anymore receive affection from their husbands, suffered from loneliness.

Under the subcategory of fear, data showed that infertile women feared how their husbands could react in case they brought up the idea of adoption. They also feared that the adopted child would receive adverse treatment from the community. Infertile women in polygynous marriages suffered from the fear of being expelled from their marital homes by co-wives or in-laws upon the death of their husbands. And in the subcategory of anxiety data showed that women with infertility suffered from anxiety when they realized that they were aging fast without getting pregnant (Nachinab, Donkor and Naab 2019 and Dierickx, Rahbari, Longman, Fatou and Coene, 2018 and Donkor, Naab and Kussiwaah, 2017). These fear and anxiety sufferings the infertile women experienced can be reflected in Eriksson's explanation of what suffering consists. Suffering consists of a struggle whereby a person has feelings of anxiety, fear, and agitation. A suffering person can get anxiety, even though suffering is not the same as anxiety (Eriksson, 2006: 22).

Eriksson 2006 describes the drama of suffering as something that everyone's suffering plays out. She talks about three acts of the drama; being confirmed by an opponent, suffering itself, that is, time and space to suffer, and reconciliation (Eriksson, 2006, 46). The drama of suffering can be related to infertility. The drama of going through infertility caused a lot of challenges for most West African women. Those who had the support of the husband to seek fertility treatments or those got help from support unions passed the 1st act of drama whereby they were confirmed. Those never got the opponent in their infertility challenges had to get other ways to go through the days by working long in the farms or businesses to avoid confrontation with the co-wives or to face loneliness by coming to a home of no child. For an infertile woman to go through the second act of the drama, the family and community need to give her time and space by supporting and accepting her situation. But not stigmatizing and discriminating against her from social events. In act three of the drama of infertility, an infertile woman must get into reconciliation. The study showed that most women never got support from family, especially when it came to the idea of adoption, which is an indication that they were unhappy and faced different challenges because of their condition. The few infertile women who received support from the unions and family managed to come into terms with their infertility or reconciliation.

Infertility can be related to life suffering, whereby the infertile women of West African in this study were always reminded that they could not have children of their own every time they saw other people's children. Eriksson 2006 says life suffering is related to all the suffering that life can mean to one's everyday life.

Some previous studies had similarities with the current research. In qualitative research done on Iranian women, most infertile women were blamed and received less attention from others and were humiliated for being infertile. Some women were also discriminated against by their in-laws from attending family events. Some women experienced domestic abuse and lived in fear when they thought that their husbands might decide to remarry. Infertile women faced several social problems whereby they isolated themselves from social events (Hasanpoor-Azghdy, Simbar, and Vedadhir, 2015). The study had a slide difference whereby the current research the infertile women did not isolate themselves from social events; instead, they were stigmatized by society and family.

In another study done in experiences of infertile women in Pakistan, had some similarities to the current study whereby infertile women were at risk of being ejected from their home, divorced or their husbands remarrying. Anxiety, depression, sadness, and lack of support from husbands or families, and society was also mentioned. There were also economic difficulties when it came to infertility treatment payment where most opted for cheaper options like traditional medicines. Superstition was also noted when it came to the causes of infertility. This study showed how participants believed that magic and evil spirits caused infertility. Even though the local terminologies for evil spirits and magic differed, there were some similarities to the current study. Another similarity to the present study was that the infertile women were scared that the in-laws could not support the adoption option instead encourage their husbands to remarry (Sami and Saeed, 2012).

According to data retrieved from the medical journal, the causes of female infertility varies from ovarian dysfunction, ovulation disorders, ovarian damage, and endometriosis. Large uterine polyps, congenital malformations of the uterus, and uterine adenomyosis may also interfere with the onset of pregnancy. Reduced quality of sperms in male infertility is also a contributing factor (Tiitinen, 2019). In this study, the correspondent discovered that some infertile women in West African communities were blamed for not having a child even though it was their husbands who had fertility problems. According to Dierickx et al., 2019, the data showed how some women lacked information on the cause of their infertility and treatments whereby they could go through dangerous traditional practices such as

circumcision, herbalists, and some other home treatments. The fertility treatments usually start after a thorough fertility examination has been done, and one has tried to get pregnant at least a year without using contraceptives (Araoye, 2003). As mentioned on page 5-7 above, there are different types of infertility tests, and the type of treatment depends on the cause of infertility. According to Tiitinen, 2019, infertility nowadays can be treated with recent treatment methods.

