SPOUSAL VERBAL COMMUNICATION PATTERNS ON REPRODUCTIVE TRACT INFECTIONS AMONG MARRIED WOMEN IN, KIAMBU COUNTY, KENYA

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Q139/CTY/PT/38838/2016

A RESEARCH THESIS SUBMITTED IN FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF PUBLIC HEALTH (REPRODUCTIVE HEALTH OPTION) IN THE SCHOOL OF PUBLIC HEALTH AND APPLIED HUMAN SCIENCES OF KENYATTA UNIVERSITY

NOVEMBER, 2021

DECLARATION

This thesis is my original work and has not been presented for a degree in any other university.

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DEDICATION

This thesis is dedicated to my father and mother who encouraged me to pursue my master's degree as their love for education knows no bounds and taught me the value of hard work.

ACKNOWLEDGMENT

First and foremost, I wish to thank the Almighty God for his love and care during the entire period. I owe my deepest gratitude to my supervisors Dr. Judy Mugo and Dr. Justus Ngatia. Without their optimism, support, enthusiasm and encouragement, I would not have come this far. I also wish to thank Kenyatta University Graduate School, KU-ERC, NACOSTI and the Thika reproductive health unit, including all the women who participated in the study.

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LIST OF ABBREVIATIONS

AIDS	Acquired immunodeficiency syndrome
CDC	Centre for Disease Control
CI	Confidence interval
HBV	Hepatitis B virus
HIV	Human immunodeficiency virus
HPV	Human papilloma virus
HSV	Herpes simplex virus
KDHS	Kenya Demographic and Health Survey
KNBS	Kenya National of Bureau of Statistics
NACOSTI	National Council for Science, Technology and Innovation
PIDs	Pelvic inflammatory diseases
RTIs	Reproductive tract infections
SDG	Sustainable development goal
SPSS	Statistical Package for Social Science
STDs	Sexual Transmitted Diseases
STIs	Sexually transmitted infections
WHO	World Health Organization

DEFINITION OF TERMS

Analytical communication refers to a style of communication that likes real numbers, data and tends to be suspicious of individuals who are not in command of the facts and data.

Communication pattern is a set of interpersonal behavior that defines the way we give and receive information.

Functional communication refers to a style of communication that always likes process, details, timelines and well-thought-out plans.

Intuitive communication refers to a style of communication that always likes the big picture, avoids getting bogged down in details, and cuts the chase right.

Personal communication refers to a style of communication that values emotional language and connection and uses that as a mode of discovering what others are thinking.

Reproductive tract infections refer to endogenous infections, iatrogenic infections and sexually transmitted infections that affect the reproductive system.

Spousal communication refers to nonverbal and verbal communication between a husband and a wife.

Strength of communication refers to a profound knack to put thoughts and feelings into words, images, or any variety of expression.

ABSTRACT

Reproductive tract infections (RTIS) adversely affect the reproductive health of both women and men. However, the consequences are widespread and devastating among women. Limited information is available about spousal communication on reproductive tract infections among women in Kenya. This study was designed to investigate factors influencing spousal verbal communication on reproductive tract infections, determine the level of knowledge of the common symptoms and treatment practices in spousal communication on RTIs and assess spousal verbal communication patterns on RTIs among married women in Thika Sub-County, Kenya. This study used a cross-section design. A total of eight reproductive health personnel participated as key informants. Using structured questionnaires, a simple random sampling was employed to collect data from 422 married women with RTIs and attending Thika Reproductive Health Unit. The findings from this study reported that the secondary level of education and urban residence were independent predictors of spousal communication among married women in Thika Sub-County, Kenya ($p<0.001$). The odd ratio of spousal communication in the tertiary level of education was 4.482 times greater than that of the primary level of education on RTIs. Besides, the odds ratio of spousal communication among respondents who resided in the urban areas was 2.816 times greater than those who resided in the rural areas on RTIs. The urban residence as well as the secondary and tertiary levels of education were also significant predictors of good spousal communication on RTIs ($p<0.05$). The women who knew the symptoms of RTIs were more likely to verbally discuss with their spouses than who had no knowledge on the same (57.7% vs. 35.5% $p = <0.05$). The respondents who used condoms were more likely to communicate with their partners on the symptoms of RTIs than those who did not (58.3% vs. 43.7%; $p<0.05$). Most of the respondents who sought treatment communicated with their partners on RTIs at 55.6% as opposed to those who never sought treatment at 38.9% ($p<0.05$). The highest proportion of women who abstained communicated with their partner compared to those who never abstained (60.3% vs. 45.3%; $p<0.05$). There was an association between spousal verbal communication patterns on RTIs, residence and level of education ($p<0.05$). In conclusion, tertiary education and urban residence were independent socio-demographic predictors of spousal communication on RTIs among married women in Thika Sub-County. Besides, there was an association between spousal communication on RTIs with knowledge, use of condoms, sex abstinence and seeking treatment. The residence and level of education were significantly associated with the spousal communication patterns on the RTIs. This study recommends fostering open and effective communication between spouses allows partners to voice out their concerns and worries about reproductive health issues. This ensures co-operation in seeking treatment and strategizing on preventive measures.

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Reproductive tract infections (RTIs) which include sexually transmitted diseases (STDs), iatrogenic and endogenous genital tract infections, are significant elements of reproductive health that concern human well-being (Kafle and Bhattarai, 2016; Wójkowska-Mach *et al*., 2021). Incidences of RTIs are on the rise throughout the world and according to WHO (2019), more than one million curable sexually transmitted infections (STIs) occur every day. These cases constitute a substantial economic burden for most developing countries as they account for almost 17% of economic losses experienced due to ill health. The magnitudes of problems associated with RTIs adversely affect the reproductive health of both women and men. However, the burdens are unequally divided between the sexes as the consequences are widespread among women (Sreelatha *et al*., 2017; Scoullar *et al*., 2021).

Gender differences experienced in controlling and accessing social resources and resultant inequalities in capacity, knowledge and freedom to make and act on decisions form the basis of poor status in reproductive health in women, especially in Sub-Saharan Africa (Darteh *et al*. 2019; Kananura *et al*., 2021). Men's behavior and attitudes affect women's ability to attain reproductive and sexual health outcomes (Mishra *et al*., 2014; Kriel *et al*., 2021). Therefore, when men become actively involved in responsible and safe sexual relationships, responsible parenthood and family planning are essential in achieving gender equality and also improving the reproductive health of women.

