# ASSESSMENT OF KNOWLEDGE, ATTITUDES AND PRACTICES ON INFERTILITY AMONG ADULTS VISITING THE GYNAECOLOGY AND UROLOGY CLINICS AT INTERMEDIATE KATUTURA HOSPITAL AND WINDHOEK CENTRAL HOSPITAL, NAMIBIA

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# ABSTRACT

Infertility is one of the global burdens, an under-observed but significant health problem affecting one in four couples in developing countries. A total number of 48 million couples are affected by infertility globally and a total number of 186 million individuals globally. In Namibia, about 15% of couples struggle with infertility. Although causes of infertility are equally shared among male and female factors each accounting for 30%, infertility is highly stigmatised, and women are usually blamed for it. The study aims to assess knowledge, attitudes, and practices on infertility among adults visiting the Gynaecology and Urology clinics at Intermediate Hospital Katutura and Windhoek Central Hospital in Windhoek, Namibia. A convergent parallel mixed method approach was used in this study. A total number of 118 respondents were recruited to fill in the questionnaire and 18 interviews held. The study was conducted on respondents aged 21 to 79 years, including both males and females. Participants had varying levels of education, ranging from no formal education to tertiary education, and different employment statuses, including employed, self-employed, and unemployed. Additionally, respondents came from diverse tribal backgrounds. The study discovered that the knowledge on infertility is limited, 37.1% do not identify infertility as a disease and 75.2% believe contraceptives causes infertility. Participants believe witchcraft and curses causes infertility. Seeking medical services is listed as the initial option when struggling with infertility. Adoption and in vitro fertilisation (IVF) are acceptable options when struggling with infertility. Knowledge on infertility is limited among respondents, the misconception about contraceptives is widespread. An average practice on infertility is noted and the act of assigning blame for infertility is widespread in various communities. Raising awareness on infertility is recommended to increase infertility knowledge, reduce stigma, and create awareness. Dedicated fertility clinics in state hospitals are required to offer specialised services to individuals struggling with infertility. Research recruiting individuals dealing with infertility is encouraged, in order to understand their experiences better. The misconceptions of contraceptive usage leading to infertility need to be tackled through the health campaigns.



**Keywords:** knowledge, attitude, practice, infertility, contraceptives, In vitro fertilisation

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| | |
|---|---|
| WCH | Windhoek Central Hospital |
| IHK | Intermediate Hospital Katutura |
| MOHSS | Ministry of Health and Social Services |
| STI | Sexually Transmitted Infections |
| ART | Assisted Reproductive Health |
| SPSS | Statistical Package for Social Services |
| OR | Odds Ratio |
| CI | Confidence Interval |
| IUD | Intrauterine Device |
| IVF | In Vitro Fertilisation |

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This thesis is dedicated to my dearest husband Eino. J. Namene, my children and my late cousin Simon Dhimbulukweni Lumbu. This is for you.

**DECLARATIONS**

I, Maria Namene, hereby declare that this study is my own work and is a true reflection of my own research, and that this work or any part thereof has not been for a degree at any other institution.



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| Maria Namene | mnamene | October 2024 |
| Student name | Signature | Date |

# CHAPTER ONE

# INTRODUCTION AND BACKGROUND

## 1.1 Introduction

Infertility is defined as a disease that affects the male or female reproductive system or both causing the inability or delay in achieving pregnancy in 12 months of continuous unprotected sexual intercourse (1). It is one of the global burdens, under-observed but significant health problem affecting one in six people globally and one in four couples in developing countries. A total number of 48 million couples are affected by infertility and 186 million individuals globally (1). Infertility can affect men or women (2). Knowledge of infertility can be described as a set of understanding of an individual about infertility, while attitude towards infertility is the general feeling of an individual and their response towards infertility. Practice of infertility can be defined as observable set of actions in response to infertility (3). It has been observed that the knowledge of risk factors and general understanding of infertility is typically average or poor (4–6). Whether this holds true in Namibia remains unknown. A person's practice towards infertility is affected by their knowledge and education, cultural and religious beliefs, access to quality healthcare, social support and their psychological states. Beliefs in supernatural powers and other myths as causes of infertility influence how individuals address and manage infertility. Attitudes towards infertility vary significantly based on factors such as age, marital status, gender, cultural and religious beliefs and educational level (6).

## 1.2 Background of the study

Sub-Saharan Africa and South Asia are among the regions with the highest prevalence of infertility worldwide. This suggests that Namibia, located in Sub-Saharan Africa, also experiences high rates of infertility. Studies indicate that infertility affects 10-15%

of the global population, but this rate range from 20-60% in Africa (7). In Namibia, about 15% of couples struggle with infertility (8). Despite the high prevalence of infertility in Africa, access to fertility care, including assisted reproductive technologies(ART) such as in vitro fertilization (IVF), remains limited. These services are often only accessible to those who can afford them due to high costs and lack of availability. This situation is also evident in Namibia, a study conducted in Windhoek among women undergoing assisted reproductive technology treatments highlighted that access to fertility care is similarly limited and primarily available to those who can afford the high cost (9).

Existing studies has shown that there is a lack of knowledge about infertility and the risk factors that can cause or contribute to infertility in most parts of the world. Studies done in countries such as Germany, Pakistan and Nigeria has revealed that there is a lack of knowledge on infertility among infertile women and the general population at large (5,10,11). A study that recruited 1000 women in the United States have shown that one third of these women were not aware of the effects of sexually transmitted infections (STI), obesity and irregular menses on fertility success (12). While one fifth were not aware of the effects of advanced maternal age on fertility. Sub-Saharan African countries are listed among countries with a high rate of infertility in the world (4). Although the causes of infertility are equally shared among male factors and females factors each accounting for 30%, infertility is highly stigmatised, not considered as a medical condition and women are highly stigmatised and blamed for it (13). Infertility challenge traditional notions of masculinity and leads to a reluctance to seek medical assistance and as a result male infertility is under reported in most countries as a consequence of men not willing to undergo fertility treatment (14).

In some communities there are believes that infertility can be a result of witchcraft and possession by the evil spirits and this is mostly common amongst the less educated population. Although most people opt to seek medical treatment first, others choose consulting traditional healers because they are widely accepted in treating infertility in their communities and cultures (12). In certain communities, when a couple faces infertility, it is often attributed to displeased elders or ancestors. To address this, a cultural ritual is performed to appease them. This is another traditional remedy offered as a solution to infertility (15). Spirituality is another avenue people explore when dealing with infertility, though some attribute their condition to spiritual powers, believing they are being punished for past mistakes. Many pray for conception, holding the belief that children are a gift from God (16).

A study conducted in Jordan showed that 88% believe infertility can be treated, yet only 45% view it as a disease (6). If infertility is not recognized as a disease or medical condition, those struggling with it are less likely to seek medical treatment. Risk factors such as STI's, smoking, alcohol consumption, advanced maternal age, obesity, previous abortions are some of the contributors to Infertility (13).

Children are overly valued especially in Sub-Saharan Africa, in some communities boys are more valued as they carry family names forward unlike the female children and the pressure is mostly placed on women (17). In the African setting, a couple without a child is viewed as incomplete, children validate marriages in some cultures. An individual or couple's ability to cope with infertility can be shaped by their beliefs and attitudes toward the condition, which are influenced by social and cultural factors. Some women experience stress, anxiety, depression, and some are divorced as a result of infertility which in some circumstances they are not accountable for. Physical abuse, emotional abuse, exclusion from social activities, stigma and divorce are some

of the issues that individuals and couples with infertility have to endure from societies and family members (5). Social support from partners for women experiencing infertility can help reduce stress and alleviate depression. It is also said to boost women's confidence in seeking medical treatment. There is need for counselling as part of infertility treatment (18).

Some couples felt that they are not valued in their communities due to their inability to bore a child and they will claim their rightful position once they have a child (19). Due to aggravated circumstances, some women opt to relocate from their communities as a coping mechanism of stigma and shame (20). Increased knowledge on fertility, infertility, risk factors and the management of infertility will help couples or individuals planning to conceive to avoid certain risk factors in order to increase the chances of conceiving, it will also help couples or individuals going through infertility on how to manage it and finally it might also educate society to understand and empathise with couples struggling with infertility which in turn will decrease the stigma. The study aims to assess knowledge, attitudes, and practices on infertility among adults visiting the Gynaecology and Urology clinics at Intermediate Hospital Katutura (IHK) and Windhoek Central Hospital (WCH) in Windhoek.

### 1.3 Statement of the problem

According to the World Health Organisation (WHO), men account for 50% of infertility cases globally but the social burden fall on women (21). In addition, infertility has affected 30% of couples in Sub-Saharan Africa and 15% of couples in Namibia (8,17). Between 1993 and 2017, the infertility rate among women in Africa has notably increased to 119.9 per 100 000, whereas in developed countries, the infertility rate is on the decline with Central Europe and Central Asia recording -16.9

and -11.7 per 100 000 respectively (22). The highest period prevalence of infertility was recorded in the African region at 16.4%, followed by the Western Pacific region at 13%, and the European region at 12.4%. A study that recruited 178 women seeking assisted reproductive technology at a fertility clinic in Windhoek, recorded a prevalence infertility rate of 66.9% (9). Although this prevalence rate cannot be generalised to the entire Namibian population, it is extremely high and confirms the high prevalence of infertility in developing regions as mentioned above. The researcher has observed women seeking infertility treatment at IHK and WCH in emotional distress and alone. Some of them have expressed that their partners and society blame them for infertility, while others complain about their partners' unwillingness to attend medical check-ups because they believe the issue does not lie with them. These allegations are supported by reports that were published in local newspapers about the hardships that people going through infertility suffers in our communities. These challenges include verbal abuse from partners and in-laws, exclusion from social gatherings, divorce due to the inability to conceive, financial strain, and lack of access to fertility clinics due to funding issues (8,23). Due to lack of infertility data at the clinics, the researcher could not provide infertility trends. Ill treatment of infertile individuals in some African countries is attributed to a lack of knowledge and poor attitudes towards infertility (5,11). Individuals experiencing infertility in Africa often endure significant stress related to their condition, alongside depressive symptoms, loneliness, sadness and social isolation. Intimate partner violence such as physical violence, neglect and rape has been noted as implications of infertility by those suffering from it (16). They may also grapple with suicidal thoughts and diminished quality of life, largely due to societal pressure to have children (24). Separation, divorce, infidelity, polygamy and financial constraints are some of the

hardships some individuals facing infertility may endure. No study was done in Namibia to assess the level of knowledge on infertility and explore the contributing factors leading to the ill treatment reported and other sufferings reported in order to gather factual information for the necessary authorities to address the issue. The lack of infertility data at the three clinics have made it impossible to get the actual data of how many people seek infertility treatments making it difficult to quantify the magnitude of the problem. This study could fill the gap of lack of data by providing base line information on infertility in Namibia.

### 1.4 Purpose of the study

The aim of this study was to assess knowledge, attitudes, and practices towards infertility among adults visiting the Gynaecology and Urology clinics at Intermediate Hospital Katutura (IHK) and Windhoek Central Hospital (WCH) in Windhoek, Namibia.

### 1.5 Objectives of the study

The objectives of the study were to:

- Determine the level of knowledge on infertility among adults visiting the Gynaecology and Urology clinics at IHK and WCH, Namibia;
- Explore factors influencing attitudes towards infertility among adults visiting the Gynaecology and Urology clinics at IHK and WCH, Namibia; and
- Analyse the associations between demographics factors and knowledge variables, and between demographic factors and practices variables among adults visiting the Gynaecology and Urology clinics at IHK and WCH, Namibia.

## 1.6 Significance of the Study

The result generated from this study provides the necessary information on how infertility is perceived in general. The findings of the study highlights some of the misconceptions about infertility which can then be used as a baseline to tackle them and provoke the need of the provision of factual information on infertility. It also highlights the level of knowledge regarding infertility, thereby equipping public health officials on the type of educational material required to educate the public in order to rescue most women that are currently suffering due to stigma and discrimination as a result of infertility. The study forms basis for future research that may lead to policy review or change regarding fertility services provision in public facilities.

## 1.7 Delimitation of the study

Due to limited statistics of patients suffering from infertility in the two hospitals and a lack of a designated fertility department, this study only recruited adults who are twenty-one (21) years old and above visiting the Gynaecology and Urology clinics in Windhoek irrespective of their reasons for visiting the clinics. The study did not concentrate on people experiencing infertility.

## 1.8 Paradigmatic perspective

A paradigm is defined by Guba and Lincoln as a framework of beliefs or a worldview that directs the actions taken in research while Denzin and Lincoln define it as human constructions that involve principles revealing the researcher's perspective, guiding the construction from data (25). The researcher used a pragmatic approach by combining a quantitative and qualitative approach. A convergent mixed method was used in order to analyse the data simultaneously and gain deeper

understanding of the topic under discussion. The study applies meta theoretical assumptions as its framework. This study takes into account meta-theoretical assumptions, encompassing ontological, epistemological, axiological and methodological considerations. They are discussed below:

### 1.8.1 Ontological assumption

This assumption pertains to the fundamental beliefs and perspectives regarding the nature of reality (26). The researcher discovered reality by conducting ono on one interviews with the participants. This was done to explore factors influencing attitudes towards infertility. Structured questionnaire was used to assess the participant's knowledge and practice.

### 1.8.2 Epistemology assumption

This assumptions centre on the processes through which one attains the understanding of truth or reality, emphasizing on acquiring human knowledge and comprehension (26). A structured questionnaire was used to assess the knowledge of the participants. Statistical analysis tools were used to quantify the outcome. This ensured objectivity as the researcher had no ability to exert influence on the participants.

### 1.8.3 Axiology Assumption

It refers to the foundational beliefs and principles related to values ad ethics. Understanding the ethical aspects associated with behaviour deemed as right or wrong in the context of research (25). The researcher embraced a mixed method approach in data collection, analysis and interpretation. This ensured a neutral position is upheld throughout the study and therefore preventing biases.

### 1.8.4 Methodological assumption

A term used to describe the research design, methods, approaches and procedures utilised in an investigation to discover or ascertain something (25). A mixed method was used in this study. A quantitative, descriptive cross sectional approach to determine the knowledge and practice of participants and a qualitative, exploratory approach to explore factors influencing attitudes of participants. The data collection methods and procedures are described under Research methodology.

### 1.8.5 Rhetorical assumption

Refer to the underlying beliefs, values or perspectives about communication and persuasion that influence the way rhetorical strategies are employed in discourse. These assumptions influence the choice of language, style and persuasive techniques used to convey a message effectively (27). This assumption was employed to guarantee that the researcher presented accurate information about the investigation during the interviews with participants and interpreting it.

## 1.9 Definition of concepts

**Knowledge** is defined as the state of being familiar or aware of something according to the oxford dictionary (27). Knowledge in this study will be referring to the participant's awareness of infertility, the causes, treatment and risk factors while knowledge level will be the extent and accuracy of information and understanding that individuals have about infertility.

**Attitude** is a behaviour pattern, inclinations or preparedness to respond or adapt in social settings or a response to conditioned social stimuli (3). The general feelings of the participants and factors influencing them were explored in this study.

**Practice** represent the visible actions undertaken by an individual in reaction to a situation (3). In this study, practice refers to the reactions of participants to infertility while practice levels refer to the behaviours, actions or treatments that individuals will adopt in response to their infertility.

**Infertility** is defined as a disease that affects the male or female reproductive system or both causing the inability or delay in achieving pregnancy in 12 months of continuous unprotected sexual intercourse (1).

**Primary infertility i**s a term used to describe a woman or a couple that has never conceived before (2).

**Secondary infertility** is a term used when conception has been achieved before but there is failure to achieve conception again and it can happen in men or women (2).

**Gynaecology clinic**

Gynaecology is defined as an area in medicine where women's diseases are treated or dealt with. In the Namibian concept, a Gynaecology clinic is a unit in the hospital that specialises in women's reproductive systems by diagnosing, treating and managing conditions relating to it (28).