9 Strength and limitations of the study

Though the aim of this study has been achieved by answering the research question of experiences of infertility of West African women, some strengths and limitations were observed. The correspondent used an assessment tool sourced from Appendix D of Hawker, Payne, Kerr, Hardey, and Powell, 2002 to verify strategies such as abstract, introduction, data collection, sampling, analysis, ethics, results, generality, and implications. This enabled the corespondent to modify the research process, which built up reliability and validity, thus ensuring rigor. This study was conducted as a qualitative systematic literature review. During the literature search, many articles that were retrieved did not have relevant information to the research question, and some relevant ones did not have free access, some were quantitative articles and while some were duplicates. The chosen materials were from the year 2012, which means the correspondent used the latest information to answer the research question.

As much as this study is focused on identifying the experiences of infertility of West African women, it has limited its scope to women's' experiences only, and it has excluded men's infertility experiences.

Limitations in the study include a lack of adequate literature on proper measures that have been utilized to curb the many misconceptions existing in West African communities on infertility. Therefore, despite the study expanding more on the West African women's experiences in infertility, the population sample was limited to two countries, Gambia, and Ghana; consequently, it cannot be generalized. The study thus established the need for more sensitization on infertility and the negative implications faced by women within the communities of West African countries.

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Appendix A: Qualitative Articles For Literature Review

Database	Bibliographic data	Aim of articles and methods used.	Results
CINAHL	Dierickx, S., Balen, J., Longman, C., Rahbari, L., Clarke, E., Jarju, B. & Coene, G. (2019). 'We are always desperate and will try anything to conceive': The convoluted and dynamic process of health-seeking among women with infertility in the West Coast Region of The Gambia. PLOS ONE, 14(1),. DOI:10.1371/journal.pone.0211634	The study aimed to understand the health-seeking behaviors of infertile women of West coast Gambia. And to understand the influence of the aetiological belief on their health-seek. A qualitative approach was used to generate both primary and secondary data for thematic analysis ing ways.	The health-seeking approaches of women living in both urban and rural areas were extraordinarily dynamic and complex, in which women reported that they were looking for biomedical treatment as well as pursuing local treatment given by local healers.
CINAHL	Nachinab, G. T., Donkor, E. S. & Naab, F. (2019). Perceived Barriers of Child Adoption: A Qualitative Study among Women with	The study aimed to determine barriers that affected infertile women from adopting in Northern Ghana. Data was	The findings suggest that barriers to child adoption include the adverse reaction of husbands, family dynamics and psychological dissatisfaction. It was realized that husbands' response consists of a preference for biological children and marrying of second wives. The participants were dissatisfied with Child adoption that it will make

