ENSIGN COLLEGE OF PUBLIC HEALTH, KPONG - GHANA

KNOWLEDGE AND PERCEPTIONS ABOUT FEMALE INFERTILITY IN THE LA

NKWANTANANG   DISTRICT OF THE GREATER ACCRA REGION OF GHANA

By:

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DECLARATION

I do declare that except for references to other people's work which have been cited, this work submitted as a project report to the Department of Public Health Ensign College, Ghana for the award of degree in Masters of Public Health is the result of my own investigation and has not been presented for any other academic degree.

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DEDICATION

My research work is sincerely dedicated to my Supervisor whose contribution made this research a success. I also dedicate this work to my dear and lovely daddy who supported me financially and in diverse ways.

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My first and foremost gratitude goes to the Almighty God for his guidance and protection throughout the course.

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DEFINITION OF TERMS

Infertility: It is defined as not being able to get pregnant despite having frequent, unprotected sex for at least a year for most couples.

Knowledge: it is defined as a familiarity, awareness or understanding which is acquired through experience or education.

Perception: It is defined as the organisation, identification and interpretation of sensory information in order to represent and understand the environment

Abortion: Is the ending of a pregnancy by removal or expulsion of an embryo or foetus before it can survive outside the uterus

ABBREVIATIONS

PID   Pelvic inflammatory disease

STD   Sexual transmitted disease

PPH   Post-partum haemorrhage

DHS   Demographic health and service

NRTs   New Reproductive Technologies

ABSTRACT

Infertility is the inability of a couple to conceive after one year of regular unprotected sexual intercourse. The study was carried out in the La Nkwantanang district in the Greater Accra region of Ghana on the knowledge and perception about female infertility. The objectives of the study were to determine the knowledge on female infertility, to examine factors associated with the level of knowledge, to explore perception about female infertility and examine the factors that influence the perception about infertility. A multistage sampling method was used in selecting 354 respondents. An informed consent was sought from respondents and were also assured of confidentiality and anonymity. Questionnaires were used and Stata 15 was used to perform chi square test for associations and multivariate logistic regression analysis. The majority of the respondents were females (67.8%) and most (28.8%) were within the ages of 18 -21years and most of them were S.H.S leavers and students. Majority of the respondents (83.9%) had enough knowledge about infertility and these were mostly females. Demographic factors such gender, age, marital status, education and occupation were significantly associated with knowledge on female infertility (P<0.05). In conclusion, it was recommended health education should be given to the district to educate the residents on stigmatization of women when it comes to infertility.

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<center>**CHAPTER ONE**</center>

1.0 INTRODUCTION

This chapter comprises background information, statements of the problem, rationale, study scope, field of analysis, and organization of the study.

1.1 BACKGROUND OF THE STUDY

Infertility is a global phenomenon that impacts couples' societal, economic, and psychological well-being. Different careers might vary in the concept of infertility, as other professionals are using suitable meanings for their purposes (Larsen, 2010). However, the Global Health Organisation definition is commonly accepted. The World Health Organisation (2011) describes infertility as "a couple's failure to reproduce to normal and unsafe intercourse over the next two years. There can be two forms of infertility: primary and secondary infertility. While primary infertility refers to a couple's failure to conceive a child, secondary infertility means that they cannot conceive again after a prior pregnancy.

According to Reproductive Health Outlook (2013), infertility is the worldwide epidemic, impacting around 8-10 percent of couples worldwide. Among all, approximately one-third is women's infertility, one-third is men's infertility, and the remainder is either a spouse or an unexplained reason (Inhorn & Van Balen 2012). In particular, in countries where insecurity and illness are common, cultural, environmental, and economic influences affect the prevalence of infertility (Leke et al. 2013). Pelvic Inflammatory Disorder (PID) triggered by sexually transmitted infections (STIs) and post-partum and post-abortion infections is the leading preventable source of infertility in many areas of the world (RHO, 2013).

Within 2002, except China, infertility infected 186 million couples worldwide (Rutstein & Shah 2014). The Health Outlook (2011) stated that Sub-Saharan Africa has the most considerable infertility incidence, varying from 7% and 29%. The prevalence rate in Sub-Saharan Africa differs considerably between countries and also within one nation (Ericksen et al. 2012). This is because infertility is connected closely with social, behavioral, and cultural influences that subject women to the possibility of infertility related to sexually transmitted and other reproductive diseases. Non-western businesses, particularly in Central and Southern Africa, are at their peak in infertility rates (Petraglia et al., 2013; WHO, 2013). In developing countries, infertility among 30% of couples has caused immense misery (Dhot et al., 2011). "More precisely, unintended infertility in one in four couples in these nations" (WHO, 2013).

Ericksen & Brunette (2012) conducted a global survey that included 207 African countries to evaluate women's infertility forms and measures. This research showed that in the Southern African countries of Namibia, Zimbabwe, Botswana, and Lesotho, large infertility (16.7%-21.4%) occurred. The eastern African countries of Rwanda, Burundi, Uganda, and Tanzania have a comparatively low infertility rate (9.8% -12.2%). The research also showed that people who began sex at or below 13 are at higher risk of infertility at an early age.

Furthermore, more complex local or regional factors may lead to infertility. In Egypt, for instance, men's proximity to workplace hazardous chemicals, men's water pipe smoking, and near relative marriages led to infertility (Inhorn & Buss, 2014). In some 'belt' countries (for example in Congo and Mozambique), 'late marriage' countries (Lesotho, Namibia, and South Africa) and other countries like Ghana, Mali, Rwanda, Senegal, Tanzania, and Ethiopia, Garenne (2009) have noted that infertility is still growing. While men and women are assumed to be infertile in the same way, in many African societies, infertility is seen mainly as a problem for women (Deribe et al., 2013;

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Kimani, 2011). Women are heavily stigmatized in cultures like this when they are presumed to have refused to conceive (Ombelet et al., 2015). In many societies with children, the primary purpose of life is valued. In such situations, parenting and adoption will not eliminate real motherhood and will instead be seen as partial remedies for childlessness (Gerrits, 2012).

"In Africa, conventional explications of infertility remain socially significant, apart from scientific causes of infertility. The importance of infertility is mainly mediated by socio-cultural factors that vary between different regions "(Van Balen, 2010 p.121). Analysis studies in Ghana (Geelhoed et al., 2011) and elsewhere in Africa and Asia (Dyer et al. 2012; Papreen et al., 2009) have listed biomedical and cultural and religious views of infertility' Traditionally, the reasons are witches, god's threats, evil spirits, and taboo. Community frames people's reasoning, understanding, infertility procedure. Infertility and societal pressure and demands are also kept responsible for women (Guntupalli & Chenchelguden 2010; Inhorn 2013; Papreen et al. 2009). Infertile women suffer inadequate social care. "For example, the husband itself or his family can evict women from their husbands' houses and allow their husbands to take other women. In certain instances, childless people were removed from certain significant events and festivals "(Orji et al.,2012, p.61). Children are treated as a sign of luck in conventional households, and women infertile in traditional homes are exposed to shame and violence (Nukunya, 2013).

1.2 PROBLEM STATEMENT

Infertility is one of the core problems among families in Ghana including families in La Nkwantanang district. In Ghana, ''it is the female partner who bears the brunt of a childless marriage, because the woman is perceived always to be the malfunctioning one'' (Tabong et al., 2013). Women go through a lot of stigmatisation and psychological turmoil if their marriages have not produced any children. Some women are ostracized from their marital homes by in-law. Many

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are abused for this same reason. In the rural Ghanaian setting, a woman whose marriage has no children is called a witch and is blamed for eating up all her unborn children (Dyer et al., 2002; Donkor, 2012).

According to the Ghana Statistical Service infertility and childlessness are some of the factors that brings about divorce in Ghana. Integrating the treatment of infertility into the Ghana Population Health Survey Policy underlines the significance the government assigns to infertility (Nukunya, 2003). Nevertheless, the issue of infertility continues. According to the Ghana Population Health Study (2009), between 2006 and 2008, there were 484 out of 530 cases of female infertility. These numbers have a disturbing pattern, which is why focus is required. "Diverse theories, behaviors, and assumptions regarding their origins exacerbate the issue of infertility" (Kimani et al., 2001, pg.203). The effect is a pause in recovery and care for patients who find it impossible to replicate. There is little research on the views and expectations of the causes of infertility in Ghana, so this report aims to add to established literature on this social problem of public health interest through the assessment and usage of the case study La Nkwantanang District of Ghana for awareness and understanding of female infertility.

1.3 RATIONALE OF THE STUDY

In Africa, many people associate infertility among woman to witchcraft and other cultural beliefs (Geelhoed,2012). Although some studies have been done, limited studies have been done in the Ghanaian context. This study helps to review the knowledge and perceptions about female infertility in the La Nkwantanang district of the Greater Accra Region of Ghana. Recommendations made were based on to the data gathered for action to address infertility. The

finding of this study helps to give an overview of the perceptions people have about infertility in women.

1.4 CONCEPTUAL FRAMEWORK
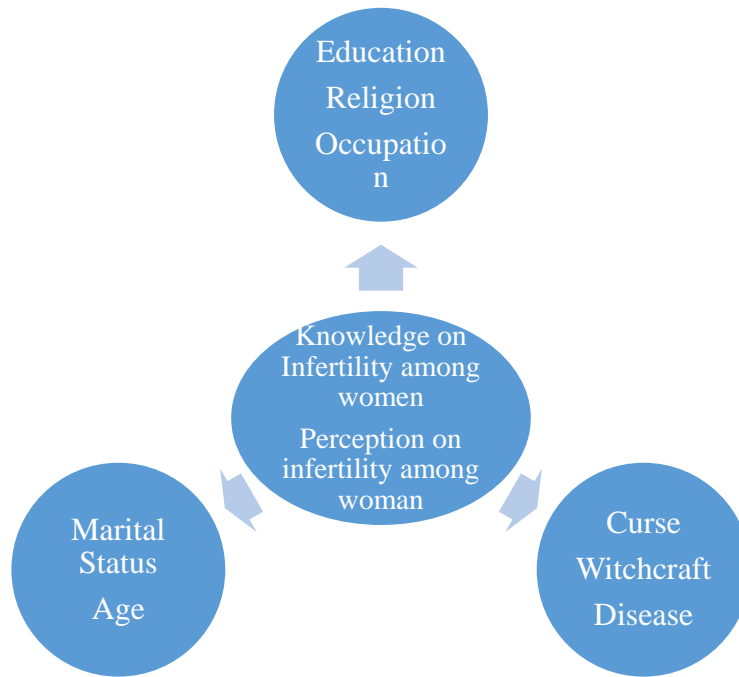
Source: Max,2019

Education builds knowledge on female infertility. In educational institutions, lectures are given on reproductive health which involves infertility. As people go higher up the educational ladder they gain access and are exposed to an array of information including that on female infertility. It is presumed that, the higher one's educational level, the more information one has about infertility. (Ali et al., 2011). With age, as people grow and reach their adult years, they tend to think more about getting married and starting families. They begin to probe and find out why they are not successful at conception and how to improve their stake. This increases their knowledge on female infertility. When people get married it is expected of them to start having children. The society frowns on a couple who cannot have children (Geelhoed et al., 2012).