Fostering open and effectual communication between married couples allows them to voice their concerns about their reproductive health issues. Indeed, such communication ensures co-operation in seeking treatment and strategizing on effective preventive measures (Darteh *et al*., 2019). Poor communication among married couples results from cultural and social norms that create imbalances between couples (Murithi, 2016). Indeed, rigid gender roles and unequal powers between women and men inhibit spousal communication and decision-making (Davis *et al*., 2016; Wegs *et al*., 2016). Generally, compared to men, women have a weaker cultural privilege in negotiating sexual relationships (Behera *et al*., 2016; Davis *et al*., 2016).

It is evident that most of the available studies on spousal communication mainly focus on decisions on family planning (Hartmann *et al*., 2012; Najafi-Sharjabad, *et al*., 2014). Limited information is available about spousal communication on reproductive illness among women in Kenya. With several questions unanswered, including do couples discuss their experiences of RTIs? Do such communications influence preventive and curative measures of RTIs? What are the reasons of limited communication on reproductive illness among couples? This study therefore, evaluated the extent for spousal communication about reproductive tract infections and its consequent impact on both preventive and curative behaviors among couples in, Thika Sub-county in Kiambu County.

1.2 Problem statement

In Africa and particularly Nigeria, spousal communication on RTIs of as low as 20% in Africa has been reported (Fagbamigbe and Ojebuyi, (2017). There are more than one

million cases of RTIs acquired every day in the world (WHO, 2019). Besides, every year, more than 1.3 million people die of RTIs that are largely preventable in the world (Sreelatha *et al*., 2017). Prevalence of RTIs in the world range from 11-72% in various community-based studies (Nagarkar and Mhaskar, 2015). In Africa, Kenya included, the prevalence of RTIs is about 52-90% among married women (Verma et al., 2015).

A culture of silence that prevails about health issues, including RTIs, especially among women in the African settings, is a significant setback of such interventions. Reproductive tract infections compromise women's health, productivity, fertility, infant survival and the effectiveness of family planning programs (Sleeratha *et al.,* 2017). Despite the importance of communication between married couples on reproductive health and sexuality, to improve reproductive health status, there lack empirical data on spousal communication on RTIs in Thika Sub-County.

1.3 Justification of the study

There is a need to evaluate whether spousal communication has an influence on RTIs among married women. Improving spousal communication on RTIs will enhance shared responsibility in safe motherhood, leading to improve women's reproductive health (Santhya and Dasvarma, 2002). The present study provided answers related to spousal communication on reproductive illness among women that will improve curative and preventive measures of RTIs.

This study was conducted in Thika Sub-County as it is a diverse town with a cosmopolitan population. It is also characterized by a population of mixed tribes, both

from rural and urban backgrounds. In addition, it is representative of the Central region, where women are said to be primarily involved in decision-making compared to other regions in Kenya (KNBS, 2014). Also, Thika has a reproductive health unit which is the County Referral Centre in regard to RTIs.

1.4 Research questions

i. What are the socio-demographic characteristics influencing spousal communication on RTIS among married women in Thika Sub-County, Kenya?
ii. What is the level of knowledge of the common symptoms and treatment practices in spousal communication on RTIs among married women in Thika Sub-County, Kenya?
iii. What are the spousal verbal communication patterns on RTIs in Thika Sub-County, Kenya?

1.5 Objectives

1.5.1 Main objective

To investigate spousal verbal communication patterns on reproductive tract infections among married women in Thika Sub-County, Kiambu County, Kenya.

1.5.2 Specific objectives

i. To determine the socio-demographic characteristics influencing spousal communication on RTIs among married women in Thika Sub-County, Kenya.
ii. To determine the level of knowledge of the common symptoms and treatment practices in spousal communication on RTIs among married women in Thika Sub-County, Kenya.

iii. To establish spousal verbal communication patterns on RTIs among married women in Thika Sub-County, Kenya.

1.6 Null hypothesis

i. There is no significant association between socio-demographic characteristics and spousal communication on RTIs among married women in Thika Sub-County in Kenya.

ii. There is no significant association between the level of knowledge on the signs and symptoms of RTIs and treatment practices in spousal communication on RTIs among married women in Thika Sub-County in Kenya.

iii. There is no significant association between spousal verbal communication patterns on RTIs among married women in Thika Sub-County in Kenya.

1.7 Significance of the study

The findings of this study will assist reproductive health personnel in Kiambu County and the ministry of health to come up with effective strategies that will promote communication among married couples. This includes creating an efficient and effective way of service delivery and intensifying advocacy campaigns on reproductive issues. Indeed, this will assist in limiting complications and transmission of RTIs, promoting health-seeking behaviors, and prevent infection by enhancing the use of prophylactic barriers.

This study also contribute to the existing literature in regard to reproductive health and make recommendations on improving communication among couples. As such, the recommendations will play an important role in allowing health personnel to amend and

refine operations in the field while focusing the attention of the relevant policymakers. In addition, it will assist other researchers interested in investigating factors influencing spousal communication in reproductive health in Kiambu County and other regions. The study will also inform policy on enhancing spousal verbal communication among spouses with RTIs. It will also promote the attainment of sustainable development goal 3 (SDG 3), which aims to achieve universal health coverage that seeks equitable access of healthcare services to all men and women and sustainable development goal 5 (SDG 5), which aims to achieve gender equality and empower all women and girls.

1.8 Limitation and delimitation

1.8.1 Limitation

The major limitation of this study was to find respondents to take part in the survey and interview.

1.8.2 Delimitation

Informed consent was sought from the respondents and confidentiality assured.

1.9 Conceptual framework

The conceptual framework was adopted as a foundation to give guidelines to execute the study. The framework consisted of factors that were considered important in influencing spousal communication among women. The dependent variable was spousal communication (including analytical, intuitive, functional and personal communication styles). The independent variables included socio-demographic factors such as age, residence, type of marriage, occupation, level of education and religion. Other independent variables included knowledge on RTIs, treatment-seeking behaviors, use of condoms, and sex abstinence. The conceptual framework is summarized in figure 2.1.