**Urology clinic**

Urology is the medical field that focuses on the organs and structures responsible for producing and transporting urine. In the Namibian concept, a urology clinic is a unit

in the hospital that specialises in disorders of the urinary system and male reproductive systems by diagnosing, treating and managing it (29).

### 1.10 Outline of chapters

This thesis is presented in five chapters as outlined below:

**Chapter One**: This chapter contains the background of the study, the statement of the problem, objectives of the study, significance of the study, limitations, and delimitations of the study.

**Chapter Two**: This chapter covers the methodology used in this study. This includes the research design, population, study setting, sample, research instruments, data collection procedures, data analysis, validity and reliability, measure of trustworthiness and research ethics.

**Chapter Three**: This chapter covers the methodology used in this study. This includes the research design, population, study setting, sample, research instruments, data collection procedures, data analysis, validity and reliability, measure of trustworthiness and research ethics.

**Chapter Four**: This chapter present the results of the quantitative and qualitative study. The quantitative results are presented in descriptive and analytical forms. Data is presented in frequencies, tables, graphs, descriptions, and means appropriately. Multinomial regression was used to describe the associations between the different demographic characteristics and the knowledge and practice of infertility. Fischer exact test was used as it is considered more accurate than the Chi square test of independence when the sample size is small. Qualitative data was transcribed from tapes to written papers using Microsoft word. Data was coded into themes and subthemes to explain the results.

**Chapter Five**: This chapter will discuss the findings of the study according to the objectives below.

- To determine the level of knowledge on infertility among adults visiting the Gynaecology and Urology clinics at IHK and WCH, Namibia.
- To explore factors influencing attitudes towards infertility among adults visiting the Gynaecology and Urology clinics at IHK and WCH, Namibia.
- Analyse the associations between demographics factors and knowledge and practices variables of adults visiting the Gynaecology and Urology clinics at IHK and WCH, Namibia.

Discussions will link or contradict the findings to previous studies done relating to the topic under discussion. Conclusions and recommendations will be made at the end of the chapter.

### 1.11 Summary

This chapter covered the background, statement of the problem, the purpose and objectives of the study, limitations and delimitations of the study, the paradigmatic perspective, definition of concepts and outline of chapters. The next chapter present literature review.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

Reviewing literature serves the purpose of disseminating the outcomes of previously conducted studies relevant to the subject of interest. It aims to address existing gaps in knowledge and facilitates the comparison of findings from various studies pertaining to the discussed topic. The following topics will be covered under this section: knowledge of infertility, factors influencing attitudes about infertility, practice of infertility, beliefs, attitudes, and funding of assisted reproductive technology and the conceptual framework.

## 2.2 Knowledge of infertility

Evidence have shown that people of reproductive age have inadequate knowledge on fertility and risk factors associated with infertility. A systematic review done in 26 countries in Europe, America, Asia and Africa has proven that there is inadequate knowledge on fertility and awareness is required especially amongst men and people with low level education (30). Advanced maternal age is a significant factor that affects fertility. After the age of 35, fertility can decrease to 66%, and by the age of 40, it can drop to 44% (31). Although this is a medical fact, lack of knowledge on advanced maternal age is observed in developed and developing countries as well. A qualitative research done in Niger and Togo to evaluate the knowledge on high risk advanced maternal age and high parity pregnancy has revealed that Urban Togolese people have more knowledge compared to the rural Togolese, advanced maternal age is a norm in Niger and in general people in the two counties all lack adequate knowledge on fertility

(32). The difference in the knowledge level between Togolese people in rural and urban area could be attributed to easier access to information in urban areas compared to rural areas.

There is adequate knowledge amongst the educated population on the causes of infertility such as blocked fallopian tubes, urinary tract infections, sexually transmitted diseases, smoking, erectile dysfunction and low sperm counts in some countries (33,34), while majority of the population with low level of education believes evil spirits and black magic are to be blamed for infertility (5). This evidence demonstrates that education can alter the population' attitudes toward infertility, thereby improving the outcomes. In Nigeria women with high level of education are more accepting of in vitro fertilisation and adoption compared to women with low level of education (11). Although infertility is only declared from 6-12 months of unprotected sexual intercourse, some women are diagnosing themselves according to doctor's notes or few encounters of unprotected sexual intercourse than what is prescribed (35).

### 2.3 Factors influencing attitudes about infertility

A study that reviewed articles of infertility in Sub-Saharan Africa have reported negative attitudes and stigmatisation of couples struggling with infertility in communities, and discovered that infertility is mostly blamed on women (17). Namibia was not part of the study listed above, this study will shed light on the attitudes of people towards infertile individuals or couple and how they are treated in Namibia. Children are overly valued in Sub-Saharan Africa, some people choose to have children in order to sustain them when they are older and inherit their properties and this add pressure to individuals without children (17). Infertility is not considered as a disease and divorce is considered as a best option in the event of infertility in Indonesia

(36). However majority of Moroccan people believe infertility is a disease and is curable, although there is a negative attitude noted amongst some men in Morocco who believes infertility is a women's problem, and polygamy should be considered as an alternative in the event of infertility (37). The belief that infertility is not a disease deters health-seeking behaviours, as individuals who hold this view are less likely to seek medical intervention.

Women struggling with infertility in Mali experience sadness, loneliness, stigmatisation and social deprivation and this can also be confirmed by other studies done in Poland and Pakistan (38–40). This is a result of social and cultural factors in this communities. People experiencing infertility deal with it differently, there are several coping mechanisms that have been noted in literature. In Ghana, some women have considered relocating to new locations to reduce stress and pressure from in laws, to avoid insults and stigma from their communities (41). This is supported by other studies wherein women opt to isolate as a coping mechanism (20). This highlights the societal tendency to blame women for infertility, placing the emotional burden predominantly on them. Some husbands, in an effort to shield their wives have disclosed their own infertility. By doing so, they hope to redirect the blame away from their wives, acknowledging that the issue lies with them (41). Having a baby in China is seen as a continuation of family blood line. However, being unable to bear children is very stressful to women, as a coping mechanism many women believe in religion and have strong faith that by praying they will be relieved either by getting a baby or learning how to cope with the situation better (41). A study done among 100 women on factors that help in coping of infertile women has concluded the following (42): Women in well-functioning relationships cope better with infertility than women in broken relationships. Thus, living a healthy lifestyle, enjoying everyday activities and

good mental health plays a major role in helping women cope with infertility. Although there were challenges noted in local newspapers encountered by women experiencing infertility in Namibia, a formal research was never done to discover the magnitude of the problem (8,23). This study serves as a baseline on the knowledge, attitude, and practice on infertility among adults and the information obtained can then be used craft possible solution or follow up studies necessary to tackle issues around infertility.

### 2.4 Practice of infertility

Studies done in India and Saudi have shown that more than 50% of the participants have good practices on infertility (43,44). Although Saudi participants have shown good practices of infertility, 44% of the participants chose visiting a healer as first or second preference (44). Despite several studies showing good practices of infertility, a study done in the rural area of Lahore, Pakistan has shown that there is a lack of understanding on the basics of preventive measures and prevention of infertility and general practices towards infertility (45). In India, 41.2% of the participants felt fertility declines at the age of 39 while 36% believes it declines at 35 years of age and around 70% of the participants felt Intra-uterine insemination, Intra-vitro fertilisation and surrogacy are good treatment for infertility (43).While infertility practices vary across countries, the condition remains a significant challenge worldwide. Education on best practices is essential to better equip the population in addressing infertility.

### 2.5 Beliefs, attitudes and funding of assisted reproductive technology

Studies have shown that fertility rates in Europe are the lowest in the world, this may be due to biological and lifestyle factors compared to Sub Saharan Africa with high fertility rates (46,47). A survey in Europe have shown positive attitudes towards Assisted Reproductive technology (ART) and participants advocating for public funding of fertility treatments with proper regulation on the number of treatment cycles to be funded per couple due to the high cost (46), contradictory to this a study done in

Enugu state Nigeria have revealed that there is an average knowledge on ART and low utilisation among women seeking fertility clinics (48). The two studies have all revealed that funding of fertility treatments is a major obstacle in Europe and Nigeria (46,48). Conforming to the above statement, a study done in Namibia have also indicated that ART is only offered by privately owned clinics and is too costly to individuals (9). Advocating for ART to be available in state facilities, particularly in Africa, in order to provide access to the majority of the population who cannot afford private treatment is essential. In Poland, men and women struggling with infertility experience sadness and anxiety although women are more accepting ART compared to men (39). It is also noted that men are more willing to accept childlessness than women.

### 2.6 Conceptual framework

The framework of this study is divided into three components:

The knowledge of infertility, the attitudes of infertility and the practice of infertility.

This conceptual framework is designed by the researcher using previous studies to determine how different factors influence the knowledge, attitudes and practice of infertility (40-42).

The study aims to assess knowledge, attitude, and practice on infertility among adults visiting the Gynaecology and Urology clinics at Intermediate Hospital Katutura (IHK) and Windhoek Central Hospital (WCH) in Windhoek, Namibia. **Fig 1** below shows variables that influence the level of knowledge, attitudes, and practice of Infertility.

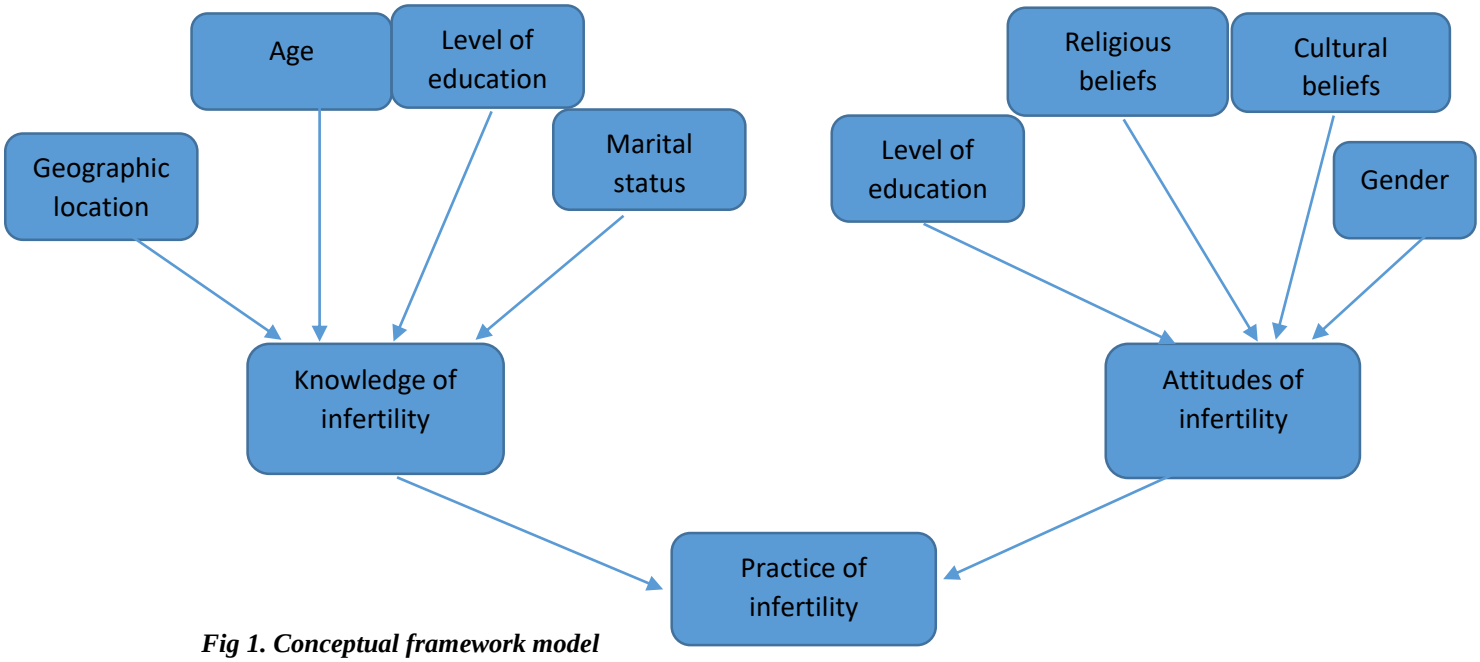


***Fig 1. Conceptual framework model***

Geographic location can influence an individual's level of knowledge. People in Urban areas are more often informed about infertility compared to people in rural areas. People residing in urban areas have easier access to information and health centres than people living in rural areas. This can also be confirmed by the study done in Togo as explained above (52). Older people and people with higher level of education are likely to have more knowledge on infertility than younger people, and people with low level of education. A study done in India has revealed that as a person gets older, they might gain experience and knowledge of infertility. People with higher level of education have a higher chance of accessing information through different platforms and thereby gaining knowledge on infertility (50). Most married couples have intentions of getting children and are likely to discuss about family planning which might include infertility compared to single individuals. The above factors all have an influence on the knowledge of infertility which then contribute to the practice of infertility (49).

A higher level of education equips an individual with an ability to understand the attitude of infertility such as contributing factors of infertility, if it is treatable or not, who can be diagnosed with infertility etc. In general females are more likely to have higher knowledge on infertility as a condition compared to males (51). Religious and cultural beliefs have an impact on what people's attitudes towards infertility (49). In some culture people might believe that infertility is a curse and a Sangoma need to be consulted while in some religion they might consider praying instead of seeking medical interventions. Thus, individual's knowledge and attitudes about infertility influence their behaviours and actions related to it. A study of this nature is necessary to evaluate the knowledge, attitudes and practices of infertility in Namibia. This will aid in educating the general public regarding myths about contraception usage, risk factors, and address different cultural beliefs toward infertility in Namibia. Studies like this could alert relevant authorities to the need for affordable fertility clinics that offer assisted reproductive technologies and aid in gathering infertility statistics in Namibia.

## 2.7 Summary

This chapter covered literature on what is known about fertility, the knowledge, on infertility, factors influencing attitudes and practice of infertility, beliefs, attitudes and funding of assisted reproductive technology. The following chapter will cover the research methodology.

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

This chapter covers the methodology used in this study. This includes the research design, population, study setting, sample, research instruments, data collection procedures, data analysis, validity and reliability, measure of trustworthiness and research ethics.

## 3.1 Research design

Research design is defined as a plan of choosing the research site, the subjects and procedures to be followed in order to find possible answers to the research question(s) (53). A convergent parallel mixed method approach was used in this study, this is when qualitative and quantitative data is collected concurrently and independent of each other (54).

Quantitative research is a systematic research used to test theories to find facts and determine relationship between different variables while qualitative research is used to develop theories or understand phenomenon (53). The mixed method approach was selected because it allows the researcher to collect quantitative and qualitative data in the same phase, analyse it separately and compare the results. A quantitative, descriptive, cross-sectional survey enable the researcher to assess participants' level of knowledge and establish their attitudes towards infertility. A qualitative exploratory research was used to explore factors influencing the attitudes of the participants on infertility (55).

### 3.2 Population

A study population is defined as a group of people or objects that the researcher is interested in and meets the set criteria (56). Adults older than 21 years old visiting the three clinics in Windhoek were recruited in the study. According to the appointment and registration records at the three clinics, an average of 60 patients visit the IHK Gynaecology Clinic per week, 40 patients visit the WCH Gynaecology Clinic per week, and 60 patients visit the WCH Urology Clinic per week. Altogether, an average of 160 patients visit these three clinics weekly, and this figure was used as the population for the study.

### 3.3 Study setting

The study was conducted at the three clinics namely, the Gynaecology outpatient clinic at IHK, Gynaecology outpatient clinic at WCH and Urology outpatient clinic at WCH. These two hospitals were chosen because they are the largest state hospitals and patients are referred from all over the country although the study was not concentrating on people experiencing infertility, this enabled the researcher to get the views of participants from different geographic areas.

### 3.4 Sample

A sample is a subset elements from the population that is recruited in the study to represent the total population (56). A sample is chosen since the total population cannot be recruited in the population. According to the booking and register books at the three clinics, an average number of 160 patients visit the clinics a week and this was used as the population for the study.