Upon interaction with peers and leaders in workplaces and religious settings, information about infertility is transferred from one person to another. Education on infertility is given in religious groups by their leaders. Many churches and corporate institutions organize health promotion week. where members discuss many health topics including infertility. This information increases people's knowledge and perceptions about male infertility. With regard to witchcraft and curses, individuals believe that most infertility problem are associated to these due their beliefs. In a typical Ghanaian society, when a female is not able to conceive she is attributed to being a witch or has been cursed from the gods. On occupation, information on infertility is transferred within person. During workshop or gathering at workplace knowledge on infertility can be given by their heads or any qualified personnel.

1.5 RESEARCH QUESTIONS

1. What is the degree of awareness regarding female infertility among people living in La Nkwantang district in Greater Accra?
2. What factors are associated with knowledge on female infertility?
3. What are the perceptions on female infertility among the people of La Nkwantang?
4. What factors influence their perceptions about female infertility?

1.6 GENERAL OBJECTIVE OF THE STUDY

To assess knowledge and explore perceptions about female infertility in the La Nkwantang district of the Greater Accra Region of Ghana

1.7 SPECIFIC OBJECTIVES

- To determine the level of knowledge on female infertility at the La Nkwantang district.
- To examine factors associated with level of knowledge on female infertility.

+ To explore perception about female infertility at the La Nkwantang district.

+ To examine the factors that influence the perceptions about female infertility.

1.8 PROFILE OF STUDY AREA

This research was carried out in La Nkwantanang Municipality in the Greater Accra. In the north, the district is bordered by Akuapim South, east by Kpone Katamanso, and west by the Ga East. The district has a gross area of 70,887 square kilometers. According to the 2010 census, the district's population stands at 111,926, with 54,21 males and 57,271 females, Twi, Hausa, Ga, and Pidgin English being the most commonly spoken language. The bulk of the populace is Christian (80%) and Muslim (20%). About 70% of the people comprise businessmen and women; teachers, government, and private employees. Many citizens in the community are competent.

The district has good communication network but yet to open to internet facilities. There are radio stations in Madina, the district capital which cover the district. There is a national television network which transmits signals for TV in the district as well as the region enabling the people to be informed, educated and entertained on various issues of national importance in English and local languages including health issues. In the district, the available cellular networks include M.T.N, Vodafone, and Airtel-Tigo. All the towns within the community are under the national power supply grid. There is a good pipe-borne water source for the district. There are both private and government schools in the neighborhood that help educate children adequately and provide access to both government and private health facilities.

1.9 SCOPE OF THE STUDY

This study aimed at determining the awareness and attitudes of residents regarding infertility among women. The investigation was conducted in the La Nkwantanang Municipality in the

Greater Accra Region. It employed a descriptive cross-sectional analysis of 354 individuals. An open and closed questionnaire has been used for data collection and Stata 16 for statistical analysis.

1.10 ORGANIZATION OF STUDY

The dissertation is divided into six chapters. Chapter one is a summary of the history and context of the report. Chapter 2 analyzed the existing literature on infertility and illustrated the discrepancy that this thesis sought to fill. Chapter 3 provides the research methods, while Chapter IV provides the research results in tables and maps. The discussion of the results is discussed in Chapter Five. Finally, Chapter 6, the last chapter offers a review of the relevant observations, guidelines, and issues that require further study.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

An evaluation of knowledge contained in the literature in the chosen field of research is a literature review. The analysis explains, synthesizes, assesses, and clarifies the novel. It also provides a theoretical context for the subject picked and discussed experiments, models, and case studies that endorse the concept "(Aveyard,2010 p.60).

This literature review addresses all the publications related to this study; infertility, triggers of infertility, diagnoses of female infertility, the incidence of female infertility, women's infertility awareness, infertility beliefs, and women's infertility therapy.

Infertility in the so-called non-Western inhabited environment is scarcely regarded as a significant public health concern (Inhorn, 2013). In some regions of the planet, infertility is sometimes used by Western commentators to respond to overpopulation. However, in recent years, growing attempts have been made to examine the issue of infertility internationally. In essence, it helps politicians to consider infertility more clearly as a sexual health issue (Dyer, 2014).

2.1 INFERTILITY

According to the World Health Organization (2015), "The dominant word infertility for an individual (couple) who had struggled to accomplish one year's pregnancy and who was never pregnant was used in reproductive medicine. Secondary infertility is the concept used by people who never reached primary infertility requirements that have become pregnant at any time throughout the past. The word infertility may be used descriptively in reproductive medicine to describe people's circumstances (pair) unable to reproduce or have a pregnancy that induces living birth for 0,1 years. However, it has reflected the definition

of the word in the sense of challenging to conceive, as used in modern language, synonymous with the phrase generational infecundity.

2.1.1 FEMALE INFERTILITY

"Primary infertility is a concept used in reproductive medicine for a woman (couple), who has not been pregnant for a year and has never before been pregnant, according to World Health Organisation (2015). Secondary infertility is the concept used by people who follow primary infertility requirements but who have been pregnant for any point throughout the past. In reproductive medicine, the phrase infertility may be used in a specific sense to describe the condition of females (pairs) who are unable to envision or have a live life pregnancy for one year. However, the definition of the word used in the modern language was often incorporated because it was not feasible, synonymous with the demographic word outbreak.

2.2 CAUSES OF FEMALE INFERTILITY

A research on the causes of infertility was completed in Hamadan infertility hospital (Seyedah et al., 2015). This was a comprehensive cross-sectional analysis of 1200 infertile women examined at the Fatemieh Hospital infertility clinic from 2010 to 2011. The bulk (88.6 percent) of people were diagnosed with the menstrual disorder, ovulation failure, uterine condition, fallopian tubes disorder, and cervical causes.

In Ghana, Donkor & Sandall (2013) published a report on socio-cultural views of infertility in Ghana's southern field. A comprehensive study design with a sample size of 190 participants was introduced. The research showed that most women's infertility triggers were previously self-induced abortion and keloid development around the cervix.

Analysis of the causes of infertility was carried out by Eisenberg et al. (2014). The thesis comprised both men and women with a 400 sample size cross-sectional test design. The research indicates that the bulk (65%) of those questioned linked infertility to old age, obesity, consuming drinking, and the obstruction of fallopian tubes.

In another research by Boivin et al. (2012), the majority (57 percent) found that the age of women was a significant determinant of infertility for the reasons of female infertility, out of 300 respondents. In a related Sabarre et al. (2013) report, the respondents suggested that previous self-induced abortions were causing infertility among women.

Ericksen et al. (2014) reviewed to discover why females became infertile. The research has indicated injury to the fallopian tube, a pelvic inflammatory disorder, earlier operation in the pelvic region or surrounding field, and ovulation failure. Uterine or cervical inflammation was also found in women's research to be a source of infertility (Battreman, 2015).

2.2.1 DIAGNOSIS OF FEMALE INFERTILITY

Ovarian reserve testing: This procedure measures the number of eggs accessible after ovulation and starts with hormones comparing and their amounts for each menstrual cycle (Bavan, 2011). Hysterosalpingography assesses the position of the uterus and fallopian tube of the female and searches for blockages or other complications. The utero injection of X-ray comparison is performed and an x-ray to assess if the cavity is natural and see whether the fluids are expelled from the Fallopian tube '(Dunson, 2102). A blood test that signals hormone level ovulation (Bavan, 2011). "Pelvic ultrasound searches for disorders of uterus or ovaries. Often a sonohysterogram, often known as a saline injection sonogram, is utilized to see specifics inside the uterus that are not visible on standard ultrasound.'

2.2.2 PREVALENCE OF FEMALE INFERTILITY

A 1990 research on women's responses conducted by the World Health Organisation (WHO), 2014, suggested that "female prevalence infertility rates are challenging to identify owing to both male and female variables impeding estimation only for the individual, and the effect of pregnancy diagnosis or living birth." One of every four couples are found to be impaired by infertility of developed countries; the load remains heavy. Research from the WHO finds that the incidence of female infertility has not moved between 1990 and 2010 in approximate levels and rates in women of reproductive age from 190 nations (WHO 2014). Very few publications report on infertility stresses in developing countries. According to Boivin et al. (2012 p.1509), the 12-month incidence rate in less-developed countries ranged from 6.9 percent to 9.3 percent. Substantial regional variations are observed in prevalence, primarily attributed to natural, cultural, and socio-economic factors.

The strain of infertility ranges in Sub-Saharan Africa from 9% for Gambia Tabong and Adongo, (2013) to 15% for Ghana, Donkor, and Sandall (2011), as contrasted with 21.2% for northwest Ethiopia (Ombelet et al., 2013) and 20 to 30% for Nigeria (Larsen, 2012). Scanty evidence is available from Asia and Latin America. Still, a survey from the World Health Organization (WHO) has shown that the 'infertility rate in these areas declines from 8-12% of reproductive age couples worldwide as expected and is, therefore, lower than in Africa' (World Health Organization, 2014, p. 87).

Current infertility rates in developed countries are primarily focused on evidence from the birth records of population and health survey (DHS) and do not provide a self-reported period for maternity problems. However, predominant infertility or childlessness remains reasonably uncommon, with prevalence varying from 1 to 10% among women aged 25 to 49. The number of

women with secondary infertility, or failure to create a live life after at least one prior miscarriage, differs between 9% and 38% (Rutstein et al., 2014, Dhont et al., 2011pg.81-84). According to the figures available, sub-Saharan African countries have some of the world's higher inhabitants' rates. It is reported that in these countries, the infertility rates among married individuals vary from 15 to 30 percent, compared with the reported rates in European countries from 5 to 10 percent. Purefoy and Kermeliotis (2011) have reported that infertility prevalence is about 25% in Nigeria compared with 10 to 15% in the U.S. and the United Kingdom.