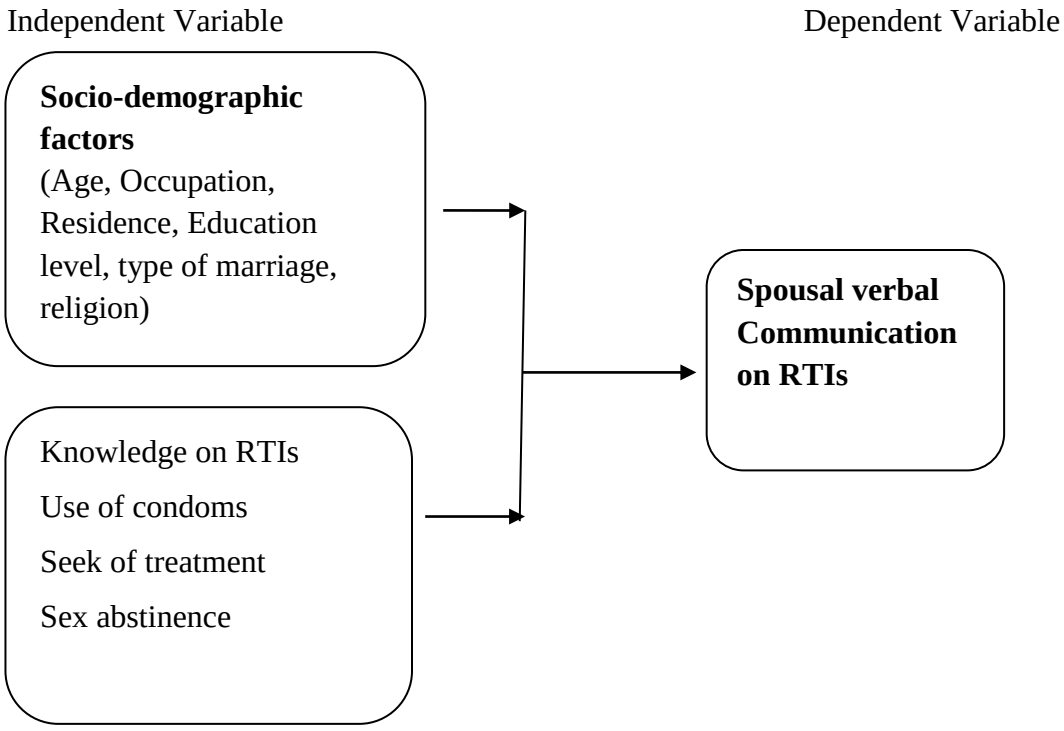

Figure 1. 1 Conceptual framework (Santhya and Dasvarma, 2002; Chiao *et al*., 2011; Fagbamigbe and Ojebuyi, 2017)

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Fostering open and effectual communication between married couples enables them to voice their distress, worries and challenges about their reproductive health issues, such as worries involving sexually transmitted diseases, that eventually result in behavioral change. Indeed such communication ensures that each partner co-operates in not only seeking treatment but also embracing preventive measures. In the last decade, several studies have been conducted on spousal communication and reproductive health, majorly focusing on family planning. This study will try to understand the various dimensions of research problems and identify gaps. The literature review of this study was obtained from a pool of articles, journals, just to name a few.

2.2 Reproductive tract infection

Reproductive tract infection (RTI) is defined as the infection of the genital or reproductive tract which results in healthy life loss among reproductive women (Tibary *et al*., 2013; Kafle and Bhattarai, 2016). In females, RTIs affect both the upper reproductive tract and the lower reproductive tract (Brunham and Paavonen, 2020); while in males, the RTIs affect the vas deferens, urethra, testicles and penis (Mesbah and Salem, 2016).

There are three types of RTIs: sexually transmitted diseases (STDs), like genital warts, chlamydial infection, gonorrhea, chancroid trichomoniasis, genital herpes, syphilis and Human Immunodeficiency Virus (HIV) infection; iatrogenic infections, which primarily occur when the cause of infection is introduced into the reproductive tract. Such

infection may occur through improper medical procedures, such as poor delivery service and insertion of the intrauterine contraceptive device, and unsafe abortion; and endogenous infections, which results from the overgrowth of organisms in the genital tract of healthy women, including bacterial vaginosis and candidiasis (Tibary *et al*., 2013; Fagbamigbe and Ojebuyi, 2017); WHO, 2018; Diadhiou *et al*., 2019; Toskin *et al.*, 2020). Suppose these infections are not prevented or treated. In that case, they may result in cervical cancer, infant blindness, infertility, ectopic pregnancy, pelvic inflammatory diseases (PIDs), fetal wastage, mental retardation, neonatal pneumonia and low birth weight (Mani, 2014). Sleeratha *et al*. (2017) also asserted that men and women suffering from RTIs are at a higher risk of acquiring and transmitting HIV.

The female RTIs originate from the lower genital tract, like vaginitis and produce various symptoms such as itching, abdominal pain, genital pain, blood-stained discharge, irregular mensural cycle, burning feeling with urination, and abdominal vaginal discharge (Kafle and Bhattarai, 2016). Conversely, a high prevalence of asymptomatic disease happens, hindering effective control. These asymptomatic diseases include polyps, prolapsed uterus or vaginal, infertility, fibroids and endometriosis (Kaida *et al*., 2018).

In developing countries, RTIs are extremely common due to sociocultural factors and structural barriers to health care. This is attributed to the fact that most people lack early diagnosis, which affects appropriate therapy, resulting in compromising of patients' health (Chaudhary *et al*., 2019; Scoullar *et al*., 2021).

2.2.1 Prevalence of RTIs

Reproductive tract infections are major health, economic and social problem globally, and their complications are the crucial causes of morbidity and mortality for women, especially in developing nations (Chaudhary *et al*., 2019). Worldwide, more than one million curable sexually transmitted infections (STIs) occur every day (WHO, 2019). WHO (2019) estimated that approximately 376 million new infections of curable STIs are syphilis, gonorrhea, chlamydia and trichomoniasis occur annually. Additionally, about 500 million people have RTIs with a herpes simplex virus. Still more than 300 million women are still reported to have human papillomavirus infection and statistics among men are likely higher (WHO, 2019).

The prevalence of the RTIs varies significantly between countries and regions within a country, a reflection of various characteristics of each pathogen (like transmissibility and duration of the infectivity), including population's sexual behavior, medical, age and socioeconomic factors (Diahiou *et al*., 2019). The prevalence rate of RTIs among women varies worldwide, ranging from 9.7% to 39.9% in various studies (Rathod and Akre, 2018; Sharma *et al*., 2018; Torrone *et al*., 2018; Chaudhary *et al*., 2019; Morhason-Bello and Fagbamigbe, 2020). In Kenya, a study by Kerubo *et al*. (2016) in rural western Kenya reported that the prevalence of reproductive tract infections was at 24% among girls age 16 to 17 years old.

2.2.2 Common RTIs and transmission in developing countries

Some of the common bacterial infections in developing countries include syphilis, gonorrhea, bacterial vaginosis, chlamydia, chancroid, lymphogranuloma venereum and

trichomoniasis. Human papillomavirus (HPV), HIV, herpes genitalis, primarily type HSV-2 and hepatitis B virus (HBV) and are the most common viral infections in developing countries (Tibary *et al*., 2013; WHO, 2019).

The pathogens causing RTIs (such as bacterial, viral and parasitic pathogens) enter the body through the mucous membrane during intercourse, be it vaginal, anal or oral, with an infected individual (WHO, 2019). This transmission of RTIs is observed to be higher from males to females as compared to from females to males. Anatomical factors seem to contribute to the transmission of RTIs from male to female than vice versa. In most cases, infections occur at an earlier age in females and tend to be more affected than men (Newman *et al*., 2015; McCauley *et al*., 2018).