For the **Quantitative research sampling**, the sample size was calculated using Taro Yamane's formula (57), $n = \frac{N}{1+(\alpha^2)N}$ , N – the total population of adults visiting the three clinics (160 patients), α- level of significance (0.05).

$$\frac{160}{1 + (0.05^2)160}$$

=114

A sample size of 114 participants is obtained. The researcher exceeded the sample size to account for potential incomplete questionnaire, a total number of 120 participants were recruited and 2 questionnaires were incomplete, totalling to 118 participants. A total of 34 participants were recruited at IHK and 84 at WCH. Purposive sampling method was used.

**Qualitative research sampling**: Participants partaking in the quantitative research who were willing to take part in the interview were recruited. Convenient sampling method was used. A total of 20 in-depth one-on-one interviews were conducted, but 2 were disqualified due to insufficient English proficiency, resulting in 18 valid interviews. These consisted of 14 females and 4 males, with data saturation achieved. Participants ranged in age from 23 to 48 years and belonged to the Aawambo, Damara/Nama, Baster/Coloured, Lozi, and San ethnic groups.

**Inclusion criteria:** the researcher only recruited participants that are 21 years and older and can speak English.

**Exclusion criteria**: Participants that are younger than 21 years and participants that cannot communicate in English were not recruited in this study.

### 3.5 Research instruments

**For the quantitative study**, a structured questionnaire with close ended questions was used in this study to assess the knowledge of the participant on infertility and their practice (4,6). The questionnaire consists of 3 sections. Section A is on demographic information such as gender, age, educational level, marital status, religion, ethnicity,

and employment status. Section B is on the knowledge of participants on infertility and Section C on the practice of infertility.

**For the qualitative research**, an interview guide was used to guide the researcher during the interviews to establish the attitudes and factors that influence the attitudes towards infertility. It consists of 12 main questions and 15 probing questions. A tape recorder and notebook were used to record information gathered during the interviews.

### 3.6 Data collection procedures

The data collection process lasted two weeks from the 06 September 2023 to the 15 September 2023. Data was collected by the researcher and research assistants at the Urology clinic at Windhoek central Hospital and the Gynaecology clinics at Windhoek Central Hospital and Intermediate Katutura Hospital. Self-administered questionnaires were given to the chosen participants and the duration of the questionnaire was 15 minutes. Every participant was issued with the same questionnaire, and they filled it in while waiting for consultations. Individual interviews were conducted to collect qualitative data and the interview was approximately 30 minutes. The researcher used a tape recorder to record the individual sessions, participants were informed of the recording before the interview. A notebook was used to note down main points and nonverbal expressions during the interview. Interviews were conducted using the interview guide and recording the information with a tape recorder at the same locations during the same period. A private space was availed for participants partaking in the interview. Telephonic interviews were also arranged for participants who were willing to participate but due to time constraints could not sit for the interviews. Written consents were obtained for the questionnaire and oral consent for the interview before recruitment.

### 3.7 Data Analysis

#### 3.7.1 Quantitative data analysis

The data was analysed using Statistical Package for Social Sciences (SPSS) version 27. Descriptive statistics such as frequency distribution, percentages and graphs were used to describe the knowledge and practice on infertility in the adult population. Responses to level of knowledge were scored, summed up and categorised in low, average, and high level of knowledge. Multiple linear regression was used to examine the relationships between the different demographic characteristics and the knowledge and practice of infertility.

#### 3.7.2 Qualitative data analysis

Binary logistic regressions test was used to model knowledge, attitude, and practice predictions i.e. 0 = not knowledgeable, 1 = knowledgeable.

Interviews were transcribed from tapes to written papers using Microsoft word. The researcher analysed the data electronically using thematic analyses by Gerald Holton(1970) the following steps were followed (59).

Step 1: Getting to know the data, this was done by re-reading the transcript and listening to the tape repeatedly in order to understand the data.

Step 2: Focusing the analysis by identifying the main questions that the researcher wants answered. Data was organised by focusing on questions across all the participant's answers in order to identify consistencies and differences.

Step 3: Coding or categorising information, the researcher coded information by identifying main themes or patterns and organising them into a cohesive manner that summarise and bring meaning to the text.

Step 4: Identifying patterns and connections between and within themes.

The researcher summarised the information pertaining to one theme or capture similarities or differences in the participant's answers and try to find patterns. She also looked for relationships between two or more themes which might explain why something occurs.

Step 5: Interpretation of the data, a list of key points or information was established. The researcher then summarised what they have learned, new ideas they came across and what other readers will be interested to know. With all this information, a final report was compiled.

### 3.8 Validity and reliability

#### 3.8.1 Validity

The researcher used literature to identify crucial aspects that need to be included in the questionnaire, with the help of the expertise of the research supervisor to set up the instruments. The pilot study was done by recruiting 12 participants, which is equal to 10% of the population from the clinics. These participants were tasked to evaluate if the questions were clear and reasonable. Identified potential problems were rectified before the actual data collection resumed. Questions were made clear and simpler, duplicate questions were eliminated. With the above measure put in place, face validity was considered in this study.

#### 3.8.2 Reliability

After the Pilot study was done, the data collected was used to measure reliability using Cronbach alpha co-efficient. A co-efficient of 0.5 was obtained meaning that the researcher's tool is not reliable and might not be adopted as is for further research.(60).

### 3.9 Measure of Trustworthiness

Measure of trustworthiness refers to the degree of truth of the data in the interpretation and the methods used in qualitative research. According to Lincoln and Guba, this can be measured by four criteria namely, credibility, dependability, confirmability and transferability (61).

#### 3.9.1 Credibility

Credibility ensure that data collected is accurate and is a true reflection of the participants' views. The researcher spent prolonged time familiarising herself with the setting of the research and observing. Participants were informed that there is no correct or wrong answer to bring out their true perspective on the matter under investigation. Iterative questions were used to probe for more information. Information was summarised to find themes that are consistent (61).

#### 3.9.2 Dependability

This is the measure of reliability of the research findings and the chance of getting the same information if the research is to be repeated by a different researcher with the same setting (61). The researcher can confirm that the data is factual, well documented and paper trail is available. Only the readers can confirm the dependability of the result.

#### 3.9.3 Confirmability

Confirmability in qualitative research is when the information collected represent that of the participants without bias (61). In this study, this was done ensuring that interviews were recorded, and recording is available for verification. A paper trail of how themes and subthemes were created is also available. This is to ensure that the findings are the participants 'views and not influenced by the researcher.

### 3.9.4 Transferability

This is the measure to which the research findings can be applied in other context (61). The researcher has provided thick details of the study setting such as the site, participants and methods used. With these details provided, the reader can evaluate if the findings can be applied to their context.

## 3.10 Research Ethics

Ethical clearance was obtained from the University of Namibia Decentralised Ethics Committee and approval from Ministry of Health and Social Services, permissions were obtained from The Medical superintendents of Intermediate Hospital Katutura and Windhoek Central Hospital. Informed consents were obtained from each participant before recruitment.

### 3.10.1 Principle of Respect

Participants have the right to self-determination. An information sheet containing the research purpose, objectives, possible risks, and procedures was provided to each participant. The researcher was available to answer any questions that participants might have. No personal details such as names, telephone numbers and personal information was collected. Unique numbers were assigned to each participant for identification purposes, this applied for the questionnaires and interviews as well.

Participants were informed that their participation is voluntarily, they have the right to decide whether to participate or not and they can withdraw at any time. Their decisions to participate or not was respected. This was ensured using the informed consent form.

All information was kept confidential and secure and there is no way of linking the data to the respondents. The informed consent and the questionnaire were kept separate.

Interviews were conducted in a private room to ensure privacy. Oral consents were obtained before commencing with the interviews. No names were recorded during the interview or written on the questionnaire to ensure that there will be no linkage of personal information to individuals. Procedures mentioned under respect were ensured. All information collected during the process were kept confidential and safe in a locked cabinet, that only the researcher and research assistants have access to this information.

### 3.10.2 Principle of beneficence and non-maleficence

The study will not benefit individuals but could have benefited the community in the future by influencing policy makers to raise awareness on infertility. Although there were no foreseen risks, the sensitivity of the study might have caused emotional distress to participants who had experienced infertility or were going through infertility. Arrangements were made by the researcher with the social services department to offer psychological help to participants if the need arose.

### 3.10.3 Principle of justice

All participants within the specified criteria had a fair chance to participate. Participants were treated equally with no form of discrimination and the participants that chose not to participate were respected.

## 3.11 Summary

This chapter described the methodology used in the study. It described the research design, population, sample, tools for data collection and data analysis. Validity, reliability, measure of trustworthiness and ethics were also covered in this chapter. Results are presented in the following chapter.

# CHAPTER FOUR

# PRESENTATION OF STUDY RESULTS

## 4.1 Introduction

This chapter present the results of the quantitative and qualitative study. The quantitative results are presented in descriptive and analytical forms. Data is presented in frequencies, tables, graphs, descriptions and means appropriately. Multinomial regression was used to describe the associations between the different demographic characteristics and the knowledge and practice of infertility. Fischer exact test was used as it is considered more accurate than the Chi square test of independence when the sample size is small. Qualitative data was transcribed from tapes to written papers using Microsoft word. Data was coded into themes and subthemes to explain the results.

## 4.2 Quantitative data results

### 4.2.1 Socio-demographic characteristics

A total number of 120 individuals participated in the study of which 2 were disqualified due to incompleteness of their questionnaires. The respondents' age ranged from 21 to 79 years. The percentage of each age group is as follow: 20-29 years (47.5%), 30-39 years (30.5%), 40-49 years (12.7%), 50-59(5.1%), 60-69 years (1.7%) and participants older than 70 years (2.5%). Of the 118 respondents recruited, 90 (76.3%) were females and 28 (23.7%) were males. Respondents were classified into 4 educational levels, (no formal education 1.7%, primary education 2.5%, secondary education 42.3% and tertiary education 52.5%)1 respondent chose not to indicate their educational level, employment status (employed 31.4%, self-employed 15.3% and

unemployed 52.5%)1 respondent chose not to indicate the employment status and marital status (single 78.6%, married 21.2%) 1 respondent chose not to indicate the marital status. A total number of 101 respondents indicated their religion as Christian and 17 respondents chose not to reveal their religions and their choices were respected. The demographic characteristics are displayed in table 1 below.

**Table 1. Socio-demographic characteristics of participants**

| **Respondent's sex** | **Category** | **Frequency (%)** |
|---|---|---|
| Sex | Male | 28(23.7) |
| | Female | 90(76.3) |
| | Total | 118(100) |
| Age | 20-29 years | 56(47.5) |
| | 30-39 years | 36(30.5) |
| | 40-49 years | 15(12.7) |
| | 50-59 years | 6(5.1) |
| | 60-69 years | 2(1.7) |
| | ≥70 years | 3(2.5) |
| | Total | 118(100) |
| Educational level | No formal education | 2(1.69) |
| | Primary education | 3(2.54) |
| | Secondary education | 50(42.37) |
| | Tertiary education | 62(52.54) |
| | Non-responses | 1(0.85) |
| | Total | 118(100) |
| Employment status | Employed | 37(31.36) |

| | | |
|---|---|---|
| | self employed | 18(15.25) |
| | unemployed | 62(52.54) |
| | Non-Responses | 1(0.85) |
| | Total | 118(100) |
| Marital status | Single | 92(77.97) |
| | Married | 25(21.19) |
| | Non-Responses | 1(0.85) |
| | Total | 118(100) |
| Participant's Tribe | Aawambo | 52(44.07) |
| | Herero | 19(16.10) |
| | Damara/Nama | 21(17.80) |
| | Kavango | 8(6.78) |
| | Baster/Coloured | 8(6.78) |
| | Foreign national | 4(3.39) |
| | mixed race | 3(2.54) |
| | Non-responses | 3(2.54) |
| | Total | 118(100) |
| Participant's religion | Christian | 101(85.59) |
| | Non-Responses | (17)14.41) |
| | Total | 118(100) |

### 4.2.2 Knowledge on infertility

The result revealed that 81.3% of the respondents disagrees that the inability to have a child is a curse. About 37.1% do not recognise infertility as a disease or medical condition and approximately 50% of respondents believe age does not affect infertility in men while 30% believe age does not affect infertility in females and these results are presented in table 2 below.

**Table 2. Knowledge on infertility**

| Statements | Strongly Disagree | Disagree | Agree | Strongly Agree | Total |
|---|---|---|---|---|---|
| The inability to have a child is a disease / medical condition | 18(15.5) | 25(21.6) | 48(41.4) | 25(21.6) | 116(100) |
| The inability to have a child is only experienced by women who have used contraceptives before | 49(42.6) | 45(39.1) | 15(13) | 6(5.2) | 115(100) |
| The inability to have a child is only experienced by women | 60(53.6) | 23(20.5) | 22(19.6) | 7(6.3) | 112(100) |
| Age does not affect infertility for men | 18(15.7) | 39(33.9) | 46(40) | 12(10.4) | 115(100) |
| Age does not affect infertility in women | 30(26.3) | 51(44.7) | 25(21.9) | 8(7) | 114(100) |

On the question about when one should seek medical help if unable to conceive, 41.4% respondents indicated less than 3 months of unprotected sex, 47.5% indicated between 3-12 months, and 11.2% chose13-24 months. The above results are illustrated below.

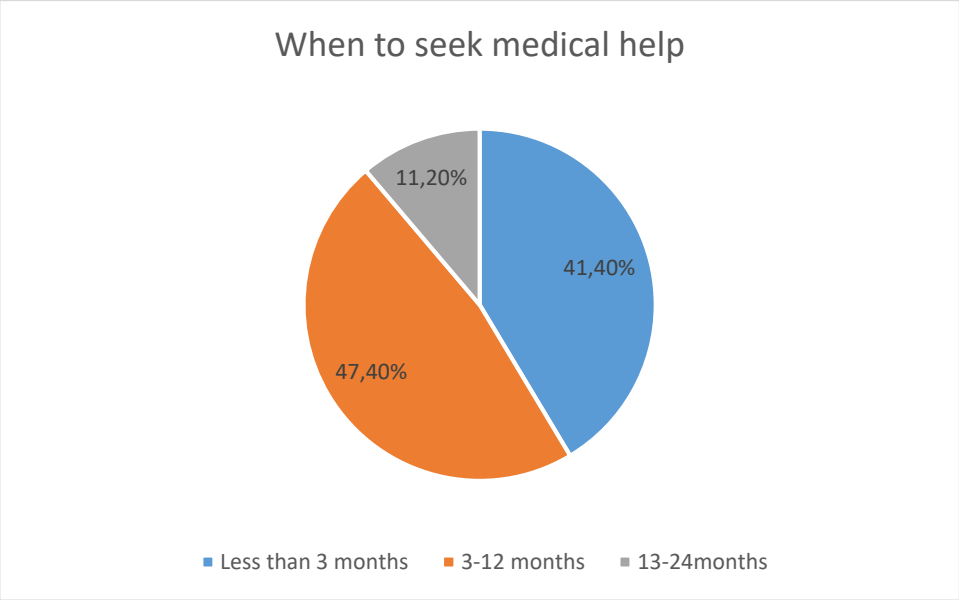


**Fig 2. Seeking help**

About 71.2% believe the age between 20 and 30 years is the most appropriate time to have babies while 26.3% indicated the age between 31-35 years. This is indicated by the pie chart below.