2.3 KNOWLEDGE ABOUT FEMALE INFERTILITY

A study by Donkor (2013) found that most infertile marriages are mainly correlated with gender. Age, educational degree, and cultural traditions (cure) are primarily associated with awareness of women's infertility. The older the woman is, the more likely she is to have infertility (Bunting & Boivin 2012). Ghartey (2012) carried out a comparative analysis on feminine infertility awareness in Ghana's northern area; 65.2 percent of 200 citizens were unable to recognize any source of infertility.

Fledderjohann (2012) conducted a cross-sectional awareness analysis with a survey of 300 respondents on infertility among women. The questionnaire opened and closed was used to test respondents. Of the 300 respondents, most (65 percent) had adequate awareness of infertility among women. In comparative research on female infertility in the western part of Cameroon, the bulk (65%) respondents had less knowledge about female infertility. Witchcraft and curses by gods are correlated with female infertility (Noumi,2011).

Research on infertility among women in Southern Nigeria showed that many (96.5 percent) did not know the typical infertility reasons among women. However, only 3.5 percent had clear

information regarding the causes of infertility (Fu et al., 2015). Pomelo et al. analysis. (2015) recorded that only 9.5% of its 400 respondents had strong women's infertility awareness.

2.4 PERCEPTIONS ABOUT INFERTILITY

In a survey undertaken by lliyasu et al. (2013), a cross-section of 600 adults was questioned in northern Ethiopia on experiences of infertility. The plurality of respondents (99.3 percent) found infertility to be an illness. The Bertarelli Foundation Science Board (2000) performed a related report. A representative population of 8,194 adults was analyzed using traditional methods validated. The research shows that infertility is seen by the plurality (58%) of respondents as an illness. Another research of an adult population of Addis Abba reported just 25% right in hereditary infertility and some in malignancies and supernatural forces (Tinsae, 2013). The research was carried out in Kuwait and found that the plurality of educated people was due to infertility in physiological, marital, and psycho-sexual variables and uneducated people to spiritual reasons including evil spirit, witchcraft, and God's vengeance (Waterton & Wynne, 2013).

Research on infertility expectations was performed in Madagascar, utilizing a random sampling method. The majority (72 percent) recorded breaching taboo blood, husband's and wife's blood, which did not mix up and marry a woman to a spirit or pubic hair burial (Greil, Blevins & McQuillan, 2010). In Kenya, a report showed that women's infertility was due to breaches of conventional norms (Kimani,2011) An international study was performed by Adashi et al. (2012) on the public views of infertility in several Western countries (Belgium, France, Germany, Italy, Sweden, the UK, the USA, and Australia). The survey revealed that 38 % of respondents viewed infertility as an illness and 54% of respondents recorded being able to accept infertile couples.

In a study by Ola (2012), 600 interviewees were chosen using multi-stage sampling technology, consisting of 175 males and 425 females, to explore socio-cultural attitudes and the effect of

childlessness on men and women in a metropolitan region in the South West, Nigeria. The findings revealed that both men and women regarded infantilization as induced by evil spirits, hereditary prohibitions, and promiscuity.

In East Africa, research was performed on how people viewed female infertility. The research found that women are strongly stigmatized, supposedly not born (Ombelet et al., 2016).

2.4 TREATMENT OF FEMALE INFERTILITY

"Therapies utilized by infertile people across the world range from conventional and philosophical to modern medical procedures. When people in most areas of Africa encounter the dilemma of infertility, they choose conventional and theological practice instead of medical intervention (Upton, 2017). A survey performed by Okonofua et al. in Nigeria in 2012 found couples that used conventional and theological remedies for infertility concerns while medical care is less commonly used. Another research performed by Koster Oyekan in the same group (2011) showed that infertile people tend to follow spiritualist, local herbalist, and pastoral therapy.

A Malawi research also shows that there is a significant societal incentive to carry a child to meet traditional healers who are considered to be infertile (De Kok, 2011). Jenkins (2012 page 175), described couples with infertile problems adopting parenthood-satisfying twins. However, "while some people think that adoption is equal to biological parenthood, others view it as less important and incomparable to biological parenthood, claiming that adoptive children can not truly be children for adopters because they sense a need for stability of biological generation." Canadian research carried out by Miall (2012) found that the vast majority of respondents are acquainted with parental interactions between adoptive and biological communities and paternal and motherly emotions of the adoptive and biological mother and baby. The most significant issue was family involvement, not biological ties.

In some regions of the world, a report by Inhorn (2013 pg. 1838) reported adoption by spouses who are facing problems of infertility. It states, "one of the factors that making adoption unacceptable as a substitution for actual maternity is that birth parents can recover the adoptive infant, and so there can be no feeling of relational affinity and kindergarten between parents and the adopted child." Moreover, in order for a woman to attain the true identity of women, substitute motherhood should never override the ordinary motherhood in Egypt.

Similarly, in two southern Nigerian cultures, Hollos et al. (2010 p. 893) have shown that fostering children is deemed a desirable source of labor but can not be contrasted with biological children in terms of social standing, their emotional happiness, or their age welfare. Research on social and cultural facets of infertility in Mozambique found that adoption was not viewed as a viable remedy for most childless mothers. In Mozambican, biological parents were accused of foster parents for mistreating and abusing foster children and child defiance towards a woman that was not her birth mother, two reasons which made fostering unacceptable. Given such deviations, parenting, and fostering appear to be conducted globally as a tool for solving the infertility issue (Gerritis, 2012).

New reproductive technologies (NRTs) are another way to solve the issue of infertility. Ever Since the birth of Brown Louise, the world's first test-tube infant, in 1978 (Inhorn & Balen, 2012), NRTs have been popular all over the planet. This is a worldwide strategy, including the petro-rich Arab countries and the countries of North Africa. NRTs introduced 'fresh independence' through prevention through prenatal diagnostic technology of premature pregnancy and undesired children (Gupta 2016). Moreover, it provided motherhood by artificial insemination or IVF to infertile women and single lesbians. NRTs have also, though, developed a modern infrastructure and service provider reliance. In addition to being costly, it often has a side impact on the welfare of

women. Entry to NRTs is defined by human economic position in most parts of the world (Inhorn,2013)

CHAPTER THREE

METHODOLOGY

3.1 Study design

To test awareness and understanding of female infertility, a descriptive, cross-sectional study method was used. The descriptive architecture was chosen, as it would provide more insight into the issue by disclosing interest variables, assessing, forecasting, and analyzing associative associations (Borg & Gall, 2009).

3.2 Study site

This analysis was carried out in the district of La Nkwantanang in the Greater Accra region. Madina is its city. Akuapim District borders the north, Kpone Katamanso in the east, and Ga East District in the west. The district has a total area of 70,887 km2, and it is split into two regions, including nine electoral districts: Akatsi Abor, Okataban, North Legon, Oyarifa, Teiman, Ayi Mensah, Danfa Otinibi, and Pantang. The district population is 111,926, with 54,21 males and 57,271 females, according to the 2010 census. The most widely spoken languages are Twi, Hausa, Ga, and Pidgin English. The bulk of the populace is Christian (80%) and Muslim (20%).

Around 70% of the population comprises businessmen and women, teachers, public and private employees. Many citizens in the community are competent. The district has a strong contact network but only has internet connectivity. Radio stations operate in Madina, the capital of the region that encompasses the city. There is a national TV network in the area that transmits signals for Entertainment, allowing people to be educated, educated, and amused regarding different national significance topics, including health problems, in English and local languages. MTN, Vodafone, and Airtel-Tigo are accessible cellular networks throughout the city. The national grid

operates all the towns in the district. The district has healthy water supply, the drain. The district includes several private and government schools that aim to teach children properly. The area also requires links to public and private health services.
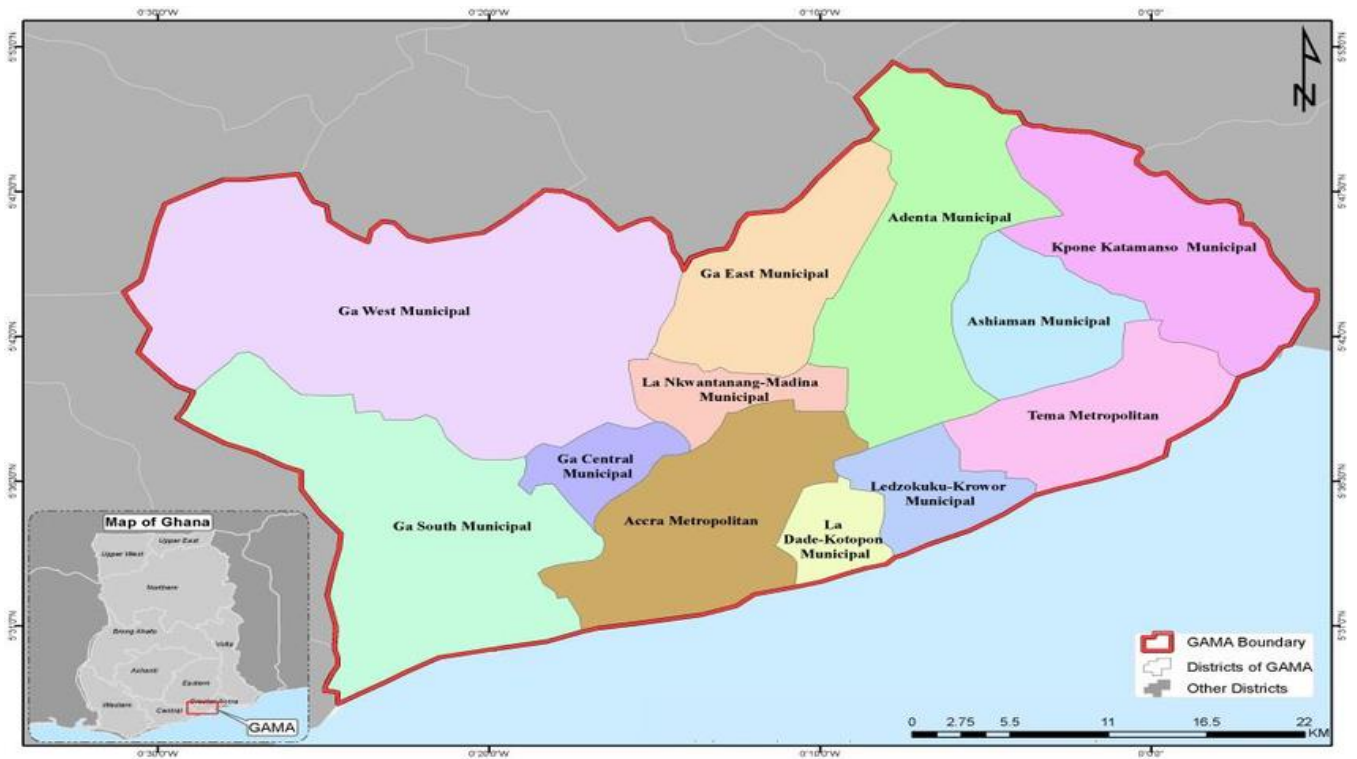
Source: Google map

3.3 Data collection techniques and tools

The data collection is the method of "the systematically defined collection and evaluation of knowledge regarding variables of interest, helping one to address specified questions from analysis, test hypotheses and analyze result" (Knatterud et al., 1998 p. 74). Questionnaires have been used to gather knowledge, and they may obtain a lot of details. Its use saved time, costs, and data was simple to examine. Accessible and closed standardized questionnaires have been used in this case for the gathering of knowledge from research participants. A questionnaire is a study

method composed of a collection of questions that the researcher has planned for gathering knowledge from interviewees (Brink, 2006).