The RTIs can also be transmitted from the mother to the unborn child during pregnancy or neonate during delivery. RTIs such as syphilis during pregnancy have been reported to cause infant mortalities (Qin *et al*., 2014; WHO, 2016). The RTIs can also be transmitted through tissue and blood products transfer (WHO, 2019).

2.2.3 Common symptoms and severe health problems of RTIs

The common symptoms of RTIs include genital ulcers, abdominal pain, vaginal discharge, burning feeling with urination, irregular mensural cycle, blood-stained discharge, itching and genital pain (Kerubo *et al*., 2016; Simarjeet *et al*., 2017; WHO, 2019).

The consequences of RTIs in reproductive health can be severe and life-threatening. They include ectopic pregnancies, infertility (both men and women), pelvic inflammatory diseases (PIDs), adverse pregnancy outcomes (stillbirth, miscarriage, sepsis, infant eye infection, congenital infection and preterm birth) and may increases chances of HIV transmission (Mani, 2014; WHO, 2016; Sleeratha *et al*., 2017; WHO, 2019). More than 200 000 fetal and neonatal deaths are associated with syphilis in pregnancy each year. Human papillomavirus causes 570 000 cases of cervical cancer and over 300 000 cervical cancer deaths every year (WHO, 2019).

Most RTIs affect both men and women. However, the consequences for women are more common and severe than those for men. The RTIs and their complications are the most crucial causes of morbidity and mortality for women in poor regions of the world (McCauley *et al*., 2018).

2.2.4 Screening of RTIs

Promoting symptom recognition and early use of health care services is an important step in reducing the burden of RTIs. Every opportunity should be taken to detect cervical infections by careful speculum examination and, when possible, laboratories test. Women with prior spontaneous abortion, stillbirth, or preterm delivery should be screened for trichomoniasis and bacterial vaginosis as well as syphilis (Simarjeet *et al*., 2017).

2.2.5 Prevention, treatment and management of RTIs

2.2.5.1 Prevention of RTIs

Most of the health problems caused by RTIs are preventable. Exposure to RTIs can be prevented by delaying sexual activity in adolescents, proper use condoms, reduction in the numbers of sex partners and providing comprehensive sexuality education on RTIs (National AIDS and STI Control Programme of Kenya, 2018; WHO, 2019).

2.2.5.2 Treatment and management of RTIs

Bacterial infections such as gonorrhea, chlamydia and syphilis as well as parasitic infection are treatable with single-dose regimens of antibiotics (WHO, 2019; Scoullar *et al*., 2021). Other incurable infections such as herpes, the course of the disease, are modulated with antivirus drugs. Similarly, for the hepatitis B virus, both immune system modulators and antiviral medications help fight the virus and consequently slow liver damage (WHO, 2019).

Low and middle-income countries rely, especially in Africa, on syndromic management. This is based on identifying various symptoms and signs that do not need laboratory tests for treatment purposes. Syndromic management is simple, inexpensive, assures rapid and same-day treatment (Workowski and Bolan, 2015; WHO, 2019). Conversely, misdiagnoses may occur and miss infections that do not show any symptoms (WHO, 2019).

2.2.6 Knowledge of RTIs

The knowledge of RTIs provides baseline information, help to profile and identify potential knowledge gap and assist policymakers to in prioritizing interventions to

reduce the burden of infections (Simarjeet *et al*., 2017). Counseling and behavioral intervention provide opportunities for health workers and clients to interact and discuss ways to prevent recurrence of RTIs and promote compliance to the management protocol. At the community level, behavioral change campaigns using cultural sensitive strategies helps to promote knowledge and awareness on RTIs/STIs. This reduces the risk of RTIs within the population (Morhason-Bello and Fagbamigbe, 2020). Knowledge acquired by people from their previous treatments of RTIs/STIs at a health facility is associated with positive life modification (Morhason-*Bello* and Fagbamigbe, 2020).

2.3 Spousal communication

Humans are social beings that cannot be separated from interactions with each other. Humans' interactions can take various forms. Communication can be carried out verbally, either in written or spoken forms or nonverbally including eye contact, facial expression, body movement and position factors. The purpose of the communication is that the message conveyed can be received and understood by the recipient and then the recipient of the message may be affected to do as in the message (Intyaswati *et al*., 2018).

Spousal communication refers to nonverbal and verbal communication between a husband and a wife. For a couple to enjoy their marriage, effective spousal communication must be paramount. Marriage without proper spousal communication may crumble and breaks down. The ability of a couple to exhibit effective communication strategies and apply them in their day-to-day life will boost marital

satisfaction, values and firmness. Effective communication is a key element that includes the transmission of information, ideas, emotions, skills and knowledge using signs, words, pictures, graphs, or illustrations (Yucel and Koydemir, 2015; Omah, 2020).

A couple that learns and practices good communication skills reduces marital crisis, encourages each other, and assists each other in psychological and emotional challenges. Good communication involves careful listening to and responding in a constructive non-defensive way. Spousal communication is more than words and it involves establishing an intimate link. Poor spousal communication may lead to ineffective, abusive or negative signs resulting in disagreement, depression, stress, lack of mutual sexual relationship, isolation, conflict, anger, divorce, separation, abandonment and in extreme cases spousal death. Inadequate and ineffective spousal communication is catastrophic to stable marriages. Effective spousal communication is a necessary component for the growth, preservation, decline or extinction of any relationship. A couple with proper or effective communication skills demonstrate remarkable achievement in terms of physical, mental, emotional, psychological, moral and social well-being (Yucel and Koydemir, 2015; Omah, 2020).

2.3.1 Spousal communication on RTIs

Gender inequalities to control social resources, resposibilities, awareness and the ability to make independent choices result in most women's wanting health status (Amin, 2015). In addition, men's behaviors and attitudes affect the ability of their wives to exercise reproductive choice resulting in positive reproductive and sexual outcomes in

gender stratified societies (Mishra *et al*., 2014). The advocation of active involvement and shared responsibility of men in responsible and safe family planning, sexual relationships, responsible parenthood and safe motherhood enhance women's reproductive health and gender equality. (Amin, 2015).

Enhancing spousal communication on RTIs leads to shared decisions making and responsibilities. Promoting openness between married couples may result in a change of behaviors (Darteh *et al*., 2019). In the event of one partner experience an RTIs, such communication can result in an agreement between the couple to use condoms or desist from sexual intercourse. In addition, it could ensure couple co-operation in seeking treatment. Treatment of individuals with RTIs and tracing and treating their sexual partners has been demonstrated to be a practical approach for preventing and controlling RTIs than treating individuals who seek treatment (Sevoyan and Agadjanian, 2015).