	Infertility in Northern Ghana. BioMed Research International, 2019, . DOI:10.1155/2019/6140285	used in data collection with group discussions, participatory observations, and interviews.	no difference and is a sign of accepting defeat in having a biological child. There was also high value for blood relations, unpredictable family influence, blaming of the woman, the adopted child was discriminated and not allowed to inherit family property.
PubMed Central	Dierickx, S., Coene, G., Jarju, B., & Longman, C. (2019). Women with infertility complying with and resisting polygyny: an explorative qualitative study in the urban Gambia. Reproductive health, 16(1), 103. DOI:10.1186/s12978-019-0762-1	The study aimed to examine the experiences among infertile women who were in polygamous marriages. Methods used to collect data were an explorative qualitative technique that was done through interviews.	Most women emphasized conflicts within polygamous marriages and informed of emotional and financial difficulties. However, few infertile women described positive experiences with polygamous households. Several strategies through a thematic analysis were identified for infertile women to cope with and resist polygynous marriages, including looking for social support, addressing conflict, overcoming childlessness, spending time outside the compound, living separately and initiating divorce.
PubMed Central	Dierickx, S., Rahbari, L., Longman, C., Fatou , J. & Coene, G. (2018). 'I am always crying on the inside': A qualitative study on the implications of infertility on women's lives in	Aims of the articles included the consequences of infertility among women in Urban Gambia. Qualitative data were used in data collection with	Results showed that there was intense social pressure on urban women in The Gambia to have children. Falling to conform to their gender role, women with infertility faced financial problems, emotional and physical violence in their marriage and social stigma. All women expressed feelings of stress, sadness, and trauma.

	urban Gambia. REPRODUCTIVE HEALTH, 15(1), . doi:10.1186/s12978-018-0596-2	group discussions, participatory observations, and interviews.	
PubMed Central	Donkor, E. S., Naab, F. & Kussiwaah, D. Y. (2017). "I am anxious and desperate": Psychological experiences of women with infertility in the Greater Accra Region, Ghana. Fertility Research and Practice, 3. DOI:10.1186/s40738-017-0033-1	The study aimed at determining the psychological experiences of infertile women in Ghana. Data was collected using a qualitative exploratory approach when conducting interviews.	The results showed that women with fertility problems experienced emotional difficulties such as depression, loneliness, anxiety, worrying, lack of concentration, and reduced sexual satisfaction.
Google Scholar	Fledderjohann, J. J. (2012). 'Zero is not good for me': Implications of infertility in Ghana. Human reproduction (Oxford, England), 27(5), p. 1383. DOI:10.1093/humrep/des035	The paper aims at determining the consequences of infertility among Ghanaian women. Data were collected by semi-structured interviews	Women with infertility report facing severe social stigma, marital strain and a range of mental health difficulties. Many women feel that they are partly to blame for infertility and, by extension, face more significant social consequences than their spouses for conceiving problems. Women who don't identify themselves as infertile corroborate these findings, asserting that the social implications of infertility are severe, especially for women.

Appendix B: Quality Assessment For Articles

Study	Abstract	Introduction	Data collection	Sampling	Analysis	Ethics	Results	Generality	Implications	total
Fledderjohann, J. J. (2012). 'Zero is not good for me': Implications of infertility in Ghana. Human reproduction (Oxford, England), 27(5), p. 1383. DOI:10.1093/humrep/des035	4	3	4	3	3	3	4	4	3	31
Dierickx, S., Rahbari, L., Longman, C., Fatou , J. & Coene, G. (2018). 'I am always crying on the inside': A qualitative study on the implications of infertility on women's lives in urban Gambia. REPRODUCTIVE HEALTH, 15(1), . doi:10.1186/s12978-018-0596-2	3	4	4	4	3	4	3	4	4	33
Dierickx, S., Balen, J., Longman, C., Rahbari, L., Clarke, E., Jarju, B. &	4	4	4	3	4	3	3	4	3	32

Coene, G. (2019). 'We are always desperate and will try anything to conceive': The convoluted and dynamic process of health-seeking among women with infertility in the West Coast Region of The Gambia. PLOS ONE, 14(1),. DOI:10.1371/journal.pone.0211634										
Nachinab, G. T., Donkor, E. S. & Naab, F. (2019). Perceived Barriers of Child Adoption: A Qualitative Study among Women with Infertility in Northern Ghana. BioMed Research International, 2019, . DOI:10.1155/2019/6140285	4	4	3	3	3	4	3	3	4	31
Dierickx, S., Coene, G., Jarju, B., & Longman, C. (2019). Women with	3	4	4	4	3	4	3	4	3	32

infertility complying with and resisting polygyny: an explorative qualitative study in the urban Gambia. Reproductive health, 16(1), 103. DOI:10.1186/s12978-019-0762-1										
Donkor, E. S., Naab, F. & Kussiwaah, D. Y. (2017). “I am anxious and desperate”: Psychological experiences of women with infertility in the Greater Accra Region, Ghana. Fertility Research and Practice, 3. DOI:10.1186/s40738-017-0033-1	4	4	3	3	3	3	3	3	4	30