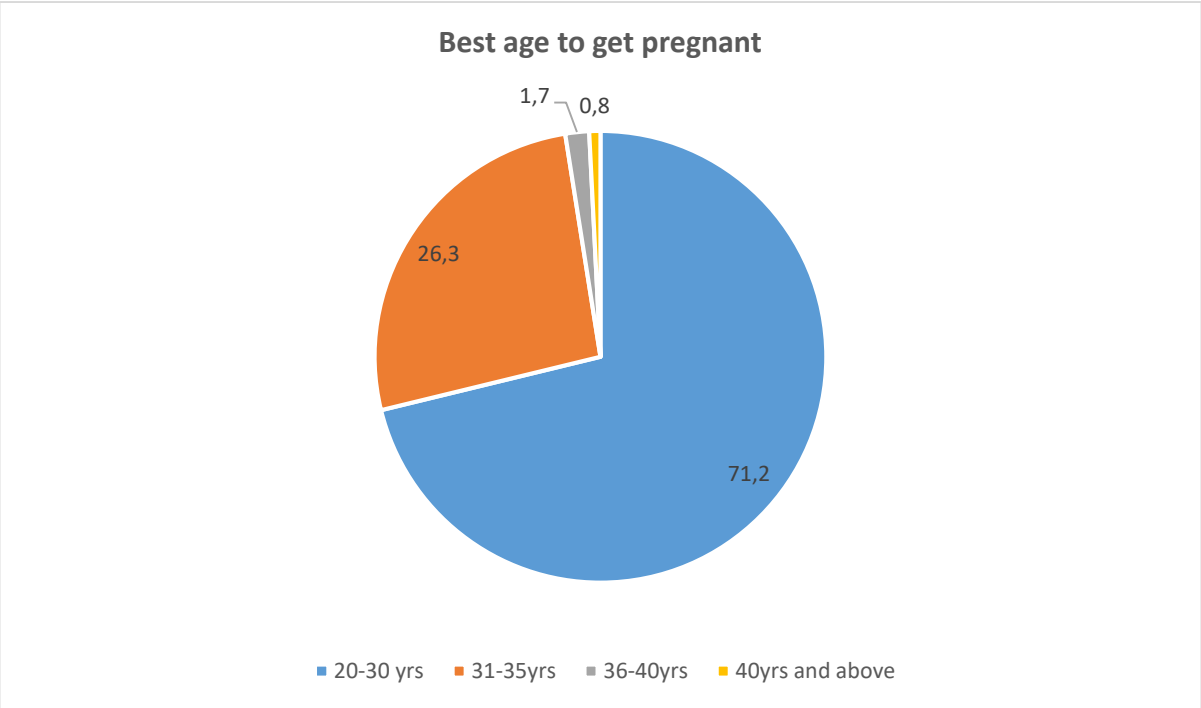


**Fig 3. Best age to fall pregnant**

An alarming, 75.2% believe that contraceptive usage affects the ability to have children, while13.6% believe women are responsible for the inability to conceive. Although, 70.3% indicated that both man and woman should be investigated when a couple is struggling to have a baby, 22% are of the opinion that women should be investigated first. About 44.1% believe nutrition, sexual behaviour, and contraceptive usage affects the ability of an individual to conceive. The table below illustrate the results.

**Table 3. Knowledge about risk factors**

| Variable | Category | Frequency (%) |
|---|---|---|
| Does history of taking contraceptives affect the ability to have children? | Yes | 88(75.2) |
| | No | 29(24.8) |
| | Total | 117(100) |
| If a couple is struggling to have a baby, who is likely to be the cause of the inability to have a baby? | Man | 3(2.5) |
| | Woman | 16(13.6) |
| | Both | 99(83.9) |
| | Total | 118(100) |
| If a couple is struggling to have a baby, who should be investigated first? | Man | 9(7.6) |
| | Woman | 26(22) |
| | Both | 83(70.3) |
| | Total | 118(100) |
| Which of the following affects the fertility of an individual to conceive? | Nutrition | 9(7.6) |
| | Sexual behaviour | 13(11) |
| | Contraceptive usage | 30(25.4) |
| | All of the above | 52 (44.1) |
| | None of the above | 14(11.9) |
| | Total | 118(100) |

Respondents were provided with a list of factors that could lead to infertility and they were tasked to identify which of the factors could lead to infertility. The respondents listed the following as contributing factors. Blocked tubes (85.2%) and unbalanced hormones (83.3%) were the most selected causes of infertility while female genital tract infections (75.9%), male genital tract infections (71.3%), low sperm counts (79.3%), side effects of previous medication (75.7%) and use of contraceptives (72.6%) were selected by more than 70% of the respondents. See Fig 4.below.

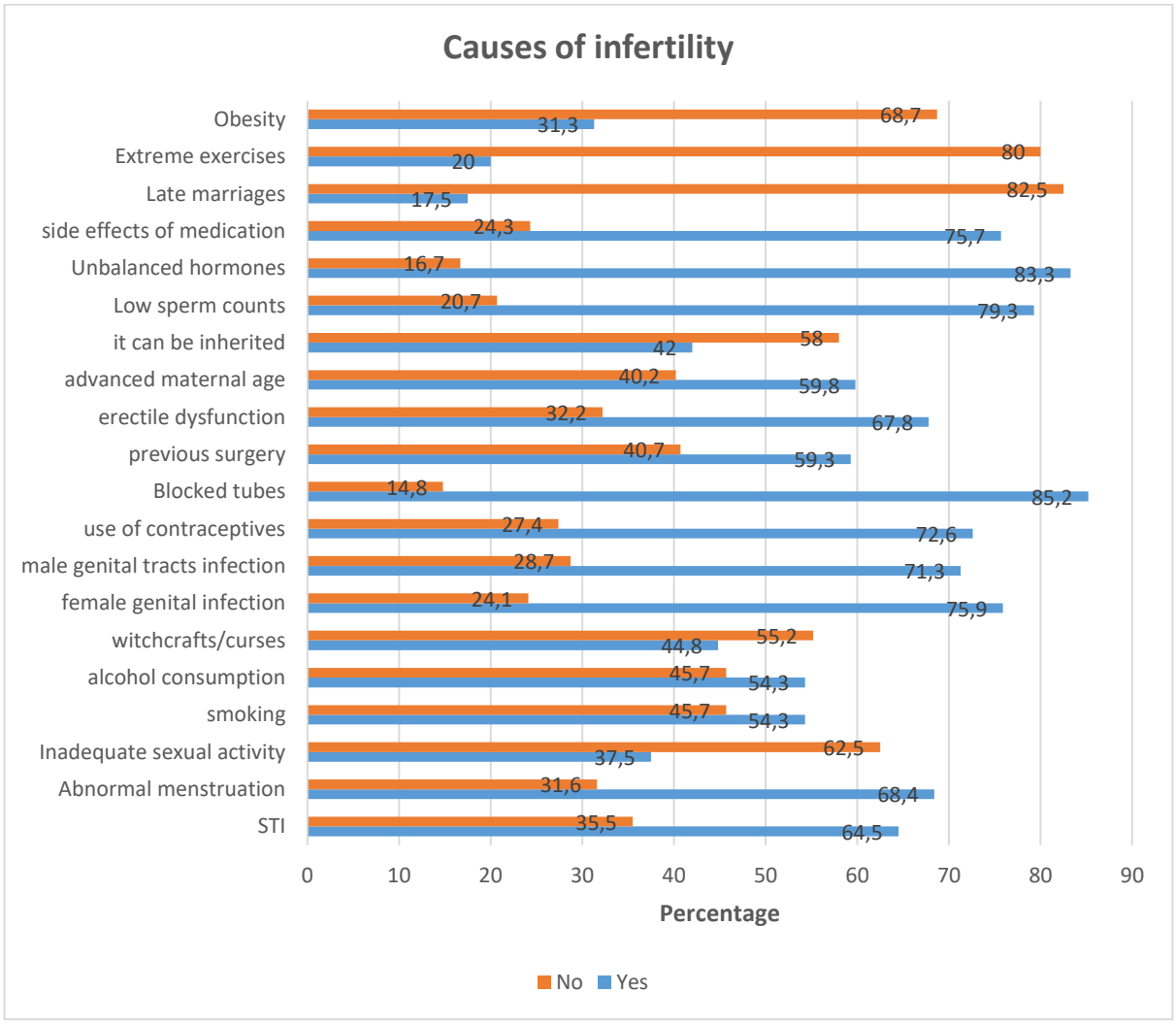


**Fig 4. Causes of infertility**

### 4.2.3 Practice on infertility

Respondents were questioned about where they would turn to first for assistance when struggling to conceive, 97.5% chose to visit the hospital. Table 4 below show the results indicated above.

**Table 4. Practice on infertility**

| **Variable** | **Category** | **Frequency (%)** |
|---|---|---|
| If you were struggling to have a baby, where will you go first for help? | To the hospital | 115(97.5) |
| | church/ pastor | 3(2.5) |
| | Total | 118(100) |

Additionally, 51.7% believe infertility starts declining in females above the age of 45 years and 66.9% indicated that infertility does not decline in men. This is shown in the figure 5 below.

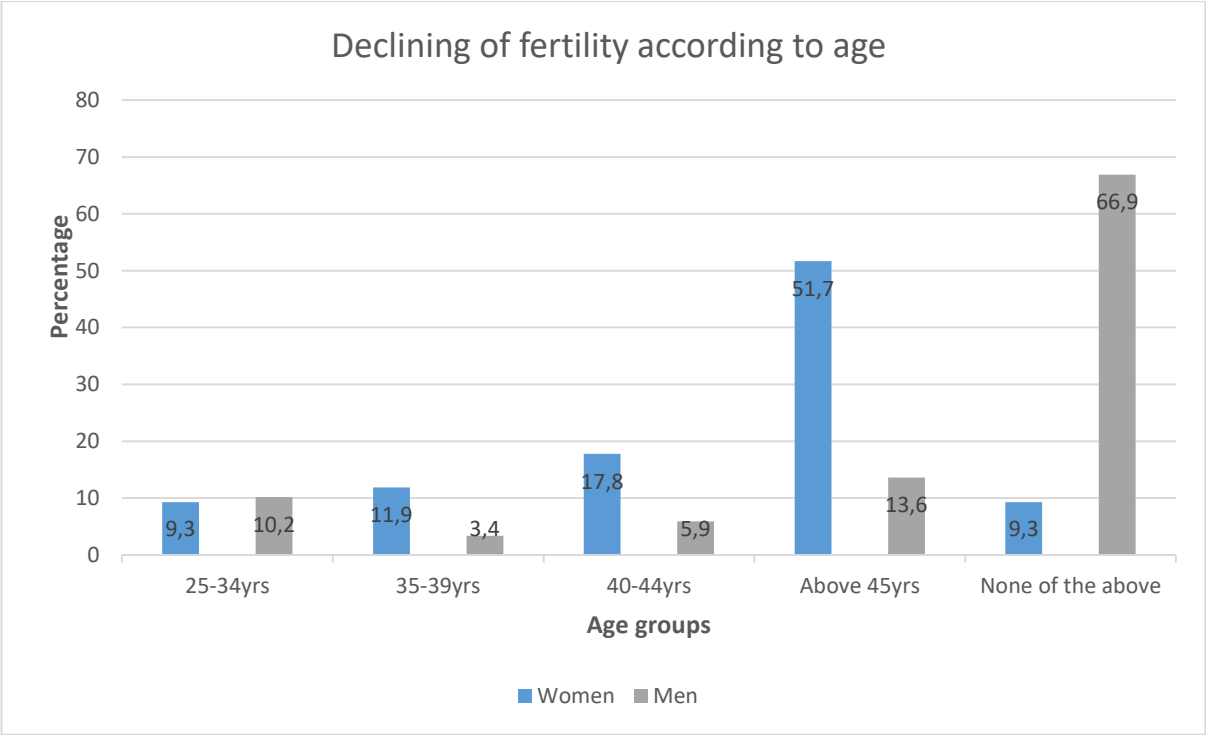


**Figure 5. Declining of infertility according to age**

To the following statement: a couple that have children might struggle to have more children, 62.7% disagrees and only 37.3% believe it is a possibility. Majority of the respondents have indicated that adoption is a solution to couple who cannot have children accounting for 91.5%. About 64.6% of the respondents believe that test tube babies are acceptable. A total of 90.6% of respondents agrees that both husband and wife should be investigated when struggling to have children, 75.2% agrees with the statement that reduction in alcohol and caffeine increase fertility. This result is indicated by the figure 6 below.

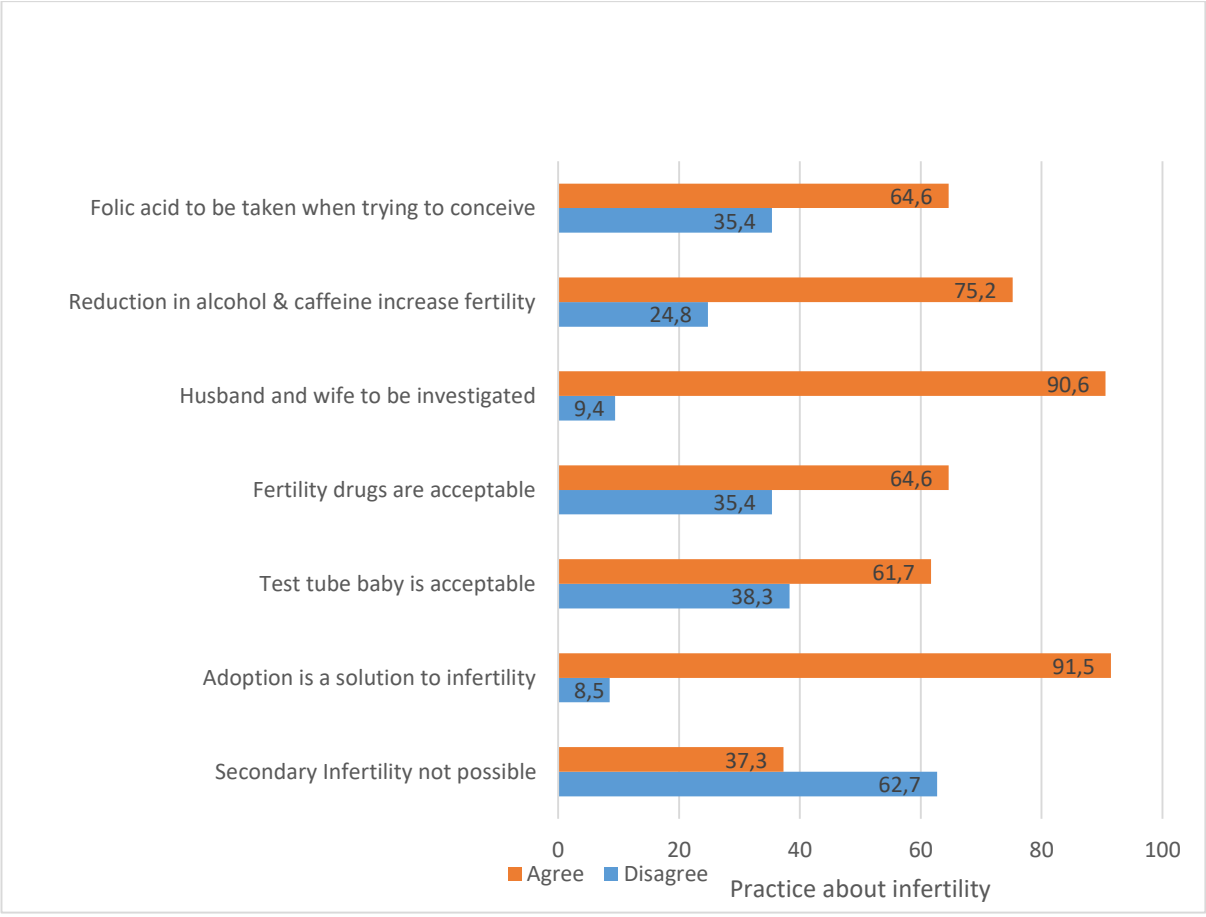


**Fig 6. Practice on infertility**

### 4.2.4 Associations between knowledge and practice levels and demographic variables

Both males 14 (60.9%) and females 23 (40.4%) demonstrated an average knowledge level and average practice level as indicated males 14 (51.9%) and females 42 (49.4%). Respondents with primary education 2 (66.7%), secondary education 15 (46.9%) and tertiary education 19 (44.2%) all exhibited an average knowledge level. Out of the respondents with primary education, 1(33,3%) displayed poor practice level, 1 (33.3%) exhibited an average level and the remaining demonstrated good practice level. The reason for the equal distribution might be that only three respondents with primary education took part in the study. Respondents with secondary education demonstrated an average practice level at 59.6%. meanwhile, those

with tertiary education exhibited a good practice level of 45.8%, which is only a slight increase of 1.7% from the average practice level. Table 5 and 6 illustrates these results.