In their study on communication and decision-making on reproductive health issues in Sub-Saharan Africa, Darteh *et al*. (2019) found out that it is a joint responsibility of married couples to discuss issues related to reproductive illness. The author observed that there is a need to manage couples together for reproductive health and noted, in terms of power dynamics, more effort is required to improve decisions on reproductive issues given that the study revealed that the male partner mainly did finality on reproductive issues. Additionally, the authors argued that successful spousal communication is one of the key strategies that should be utilized in fostering responsibilities and decision-making on reproductive health matters. Symptomatic

women fail to inform their partners on RTIs due to reasons such as unknown spouse's perception, taking the symptoms as usual, hardship, shyness, acceptance of such a condition as usual and dreading of the husband's reactions (Behera *et al*., 2016)

Lack of inter-spousal communication results from both individual and collective perceptions of gender, age, cultural norms and causes of symptoms of possible reproductive tract infections. In relation to age, for example, Darteh *et al*. (2019) found out that there was a significant difference in socio-economic and demographic between women who communicate and those who do not. As the women's age increased, so their tendency to communicate increase. The study also noted that limited inter-spousal communication especially among women, could result from submission to the existing cultural norms, shyness and apprehension about their partner's reaction. The economic participation of women negatively impacts spousal communication. This is possibly attributed to women spending long hours of work. A similar study reported that long hours of work hindered spousal communication on family planning (Irungu and Sassa, 2016). Additionally, it is also likely since women are financially independent, they do not necessarily inform their husbands of the required treatments, therefore, they sort it out themselves.

As revealed in various studies that education is a key predictor of increased spousal communication, the study confirmed as it was evident that schooling had a positive influence on communication (Darteh *et al.,* 2019). Indeed, there is a need to prioritize health programs that will stimulate couple communication. Such programs will involve

men and women, health care providers, and community leaders. The health providers should be sensitized about creating a conducive environment where patients freely discuss their health problems and give the right information.

2.4 Communication styles

The communication style is a set of interpersonal behavior that defines the way we give and receive information. Many of the conflicts and misunderstandings between two individuals have to do with differences in communication style. There are four basic communication styles which include analytical, intuitive, functional and personal. The communication styles are based on the levels of emotions and linearity in how we give and receive information (Murphy, 2015; Intyaswati *et al*., 2018).

2.4.1 Analytical communicator

An analytical communicator likes real numbers, data and tends to be suspicious of individuals who do not command the facts and data. They are also likely to have specific language and dislike vague language. The merit of an analytical communication style is that the individual communicates fairly unemotional and often able to look at issues logically and dispassionately. This means other individuals tend to see the communicator as having high levels of data and information expertise. The potential demerit of the analytical communication style is that the communicator may strike certain individuals as cold or unfeeling. It is also possible for analytical communicators to get irritated and terse (Murphy, 2015; Intyaswati *et al*., 2018).

2.4.2 Intuitive communicator

Intuitive communicators always like the big picture, avoid getting bogged down in details and cut right the chase. The communicator doesn’t need to hear things in perfect

linear order but prefers a broad overview instead. The merit of an intuitive communication style is that communication is quick and to the point. The communicator doesn't need too many details and is comfortable with big ideas and thinks out of the box. The potential demerit of an intuitive communication style is that the communicators may not have enough patience and risk missing an important point (Murphy, 2015; Intyaswati *et al*., 2018).

2.4.3 Functional communicator

A functional communicator always likes process, details, timelines and well-thought-out plans. The communicator likes to communicate things in a step-by-step manner and therefore, nothing gets missed. The importance of this style is that the communication generally hits all the details and nothing gets missed. When you are on a team, individuals will often turn to you as the implementer because they have confidence in love with the process and detail. The demerit of a functional communication style is that one may risk losing the audience attention, especially when the communicator is talking to intuitive communicators (Murphy, 2015; Intyaswati *et al*., 2018).

2.4.4 Personal communicator

A personal communicator value emotional language and connection and use that as a mode of discovering what others are thinking. One finds value in assessing not just how people think but also how they feel. One also tends to be a good listener and diplomat and typically concerned with the health of numerous relationships. The merit of this style of communication is that the communicator develops a deep personal relationship with others. The demerit of personal communication style is that the communicator may

occasionally become exasperated and emotionally upset, especially when communicating with analytical communicators (Murphy, 2015; Intyaswati *et al*., 2018).

3.3 Summary of literature review

Reproductive tract infections cause serious health problems worldwide impacting individuals and communities (Rathod and Akre, 2018). Spousal communication is an important element in addressing reproductive health issues affecting women. Despite the significance of spousal communication on issues related to sexuality and reproductive health aimed at improving married partners' reproductive health status, there is no empirical data on spousal communication on RTIs among married women in Thika Sub-County Kiambu County, Kenya. Most of the review studies focused on communication and family planning.

It was increasingly felt that more research was required on spousal communication on RTIs, since various questions remained unrequited. Do spouses share their experiences associated with RTIS? Is treatment-seeking behavior influenced by inter-spousal communication of RTIs? What are the communication patterns of spousal communication among women with RTIs?

CHAPTER THREE: MATERIALS AND METHODS

3.1 Research design

A descriptive cross-sectional design was used to conduct this study, whereby the conclusions obtained from the study site will be applied to a more general population. The design described study population in regard to communication between married couples on reproductive illness. Both qualitative and quantitative methods were used in data collection.

3.2 Variables

Dependent variables included spousal communication. Independent variables were socio-demographic (age, nature of marriage, occupation, level of education, and religion), knowledge, treatment-seeking practice, sexual abstinence and condom use.

3.3 Study location

The study was conducted in Thika Sub-county, Kiambu County, Kenya. The study area was selected as it is a diverse town with a cosmopolitan population and RTIs prevalence has been reported to be high. It is also characterized by a population of mixed tribes, both from rural and urban backgrounds.

3.4 Study population

This study targeted a population of married women with RTIs, aged 18-45 years old and attending Thika Reproductive Health Unit of Excellence.

3.5 Inclusion criteria

Only married women with RTIs, aged 18-49 years old, residing within Kiambu County, Kenya and attending Thika Reproductive Health Unit of Excellence were included in this study.

3.6 Exclusion criteria

This study excluded women who were not married, those who resided outside Kiambu County, those with no symptoms of RTIs and those who were below 18 and above 49 years of age.