Trained field assistants administered the questionnaire after undergoing training on the nature of the study, confidentiality, voluntary participation and how to collect the quantitative data.

 The instrument consisted of 34 items divided into four sections. Section 'A' sought to obtain demographic information of participants, such as age, gender, educational status, marital status, occupation. Section 'B' composed the knowledge on female infertility among the inhabitant. Section' C' composed of perception about female infertility. Finally, Section' D' factors that influence infertility among women.

3.4 Study population

The sample population refers to "the entire number of people who agree with the sampling criterion" (Lavrakas,2008, p.30). Both men and women above 18 years of age stayed in the La Nkwantanang area.

3.41 Inclusion and Exclusion Criteria

It involved both male and female who have lived in the district for at least six months. Those excluded were individuals below 18 years of age and those who come only to trade or work and visitors.

3.5 Study Variables

It's an informal word, indicating any component used in research that connects cause and effect. A study variable may be one of a broad range of analysis variables, including autonomous, contingent, and temporary variables' (Bellary et al., 2014).

The dependent variable is the variable a researcher is interested in and independent variables are believed to affect dependent variables.

1. **Dependent variable** – Level of knowledge about infertility, perceptions about female infertility

2. **Independent variable(s)** - marital status, religion, age, educational level, factors influencing female infertility

3.6 Sample size

The sample size was measured using Cochran (Cochran, 1977)

$$N = \frac{Z^2 \times p * q}{e^2}$$

Where,

n = sample size (Cochran, 1977)

Z = z-score which corresponds to an interval of 95 percent trust of 1.96

p = 70% awareness of diabetes equivalent to 0.70 (Okonofua,2011)

q = 1-70% = 0.3

e = Margin of error set at 5% (0.05)

Therefore,

$$n = \frac{(1.96)^2 \times (0.70 \times 0.3)}{(0.05)^2} \cong 322$$

A 10 percent non-response figure in the sample size was applied to 354.2.

3.7 Sampling method

In the collection of respondent's data, the multi-stage sampling procedure was used. This approach splits the community into study classes. During this sampling procedure, "signification clusters of the people chosen are separated into sub-groups at different stages to make it easier to gather primary data" (Adi Bhat, 2016 p. 209). A population was chosen from each of the nine electoral areas. Thirteen families were picked in each of the neighborhoods, among which three participants were consulted. It is a versatile, cost-effective approach that aims to minimize individuals into smaller communities.

Pre-testing

The structured questionnaires were pre-tested on 10 selected inhabitants of the Adenta municipality. Both found ambiguities and mistakes of the things on the interview guide were remedied before administration.

3.9 Data collection and analysis

The study used primary data. The primary data gathered using organized questionnaires focused on the literature review of the research and the research objectives. Stata 15 was used to evaluate the data obtained. Stata is ideal for the analysis of quantitative data so as to establish trends and significant tests. It is a windows based software, user friendly and performs a wide range of statistical analyse such as cross tabulations and descriptive statistics (Thomes, 2018). Data was collected and analyzed by STATA version 15. The data was encoded and imported them into Microsoft excel 2017. It was secured with a password where only the research team could have access. Socio-demographic characteristics were presented as frequencies and percentages. The levels of knowledge were obtained from the questionnaire. The association between the

independent variable and the knowledge levels was determined using Chi-square test of significance. All the variables found to be significantly associated were further analysed using logistic regression. The various perceptions were quantified into proportions. The association between the independent variables and the perceptions was determined using chi square test of association.

3.10 Ethical Considerations

The following ethical considerations were taken into account:

1. Research participants were notified, and their permission was required before the questionnaire was administered.

2. Participants were made to recognize that they might, at any point, withdraw from the research.

3. No direct data recognition was given, and the anonymity of the participants was assured.

4. Ensign College of Public Health administrative oversight board requested legal approval.

3.11 LIMITATIONS OF THE STUDY

Any issues experienced during the study included:

1. Researcher's time factor was a concern.

2. The cost of the study was high.

<center>**CHAPTER FOUR**</center>

<center>**RESULTS**</center>

4.1 INTRODUCTION

Chapter four summarizes the results of the analyzed data. A total of 354 respondents were

interviewed in the study, all responses were received from the participants. The results of the study

are presented in tables and charts.

4.2 DEMOGRAPHIC DATA OF RESPONDENTS
Table 4.1: The demographic data of respondents

Gender	Frequency (N= 354)	Percentage (%)
Male	114	32.20
Female	240	67.80
Age		
18-21 years	99	27.97
22-25 years	94	26.55
26-29 years	90	25.42
30-34 years	39	11.02
35 years and above	32	9.04
Religion		
Christian	189	53.39
Muslim	129	36.44
Traditionalist	33	9.32
Others (no religion)	3	0.85
Ethnicity		
Akan	102	28.81
Ga	87	24.58
Ewe	64	18.08
Hausa	97	27.40
Others(Frafra)	4	1.13
Level of Education		
No education	90	25.42
Primary	23	6.50
J.H. S	74	20.90
S.H. S	113	31.92
Tertiary	54	15.25
Marital status		
Married	121	34.18

Single	159	44.92
Widow	14	3.95
Divorced	21	5.93
Co-habitation	39	11.02
Occupation		
Government worker	73	20.62
Skilled acquired work	65	18.36
Private worker	164	46.33
Other (Trotro-mates)	54	15.25

Source: Max, 2020

The table above shows the demographic data of the respondents The table indicates majority of the respondents were females (67.8%) and most (28.8%) were within the ages of 18 -21years. Akans 102(28.8%) were the most dominant ethnic group and most had educational level as S.H.S (31.9%). Christians (53.4%) were the majority in terms of religion and most of the respondents were single (44.9%) with regards to marital status. Lastly, the majority of the respondents were private workers (45.3%).

4.3 KNOWLEDGE ON FEMALE INFERTILITY
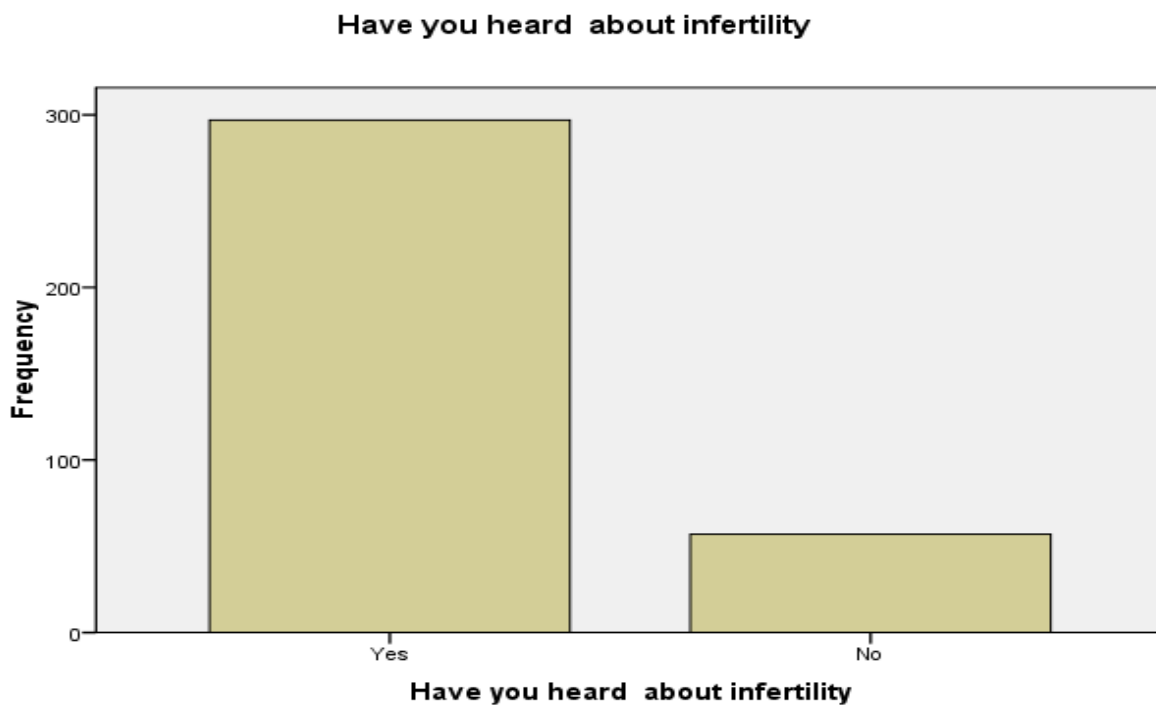
Figure 4.1

Out of the 354 respondents 297(83.9%) had heard about infertility and 57(16.1%) had not heard

Table 4.2: Association between knowledge about female infertility and the independent variables

Variables	Heard of female infertility	Have not heard of infertility	p-value
Gender			
Male	97 (32.7%)	17 (29.8%)	0.000
Female	200 (67.3%)	40 (70.2%)	
Age			
18-21 years	94 (32%)	5 (8.8%)	0.000
22-25 years	84 (28.3%)	10 (17.5%)	

26-29 years	74 (24.9%)	16 (28.1%)	
30-34 years	21 (7.1%)	18 (31.6%)	
35 years and above	23 (7.7%)	8 (14.0%)	
Religion			
Christian	162 (63.0%)	27(47.4%)	0.424
Muslim	99 (38.5%)	30 (52.6%)	
Traditionalist	23 (9%)	10 (17.5%)	
Others	3(1.2%)	0 (0.0%)	
Ethnicity			
Akan	90 (30.3%)	12 (21.1%)	0.320
Ga	73 (24.6%)	17 (29.8%)	
Ewe	45 (15.6%)	20 (35.1%)	
Hausa	83 (28%)	8 (14.0%)	
Others(Frafra)	4 (1.3%)	0 (0.0%)	
Level of Education			
No education	40 (13.5%)	50 (87.7%)	0.000
Primary	18 (6.15)	5 (8.8%)	
J.H. S	73 (24.6%)	1 (1.8%)	
S.H.S	112 (37.7%)	1 (1.8%)	
Tertiary	54 (18.2%)	0 (0%)	
Marital status			
Married	119 (40.1%)	2 (3.5%)	0.000
Single	120 (40.4%)	39 (68.4%)	
Widow	10 (3.4%)	1 (1.8%)	

Divorced	21 (7.1%)	5 (8.8%)	
Co-habitation	27 (9.1%)	10 (17.5%)	
Occupation			
Government worker	70 (23.6%)	3 (5.3%)	0.001
Skilled acquired worker	53 (17.8%)	10 (17.5%)	
Private worker	150 (50.5%)	14 (24.6%)	
Other (Trotro-mates)	24 (8.1%)	30 (52.6%)	

Source: Max, 2020

Demographic factors such as gender, age, marital status, education, marital status and occupation were significantly associated with female infertility (P<0.05) and Religion and ethnicity were not significantly associated with infertility.