**Table 5. Knowledge Level**

| Knowledge level | | | | | |
|---|---|---|---|---|---|
| **Variable** | **Category** | **Poor knowledge** | **Average knowledge** | **Good knowledge** | **Total** |
| Respondent's sex | Male | 5(21.7) | 14(60.9) | 4(17.4) | 23(100.) |
| | Female | 19(33.3) | 23(40.4) | 15(26.3) | 57(100.) |
| | Total | 24(30.0) | 37(46.3) | 19(23.8) | 80(100.) |
| Educational level | No formal education | 0(0.0) | 0(0.0) | 1(100) | 1(100) |
| | Primary education | 1(33.3) | 2(66.7) | 0(0.00) | 3(100.) |
| | Secondary education | 10(31.3) | 15(46.9) | 7(21.9) | 32(100.) |
| | Tertiary education | 13(30.2) | 19(44.2) | 11(25.6) | 43(100.) |
| | Total | 24(30.4) | 36(45.6) | 19(24.1) | 79(100.) |
| Employment status | Employed | 10(37.0) | 10(37.0) | 7(25.9) | 27(100.) |
| | self-employed | 2(18.2) | 8(72.7) | 1(9.10) | 11(100.) |
| | unemployed | 12(29.3) | 18(43.9) | 11(26.8) | 41(100.) |
| | Total | 24(30.4) | 36(45.6) | 19(24.1) | 79(100.) |
| Marital status | Single | 19(30.2) | 28(44.4) | 16(25.4) | 63(100.) |
| | Married | 5(31.3) | 8(50.0) | 3(18.8) | 16(100.) |
| | Total | 24(30.4) | 36(45.6) | 19(24.1) | 79(100.) |
| Respondent's Tribe | Aawambo | 11(28.9) | 20(52.6) | 7(18.4) | 38(100.) |
| | Herero | 4(36.4) | 2(18.2) | 5(45.5) | 11(100.) |
| | Damara/Nama | 5(38.5) | 6(46.2) | 2(15.4) | 13(100.) |

| | | | | | |
|---|---|---|---|---|---|
| | Kavango | 2(28.6) | 4(57.1) | 1(14.3) | 7(100.) |
| | Baster/Coloured | 0(0.0) | 2(50.0) | 2(50.0) | 4(100.0) |
| | Foreign national | 0(0.0) | 2(50.0) | 2(50.0) | 4(100.0) |
| | mixed race | 0(0.0) | 1(100) | 0(0.0) | 1(100) |
| | Total | 22(28.2) | 37(47.4) | 19(24.4) | 78(100. |
| Respondent's religion | Christian | 21(29.6) | 33(46.5) | 17(23.9) | 71(100.) |
| | Total | 21(29.6) | 33(46.5) | 17(23.9) | 71(100.) |
| Age groups | 20-29 years old | 11(28.2) | 22(40) | 22(40) | 55(100.) |
| | 30-39 years old | 6(27.3) | 13(59.1) | 3(13.6) | 22(100.) |
| | 40-49 years old | 4(36.4) | 7(63.6) | 0(0.00) | 11(100.) |
| | 50-59 years old | 1(20.0) | 2(40.0) | 2(40.0) | 5(100.) |
| | 60-69 years old | 1(50.0) | 0(0.0) | 1(50.0) | 2(100) |
| | ≥70 years old | 1(100) | 0(0.0) | 0(0.0) | 1(100) |
| | Total | 24(30.0) | 37(46.3) | 19(23.8) | 80(100.) |

*Fishers Exact significant at
$p<0.05$
a No statistics are computed because the Participant's religion is a constant.

After assigning scores to the Likert scales and MCQs, the scores were combined to compute the overall knowledge and practice scores. To categorize these scores into levels, the range was calculated by subtracting the minimum score from the maximum and then dividing the difference into three equal parts, corresponding to the levels: 'good,' 'average,' and 'poor' for both knowledge and practice. Subsequent analyses using Fisher's exact (significant at $p<0.05$) test were conducted to determine statistically significant associations between these knowledge and practice score levels with the demographic variables.

**Table 6. Practice level**

| Practice level | | | | | |
|---|---|---|---|---|---|
| **Variable** | **Category** | **Poor practice** | **Average practice** | **Good practice** | **Total** |
| Respondent's sex | Male | 7(25.9) | 14(51.9) | 6(22.2) | 27(100.) |
| | Female | 8(9.40) | 42(49.4) | 35(41.2) | 85(100.) |
| | Total | 15(13.4) | 56(50.0) | 41(36.6) | 112(100.) |
| Educational level | No formal education | 1(50.0) | 1(50.0) | 0(0.0) | 2(100) |
| | Primary education | 1(33.3) | 1(33.3) | 1(33.3) | 3(100.) |
| | Secondary education | 7(14.9) | 28(59.6) | 12(25.5) | 47(100.) |
| | Tertiary education | 6(10.2) | 26(44.1) | 27(45.8) | 59(100.) |
| | Total | 15(13.5) | 56(50.5) | 40(36.0) | 111(100.) |
| Employment status | Employed | 3(8.80) | 20(58.8) | 11(32.4) | 34(100.) |
| | self-employed | 4(22.2) | 10(55.6) | 4(22.2) | 18(100.) |
| | unemployed | 8(13.6) | 26(44.1) | 25(42.4) | 59(100.) |
| | Total | 15(13.5) | 56(50.5) | 40(36.0) | 111(100.) |
| Marital status | Single | 11(12.6) | 46(52.9) | 30(34.5) | 87(100.) |
| | Married | 4(16.7) | 10(41.7) | 10(41.7) | 24(100.) |
| | Total | 15(13.5) | 56(50.5) | 40(36.0) | 111(100.) |

| | | | | | |
|---|---|---|---|---|---|
| Respondent's Tribe | Aawambo | 6(12.2) | 29(59.2) | 14(28.6) | 49(100.) |
| | Herero | 1(5.30) | 8(42.1) | 10(52.6) | 19(100.) |
| | Damara/Nama | 4(20.0) | 8(40.0) | 8(40.0) | 20(100.) |
| | Kavango | 1(12.5) | 4(50.0) | 3(37.5) | 8(100.) |
| | Baster/Coloured | 0(14.3) | 1(71.4) | 3(14.3) | 4(100.0) |
| | Foreign national | 0(0.0) | 1(25.5) | 3(75.5) | 4(100.0) |
| | mixed race | 1(50.0) | 0(0.0) | 1(50.0) | 2(100) |
| | Total | 14(12.8) | 55(50.5) | 40(36.7) | 109(100.) |
| Respondent's religion | Christian | 9(9.5) | 48(50.5) | 38(40.0) | 95(100.0) |
| | Total | 9(9.5) | 48(50.5) | 38(40.0) | 95(100.0) |
| Age groups | 20-29 years old | 11(13.6) | 22(33.3) | 33(50) | 66(100.) |
| | 30-39 years old | 5(14.3) | 16(45.7) | 14(40.0) | 35(100.) |
| | 40-49 years old | 4(28.6) | 5(35.7) | 5(35.7) | 14(100.) |
| | 50-59 years old | 1(16.7) | 2(33.3) | 3(50.0) | 6(100.) |
| | 60-69 years old | 0(0.0) | 2(100) | 0(0.0) | 2(100) |
| | ≥70 years old | 0(0.0) | 2(66.7) | 1(33.3) | 3(100) |
| | Total | 15(13.4) | 56(50.0) | 41(36.6) | 112(100.) |

*Fishers Exact significant at $p<0.05$

a No statistics are computed because the Participant's religion is a constant.

After assigning scores to the Likert scales and MCQs, the scores were combined to compute the overall knowledge and practice scores. To categorize these scores into levels, the range was calculated by subtracting the minimum score from the maximum and then dividing the difference into three equal parts, corresponding to the levels: 'good,' 'average,' and 'poor' for both knowledge and practice. Subsequent analyses using Fisher's exact (significant at $p<0.05$) test were conducted to determine statistically significant associations between these knowledge and practice score levels with the demographic variables.

### 4.2.5 Multinomial regression analysis of variable associated with knowledge and practice levels

Table 7 below shows results of multinomial regression analysis of both knowledge and practice levels. The following factors were not associated with knowledge level (Respondent sex, educational level, employment status, marital status, tribe and age), they were all not statistically significant (P-value>0.05) as shown on the table below: And the following factors were not associated with practice level (educational level, employment status, marital status, tribe and age), they were all not statistically significant (P-value >0.05), only the participant's sex (OR=0.054, CI 0.008-03.372, p value=0.02) was significantly associated with the poor practice level. Although (educational level, employment status, marital status, respondent's tribe, and age groups) were not statistically significant associations, they influenced in determining the level of knowledge and practice.

**Table 7. Multinomial regression between variables significantly associated with knowledge and practice levels**

| Knowledge Levels | Category | P-value | OR (95% CI) | Practice Levels | Category | P-value | OR (95% CI) |
|---|---|---|---|---|---|---|---|
| Poor knowledge | Respondent's sex | 0.92 | 0.92 | Poor Practice | Respondent's sex | 0.02* | 0.054 |
| | Educational level | 0.61 | 1.319 | | Educational level | 0.08 | 0.326 |
| | Employment status | 0.86 | 0.937 | | Employment status | 0.55 | 0.743 |
| | Marital status | 0.94 | 0.926 | | Marital status | 0.69 | 0.627 |
| | Respondent's Tribe | 0.15 | 0.72 | | Respondent's tribe | 0.07 | 0.484 |
| | Age groups | 0.50 | 1.28 | | Age groups | 0.56 | 1.302 |
| Average knowledge | Respondent's sex | 0.21 | 0.414 | Average Practice | Respondent's sex | 0.25 | 0.492 |
| | Educational level | 0.84 | 1.109 | | Educational level | 0.16 | 0.54 |
| | Employment status | 0.58 | 1.216 | | Employment status | 0.10 | 0.641 |
| | Marital status | 0.78 | 1.304 (0.211-8.067) | | Marital status | 0.27 | 0.497 |
| | Respondent's tribe | 0.50 | 0.884 (0.616-1.269) | | Respondent's tribe | 0.10 | 0.76 |
| | Age groups | 0.86 | 1.065 (0.525-2.159) | | Age groups | 0.8 | 1.065 |
| The reference category is: Good knowledge. | | | | The reference category is: Good practice. | | | |

## 4.3 Qualitative data results

### 4.3.1 Demographic characteristics of the respondents

Individual in-depth interviews were held, and 20 participants participated but only 18 could be analysed due to communication difficulties', participants could not express themselves properly in English during the interview. A total of 14 females and four males between the age of 23 and 48 years participated in the interview. The ethnicity of the participant is as follow: Damara/Nama, Aawambo, Coloured/Baster, Lozi and San. Data was collected using an interview guide. Below is table 8 with the demographics of participants who took part in the interview.

**Table 8. Demographic data of respondents**

| **Participant no.** | **Age** | **Gender** | **Ethnicity** |
|---|---|---|---|
| 1 | 32 | Female | Damara/Nama |
| 2 | 29 | Female | Aawambo |
| 3 | 44 | Female | Aawambo |
| 4 | 26 | Female | Coloured/Baster |
| 5 | 28 | Female | Coloured/Baster |
| 6 | 48 | Female | San |
| 7 | 40 | Male | Aawambo |
| 8 | 39 | Female | San |
| 9 | 23 | Male | Lozi |
| 10 | 25 | Male | Lozi |
| 11 | 37 | Female | Aawambo |
| 12 | 33 | Female | Aawambo |

| | | | |
|---|---|---|---|
| 13 | 24 | Female | Aawambo |
| 14 | 24 | Female | Aawambo |
| 15 | 25 | Male | Aawambo |
| 16 | 29 | Female | Aawambo |
| 17 | 32 | Female | Damara/Nama |
| 18 | 32 | Female | Damara/Nama |

The objective of the qualitative study is to explore factors influencing attitudes towards infertility among adults visiting the Gynaecology and Urology clinics at IHK and WCH, Namibia. The data is grouped into 3 main themes and six subthemes to achieve the above objective as shown on the table below.

**Table 9. Main themes and sub themes**

| **Main Themes** | **Sub themes** |
|---|---|
| 1.Social values and expectations | 1.Family values<br>2.Societal expectations of marriages |
| 2.Treatment Preferences | 1.Medical options<br>2. Religious-cultural options |
| 3.Misconceptions and Myths | 1. Misinformation<br>2. Cultural beliefs |

**Main theme 1: Social values and expectations**

The value placed on children in relationships and marriages has an influence on personal outlook of infertility.

**Sub theme 1: Family value**

Building a family is one of the reasons stated on the importance of having children in a relationship or marriage as alluded by participant 4

*"Basically when you have a partner, you are already a family but there will be something missing. So having kids is just building a family, it is really important".* [Participant 4]

*"I would want to have my own kids running around so that when I leave this earth, I would leave people behind and have created a family".* [Participant 12]

Participants believe children bring satisfaction and love to relationships as seen in the quote below.

*"In my opinion, having kids in the relationship helps at some point you get angry with each other. Maybe you are staying together, for example. And once you get angry with each other, you. You know this person that you are supposed to be speaking to is angry, then you're going to have fun with your kids. You can take them for a walk, they also bring Peace of Mind at home".* [Participant 7]

*"When you have a boyfriend or husband, children bring love".* [Participant 8]

**Subtheme 2: Societal expectations of marriages**

When people get married, there are certain expectations placed on them by society and this increases the pressure for them to have children. Participant 2 states that there is a need to get a child as proof of being fertile.

*"If you're not married, then it is important to the man or to the woman to have children now before you get married to see if you are able to have children".* [Participant 2]

While participant 8 is of the opinion that when you have children in a relationship or marriage, you will earn respect from the man.

*"When you have a boyfriend or husband, children bring love and the man will respect you because of the children".* [Participant 8]

As a result of the pressure placed on couples to procreate, people who are not able to bear children are not accepted in some societies. This is stated by Participant 9 who states that:

*"They usually say things like, don't send my kids you must get your own kids".*

This is also supported by participant 7 who indicates that infertile people usually get negative hints and questions from relatives about when they are getting children.

*"there will be some people giving them some negative messages. And at some point, they'll even be asking their son as to when his wife is giving birth to their grandchild".* [Participant 7]

As a result of infertility, separation or divorce can occur. Blame shifting is one of the issues raised during this study.

Participant 7 continue to say: *"normally it is the man that decide to leave the woman that is unable to conceive saying that I must look for somebody else. Society wise, the blame is more on the lady, they all feel she is the culprit in this whole process".*

Participant 1 supports participant 7 by stating that men usually leave women when infertility is an issue in a relationship.

Participant 1: *"Sometimes when it is coming to a kid, it is usually men that leave".*

**Main theme 2: Treatment preferences**

The knowledge of treatment options of infertility either medical, religious or cultural and preferences affects individual attitudes towards infertility and how to deal with it.

**Subtheme 1: Medical options**

Medical treatment is listed as one of the solutions to infertility and visiting the hospital as a first option. The following question was raised: **Do you believe if someone is struggling to have a child, they can get helped or if the problem can be solved?**

Participant 4 states: *"Yeah, I know there is treatment that you can go through. I know couples that have done it. I know many people, they do get pregnant like I know some of the women that get pregnant, but it's just that a uterus is unable to hold the baby, so then she always gets miscarriages. So there's different treatments that a doctor can assist you with. Somehow there's things that can be done. Maybe you just stay home most of the time. Don't do heavy things, don't work much and do get a lot of rest".*

Participant 13 believe infertility can be treated but it can also depend on the case. "*Definitely, depending on the case".* [Participant 13]

Participants were also asked where they would go for assistance if they were experiencing infertility consulting medical services was listed as the first option. Below are some of the responses.