3.7 Sampling technique

Thika Reproductive Health Unit of Excellence was selected since it is the County Referral Centre in regards to reproductive illness. All the women with RTIs were generated from the gynecology, antenatal and family planning clinics and the dates for their next appointments noted. A census of all women turning for reviews and who gave informed consent to participate in the study was done and participants were selected using a simple random sampling technique. Respondents were given codes and those with last digits codes ending with 0, 1, 3, 5, 6, 7 and 9 were included in this study. Informed consent was sought from the sampled married women with RTIs before they were allowed to participate in this study for four months.

3.8 Sample size determination

The sample size for this study was determined using Fischer's formula (1998)

$$n = \frac{Z^2 \times pq}{d^2}$$

Where;

n = Desired sample size

Z = Standard normal distribution at 95 percent confidence level

p = Estimated prevalence of spousal communication-50%

d = Margin of error (5%)

q = 1-p

Calculation as follows:

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2} = 384$$

10% was added to cater for non-responses resulting in 422 respondents

3.9 Construction of research instruments

Structured questionnaires were constructed to obtained data from married women with RTIs and attending Thika Reproductive Health Unit of Excellence. The questionnaires were constructed from the research objectives and questions. Also, structured questionnaires were constructed for key informants working as reproductive health personnel in Thika Reproductive Health Unit of Excellence.

3.10 Pre-test study

A pre-test was done on 40 married women with RTIs, aged18-49 years old and attending Gatundu level 4 hospital gynaecological/MCH clinic. The structured questionnaires were pretested and their results cleaned and analyzed.

3.11 Validity

Data validity was achieved by ensuring that the data collection tool was formulated based on the objectives. Content validity was peer-reviewed by the University supervisors. Their suggestions and recommendations were incorporated into the final questionnaire.

3.12 Reliability

Prior to the main study, a pre-test was done to establish the relevance and accuracy, therefore, ascertaining its reliability.

3.13 Research assistant

Two reproductive health personnel working in Thika Reproductive Health Unit of Excellence were trained and assisted in administering of the questionnaires.

3.14 Data collection technique

Data were collected using structured questionnaires from married women with RTIs and attending Thika Reproductive Health Unit of Excellence. Data was also collected from eight key informants working as reproductive health personnel in Thika Reproductive Health Unit of Excellence.

3.15 Data management and statistical analysis

Questionnaire data was entered in the Microsoft Excel spreadsheet and then exported into SPSS (Statistical Package for Social Sciences) software version 25 (IBM Corporation, Version 25.0. Armonk, New York, United States of America) for statistical analysis. Descriptive statistics were computed and expressed as frequency, percentage and odd ratio. Univariate analysis (binary logistic regression) was carried out to test for association between a single independent variable with a dependent variable. The independent variables that were significant using univariate analysis were subjected to binomial multiple logistic regression to test for independent risk factors using Enter method. The model fitness was tested by Hosmer and Leme Show goodness of fit test. The odds ratios were also calculated. Categorical variables were analyzed using Chi-square or Fisher exact tests (when expected counts are less than 5 in a cell) to test for association. The level of significance was set at 95% ($p \leq 0.05$). Qualitative data from key informants was written down. Results were presented in tables.

3.16 Logistical and ethical consideration

The study was approved by the Graduate school, Kenyatta University. Ethical approval was obtained from Kenyatta University Ethical Review Committee (Approval number PKU/2002/11150; Appendix V) and a research permit obtained from the National Council for Science, Technology and Innovation (NACOSTI), license number NACOSTI/P/19/2599 (Appendix VI). Permission to collect data was sought from the County government of Kiambu (KIAMBU/HRDU/AUTHO/2019/12/16/Ndung'u GW; Appendix VII) and County Commissioner of Kiambu (Reference number ED.12/1(A)/VOL.111/180; Appendix VIII). Informed consent was sought from the respondents before carrying out the study.

CHAPTER FOUR: RESULTS

4.1 Socio-demographic characteristics of the respondents

A total of 422 married women with reproductive tract infections from Thika Sub-County, Kenya were enrolled in this study. The lack of participation in this study was less than 5%. Table 4.1 summarizes the characteristics of the respondents whereby a higher proportion of women (59.0%) were between 18-27 years old, whereas those between 28-37 and 38-49 were 26.1% and 14.9%, respectively. The type of marriage of the respondent was grouped into monogamous and polygamous. The monogamous respondents were the majority at 91.9%, while polygamous had 8.1%. The residence of the respondent was grouped into urban and rural. The rural respondents had a higher proportion of 55.0%, while the urban respondents had 45.0%.

The levels of education of the respondents were categorized into primary, secondary and tertiary. Most of the respondents had attained the secondary level of education (63.7%) followed by those in the tertiary and primary levels with a proportion of 20.6% and 15.6% respectively. The occupation of the respondents was grouped into employed, self-employed, and unemployed. A higher proportion of the respondents were unemployed (41.0%) followed by self-employed and employed with a proportion of 35.3%, and 23.7%, respectively. The religion of the respondents was grouped into Christian and Muslims. The Christian respondents were the majority with a proportion of 92.9%, while Muslims were at 7.1%.

Table 4. 1 Socio-demographic characteristic of the respondents

Variable	Frequency	Percentage
Age group in years		
18-27	249	59.0
28-37	110	26.1
38-49	63	14.9
Marriage		
Monogamous	388	91.9
Polygamous	34	8.1
Residence		
Urban	190	45.0
Rural	232	55.0
Level of education		
Primary	66	15.6
Secondary	269	63.7
Tertiary	87	20.6
Occupation		
Employed	100	23.7
Self-employed	149	35.3
Unemployed	173	41.0
Religion		
Christian	392	92.9
Muslim	30	7.1
Total	**422**	**100**

4.2 Characteristics of key informants

Eight reproductive health personnel working in Thika Reproductive Health Unit of Excellence participated in this study as key informants. Three had worked in the facility for more than ten years, while the other five had worked for more than five years.

4.3 Socio-demographic factors influencing spousal communication on reproductive tract infections among married women in Thika Sub-County, Kenya

Of the 422 respondents that were enrolled in this study, 48.1% communicated with their spouses, while 51.9% never communicated with spouses on reproductive tract infections. As shown in table 4.2, the univariate analysis (binary logistic regression) showed that urban residence as well as the secondary and tertiary levels of education

were significant risk factors for spousal communication on RTIs among married women in Thika Sub-County, Kenya ($p<0.001$). The odd ratio of the urban respondents who communicated with their spouses on RTIs was 3.208 (95% CI = 2.151-4.785) times greater than those in the rural areas (Table 4.3). On the other hand, the respondents who communicated with their spouses were 2.084 (95% CI = 1.162-3.728) folds likely to have a secondary level of education as opposed to those with a primary level of education. Similarly, the respondents who communicated with their spouses were 5.804 (95% CI = 2.872-11.726) times greater likely to have the tertiary level of education compared to those with a primary level of education (Table 4.3). On contrarily, the age group, nature of the marriage, occupation and religion of the respondents were not significant predictors of spousal communication on RTIs among married women in Thika Sub-County, Kenya ($p>0.05$; Table 4.2).