Appendix C : The Nine Questions Used For Assessment

1. Abstract and title: Did they provide a clear description of the study?
   - Good — Structured abstract with full information and clear title.
   - Fair — Abstract with most of the information.
   - Poor — Inadequate abstract.
   - Very Poor — No abstract.
2. Introduction and aims: Was there a good background and clear statement of the aims of the research?
   - Good — Full but concise background to discussion/study containing up-to-date literature review and highlighting gaps in knowledge.
     Clear statement of aim AND objectives including research questions.
   - Fair — Some background and literature review.
     Research questions outlined.
   - Poor — Some background but no aim/objectives/questions, OR
     Aims/objectives but inadequate background.
   - Very Poor — No mention of aims/objectives.
     No background or literature review.
3. Method and data: Is the method appropriate and clearly explained?
   - Good — Method is appropriate and described clearly (e.g., questionnaires included).
     Clear details of the data collection and recording.
   - Fair — Method appropriate, description could be better.
     Data described.
   - Poor — Questionable whether method is appropriate.
     Method described inadequately.
     Little description of data.
   - Very Poor — No mention of method, AND/OR
     Method inappropriate, AND/OR
     No details of data.

4. Sampling: Was the sampling strategy appropriate to address the aims?

Good	Details (age/gender/race/context) of who was studied and how they were recruited.
	Why this group was targeted.
	The sample size was justified for the study.
	Response rates shown and explained.
Fair	Sample size justified.
	Most information given, but some missing.
Poor	Sampling mentioned but few descriptive details.
Very Poor	No details of sample.

5. Data analysis: Was the description of the data analysis sufficiently rigorous?

Good	Clear description of how analysis was done.
	Qualitative studies: Description of how themes derived/ respondent validation or triangulation.
	Quantitative studies: Reasons for tests selected hypothesis driven/ numbers add up/statistical significance discussed.
Fair	Qualitative: Descriptive discussion of analysis.
	Quantitative.
Poor	Minimal details about analysis.
Very Poor	No discussion of analysis.

6. Ethics and bias: Have ethical issues been addressed, and what has necessary ethical approval gained? Has the relationship between researchers and participants been adequately considered?

Good	Ethics: Where necessary issues of confidentiality, sensitivity, and consent were addressed. Bias: Researcher was reflexive and/or aware of own bias.
Fair	Lip service was paid to above (i.e., these issues were acknowledged).
Poor	Brief mention of issues.
Very Poor	No mention of issues.

7. Results: Is there a clear statement of the findings?

Good	Findings explicit, easy to understand, and in logical progression. Tables, if present, are explained in text. Results relate directly to aims. Sufficient data are presented to support findings.
Fair	Findings mentioned but more explanation could be given. Data presented relate directly to results.
Poor	Findings presented haphazardly, not explained, and do not progress logically from results.
Very Poor	Findings not mentioned or do not relate to aims.

8. Transferability or generalizability: Are the findings of this study transferable (generalizable) to a wider population?

Good	Context and setting of the study is described sufficiently to allow comparison with other contexts and settings, plus high score in Question 4 (sampling).
Fair	Some context and setting described, but more needed to replicate or compare the study with others, PLUS fair score or higher in Question 4.
Poor	Minimal description of context/setting.
Very Poor	No description of context/setting.

9. Implications and usefulness: How important are these findings to policy and practice?

Good	Contributes something new and/or different in terms of understanding/insight or perspective. Suggests ideas for further research. Suggests implications for policy and/or practice.
Fair	Two of the above (state what is missing in comments).
Poor	Only one of the above.
Very Poor	None of the above.