Participant 5: *"I would first go to the clinic. Then I would go and explain my story. Then they will maybe send me to a place that they know".*

Participant 7*:" Medical doctor, I'll do that in partnership with my partner. Then we are going to check what is the problem and concentrate on trying to find whoever is having a problem and why we are we not able to conceive".*

When a question of who should be investigated first between a man and a woman when experiencing infertility was raised, the participants below opted for both man and woman to be investigated at the initial stage.

*"Both of them needs to visit the hospital because it's both of them that want a child".* [*Participant11*]

*"Both of them if one seeks help first it will bring problems between them. They should all seek help together and deal with the problem together depending on the results".* [Participant12]

Infertility is categorised into primary and secondary infertility. the participants were questioned about their awareness of the causes of secondary infertility and below are some of the responses.

*" It could be complications from previous birth process if the delivery of the baby was done in the hospital, maybe something went wrong in the previous birth process and this person is not able to give birth anymore".* [Participant7]

*" If there was some sort of damage that happened by the reproductive system, then yes. If not, they're not supposed to struggle".* [Participant13]

Lifestyle choices was listed among the causes of secondary infertility.

*" As you grow up, that's the time where you start consuming a lot of alcohol. But then at the earlier stage you'll be fine, you don't have means of drinking too much and then as you grow older it might be a problem".* [Participant15]

*" Woman waiting for a very long time to fall pregnant again".* [Participant 12]

Adoption is one of the solutions to infertility when all other options have not yielded result. Participants were asked if they felt adoption is a good option when experiencing infertility. Below are some of the responses.

*" I think it's a good solution because especially if you adopt a small child, a small baby and then you raise the child as if it's your own child, but then it only becomes a problem when someone out there gets to hear that the kid is not yours. Then they will later tell the child".* [Participant 10]

*You just bringing peace in the house because you know men's' weaknesses, he wants someone to joke with, he wants someone to play with, someone calling him Papa. I think it's a good solution".* [Participant 6]

*" I feel it's an option to both depending also on how badly you want children, because you should have that passion. You cannot go adopt just for the sake of adopting, because that child, really needs a parent, somebody who will love them whole heartedly. Because you find people in some cases that think they cannot have kids and they go adopt then later on, they have their own kids. And then there's this battle between the biological child and the adopted child. So whoever adopts should really have that passion and their love for children".* [Participant 18]

**Subtheme 2: Religious-cultural options**

Religious options such as prayer and consulting pastors were listed by participants as options to consider when faced with infertility.

Participant 2 states*:" I will tell my parents that I want to get a child, but I have been struggling, maybe the will take me to church".*

Participant 13 also shares the same sentiment by stating that the first option would be consulting God.

*" I mean firstly I would probably you know, just pray about it and ask God to help, but if maybe time passes by and I'm trying, and I can't then I will go to the doctor".* [Participant 13]

Some cultural practices are still in place in some communities as options when dealing with infertility. The use of traditional medicine was considered as an option by participants in this study.

Participant 6 states:" *Us San people we don't believe in medicine; we believe in roots. So you would need to consult the elders and so they advise on what roots to use when you want to get pregnant and for how long".*

Participant 10 alluded traditional medicine*:" According to our cultural stuffs, my grandfather gives those traditional medicine to people that are struggling to have children and they do get kids afterward".*

According to Participant 6 and 8, in the San community swapping of husbands is considered a solution for women who cannot conceive.

Participant 6 states:" *They will choose among my sisters because us we believe family should stick together. My husband cannot go and impregnate someone else. They will choose my sister to get pregnant by my husband and she will give us the baby when the baby is born. There will be no relationships between my husband and my sister, she will only be producing babies for us since I cannot. We trust families because they will not do harm to their own blood".*

Participant 8 is in support with the above sentiment.

"*In our culture, they would give my husband to my sister and my sister will get the children. And I will take care of those kids like my own kids".* [Participant 8]

In certain communities, polygamy is regarded as a viable solution especially when individuals face infertility, serving as a means to build family although this is not always done with approvals of wives especially.

*"In our tribe, polygamy happens. They just use force; you will find that they have kids here and there. They used to say one father, different mothers".* [Participant 9]

*"It depends on what the man wants. If he wants a second wife or just a girlfriend to make a kid, it is up to him".* [Participant 13]

**Main theme 3: misconceptions and myths**

This study uncovered numerous misconceptions and myths and they are highlighted under this theme.

**Subtheme 1: Misinformation**

In this study, a notable piece of misinformation revealed was the misconception that infertility is not a disease or a medical condition.

Participant 1 states*:" Kids are a blessing from God so it cannot be called a disease".*

Participant 7:" *I would not call it a disease, not having children cannot make someone sick. You don't have to go to hospital. You didn't wake up in the morning and you need to see a doctor but you go there just because you want a child, not because you are sick".*

Another debunked notion was the mistaken belief that women are sorely responsible for infertility, resulting in unwarranted blame directed towards them.

Participant 13:" *The lady is blamed, the reason why this happened might also have been influenced by titles. since men are always more respected than woman, how do you go up to a man and be like why don't you have kids. What's happening? What? What? Like I feel that if you're the head of the family. So, like, why would anyone come ask you? They usually blame everything on the woman. So I feel like it's gender roles".*

Participant 17 states: "*Woman are blamed, because she is the one who is carrying the child. So when they don't see the obvious, they are like you are the issue".*

In some communities' men are also blamed for infertility and below are some of the statements supporting this.

Participant5:" *Men get blamed for that because they use drugs and alcohol".*

Participant 9:" *Men are blamed because they are the main actors".*

Another misinformation discovered in this study is that men can become infertile due to the types of work they do such as driving of which the participant labelled hard work.

Participant 2 states*:" For me, sometimes they do hard work like driving for a long time, say they do hard work. They sit for a long period, so they would struggle to have kids".*

One prevalent misconception identified during study is the widespread misunderstanding surrounding birth control mechanisms/ contraceptives as a cause of infertility. Below are the statements by the participants.

Participant 6: "*It can only happen if the woman takes a shortcut by taking contraceptives such as Depo, it makes a woman to not have kids".*

Participant 8: "*Contraceptives can make you not to have children".*

Participant 11 "*I heard contraceptives also plays a role if you take too much of them. They might block your tubes*".

A noteworthy revelation occurred when a participant emphasized masturbation as a factor contributing to infertility.

Participant 10: "*Masturbation also causes that. I have seen my friend who could not get kids but he visited three different doctors and he was told he has low sperm count".*

**Subtheme 2: Cultural beliefs**

The investigator uncovered peculiar cultural beliefs surrounding rituals employed to avert undeserved pregnancies until marriage. Participant 11 elaborate on this matter.

*"When we grew up, we heard people telling us your grandmother will take your first menstrual blood and keep it somewhere for some reasons and there if the grandmother dies or if that thing get lost, so you will not be able to have kids in the future. Apparently, they wouldn't want you to give birth before marriage or something, so they will wait for you until you get married and they will take that thing and undo whatever they did so you can get children."* [Participant 11]

Participants 9 and 10 concur with the ideology that rituals can also be a cause of infertility in their communities.

"*for some tribes, they used to say that some people use this ritual. They can just sacrifice their reproductive system".* [Participant 9]

*" In our culture, things like witchcraft is being performed into others, yes before you even give birth".* [Participant 10]

Consulting witchdoctors or Sangoma was also listed as possible solution to infertility.

"*Societies will say things like that one is bewitched and is unable to conceive. That's not something that we can rely on or really believe. But they say it does happen and sometimes you hear about it and somebody go for treatment traditionally and after that you see somebody is conceiving again. That will force one to start believing".* [Participant 7]

### 4.4 Summary

The chapter discussed the outcomes of the quantitative and qualitative study. In the quantitative study, 50% of participants believe that age does not impact infertility, and 75.2% think that using contraceptives affects one's ability to have children. A large majority (97.5%) would choose to visit the hospital if they experienced infertility, and 90.6% agree that both partners should be investigated in such cases. However, 62.7% do not believe in secondary infertility. Both males and females demonstrated average levels of knowledge and practice regarding infertility. Notably, only the sex of the participants showed a significant association with poor practice levels, with a p-value of 0.02.

In the qualitative study, social values and expectations regarding children significantly influence people's perceptions of infertility. The desire to build a family was cited as a key reason for wanting children. Additionally, societal expectations surrounding marriage drive individuals to have children as a means of proving their fertility. When addressing infertility, some participants identified seeking medical help as their first option, while others preferred prayers and traditional methods, such as consulting witch doctors and using traditional medicine. There were also misconceptions and myths highlighted, including the beliefs that infertility is not a disease, contraceptives can cause infertility, and that infertility may result from rituals and witchcraft. The final chapter covers discussions, conclusions and recommendations.

# CHAPTER FIVE

# DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

## 5.1 Introduction

This chapter will discuss the findings of the study according to the objectives below.

- To determine the level of knowledge on infertility among adults visiting the Gynaecology and Urology clinics at IHK and WCH, Namibia.
- To explore factors influencing attitudes towards infertility among adults visiting the Gynaecology and Urology clinics at IHK and WCH, Namibia.
- Analyse the associations between demographics factors and knowledge and practices variables of adults visiting the Gynaecology and Urology clinics at IHK and WCH, Namibia.

Discussions will link or contradict the findings to previous studies done relating to the topic under discussion. Conclusions and recommendations will be made at the end of the chapter.

## 5.2 Characteristics of socio-demographics variables

The study recruited adults between the age of 21 and 79 years. Many of the respondents were females. More than 95% of the respondents had secondary or tertiary education as the highest qualification. This means respondents had the capacity to understand the topic under discussion. More than half of the respondents were unemployed, and majority were single. Respondents included individuals from the Aawambo, Herero, Damara/Nama, Kavango, Baster/Coloured and Lozi tribes, signifying the diverse

representation of various tribal groups. Regrettably, every respondent who disclosed their tribal identity also selected Christianity as their religion, rendering it impractical to draw comparisons with other religious affiliations.

### 5.3 Knowledge on infertility

The objective under this section is to determine the level of knowledge on infertility among adults visiting the Gynaecology and Urology clinics at IHK and WCH, Namibia.

While a significant portion of the respondents acknowledge infertility as a disease or medical condition, 37.1% don not share this recognition. This disparity is reflected in the qualitative findings where some participants concur with the statement while others express contradictory views. If a person does not recognize infertility as a disease, they are unlikely to seek medical help when faced with this challenge.

An alarming 75.2 % believe that contraceptive usage affects the ability to have children, and this is supported by the qualitative results when individuals were asked to list causes of infertility and contraceptive use was the common listed cause. This is one of the most common misconceptions particularly in Africa. This notion finds support in several studies such as the scoping review conducted by Boivin and colleagues. The review revealed a prevalent belief that modern contraceptive such as intra uterine device (IUD), injections and pills as a causative factor for infertility, establishing a correlation with the decisions by adolescent and young couples to either abstain from using contraceptives or discontinue them (62).

About 70% of respondents have indicated that both man and woman should be investigated when struggling to conceive. This is also supported by the qualitative results when a large number of participants concurred with the above statement. This

results are similar to those of the study done in India that revealed more than 80% of the respondents indicated that both partners should be investigated in instances of infertility (34). When it comes to identifying factors leading to infertility, more than 70% of the respondents could correctly identify blocked tubes, unbalanced hormones, genital tract infections and low sperm counts. This results is also supported by studies done in India and Pakistan that revealed that participants were aware of the causes of infertility (5,34).

A staggering 44.8% of respondents listed witchcraft and curses as some causes for infertility, this is similar to findings of a literature review of about 106 articles across the Sub-Saharan Africa that revealed that social beliefs in spiritual matters and witchcraft is prevalent in Sub-Saharan Africa (24). This number is alarming because if people do not perceive infertility as a medical condition, they are unlikely to seek medical assistance. Additionally, they may shift the blame instead of addressing the issue directly.

In this study, both males (60.9%) and females (40.4%) demonstrated an average knowledge level. There was no notable variation in knowledge level across different educational level, employment, and marital statuses, as all groups demonstrated an average knowledge level of 45.6%. These findings align with a study conducted in Pakistan among adult population, which indicated limited knowledge regarding infertility (5).

### 5.4 Practice on infertility

A total of 97.5% respondents indicated that they would first seek medical assistance if they were experiencing difficulties conceiving and only 2.5% would seek religious

intervention. Qualitative findings also substantiate this assertion when a notable subset of the participants listed seeking medical help as the first option. This findings align with a study done in Pakistan, where 94% of respondents expressed the belief that couples should pursue treatment when facing infertility (5). This is great news because it indicates that if almost all the respondents were to experience infertility, they would seek medical attention.

Fertility rapidly starts declining in women from the age of 35 according to The fertility society of Australia (63) and in this study 51.7% of the respondents have indicated it only starts declining above the age of 45 years. It is concerning that half of the participants believe fertility only begins to decline after age 45. This misconception could lead some individuals to delay having children, under the mistaken belief that they can easily conceive later, which may ultimately reduce their chances of successful conception. A total of 66.9% believe fertility does not decline in men. While the topic of fertility in men remains contentious, certain publications observe that a decline in male fertility typically commences around the age of 45 years (52,53). Recognizing that fertility declines with age is crucial for timely family planning, as it can improve the success rate of achieving pregnancy.

As a solution to couples who have exhausted all options, 91.5% of respondents agrees that adoption is an acceptable solution. This is in contrary with the study done in Nigeria that highlighted adoption as a sign of defeat to infertile couples and elaborated further the dissatisfaction and negative reactions of husbands and family members to it (65). In vitro fertilisation (IVF) is accepted by 61.7% of the respondents as a solution to individuals or couples struggling to conceive on their own. This results are similar to a study done in Ghana whereby 60.4% of respondents were willing to use IVF services if the need arises (66).

A significant portion of the respondents (62.7%) lacked awareness regarding secondary infertility and held the belief that it is not a possible occurrence, this is corroborated by a significant proportion of respondents in the qualitative findings that perceived the unlikelihood of experiencing secondary infertility. Awareness about secondary infertility is necessary. There is a noted average practice level of 50.5%.

## 5.5 Factors influencing attitudes towards infertility

The objective is to explore factors influencing attitudes towards infertility among adults visiting the Gynaecology and Urology clinics at IHK and WCH, Namibia. This section is addressed by the qualitative aspect of the study. Various factors influencing the attitudes of the participants were identified during the coding of the data and they are discussed below as per theme.

### 5.5.1 Social values and expectations

Participants emphasised the value placed on children in relationships and marriage. This influences their outlook of infertility. Children are considered the focal point of the family, and the absence of offspring can result in a diminished sense of satisfaction in relationships. Some of the importance of having children highlighted in the study is building a family, bringing peace in a relationship and for abundance love as stated by respondent 4, 12 and 7. These findings are similar to a study done in Nigeria that highlighted that children bring peace, they stabilise marriages and homes (67).

There are certain expectations placed on married couples to have children within a certain time after the wedding. This put pressure on the couple to have children. As a result of this, people who are not able to procreate are stigmatised in some communities. This study established that children are also used as proof of being

fertile in certain relationships. Respect is bestowed onto people with biological children compared to those with none. As a result of infertility, separation or divorce can occur. Literature reviews conducted in Sub-Saharan African nations have revealed that couples living with infertility are at a greater risk of divorce, separation, infidelity and polygamy compared to those not living with it (24).

### 5.5.2 Treatment preferences

The knowledge of treatment options of infertility either medical, religious, or cultural and preferences affects individual attitudes towards infertility and how to deal with it. Traditional perspectives consider infertility treatments as a way to prevent childlessness, while less conventional viewpoints perceive them as a tool to expand societal opportunities for parenthood. A notable subset is aware of medical treatment options and would opt to seek medical help if faced with infertility. This is supported by the quantitative findings where majority (97.5%) indicated that they would go to the hospital if they were struggling to have a baby.

The study gathered varied responses on who should seek medical help first, with numerous responses indicating the need for both man and woman to consult the doctor while others feel it is the woman to seek help first and others believe they would seek advice from a doctor first regardless of their gender. This is an indication of inadequate information on the causes of infertility and that there is an equal distribution of male and female factors to infertility. These findings align with studies conducted in Pakistan and Indonesia, which exposed a lack of awareness regarding the medical origins of infertility. The studies also highlighted the misconception about the unequal distribution of factors between men and women, contributing to the stigmatisation of women as the primary causes of infertility (5,36).