Table 4.2 Univariate analysis of socio-demographic characteristics and cultural factors influencing spousal communication on reproductive tract infection among married women in Thika Sub-County, Kenya

Variable	N	Odd ratio	95% CI for odd ratio	p value
Age group (years)				
18-27	249	Ref.		
28-37	110	1.194	0.762-1.871	0.44
38-49	63	0.888	0.509-1.548	0.69
Marriage				
Monogamous	388	Ref.		
Polygamous	34	0.645	0.314-1.325	0.23
Residence				
Urban	190	3.208	2.151-4.785	<0.001
Rural	232	Ref.		
Level of education				
Primary	66	Ref.		
Secondary	269	2.084	1.162-3.738	0.01
Tertiary	87	5.804	2.872-11.726	<0.001
Occupation				
Employed	100	0.968	0.590-1.585	0.90
Self-employed	149	1.182	0.763-1.833	0.45
Unemployed	173	Ref.		
Religion				
Christian	392	1.658	0.769-3.576	0.20
Muslim	30	Ref.		

Ref. = Reference; CI = Confidence interval

As presented in table 4.3, the binomial multiple logistic regression revealed that tertiary education and urban residence were independent socio-demographic predictors of spousal communication on reproductive tract infections among married women in Thika Sub-County, Kenya ($p \leq 0.05$). Notably, the odds ratio of spousal communication in the tertiary level of education was 4.482 (95% CI = 2.169-9.258) times greater than that of the primary level of education on RTIs. Besides, the odds ratio of spousal communication among respondents who resided in the urban areas was 2.816 (95% CI = 1.867-4.248) times greater than those who resided in the rural areas (Table 4.3).

Contrary, the secondary level of education was not a significant independent predictor of spousal communication on reproductive tract infections among married women in Thika Sub-County, Kenya (p>0.05).

Table 4.3 Binomial multiple logistic regression analysis of socio-demographic predictors of spousal communication among married women in Thika Sub-County Kenya

Independent variable	odd ratio	95% CI for odd ratio	p value
Residence			
Urban	2.816	1.867-4.248	<0.001
Rural	Ref.		
Level of education			
Primary	Ref.		
Secondary	1.805	0.989-3.294	0.06
Tertiary	4.482	2.169-9.258	<0.001

Ref. = Reference; CI = Confidence interval

4.4 Knowledge on the common symptoms, use of condoms, treatment practices and sex abstinence on RTIs and spousal communication on reproductive tract infections among married women in Thika Sub-County, Kenya

The respondents reported symptoms that were suggestive of possible reproductive tract infection. As presented in table 4.4, the most reported complaints were vaginal discharge (23.2%), followed by lower abdominal pain (22.5%), genital itching (21.1%), menstrual disorder(19.0%), painful coitus (8.8%), dysuria (7.8%), sporting after coitus (7.6%) and genital sores with a proportion of 4.5%.

Table 4.4 Knowledge of common symptoms of reproductive tract infections among married women in Thika Sub-County, Kenya

Variable	Frequency	Percentage
Genital itching	89	21.1
Painful coitus	37	8.8
Menstrual disorder	80	19.0
Sporting after coitus	32	7.6
Dysuria	33	7.8
Lower abdominal pain	95	22.5
Abnormal Vaginal discharge	98	23.2
Genital sores	19	4.5

Notably, similar findings were reported from the key informants whereby one of the participants remarked: “candidiasis, vaginitis, gonorrhea are the main reproductive issues affecting women in this region.”

As shown in table 4.5, there was a significant association between the knowledge on the symptoms of reproductive tract infection and the spousal communication on reproductive tract infection among married women in Thika sub-County, Kenya ($\chi 2$ = 20.501; df = 1; p = <0.001). The respondents who knew the suggested symptoms of RTIs were more likely to verbally discuss with their spouses compared to those who had no knowledge on the same (57.7% vs. 35.5%; p = <0.001).

The symptomatic respondents failed to inform their husbands and reported reasons which include perceptions of spouse take the symptom as normal (40%), embarrassment and shyness (30%), fear of spouse’s reaction (24%) and sympathy for the husbands (6%) due to economic hardships that has been caused by income loss, unemployment and job instability.

As summarized in table 4.5, the use of condom among the respondents while experiencing reproductive illness was significantly associated with spousal communication ($\chi 2 = 7.517$; df = 1; p = 0.01). The respondents who used condoms were more likely to communicate with their partners on the symptoms of RTIs than those who did not (58.3% vs. 43.7%; p<0.01).

As presented in table 4.5, there was a significant association between seeking treatment and the spousal communication on reproductive tract infections among married women ($\chi 2 = 11.608$; df = 1; p = 0.001). The highest proportion of women who sought treatment communicated with their spouses on reproductive tract infection at 55.6%, while those who never sought treatment and communicated with their spouses were 38.9%.

As shown in table 4.5, the sex abstinence was significantly associated with the spousal communication on RTIs ($\chi 2 = 5.660$; df = 1; p = 0.02). The majority of the respondents who abstained communicated with their spouses at 60.3%, while those who never abstained had the least proportion of spousal communication of 45.3%.

While responding to the relationship between knowledge of RTIs, sex abstinence and condom use and communication, the reproductive healthcare providers expressed their concern: “There are no interactional based education programs that empower women or

for couples on the treatment and management of RTIs apart from counseling which are scarcely done through radios, religious groups and seminars”

Table 4.5 Knowledge of common symptoms and treatment practices of RTIs and spousal communication of RTIs among married women in Thika Sub-County

	Frequency and percentage					
Variable	**Sample number**	**Spousal communication**	**No spousal communication**	**Chi square**	**df**	**p value**
Knowledge						
Yes	239	138 (57.7%)	101 (42.3%)	20.501	1	<0.001
No	183	65 (35.5%)	118 (64.5%)			
Use of condom						
Yes	127	74 (58.3%)	53 (41.7%)	7.517	1	0.01
No	295	129 (43.7%)	166 (56.3%)			
Seek treatment						
Yes	232	129 (55.6%)	103 (44.4%)	11.608	1	0.001
No	190	74 (38.9%)	116 (61.1%)			
Sex abstinence						
Yes	78	47 (60.3%)	31 (39.7%)	5.660	1	0.02
No	344	156 (45.3%)	188 (54.7%)			

df = degree of freedom

4.5 Spousal verbal communication patterns in spousal communication on RTIs among married women in Thika sub-county

In this study, a higher proportion of the respondents used personal communication pattern (55.5%), followed by intuitive (22.2%), analytical (13.3%) and functional (9.2%) communication patterns. As presented in table 4.6, there was an association between spousal verbal communication patterns on RTIs with residence (Chi square = 28.645; df = 3; p = <0.001) and level of education (Chi square = 27.221; df = 6; p = <0.001) of the respondents (p<0.05). However, there was no significant association between the spousal verbal communication patterns with the age groups (Chi square = 2.578; df = 6; p = 0.86), nature of marriage (Fisher's exact test; p = 0.55), occupation (Chi square = 10.359; df = 6; p = 0.11) and the religion (Fisher's exact test; p = 0.34) of married women with RTIs in Thika Sub-County, Kenya.