Where did you get your information about infertility
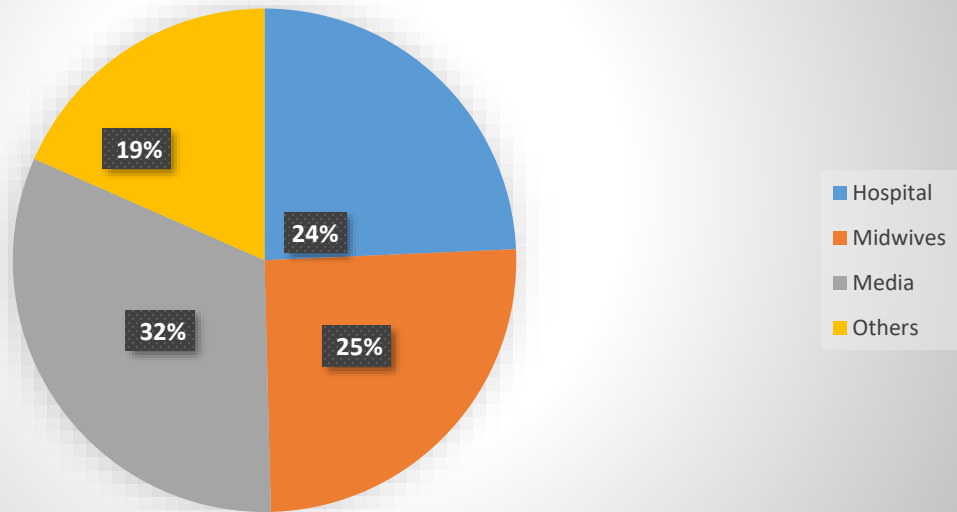
Figure 4.2

The figure identified out of the 297 respondents who indicated they have heard about infertility the majority 94(32%) heard it from the media and the least 18.4% from others (maternity homes).

Do you have any biological children
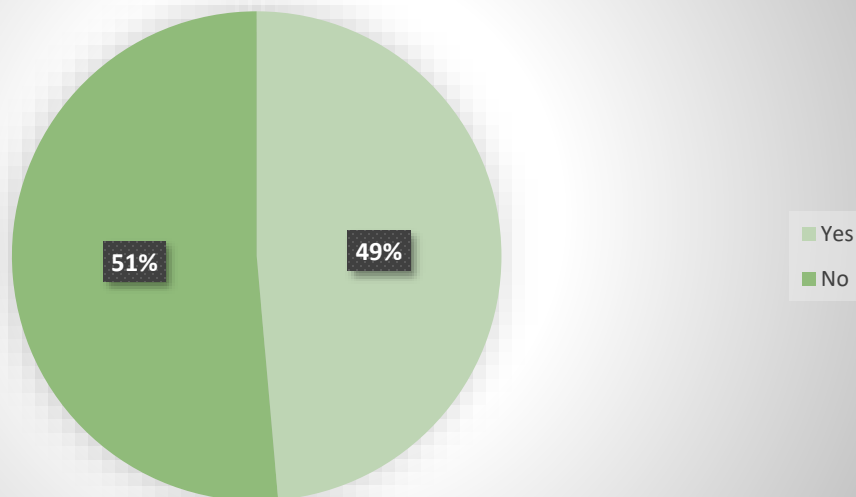
Figure 4.3

The figure indicates most of the respondents (51%) did not have biological children.

The study identified 172 of the respondents had biological children. One hundred and fifty-one (151) representing 87.8% had more than two children and 21 respondents representing 12.2% had less than two children.
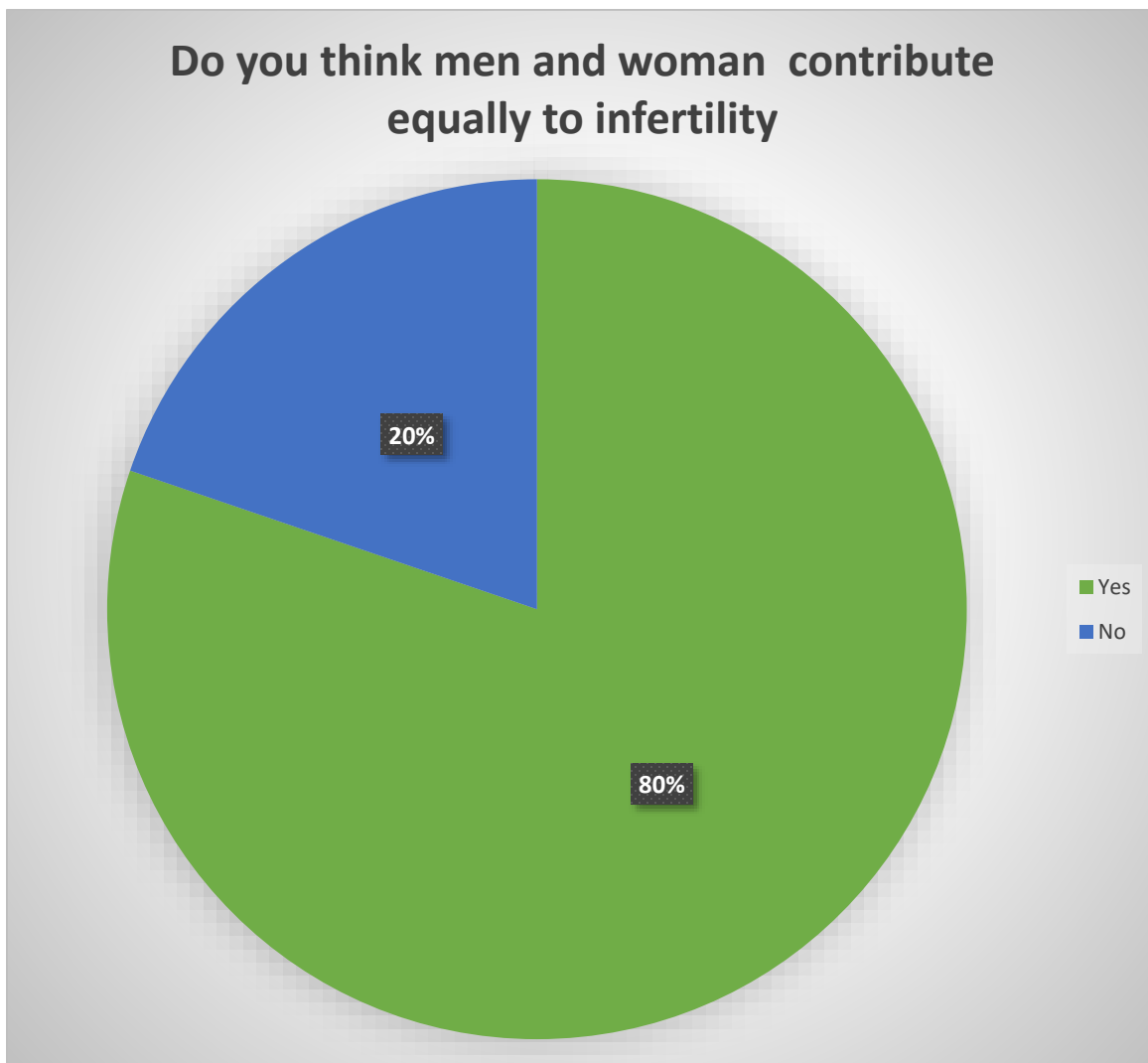
Figure 4.4

The figure above indicates the majority (80%) of the respondents said both woman and men contribute equally to infertility.

Table 4.3: If a woman does not have a child after 1 year of trying is she considered infertile

	Frequency	Percent
No	131	37.0
Yes	223	63.0
Total	354	100.0

Source: Max,2020

The table shows that the majority (63.0%) of the respondents indicated that a woman has not been able to give birth after one year is infertile.

Table 4.4: Factors that influence infertility among women

Variables	Frequency	Percentage
Age of the female can cause infertility		
True	298	84.2
False	56	15.8
Series of abortion		
True	240	67.8
False	114	32.2

Curses from gods

True	152	42.9
False	232	57.1

Family planning

True	120	33.9
False	234	66.1

Failure of an egg to mature properly

True	284	80.2
False	70	19.8

Uterine Fibroids

True	276	78.0
False	78	22.0

Witchcraft

True	105	29.7
False	249	70.3

Failure to ovulate

True	245	69.2
False	109	30.8
TOTAL	**354**	**100**

Source: Max, 2020

The finding showed that the majority of the respondents (84.2%) considered the age of the female can cause infertility and also 67.8% of the respondents indicated that a series of abortion can cause infertility. However, 57.1% of the respondents indicated that a curse from gods cannot be a cause of infertility. The majority (66.1%) also indicated that family planning cannot be a factor that

influences infertility. In addition, most of the respondents (80.2%) indicated that failure of an egg to mature properly is a cause of female infertility. Uterine fibroids were also indicated as a factor that causes infertility by most respondents (78.0%). Also, witchcraft was indicated by the respondents (70.3%) as not being a factor that causes infertility. Lastly, the majority (69.2%) of respondents indicated failure to ovulate was a factor that causes infertility.