Apart from medical treatments, religious options such as prayers and visiting faith-based people for prayers were some of the options highlighted once faced with infertility. Other options discovered during the study is the use of herbs and visiting traditional doctors once struggling with infertility. This is supported by the study done in Pakistan that revealed that majority of the participants in the study would consider faith based, traditional doctors and homeopathic practitioners as an alternative (5).

Another cultural practice involves selecting the wife's sister to bear children if the wife is unable to conceive, this is practiced in the San community. While in other communities, polygamy is seen as a solution when a woman is unable to conceive. This is also practiced in some districts in Ghana, a man is allowed to take another wife when infertility is experienced and if a man is infertile a woman is allowed to experiment with another man inside the family (68).

### 5.5.3 Misconception and myth

Various misconceptions and myths were discovered in this study. The first misconception discovered is that infertility is not considered as a disease or medical condition mainly because people experiencing it are not sick and because of the religious believes that children are from God, 37.1% of the respondents in the quantitative study share the same sentiment. These findings are shared by several studies that revealed that a notable number of participants did not want to label infertility as a disease although some would choose to visit health services. Another misconception is that infertility is a result of evil forces. Several studies have discovered that despite the high educational background, supernatural powers were listed as a cause of infertility and not considered as a disease in Ghana, Kenya and Pakistan (5,68,69).

There is a widespread misconception regarding the attribution of responsibility for infertility within a relationship and this variation in attributing responsibility for infertility is contingent on the specific community's beliefs and perspectives. In this study, in some communities, women are unfairly held responsible for infertility while in other communities, men are unfairly held responsible for infertility. This perception persists despite literature revealing that both men and women contribute equally , with each gender accounting for 50% of infertility cases (70).

One prevalent misconception revolves around the belief that utilisation of contraceptives leads to infertility. Majority of the participant (75.2%) believe that contraceptive usage affects the ability to have children. This misconception is widely spread and recorded by various publications in Africa. A research conducted in Kenya yielded results with participants reporting that contraceptives were associated with infertility or birth defects (69). The widespread misconception about contraceptive use may be linked to why young people, especially those without children, are hesitant to use them. These misconceptions have detrimental consequences. If a community believes in these myths, people may not seek medical help when needed due to misinformation. And people experiencing infertility will continue suffering without any assistance.

### 5.6 Associations between demographic factors and knowledge and practice variables

The objective under this section is to analyse the associations between demographics factors and knowledge and practices variables of adults visiting the Gynaecology and Urology clinics at IHK and WCH, Namibia.

There was no statistically significant association between respondent' sex (p value=0.92), educational level (p value =0.62), employment status (p value=0.86),

respondent's tribe (p value=0.15), marital status (p value=0.94) and age groups (p value=0.50) and the knowledge level.

Only the respondent's sex (OR=0.054, CI 0.008-03.372, p value=0.02) was significantly associated with the poor practice level. Although there (educational level, employment status, marital status, respondent's tribe, and age groups) were no statistically significant associations, they influenced in determining the level of knowledge and practice.

### 5.7 Conclusion

Infertility is a disease of the reproductive system; it is one of the global burdens affecting one in four couples in developing countries. It is a biological problem and should be recognised as such. There is a good knowledge on factors leading to infertility. The misconception about contraceptive usage causing infertility is widely spread. People still believe in witchcraft and curses as causes of infertility. Children are overly valued in communities putting pressure on individuals and couples. Medical services are still considered as the initial option when seeking help. The act of assigning blame for infertility is widespread in various communities. There is a lack of comprehensive information regarding the diminishing rates of infertility in men. Culture and religious beliefs influence people's attitudes on infertility. Adoption is widely accepted as a solution among the participants. Lack of awareness on secondary infertility is noted. There is limited knowledge on infertility in general.

### 5.8 Limitations of the study

The study only recruited participants visiting the Gynaecology and Urology clinics in IHK and WCH during the data collection time, generalising the findings of the study to other population might not be applicable.

Cronbach alpha co-efficient test was done and a co-efficient of 0.5 was obtained, this indicates poor reliability.

## 5.9 Recommendations

- Raising of awareness on infertility by the MOHSS is required to increase the knowledge on infertility, this initiative will reduce stigma and promote individuals dealing with infertility to actively seek assistance.
- State hospitals need to provide specialised fertility services to individuals facing infertility challenges through a dedicated fertility clinic to individuals grappling with infertility. This approach encompasses comprehensive treatment, addressing not only physical aspects but also tending to their emotional well-being as well. Additionally, it provides a thorough understanding of the prevalence of infertility cases in the country.
- The misconception of contraceptives causing infertility need to be addressed during sexual health awareness campaigns and infertility awareness campaigns as well.
- Research recruiting individuals dealing with infertility is encouraged, in order to understand their experiences better.

## 5.10 Summary

This chapter covered the discussions of the findings of the study in line with the objectives. An average knowledge level among the respondents was noted and factors influencing attitudes were identified. A significant association between the respondents' gender and poor practice level was noted.

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## APPENDIX A: INTERVIEW GUIDE

**Interview guide**

**I am Maria Namene, a student of the Master of Public Health at the University of Namibia. I will be conducting this interview. I am doing research on *Assessment of knowledge, attitude and practice on infertility among adults visiting the Gynaecology and Urology clinics in Intermediate Katutura hospital and Windhoek Central Hospital, Namibia.* The aim of the study is to assess the knowledge, attitude and practice of infertility. Generally, the study aims to evaluate your knowledge on infertility and what you think about it. Before we commence, I would like to ask for your permission to partake in this study by giving an oral consent to participate. Your participation is voluntary, you can decide to stop at any stage of the interview without an explanation and your decision will be respected.**

- Feel free to skip any questions that you feel uncomfortable answering and you may stop the interview at any time without any consequences.
- This interview and the information gathered here is completely confidential and will not be shared with any unauthorised personnel.
- The interview will be recorded in order to capture the details and no one beside my team will have access to the recording.
- No name will be recorded during this interview and no name will be written on any documents derived from this interview.
- As part of the interview, we will ask your age, gender, and ethnicity. This will help the researcher to analyse the information and assess if there is an association between the information provided and the above details.

- All answers are valid, no wrong or right answers. Feel free to answer according to what you know or understand.
- The interview will last approximately 30mins.

Do you have any questions about what I just explained or the study?

**ATTITUDE TOWARDS INFERTILITY**

1. **How important is having children in a relationship?**

   why do you think it is or it is not important?

2. **What do you think causes an individual or a couple not to have children?**

3. **Do you believe someone struggling to have children can be treated?**

   Why?

   Or
   why not?

4. **Do you believe the inability to have children is a disease?**

   Why?

   or
   why not?

5. **If you were struggling to have children, who will you consult?**

why?

6. **Who do you believe should be investigated first when a couple fails to have a child?**

why?

7. **In your opinion, do you think it is possible for an individual or couple with kids to experience problems getting children again?**

If yes,
what could be the problem?

**Attitudes towards social consequences of infertility**

8. **Have you ever heard of a spouse that divorced or left their partner because they could not have a baby?**

If yes,

how do you feel about that or what is your opinion?

If No, how would you feel about a spouse divorcing or leaving due to the inability to have a baby?

9. **Is it socially acceptable for a man to get a second wife or get involved in another relationship because the wife cannot have a baby?**

Why?

Or

why not?

10. **Have you ever heard of adoption? (explain what adoption is, if the participant is unaware)**

How do you feel about adoption when one is unable to have a baby?

11. **In your culture, if a couple is unable to get a child, who gets blamed or who does the community say is responsible between the two**?

why do you think they get blamed for it?

12. **Do you believe families; societies or communities accepts individuals who are unable or struggling to have babies?**

If not, how do you think this can be improved?

We have come to the end of our interview.
Do you have any other information that you will want to share?

Any questions?

Thank you for participating in this study.

**APPENDIX B: SELF ADMINSTERED QUESTINNAIRE**

## Section A

## Please complete the questionnaire by ticking the appropriate box below and fill in were appropriate.

**Demographic Details**

Please complete the questionnaire by ticking the appropriate box

**Gender** ☐Male

☐Female

**Age** ……

**Educational level** ☐No formal education

☐Primary Education

☐Secondary Education

☐Tertiary Education

**Employment status:** ☐Employed

☐Self employed

☐Unemployed

**Marital status** ☐Single

☐Married

☐Widowed

☐Divorced

☐Separated

**Ethnicity /Tribe**

……

**Religion**

……

## Section B

**Knowledge on infertility**

1. **In the table below, indicate the most appropriate response to the statement by ticking the appropriate box.**

| | Strongly disagree | Disagree | Agree | Strongly agree |
|---|---|---|---|---|
| Knowledge on infertility | 1 | 2 | 3 | 4 |
| 1.1 The inability to have a child is a curse | | | | |
| 1.2 The inability to have a child is a disease / medical condition | | | | |
| 1.3 The inability to have a child is only experienced by women who have used contraceptives before | | | | |
| 1.4 The inability to have a child is only experienced by women | | | | |
| 1.5 Age does not affect infertility for men | | | | |
| 1.6 Age does not affect infertility for women | | | | |

**2. Answer the following questions by selecting the appropriate answer.**

**2.1 When should a person seek for help if you are unable to achieve pregnancy? You may choose more than one answer.**

☐less than 3 months

☐3-6months

☐7-12months

☐13-24months

**2.2 At what stage of the menstrual cycle is a woman likely to get pregnant?**

☐Just before the cycle

☐Just after the cycle

☐Halfway between the 2 cycles

☐I don't know

**2.3 Which do you think is the best age to fall babies for women?**

☐20-30years

☐31-35years

☐36-40years

☐40 years and above

**2.4 Which of the following factors is considered a higher risk when struggling to have a baby? You may choose more than one answer.**

☐smoking more than 5 cigarettes per day

☐being under stress

☐being older than the age of 35

☐drinking more than 3 alcoholic drinks a day

**2.5 Does history of taking contraceptives affect the ability to have children?**

☐ Yes

☐ No

**2.6 If a couple is struggling to have a baby, who is likely to be the cause of the inability to have a baby?**

☐Man

☐Woman

☐Both

**2.7 If a couple is struggling to have a baby, who should be investigated first?**

☐Man

☐Woman

☐Both

**3 Indicate if the following factors can lead to the inability to have children by ticking in the appropriate box?**

| Factors / conditions | Yes | No |
|---|---|---|
| 3.1 Sexually transmitted infections (STI) | | |
| 3.2 Abnormal menstruation | | |
| 3.3 Inadequate sexual activity | | |
| 3.4 Smoking | | |
| 3.5 Alcohol consumption | | |
| 3.6 Witch crafts / curses | | |
| 3.7 Female genital tracts infection | | |
| 3.8 Male genital tracts infection | | |
| 3.9 Use of contraceptives | | |
| 3.10 Blocked tubes | | |
| 3.11 Previous surgery | | |
| 3.12 Erectile dysfunction | | |
| 3.13 Advanced Maternal age | | |
| 3.14 Infertility can be inherited | | |
| 3.15 Low sperm counts | | |
| 3.16 Unbalanced hormones | | |
| 3.17 Side effects of previous medications | | |
| 3.18 Late marriages | | |
| 3.19 Extreme exercises | | |
| 3.20 Overweight | | |

## Section C

**Practice of infertility**

**1. Answer the following questions by ticking the appropriate answer.**

**1.1 If you were struggling to have a baby, where will you go first for help?**

☐ To the hospital

☐ To a spiritual healer / Sangoma

☐ To Church / pastor

**1.2 Which of the following affects the fertility of an individual?**

☐Nutrition

☐Sexual behaviour

☐Contraceptive usage

☐All of the above

☐none of the above

**1.3 At what age does the ability to have children start reducing in women?**

☐25-34 years

☐35-39 years

☐40-44 years

☐Above 45 years

☐None of the above

**1.4 At what age does the ability to have children start reducing in men?**

☐25-34 years

☐35-39 years

☐40-44 years

☐Above 45 years

☐None of the above

**2. In the table below, indicate the most appropriate response to the statement by ticking the appropriate box.**

| | **Strongly disagree** | **Disagree** | **Agree** | **Strongly agree** |
|---|---|---|---|---|
| **Practice of infertility** | 1 | 2 | 3 | 4 |
| 1.1 A couple that have children might struggle to fall pregnant again | | | | |
| 1.2 If a couple doesn't have children, they can adopt. | | | | |
| 1.3 It is acceptable to have a test tube baby | | | | |
| 1.4 Fertility drugs are acceptable | | | | |
| 1.5 Husband and wife should both be investigated for infertility. | | | | |
| 1.6 Reducing alcohol and caffeine use helps in increasing fertility. | | | | |
| 1.7 Women trying to get pregnant should boost their intake of folic acid. | | | | |

**APPENDIX C: INFORMED CONSENT FORM**

# INFORMED CONSENT FORM

**Informed Consent for Adults in Windhoek visiting the Urology and Gynaecology clinics in the two state hospitals who I am inviting to participate in research titled "Assessment of knowledge, attitude and practice on infertility among adults visiting the Gynaecology and Urology clinics in Intermediate Hospital Katutura and Windhoek Central hospital".**

| | |
|---|---|
| **Name of Principal Investigator:** | **MARIA NAMENE** |
| **Name of Sponsor:** | **N/A** |

**This Informed Consent Form has two parts:**

- **Information Sheet (this section, to share information about the study with you)**
- **Certificate of Consent (for signatures if you choose to participate)**

**You will be given a copy of the full Informed Consent Form.**

## PART I: INFORMATION SHEET

### Introduction

I am Maria Namene, pursuing a Master of public health at the University of Namibia. I am inviting you to take part in this research about infertility, which is the delay or inability to have children. You can take your time to decide if you would like to participate and you can ask any questions that you may have about the study. This consent form may contain words that you may not understand, you can stop me to explain what they mean.

### Purpose of the Research

The delay or inability to have children is one of the common health problems individual's deals with but not publicly discussed. Some people suffering from the delay or inability to have children are stigmatised due to the lack of information and a lot of other reasons. We want to know what you know about this problem, what you think causes it, how you feel about people struggling with it. This information might help public health officials to create educational materials to raise awareness.

**Type of Research Intervention**

This research will involve your participation in filling in a questionnaire or partaking in a one-on-one interview or both that will last between 15 to 30 minutes.

**Participant Selection**

You are chosen because you have met the selection criteria, and we believe your knowledge will help us to get the answers we are looking for.

**Voluntary Participation**

Your participation in this study is voluntary, you can choose not to participate and there will be no consequences against you. If you decide to take part in this study and feels the need to stop during the interview or filling out the questionnaire, you may do so without any consequences. After giving the information and you feel the information you have provided should not be used for the study, you can inform the researcher.

**Procedures**

A. We are asking you to help us evaluate how much people know about the delay or inability to have children. We are inviting you to take part in this study by accepting to participate in a one-on-one interview or by filling out the questionnaire.

B. If you agree to participate, you will be asked various questions about what you think or believe about the delay or inability to have children. You will also be asked if you know some of the social consequences of not having children in some homes or communities.

C. During the interview, I (Maria Namene) will sit down with you in a comfortable place or if it is better for you, a telephonic interview can be arranged. Some of the questions might be sensitive especially if you have experienced what the interviewer might describe. If you do not want to answer any of the questions posed to you, you may say so and inform me to move to the next question. No one else will be present unless you want them to be there. The information will be recorded, no names will be recorded during the interview and the information will be kept confidential. No one else will have access to the information except for the investigator and my supervisor. A tape recorder will be used to record the interview, and this will be kept in a locker and only the investigator will have the key to that locker. The recordings will be destroyed after 90 days. For the questionnaire, a self-administered questionnaire will be handed to you. If you do not want to answer any of the questions, you may skip it and move to the next question. No names will be recorded on the questionnaire; a number will be assigned to it.