Table 4.5: Association between knowledge and factors

Variables	Heard of female infertility	Have not heard of infertility	p-value
Age of the female			
True	290 (97.6%)	17 (14%)	0.000
False	7 (2.4%)	49 (86%)	
Series of abortion			
True	213 (71.7%)	27 (47.4%)	0.000
False	84 (28.3%)	30 (52.6%)	
Curses from gods			
True	123 (41.4%)	27(47.4%)	0.008
False	174 (58.6%)	30 (52.6%)	
Family planning			
True	90 (30.3%)	30 (52.6%)	0.000
False	207 (69.7%)	27 (47.4%)	
Failure of an egg to mature			
True	240 (81%)	44 (77.2%)	0.112
False	57 (19%)	13 (22.8%)	
Uterine Fibroids			
True	250 (84.2%)	26 (45.6%)	0.101

False	47 (15.8%)		31 (54.4%)		

Witchcraft

True	70 (23.6%)		35 (61.4%)	0.009	
False	227 (76.4%)		22 (38.6%)		

Failure to ovulate

True	220 (74.1%)		25 (43.9%)	0.794	
False	77 (25.9%)		32 (56.1%)		

Source: Max, 2020

Table 4.5 depicts less knowledge on respondents who had not heard of female infertility as most of them said false for the factors listed. However, those who had heard about female infertility tended to have better knowledge on the factors influencing female infertility (p<0.005). Age of the female was the commonest factor mentioned by the respondents.

Table 4.6: Multivariate analysis of factors affecting knowledge about female infertility.

Variables	OR (95%)	p-value	AOR (95%)	p-value
Gender				
Male	1		1	
Female	0.3(0.2-0.5)	0.001	0.2(0.1-0.7)	0.001
Religion				
Christian	1		1	
Muslim	0.2(0.1-0.3)	0.001		
Traditionalist	1.17(0.44-3.12)	0.759	2.05(0.59-7.17)	0.259
Others	1.33(0.22-8.21)	0.756	5.35(0.225-1.33)	0.285

Level of Education

No education	1		1	
Primary	0.7(0.4-1.0)	0.001		
J.H. S	0.47(0.09-2.37)	0.003	1.42(0.22-9.23)	0.002
S.H.S	0.5(0.2-1.6)	0.002		
Tertiary	0.9(0.6-1.5)	0.001		
Marital status				
Married	1		1	
Single	5.57(2.94-10.56)	0.001	5.74(2.84-12.97)	0.001
Widow	0.9(0.5-1.6)	0.75		
Divorced	0.9(0.6-1.5)	0.73		
Co-habitation	0.2(0.1-0.3)	0.001	0.2(0.1-0.4)	0.001
Occupation				
Government worker	1		1	
Skilled acquired worker	0.46 (0.09-2.8	0.369	0.11(0.01-0.86)	0.035
Private worker	1.7(0.78-3.94)	0.215	1.48(0.50-4.41)	0.479
Other (Trotro-mates)	1.78(0.58-5.54)	0.315	2.81(0.69-11.53)	0.150

Source: Max, 2020

When the association was examined in a multivariate logistic regression, the association was found significant ($P < 0.05$) for gender, educational level and marital status.

Table 4.7 Perception about female infertility

Statement	Frequency	Percentage
Is infertility a disease		
Yes	156	44.1

No	198	55.9

There enough facility for treating infertility

Yes	173	48.9
No	181	51.1

Can infertile woman adopt

Yes	306	86.4
No	48	13.6

Are infertile woman husbands supportive?

Yes	205	57.9
No	149	42.1

Is psychosexual a result of infertility

Yes	182	51.4
No	172	48.6

Is female stigmatized with infertility?

Yes	237	66.9
No	117	33.1

Is discussing of infertility issue an embarrassment?

Yes	231	65.3
No	123	34.7

Modern drugs can help infertility

Yes	223	65.8
No	121	34.2

Can in-vitro fertilization be used to treat infertility

Yes	256	72.3
No	98	27.7

Infertility is from evil spirit

Yes	103	29.1
No	251	70.9

Is infertility a taboo

No	234	66.1
Yes	120	33.9

Hospital is the best place to seek help

Yes	230	65.0
No	124	35.0
TOTAL	**354**	**100**

Source: Max, 2020

The result of the study indicated 55.9% of the respondents mentioned that infertility is not a disease. Also 51.1% of the respondents indicated that are not enough facilities to treat infertility, however 86.4% of the respondents indicated woman can adopt if they cannot give birth. On husbands being supportive to their wives who are infertile, 57.9% of the respondents indicated answered in the affirmative. The study also showed 51.4% of the respondents said a psychosexual factor can cause infertility among woman and 66.9% of the respondents indicated that females who are infertile are stigmatized. Also, 65% of the respondents indicated women feel embarrassed to discuss about issues of infertility. Most of the respondents (65.8%) indicated modern drugs can be used to treat infertility and 72.3% of the respondents indicated in-vitro fertilization can be used to treat infertility. In addition, 70.9% of the respondents indicated evil spirits cannot make a woman infertile and 66.1% also indicated female infertility is not a taboo. Lastly, 65.0% indicated the hospital is the best place to seek help for infertility.

The respondents were asked about causes of infertility in their opinion and they indicated the following.

- Untreated sexual transmitted infection 14 (4.0%)

- Medical condition 70 (20%)

- Abnormal menstrual cycle 30(8%)

- Blocked fallopian tube 60 (18%)

- Early sexual activities 50 (14%)

- Hysterectomy 90(25%)

- Obesity 40 (11%)

CHAPTER FIVE

DISCUSSION

5.0 Introduction

The research was performed in the La Nkwantanang Municipality among adults. The study sought to know the awareness and understanding of infertility among women. This chapter introduces and explores the outcomes of the research in conjunction with previous reports.

5.1 Demographic characteristics

In the research, more people were found, and more unmarried males were reported. The study featured many young people with a total of 27 years. The overall population of biological children was two. The plurality of Christians and most of those questioned were private employees. These results are aligned with a health study commissioned by the district that classified the district with more women and young people. The analysis found that the bulk of respondents have S.H.S. regardless of the district community's youthful composition.

5.2 Knowledge about female infertility

The findings of the study identified majority of the respondents 297(83.9%) had heard about infertility. The findings showed majority 94(32%) heard it from the media. Also the study mentioned majority (80%) of the respondents said both woman and men contribute equally to infertility. The study indicated majority 63.0% of the respondents considered that a woman not being able to give birth after one year is termed as infertile. The findings of the study indicated the respondents have good knowledge on female infertility. This is consistent with findings of a study by Fledderjohann, (2012), who conducted a cross- sectional study on the knowledge of infertility among females with a sample of 300 respondents. His findings indicated the majority (65%) had

51

enough knowledge about female infertility. However, another study Fu et al., (2015) disproves the study findings above.

The study indicated that most of the respondents had less knowledge on female infertility. In addition, a study by Noumi, (201)1 supports findings of the study by Fu et al., (2015). The findings of my study indicated most (65%) of the respondents had less knowledge on female infertility. They only associated female infertility with witchcraft and curses.

5.3 Factors affecting level of knowledge about infertility

The study found out that gender marital status, education, and occupation were significantly associated with respondent's knowledge about infertility. Those who were married, educated and were employed had much knowledge on female infertility. This confirms a study by Ali et al., (2008), in which the study reported enough knowledge on female infertility among educated respondents. As the study indicated, as people go higher up in their educational ladder they gain access and are exposed to an array of information including that on female infertility. It is presumed that, the higher one's educational level, the more information one has about infertility.

Females had better knowledge about female infertility than men. This agrees with similar work done in Iran to assess men and women's knowledge about infertility (Talaiekhozani et al., 2016). This high knowledge about male infertility among women may be due to their higher sensitivity to infertility. It can also be due to the stigmatization and ordeal childless women face in the society. (Tabong & Adongo, 2013; Fledderjohann, 2012).

5.4 Perception about female infertility.

The study identified 55.9% of the respondents said that infertility is not a disease. This finding those not agree with the findings of a study conducted by lliyasu et al, (2013), in northern Ethiopia on perceptions about infertility. Their study showed the majority (99.3%) of the respondents

perceived infertility as a disease. This is also supported by finding of (The Bertarelli Foundation Scientific Board, 2000). A representative sample of 8,194 adults was polled, using standard validated methodology. The study indicated that infertility is perceived as a disease by majority (58%) of the respondents. Also, the study showed that 86.4% of the respondents mentioned that women can adopt a child if they cannot give birth. This is supported by Adashi et al, (2012), in their study which showed 54% of the respondents believed infertile woman can adopt children but another study by Inhorn 2013, the study identified that the majority of the respondents indicated adoption is not a way of out of the stigma of childlessness because the adopted child's parent can come for reclaim.

In addition, the current study indicated 66.9% of the respondents mentioned that females who are infertile are stigmatized. This finding is similar to findings of a study Ombelet et al., (2016), in which the study revealed that women who are infertile suffer severe stigmatization. The current study also found out 66.1% respondents also considered female infertility is not a taboo. The current study's finding are similar to the findings of the study by Greil et al, 2010. The current study indicated majority of respondents (72%) attributed infertility to a breach of a given taboo.

The current study also showed that 70.9% of the respondents indicated evil spirits cannot make a woman infertile. This finding is similar to the findings of a study by (Ola, 2012), The results of the study showed that both men and women perceived childlessness to be caused by evil spirits, ancestral curse and promiscuity. Lastly, 65.0% of the respondents in this study indicated the hospital is the best place to seek for help on infertility. This is not consistent with findings of a study by Upton, (2017), which indicated most people sought for help by traditional or herbal means. Another study in the same community by Koster Oyekan (2011), found out that infertile women prefereed to seek treatment from local herbalists, spiritualists and pastors.

5.5 Factors influencing female infertility

The present study indicated that the majority of the respondents (84.2%), mentioned that the age of the female can influence female infertility. This finding is similar to that of a study by Boivin et al (2012), on causes of female infertility where out of 300 respondents, the majority (57%) identified that the age of the women is a main determinant of infertility.

This study also showed that 67.8% of the respondents considered a series of abortion can cause infertility. This is consistent with the findings of a study by Donkor and Sandall (2013), on socio-cultural perception of infertility in the southern sector of Ghana. The studied revealed that most causes of infertility among women were caused by previous self-induced abortion and formation of keloids around the cervix.

In addition, this study found out that most of the respondents (80.2%) mentioned failure of an egg to mature properly, failure to ovulate (69.2%) and uterine fibroid (78.0%) as factors that influence infertility. This finding is not consistent with findings of a study by Hamadan by Seyedah et al, (2015), where it was identified majority of women cited (88.6%) had menstrual disorders, diseases, ovulation dysfunction, uterine fibroids, fallopian tubes and cervical factors as causes of female infertility

Lastly, the respondents in current study mentioned hysterectomy 90(25.4%) as a factor that influences infertility. This finding is confirmed by those of a study by Ericksen et al., (2014), in which the respondents indicated pervious surgeries on the pelvis can influence female infertility. Also, this study identified that a few respondents cited untreated sexual transmitted infections 14 (4.0%) as a factor that influence female infertility. This finding of the study is however not consistent with the findings of a study by Donkor &Sandall (2013) which confirmed sexual transmitted infections can be a factor influencing female infertility.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The research on awareness and understanding of female infertility has been carried out in the La Nkwantanang Municipality in the Greater Accra area of Ghana. The study aimed to assess awareness about infertility among women, review factors relevant to the knowledge level, examine the perception of infertility among women, and evaluate factors affecting infertility perception. 354 respondents were chosen using a multi-stage sampling process. Informed consent was obtained from the respondents, and secrecy and privacy were also ensured. Questionnaires were used, and Stata 15 was used to interpret the results. The effects of the analysis have been described as follows;

The present research indicates that most respondents were female (67.8%), and the majority (28.8%) were between 18 and 21. Akans 102 (28.8%) had the most significant racial domination and the highest degree as S.H.S (31.9%). The plurality of Christians (53.4%) is religious, and half of the respondents were single (44.9%) despite marital status. Finally, the bulk of respondents were private employers (45.3%). Demographic characteristics such as sex, age, parental status, schooling, parental activity, and profession have been substantially correlated with women's infertility (P < 0.05), and not with infertility.

The research found that the majority of 297 (83.9 percent) had learned of infertility and that the majority of 94 (32 percent) learned of actual infertility. The results of this study revealed that most respondents (51%) had no biological children. The study results found that the majority (80%) of respondents stated that women and men are similarly interested in infertility.

The study's results revealed that 55.9 percent of respondents stated that infertility was not a disorder in their infertility views. Also, 51.1% of respondents claimed there are inadequate services for addressing infertility, but 86.4% of those who have defined women will adopt if they are unable to give birth. 57.9% of the respondents showed favorably that the husbands are respectful of their spouses. The survey also revealed that 51.4% of respondents claimed that psychosexual causes could induce infertility in women, and 66.9% also said that infertile people are stigmatized. In comparison, 65 % of respondents considered people ashamed to address infertility problems. Most respondents, 65.8%, said medical medications should treat infertility, whereas 72.3% said in vitro fertilization may treat infertility. Furthermore, 70.9% said that evil spirits could not make them infertile, and 66.1% said that women's infertility is not a taboo. Finally, 65.0% of respondents claimed that the facility is the perfect location for infertility assistance.

The results have shown that respondents' plurality (84.2%) regarded women's age as the most prevalent cause of infertility. Repeated abortions, uterine fibroids, and inability to ovulate were also shown to affect infertility. The research also showed some of the respondents listed the curses of spirits, family planning, and witchcraft as causes that cause women's infertility. However, those who had learned about women's infertility seemed to understand better the factors that cause women's infertility (p<0.005). It has been tested in a multivariate logistic regression and is essential for age, schooling, and marital status.

The research showed that the non-treatment of sexually transmitted illness 14 (4.0%), medical problems 70 (20%), irregular menstrual cycles 30 (8.5%), obstructed fallopian tube 60 (20%), early sex acts 50 (14.1%), hysterectomy 90 (25%) and o (25%) are not influenced by any other factors influencing female infertility.

6.2 Recommendation

The following were the recommendation made for the study to the district

- The need for health education in the district to educate the residents on stigmatization of women when it comes to infertility.

- Also there should be adequate health education on the causes of infertility and better ways of managing infertility.

- The churches also can educate the young couples during counselling on infertility and ways to manage it.

- Mass media and social media channels should be employed in debunking myths about female infertility.

- NGOs and passionate individuals should be encouraged and empowered to educate the public on female infertility

REFERENCES

Adashi, E. Y., Cohen,J., Hambberger, Jones, H.W, de Kresster, D.M.,Lunenfield,B. Rosenwaks,J., and Van Stecirteghem. (2012). Public perception on infertility and its treatment: An international survey. *Human Reproduction, 15(2)*, 330-334.

Ali, S., Sophie, R., Imam, A. M., Khan, F. I., Ali, S. F., Shaikh, A., & Farid-Ul-Hasnain, S. (2011). Knowledge, perceptions and myths regarding infertility among selected adult population in Pakistan: a cross-sectional study. *BMC Public Health*, *11*(760). https://doi.org/10.1186/1471-2458-11-760

Battreman, R. (2015). A Comprehensive Approach to Treating Infertility. Health and social Work, 10, 46-54.

Bavan B, Porzig E, Baker VL. An assessment of female university students' attitudes toward screening technologies for ovarian reserve. Fertil Steril. 2011;96:1195–9.

Boivin J, Bunting L, Collins J.A, Nygren K.G, 2012, International Estimates of infertility Prevalence and treatment seeking: Potential need and demand for infertility medical care. Health Reproduction Update, 22: 1506-1512.

Deribe, K., Anberbir, A., Regassa, G., Belachew, T. and Biadgilign, S. (2013). Infertility perceived causes and experiances in rural South West Ethiopia. Ethiopian Journal of Health Science, 17(2).

Dhont N, Luchters S, Ombelet W,Vyankandondera J, Gasarabwe A, Wijgert J V and Temmerman M, 2011. Gender differences and factors associated with treatment seeking behaviour for infertility in Rwanda: International Centre for Reproductive Health. 25(8) 2024-2030.

Donkor E.S, Sandall S, 2011. Coping strategies of women seeking infertility treatment in South Ghana.Afr J Reprod Health; 13(4). 81-93

Dunson DB, Colombo B, Baird DD. Changes with age in the level and duration of fertility in the menstrual cycle. Hum Reprod.2012;17:1399–403.

Dyer, S. J. (2012). Infertility in African countries: Challenges created by the HIV epidemic. Human Reproduction, 48-53. Retrieved from http://eshremonographs.oxfordjournals.org/content/2008/1/48.full.pdf+html

Dyer, S. J. (2014). Infertility in African countries: Challenges created by the HIV epidemic. *Human Reproduction*, 48-53. Retrieved from

Eisenberg E, Shriver E.K, Brumbaugh K, Brown-Bbryant R and Warner L. 2014. Infertility: Frequently asked Questions. http//www.womenshealth.gov/faq/ infertility.pdf

Ericksen, K. and Brunette, T. (2012). Patterns and Predictors of Infertility Among African Women: A Cross-National Survey of Twenty-Seven Nations. Social Science & Medicine, 42(2), 209-220.

Ericksen, K. and Brunette, T. (2014). Patterns and Predictors of Infertility Among African Women: A Cross-National Survey of Twenty-Seven Nations. *Social Science & Medicine, 42*(2), 209-220.

Ernestina S Donkor and Jane Sandall (2013). Coping strategies of women seeking infertility treatment in Southern Ghana. African Journal of Reproductive Health Vol 13 No.

Fledderjohann, J. J. (2012). " Zero is not good for me ": implications of infertility in Ghana. *Human Reproduction (Oxford, England)*, 1–8. https://doi.org/10.1093/humrep/des035

Fu, U., Ra, E., Isabu P, Ikheloa J, & Cc, A. (2015). Women's Perception towards Male Factor Infertility at Irrua, South South, Nigeria 1. *International Invention Journal of Medicine and Medical Sciences*, 2(5), 2408–7246. Retrieved from http://internationalinventjournals.org/journals/IIJMMS

Garenne M.M 2009. Fertility changes in sub-saharan Africa: Demographic Health Survey Comparative Report No 18.

Geelhoed, D. W., Nayembil, D., Asare, K., Leeuwen, J. H. S. Van, & Roosmalen, J. Van. (2012). Infertility in rural Ghana. *Gynecology and Obsterics*, *79*, 137–142.

Gerrits, T. (2012). Infertility and Matrilineality: The exceptional case of the Macua of Mozambique. In M. C. Inhorn & F. van Balen (Eds.), Infertility Around the Globe: 2ew Thinking on Childlessness, Gender and Reproductive Technologies (pp. 233 246). Berkeley, Los Angeles, London: University of California Press.

Ghartey, E. (2012). *Community Perceptions On Induced Abortions And Contraceptives In The Manhyia And Asawase Sub metro*. UNIVERSITY OF GHANA.

Guntupali, F., Serour, G.I., Chapron, C (2010). The changing prevalence of infertility; Int J Gynaecol Obstet. 123: S4–S8

Gurunath S, Pandian Z, Anderson R.A, Bhathacharya S, 2011. ‗‗Defining infertility-a systematic review of prevalence studies''. Human Reproduction Update 17 [5]: 575-588.

Helen Aveyard: Doing a Literature review. 2010-05-01: ISBN 0335238858 http://eshremonographs.oxfordjournals.org/content/2008/1/48.full.pdf+html

Inhorn, M. C. (2013). Global infertility and globalization of new reproductive technologies: illustrations from Egypt. *Social Science and Medicine, 56*, 1837-1851.

Inhorn, M. C. (2013). Infertility and Patriarchy: The Cultural Politics of Gender and Family Life in Egypt. Philadelphia: University of Pennsylvania.

Inhorn, M. C. and van Balen, F. (2012). Infertility around the Globe: thinking on Childlessness, Gender, and Reproductive Technologies. Berkeley, Los Angeles, London: University of California Press.

Kimani, V. and Olenja, J. (2011). Infertility: Cultural Dimentions and Impact on Women in Selected Communities in Kenya. *The African Anthropologist, 8*(2), 200-214.

Kimeri, V. and Olenja, J. (2011). Infertility: Cultural Dimentions and Impact on Women in Selected Communities in Kenya. The African Anthropologist, 8(2), 200-214.

Lancy D.F, 2015. The Anthropology of childhood: Cherubs, chattel, changelings, united kingdom: Cambridge University Press.

Larsen, U. (2010). Research on Infertility: Which definition should we use? Infertility and Sterility, 83(4), 846-852.

Leke, R. J. I., Oduma, J. A., Bassol-Mayagoitia, S., Becha, A. M. and Grigor, K. M. (2013). Regional and geographical variations in infertility: Effects of environmental, cultural and socio-economic factors. Environmental Health Perspectives, 101(2), 73-80.

lliyasu et al, 2013,Infertility investigation: Socio-demographic characterstics and dropouts of infertile women at Family Guidance Association of Ethiopia (FGAE). *Ethiopian Journal of Health Development, 14*(2), 127-134.