**Duration**

The research will take place over a total number of 5 days in total. During that time, I will only need to visit you once for 15 to 30 minutes. It will take place at Intermediate Katutura Hospital or Windhoek Central Hospital. A private and comfortable place will be designated for this purpose and if you prefer a telephonic interview, it can be arranged. The interview will last about 30 minutes, you do not have to respond to questions that you do not want to respond to, and you can stop the interview if you wish to do so. You are allowed to ask questions at any point during the interview or while you are filling out the questionnaire.

**Risks**

We do recognise that study is covering a sensitive topic although we are not asking for personal information, there is a risk that that you may share personal or confidential information by chance or may feel uncomfortable talking about some topics. We do not wish to make you uncomfortable and if you do not feel like answering certain questions, you can stop without any explanation.

Benefits

There will be no direct benefit to you, but your opinions will help public health officials raise awareness on the delay or inability to have children in your community.

**Reimbursements**

You will not be provided with any incentive to take part in this research.

**Confidentiality**

There will be no use of names in the recording or questionnaire, a number will be assigned and only the researcher knows what the number mean. The information collected during the interview or in the questionnaire will be kept confidential and will be locked up and only the researcher will have access to that locker.

**Sharing the Results**

Everything you share with us today will not be shared with anyone outside the research team and nothing will be attributed to you by name. The knowledge we will get from this study will be summarised into a report that will be submitted to the Ministry of health and social services and another one will be published in the local newspaper. A scientific publication will be published in a local journal.

**Right to Refuse or Withdraw**

You do not have to take part in the research if you do not wish to do so. You may stop participating at any time you wish. I will give you time at the end to review your remarks and if you wish to make any changes, you are free to do so.

**Who to Contact**

If you have any questions, you can ask them now or later. If you wish to ask questions later, you may contact:


Maria Namene

Box 70100

Khomasdal

Windhoek

Contact number: 0813161521

Email address: mweena2008@gmail.com


This research has been reviewed and approved by the relevant Ethics Review Committee at the University of Namibia, which is a committee whose task it is to make sure that research participants are protected from harm. The committee reports to the University's Centre for Research Services. If you wish to contact this Centre, please call +264 61 206 4673 or send an e-mail to research@unam.na.

You can ask me any questions about any part of the research study if you wish to. Do you have any questions?

## PART II: CERTIFICATE OF CONSENT

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked, have been answered to my satisfaction. I consent voluntarily to be a participant in this study.

…….
……

Name of Participant (print) Signature of Participant

……

Date (day/month/year)

……

Signature of Witness

……

Date (day/month/year)

**Statement by the Researcher/Person taking Consent**

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following will be done:

1.

2.

3.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.

…….

……

Name of Researcher/Person taking Consent (print) Signature

……

Date (day/month/year)

## APPENDIX D: ETHICAL CLEARANCE CERTIFICATE


## ETHICAL CLEARANCE CERTIFICATE

**Ethical Clearance Reference Number: DEC OSH 0055** **Date: 05/06/ 2023**

This Ethical Clearance Certificate is issued by the University of Namibia Ethics Committee (REC) in accordance with the University of Namibia's Research Ethics Policy and Guidelines. Ethical approval is given in respect of undertakings contained in the Research Project outlined below. This Certificate is issued on the recommendations of the ethical evaluation done by the ethics committee.

**Title of Project:** ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE ON INFERTILITY AMONG ADULTS VISITING THE GYNAECOLOGY AND UROLOGY CLINICS IN INTERMEDIATE KATUTURA HOSPITAL AND WINDHOEK CENTRAL HOSPITAL, NAMIBIA

**Principal researcher:** MARIA NAMENE

**Staff Number/ Student number**: 200736248

**Remarks:** Low Risk Approved with manor corrections

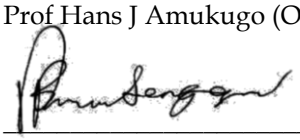
**Centre for Research Services**

Take note of the following:
Any significant changes in the conditions or undertakings outlined in the approved Proposal must be communicated to the ethics committee. An application to make amendments may be necessary.
Any breaches of ethical undertakings or practices that have an impact on ethical conduct of the research must be reported to the ethics committee.
The Principal Researcher must report issues of ethical compliance to the ethics committee (through the Chairperson) at the end of the Project or as may be requested by the ethics committee.
The ethics committee retains the right to:
i) Withdraw or amend this Ethical Clearance if any unethical practices (as outlined in the Research Ethics Policy) have been detected or suspected, ii) Request for an ethical compliance report at any point during the course of the research.

The ethics committee wishes you the best in your research.

_____

Prof Hans J Amukugo (Oshakati Campus Chairperson Decentralized Ethics Committee)



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Prof. Davis Mumbengegwi (Head, Multidisciplinary Research)

## APPENDIX E: PERMISSION FROM MOHSS

REPUBLIC OF NAMIBIA

# MINISTRY OF HEALTH AND SOCIAL SERVICES

Ministerial Building
Harvey Street
Private Bag 13198, Windhoek

OFFICE OF THE EXECUTIVE DIRECTOR

Tel: No: 061 -203 2507
Fax No: 061-222 558
Andreas.Shipanga@mhss.gov.na

**Ref:** 22/4/2/3
**Enquiries:** Mr. A. Haufiku

**Date:** 15 August 2023

**Ms.Maria Namene**
**PO Box 40240**
**Ausspanplats**
**Windhoek**

Dear Ms. Namene

**Re:** ***Assessment of knowledge, attitude and practice on infertility among adults visiting the Gynaecology and Urology Clinics in Intermediate Katutura Hospital and Windhoek Central Hospital, Namibia.***

1. Reference is made to your application to conduct the above-mentioned study.
2. The proposal has been evaluated and found to have merit.
3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**
   - 3.1 The data to be collected must only be used for academic purpose;
   - 3.2 No other data should be collected other than the data stated in the proposal;
   - 3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;
   - 3.4 A quarterly report to be submitted to the Ministry's Research Unit;
   - 3.5 Preliminary findings to be submitted upon completion of the study;
   - 3.6 Final report to be submitted upon completion of the study;
   - 3.7 Separate permission should be sought from the Ministry for the publication of the findings.
4. All the cost implications that will result from this study will be the responsibility of the applicant and **not** of the MoHSS.

Yours sincerely,

**BEN NANGOMBE**
**EXECUTIVE DIRECTOR**

All official correspondence must be addressed to the Executive Director.

## APPENDIX F: PERMISSION FROM WCH

MINISTRY OF HEALTH AND SOCIAL SERVICES

| | | |
|---|---|---|
| Private Bag 13215<br>Windhoek<br>Namibia | Harvey Street<br>Windhoek Central Hospital | Tel. No: (061) 203 3024<br>Fax No: (061) 222886 |
| Enquiries: Ms.AU Mootu | Ref. 22/4/2/3 | Date : 31 AUGUST 2023 |

**OFFICE OF THE MEDICAL SUPERINTENDENT**

Ms.Maria Namene
P O Box 40240
Ausspanplats
Windhoek

Dear Ms.Namene

**RE: PERMISSION TO CONDUCT A STUDY OF ATTITUDE AND PRACTICE ON INFERTILITY AMONG ADULTS VISITING THE GYNAECOLOGY AND UROLOGY CLINICS AT WINDHOEK CENTRAL HOSPITAL ,NAMIBIA.**

Reference is made to the above mentioned subject:

Kindly be informed that permission has been granted to conduct the study on the above mentioned subject under the following conditions:

1. Patient client information should be kept confidential at all times
2. The purpose for study is only for your study purposes as you have requested and it does not include any remuneration.
3. Permission to be obtained from each individual patient going to be studied.
4. **Preliminary findings to be submitted to Customer care office, Windhoek Central Hospital upon completion of the study.**

Thank you for your kind gesture.

Yours sincerely

.....

**DR. S.SHALONGO**
**SENIOR MEDICAL SUPERINTENDENT**

MINISTRY OF HEALTH AND SOCIAL SERVICES
Private Bag 13215
01 SEP 2023
Windhoek, Namibia
WINDHOEK CENTRAL HOSPITAL

**APPENDIX G: PERMISSION FROM IHK**

9-0/0001

***REPUBLIC OF NAMIBIA***

***Ministry of Health and Social Services***


Private Bag 13215
WINDHOEK
Namibia

Intermediate Hospital Katutura
Independence Avenue
WINDHOEK

**Telephone** (061) 203 4011
**Tele fax** (061) 222706
**Email:Ndateelela.Amukuhu@mhss.gov.na**

Enquiries: Ms. N.A.N. Amukuhu


Date 30 August 2023

## OFFICE OF THE CHIEF MEDICAL OFFICER

**MS. MARIA NAMENE**
**UNIVERSITY OF NAMIBIA**

**SUBJECT: APPROVAL FOR PERMISSION TO CONDUCT REASEARCH**

*Dear Ms. Namene*

We trust this communication reaches you well, the above subject bears reference.

We write to inform you that as per your academic research application, you have been granted permission to conduct a study on ***"THE ASSESSMENT OF THE KNOWLEDGE, ATTITUDE AND PRACTICE ON INFERTILITY AT THE GYNAECOLOGY CLINIC,"*** at the Intermediate Hospital Katutura.

Your research is subject to the following information:

a) You must provide this office with a copy of your findings

We trust that the above finds you in order.

**YOURS IN HEALTH,**

31/8/2023

**DR. F.M.SHIWEDA**
**CHIEF MEDICAL OFFICER**

MINISTRY OF HEALTH AND SOCIAL SERVICES
P/Bag 13215, Windhoek, Namibia
2023 -08- 31
INTERMEDIATE HOSPITAL KATUTURA

*"Your Health, Our Concern"*

**APPENDIX H: INTERVIEW TRANSCRIPT**

## Interview 9, 23 years, Male, Lozi speaking

**The interviewer extended a warm greeting and introduced herself, outlining the study's purpose. Seeking the participant's consent, she clarified their right to terminate the interview or decline specific questions. Additionally, the participant was informed about the recording of the interview and assured confidentiality. The participant gave a verbal consent to participate.**

**Interviewer: How important is having children in a relationship (girlfriend or boyfriend, husband or wife)?**

**Interviewee:** I think it's very much important because you know let me say between husband and wife they are married, their marriage for them to have their family they need to have kids for that relationship or for them to be happy.

**Interviewer: So, you think children bring happiness to a relationship?**

Interviewee: Yeah. Yeah, yeah, yeah. It can even increase love. Yeah.

**Interviewer: What do you think causes people not to have kids?**

**Interviewee**: Yeah, like for some tribes, they used to say that some people use this ritual. They can just sacrifice their reproductive system. Some people say it is the type of food that people eat and it can also be inherited. Maybe it's a disease that runs in the family.

**Interviewer: Do you believe if someone is struggling to have a child this problem can be solved or treated?**

**Interviewee:** Yeah. Yeah. For some people it can be just a small problem. Yeah. To some, it's just like that. Maybe God just decided this person won't be having kids. You can't change it.

**Interviewer: What small problem do you know that can be solved or that you have heard of? Or which types of problems do you think can be solved?**

**Interviewer:** they used to say that some men can't come on, you can't stand up so that one is a problem. These traditional doctors, these doctors can solve that problem.

**Interviewer: Do you think the inability to have children is a disease? Would you say it's a disease?**

**Interviewee:** It's a disease, some people you will find that some people are having kids. Cause for me, I believe that a normal person must reproduce. But I think yeah, it can be a disease, cause maybe the person is not normal. Maybe everything is not normal somehow.

**Interviewer: If there are two people, a woman and a man that are struggling to have kids, who do you think should get help first between the man and woman?**

**Interviewee**: The man, for me if it could mean on my side, I'll try another woman if that problem is like that, I'll try another woman. Yeah. Just to see if it will work out. Yeah, yeah.

**Interviewer: Yeah, but why would you try with another woman without first getting the help?**

**Interviewee:** OK, let me say I'm married and I stayed with my wife maybe for 18 years like that or 13 years. We don't have a kid, I have to go out and try first.

**Interviewer: If you were struggling now, let us say it's you and your wife, or you and your girlfriend are struggling to have kids, where would you first go for help?**

**Interviewee:** I think the hospital is the best.

**Interviewer: Why would you first go to the hospital?**

**Interviewee:** Because let me say I'm clean, like the story I told you about rituals. I know that I never did anything then I will go to the hospital.

**Interviewer: In a case where you are very far from hospitals, you are deep in the village where the hospitals are very far. It's very difficult to reach the hospital, which other option would you consider?**

**Interviewee: t**raditional doctor

**Interviewer: Do you think it's possible for people that already have a child, let's say they have one child and they're trying to get another child, do you think it's possible that they would struggle getting a second child? What do you think might be the problem?**

**Interviewee:** You know, nowadays, yeah, the food we eat they're containing a lot of things. So, the food might have ruined the things in the process now.

**Interviewer: Have you ever heard of a person that have divorced or left their partner because they couldn't have kids?**

**Interviewee:** Yeah

**Interviewee: How do you feel about that?**

**Interviewee:** This one is very bad. You decided to marry someone just because they cannot give you a kid, you run away. That one is not nice. You just have to sit in your place talk to your partner. Yeah, at least maybe you can seek for help somewhere even.

**Interviewer: From what you have observed, who usually leave between the man and woman?**

**Interviewee:** Women are left, men usually leave.

**Interviewer: Why do you think men are the one that usually leave their partners when they are not able to have children?**

**Interviewee:** Because for all we know, the woman you are married to give you love, she won't run just like that. Men don't love that deep.

**Interviewer: In your culture or in your community, is it acceptable for men to get a second wife or get involved in another relationship because the wife cannot get kids?**

Interviewee: Yeah. In our tribe, in our community that one happens.

**Interviewer: Do you think it's a good solution?**

**Interviewee:** No

**Interviewer: Do the wives accept the second wives or the girlfriends if the man goes out?**

**Interviewee:** They don't, maybe they just use the force. You will find that they have kids here and there, they used to say one father, different mothers.

**Interviewer: Have you ever heard of adoption were a person get somebody else's child and raise them as their own if they are unable to get children?**

**Interviewee:** Yeah, I heard about it.

**Interviewer: What do you think about that for people that are not able to get kids, do you think adopting kids is a good solution?**

**Interviewee:** It's a good solution for you to get your nephew or niece, someone you bring in the house, you raise that person, you take him to school it's fine.

**Interviewer: In your community if a couple is not able to have kids or Who do they say is responsible for that?**

**Interviewee:** It's the man, if they don't know where the problem is coming from.

**Interviewer: But why do you think they blame the man?**

**Interviewee:** Because I think the man is the main actor in this whole thing.

**Interviewer: Do you think families or society accept individuals who are not having kids, who are struggling to have kids do?**

**Interviewee:** No, they do not. They usually say things like, don't send my kids. You must get your own kids.

**Interviewer: What do you think can be done about that?**

**Interviewee:** I think they need some lessons. At least they must tell them that it's natural, it can happen to anyone.

**Interviewer: We have come to the end. Do you have any questions or any information that you would want to share?**

**Interviewee:** No

**Interviewer: Thank you so much for participating.**

## APPENDIX I: EDITOR'S LETTER

*ENGLISH-XPRESS EDITORIAL*

**Language Editor's Letter**

tobiask@welwitchia.com.na
Cell: +264 814730683
11th December 2024

To whom it may concern,

This letter serves to confirm that a **MASTER OF PUBLIC HEALTH** thesis entitled

**"Assessment of knowledge, attitude and practice on infertility among adults visiting the gynaecology and urology clinics at Intermediate Katutura Hospital and Windhoek Central Hospital, Namibia" by Maria Namene was submitted for language editing.**

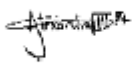
Declaration:

The thesis was professionally edited, and track changes and suggestions were made in the document. The research content and authorial intentions were NOT altered during the editing process and the researcher holds the ultimate right to ACCEPT or REJECT my editorial suggestions.

Yours Truthfully,

Kristina A. Tobias

**Signature:**



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