Lucas N, Rosario R, Shelling A: New Zealand University students' knowledge of fertility decline in women via natural pregnancy and assisted reproductive technologies. Hum Fertil (Camb) 2015:1–7.

Mascarenhas M.N, Flaxman S.R, Boerma T, Vanderpool S, Stevens G.A. 2012: National, Regional and Global Trends in Infertility Prevalence since 1990. A Systematic Analysis of 227 Health Survey. PLOS Medicine. 9 (12).

Noumi, E., Eboule, A. F., & Nanfa, R. (2011). Traditional health care of male infertility in bansoa , west Cameroon. *International Invention Journal of Biomed Science*, *2*(2), 42–50.

Nukunya, G. K. (2013), Tradition and change in Ghana: An introduction to sociology (second edition). Accra, Ghana: Ghana Universities Press.

Okonofuaa, F. E., Harrisb, D., Odebiyic, A., Kaned, T. and Snowb, R. C. (2012). The social meaning of infertility in South West Nigeria. *Health transition review*(7), 205-220.

Ombelet, W., Cooke, I., Dyer, S., Serour, G. and Devroey, P. (2015). Infertility and the provision of infertility medical services in Developing countries. Human Reproduction Update, 14(6), 605-621.

Orji, E.O., Kuti, O. & Fasubaa, O.B. (2012), Impact of infertility on marital life in Nigeria. International Journal of Gynecology & Obstetrics, 79: 61-62.

Papreen, N., Sharma, A., Sabin, K., Begum, L., Ahsan, S.K. & Baqui, A.H. (2009), Living with infertility: Experiences among urban slum populations in Bangladesh. Reproductive Health Matters, May 8(15): 33-44.

Petraglia, F., Serour, G.I., Chapron, C (2013). The changing prevalence of infertility; Int J Gynaecol Obstet. 123: S4–S8

Purefoy C and Kermeliotis T, CNN, 2011. IVF helps Nigerian Overcome Infertility Stigma: Markets Place Africa: Updated 1024 GMT. Edition.cnn.com/ 2011/09/15/world/Africa/Nigeria-ivf-treatment stigma/index.html.

RHO. (2013). Infertility: Overview and lessons learned. Reproductive Health Outlook., from http://www.icmer.org/RHO/html/infertility_overview.htm#levels-and-causes

Rutstein S.O, Shah I.H, 2014. Infecundity, Infertility and Childlessness in Developing Countries. Demography and Health Survey (DHS) Comparative Report, Number 9, Calverton, MD, USA; ORC Macro and the World Health Organization.

Seyedah et al, 2015, Management of infertility in AFRO and EMRO Countries. Geneva, Switzerland: World Health Organisation Proceeding of a Workshop: 24-26.

Tabonga, V. and Olenja, J. (2013). Infertility: Cultural Dimentions and Impact on Women in Selected Communities in Kenya. The African Anthropologist, 8(2), 200-214.

Tinsae, B. (2013). *Impact of infertility on women's lived experiance: The case of womenvisiting Gondar hospital, Amhara region.* Addis Ababa University, Addis Ababa.

Umelo FU, Eifediyi RA, Isabu P, I. J. and A. C. (2015). Women ' s Perception towards Male Factor Infertility at. *International Journal of Medicine and Medical Science*, *2*(5), 80–87

Upton, R. L. (2017). Perceptions of and Attitudes towards Male Infertility in Northern Botswana : Some Implications for Family Planning and AIDS Prevention Policies Perceptions of and Attitudes towards female Infertility in Northern Botswana : Some Implications for Family Plann. *African Journal of Reproductive Health*, *6*(3), 103–111.

Van Balen, F. (2010), Interpreting infertility: Social science research on childlessness in a global perspective, Amsterdam, 8-11 November 1999. African Journal of Reproductive Health, April 4(1): 120-122.

WHO.(2011),.Infertility.WorldHealthOrganization.,fromhttp://www.who.int/topics/infertility/en/

WHO.(2013),.Infertility.WorldHealthOrganization.,fromhttp://www.who.int/topics/infertility/en/

World Health Organisation, 2014. Global Prevalence of Infertility, Infecundity and Childlessness: Sexual and Reproductive Health. www.who/reproductive health/topic/infertility/burden/en.

World Health Organisation, 2015. Infertility definitions and terminology: Sexual and Reproductive Health. www.who.int/reproductivehealth/topic/inf/definition/en. Retrieved 28/06/15.

Sabarre, K., Khan, Z., & Whitten, A. (2013). A qualitative study of Ottawa university students' awareness, knowledge and perceptions of infertility, infertility risk factors and assisted reproductive.

Bunting, L., & Boivin, J. (2012). Knowledge about infertility risk factors, fertility myths and illusory benefits of healthy habits in young people. *Human Reproduction*.

Bhattacharya, S. (2011). *Dewhurst Textbook of Obstetrics and Gynecology for Postgraduate Ed,* (7th Editio). Edmonds D.K Blackwell Science Ltd.

Cowden A.L 2010. Causes of Human Infertility; 1-4.

De Kok B.C 2011. Infertility in Malawi; Exploring its Impact and Social Consequences, Center for Research in Families and Relationships; 41: University of Edinburg.

Griel A.L., Blevins and Quillan M.C,Q, 2010. __Trying Times''. Medicalization,, Intent and Ambiguity in the Definition of Infertility. Medical Anthropology Quarterly. 24:137-156.

Gupta J.A 2016. Towards Transnational Feminism: Some Reflections and concern in relation to Reproductive Technologies. European Journal of Women 's studies.13(1): 23-38.

Jenkins G. 2012. Childlessness, Adoption and Milagros de Dios in Coasta Rica. In F. Van Balen and M.C Inhorn, infertility around the globe: New thinking on childlessness, gender and reproductive technologies. Berkeley, Los Angeles, London: Universityof California Press. 171-189.

Koster-oyekan W. 2011. Infertility among Yoruba women: Perception on causes,Treatments and Consequencies. African Journal on Reproductive Health; 3: 13-26.

Miall C. 2012. The social construction of adoption: Clinical and Community Perspectives. Family Relations, 45(3), 309-317.

Rutstein S.O, Shah I.H, 2014. Infecundity, Infertility and Childlessness in DevelopingCountries. Demography and Health Survey (DHS) Comparative Report, Number9, Calverton, MD, USA; ORC Macro and the World Health Organization.

Tulupa M.D. 2012. Purposive Sampling as a tool for informant selection. Ethnobotany Research and Application. 5(12): 147-158.Tremellen K.2008, Oxidative stress and male infertility

Aveyard (2010). Qualitative Analysis for Social Scientists. Cambridge: Cambridge University Press.

Waterton and Wynne,2013. The social meaning of infertility in Southwest Nigeria. Health Transition Review 7, 2013, 205-220.

QUESTIONNAIRE

ENSIGN COLLEGE OF PUBLIC HEALTH, GHANA

TOPIC: KNOWLEDGE AND PERCEPTION ABOUT FEMALE INFERTILITY IN THE LA NKWANTANG DISTRICT OF THE GREATER ACCRA REGION OF GHANA

Dear Respondent,

My name is Dartey Maxmilliana. I am a Student at the Ensign College of Public Health, Kpong. I am conducting a research on the above topic. It is an academic work which could be used as evidence to support education on the issue for and for policy formulation. I would be grateful if you could spare some time to answer this questionnaire. You are hereby assured of anonymity and that any information provided will be treated with the utmost confidentiality. If at any point you feel reluctant to participate you have the right to drop out without any offense or hindrance. If you have any question you can ask me now or later.

Contact me on: 0547509700

Thank you.

SECTION A: DEMOGRAPHIC INFORMATION

Instruction: Tick where appropriate and answer the necessary question where require

1.Age

 a.18–21yrs [ ]   b.22–25yrs [ ]   c.26–30yrs [   ]   d.31–35yrs [ ]   e.36yrs and above [ ]

2.Gender

a. Male [ ]   b. Female [ ]

3. Religion

a. Christian [ ]   b. Islamic [ ]   c. Traditionalist [ ]   d. others (specify)…………………

4. Ethnicity a. Akan [   ]   b. Ga [   ]   c. Ewe   [   ]   d. Hausa [ ] e. others (specify)…………………...

5. Level of Education

a. No education [ ]   b. Primary [ ] c. J.H.S [ ] d. S.H.S [ ] e. Tertiary [ ]

6. Marital Status

a. Married [ ] b. Single [ ] c. Divorced [ ] d. Widow [ ] e. Co-habitation [   ]

7.Occupation

a. Government worker [ ]   b. Skilled Acquired work [ ]   c. Private worker [ ] d. Others (specify)......................

Section II: knowledge on female infertility

Instruction: Tick where appropriate and answer the necessary question where require

8. Have you heard about infertility?

a. Yes [ ]   b. No [ ]

9. If yes where did you get the information?

a. Hospital [ ] b. Midwife [ ] c. Media [   ] d. others (Specify)………….

10. Do you have any biological children?

a. Yes   [   ]   b. No   [ ]

11. if yes how many………….

12. Do you think men and women contribute equally to infertility?

a. Yes [ ]   b. No   [ ]

13. If a woman does not have a child after 1 year of trying is she considered infertile?

a. Yes [ ]   b. No   [   ]

Section III: Perception about female infertility

Instruction: Tick where appropriate and answer the necessary question where require.

PERCEPTIONS ABOUT FEMALE INFERTILITY	Yes	No
14. If a female cannot have children, do you think this is grounds for divorce?		
15. Do you think there are enough facilities to treat female infertility?		
16. If a woman cannot have a child do you think she should adopt?		
17. Do you think husbands are more supportive of wives who suffer infertility?		
18. Do you think a of history family planning (contraceptive use) can cause infertility?		
19. Do you think the female is stigmatized most when a couple cannot have a child?		
20. Do you think women feel embarrassed to discuss infertility issues?		
21. Can modern drugs be used to treat infertility?		

	TRUE	FALSE
22. Can in-vitro fertilization be used to treat infertility?		
23. Do you think fetish priest can help women who are infertile?		
24. Do you think is best for women go to spiritual churches to seek for help.		
25. Is the hospital the best place to seek help on infertility.		

Section IV: Factors that influence infertility among women

Instruction: Tick where appropriate and answer the necessary question where required.

FACTORS THAT INFLURNCE FEMALE INFERTILITY	TRUE	FALSE
26. Age of the female can cause infertility		
27. Series of abortion		
28. Curses from the gods		
29. Family planning		
30. Failure of an egg to mature properly		
31. Uterine Fibroids		

32. Witchcraft		
33. Failure to ovulate		

34. In your opinion what are the other causes of infertility?

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