Table 4.6 Spousal verbal communication patterns in spousal communication on reproductive tract infections among married women in Thika Sub-county

		Communication patterns (frequency and percentage)						
Variable	**Total number**	**Intuitive**	**Analytical**	**Personal**	**Functional**	**Chi square**	**Df**	**p value**
Age group (years)								
18-27	249	56 (22.5%)	30 (12.0%)	143 (57.4%)	20 (8.0%)	2.576	6	0.86
28-37	110	25 (22.7%)	17 (15.5%)	56 (50.9%)	12 (10.9%)			
38-49	63	12 (19.0%)	9 (14.3%)	35 (55.6%)	7 (11.1%)			
Marriage								
Monogamous	388	5 (14.7%)	3 (8.8%)	23 (67.6%)	3 (8.8%)	-	-	0.55
Polygamous	34	88 (22.7%)	53 (13.7%)	211 (54.4%)	36 (9.3%)			
Residence								
Urban	190	61 (32.1%)	29 (15.3%)	80 (42.1%)	20 (10.5%)	28.645	3	<0.001
Rural	232	32 (13.8%)	27 (11.6%)	154 (66.4%)	19 (8.2%)			
Level of education								
Primary	66	7 (10.6%)	5 (7.6%)	48 (72.7%)	6 (9.1%)	27.221	6	<0.001
Secondary	269	54 (20.1%)	35 (13.0%)	156 (58.0%)	24 (8.9%)			
Tertiary	87	32 (36.8%)	16 (18.4%)	30 (34.5%)	9 (10.3%)			
Occupation								
Employed	100	15 (15.0%)	20 (20.0%)	54 (54.0%)	11 (11.0%)	10.359	6	0.11
Self-employed	149	32 (51.0%)	17 (27.4%)	11 (17.7%)	2 (3.2%)			
Unemployed	173	37 (24.8%)	21 (14.1%)	78 (52.3%)	13 (8.7%)			
Religion								
Christian	392	90 (23.0%)	51 (13.0%)	214 (54.6%)	37 (9.4%)	-	-	0.34
Muslim	30	3 (10.0%)	5 (16.7%)	20 (66.7%)	2 (6.7%)			

df = degree of freedom

CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

In recent times, recognition of reproductive tract infections as a global health concern with severe impact on women, their marriage, families and communities is on rise. Characterized by severe consequences such as infertility, miscarriage and neonatal blindness, RTIs are perceived as 'silent' epidemic associated with high morbidity affecting economic productivity and quality of life (Sharma *et al*., 2018). Successful spousal communication essential to foster joint decision making and responsibilities on reproductive health matters. Fostering effective communication between married couples enables them to raise their concerns on various reproductive health issues, which in most cases may result in co-operation in seeking treatment, for example.

5.2. Discussion

5.2.1. Socio-demographic characteristics influencing spousal communication

This study capture factors influencing spousal communication on reproductive tract infections affecting women in Thika Sub-County. Precisely, these factors were analyzed through demographic and socio-economic aspects such as level of education, residence, age, religion and occupation.

From the study, it was evident that the tendency to communicate increased with the level of education. Women with the tertiary level of education were more likely to communicate with their spouses than those with a primary level of education on RTIs. Indeed, such findings were expected given that education significantly alters families including marital status by increasing positive relations between spouses. Additionally,

it is widely accepted that women with a high level of education are characterized by authentic agreement, efficient listening and honest communication. Conversely, for women with a low level of education their communication is more likely to be characterized by limited listening skills coupled with inefficient honest communication (Ghimire *et al.*, 2015). Furthermore, compared to uneducated or less educated women, highly educated women are more likely to have more confidence and knowledge about their health including information on protective and treatment actions and reinforcing verbal communication with their spouses.

Similar analyses revealed positive significance in spousal communication and education. For instance, Verma *et al.* (2015), while establishing the prevalence of RTI/STI symptoms and the treatment-seeking behavior among the married women in urban and rural areas of Delhi, the authors observed that RTIs symptoms decreased with an increase in education status resulting to a positive influence on spousal verbal communication. This could be due to knowledge regarding reproductive rights associated with greater inter-spousal communication and decision-making power. Tadele *et al.* (2019), in their study on factors influencing decision-making power regarding reproductive health and rights among married women in Mettu rural district, Ethiopia, also argue that exposure to formal education among women positively influences spousal communication.

The study also revealed that the urban settings had a significant positive effect on spousal verbal communication on RTIs compared to the rural settings. This could be

attributed to the fact that married people living in the urban settings of the Thika Sub-county are more educated (KDHS, 2014) and exposed to issues affecting their sexual and reproductive life. As such, they are more likely to communicate compared to couples in the rural areas. Still, in the rural areas, most of the decisions are made solely by husbands, an indication of male dominance in regards to sexual and reproductive health issues which eventually negatively affect spousal verbal communication (Tadele *et al*., 2019). The findings are comparable to Irani *et al*. (2014) who reported that married couples in the urban areas are more likely to communicate than the rural counterparts in regard to their reproductive issues while undertaking a research on couple characteristics and contraceptive use among women and their partners in urban Kenya.

Despite no statistically significant difference between age groups and spousal communication, it was evident that less spousal communication among married young women between the ages of 18-27 was high compared to the rest. Indeed, restrained spousal communication among young women could be due to their nervousness and anxiety about how their spouses will react being fresh to the marriage, and conforming to the accepted pressures in regard to reproductive health issues as common for an African woman. Behera *et al*. (2016) argue that poor spousal communication could also be attributed to the socially isolation situations that young women find after marriage.

Similarly, occupation, religion and type of marriage of the respondents did not show association with spousal communication; however, in regards to occupation, one can

argue that the number of economically empowered respondents communicated less than those who were not. The high number of women who did not communicate could be attributed to the same observation made by previous studies.

Several studies have documented that when women become more economically empowered, this negatively impacts spousal communication. It is argued that this could be attributed to long working hours outside and inside of the home. A study on spousal communication provided insight by suggesting that long working hours are crucial communication barriers (Irungu and Sassa, 2016). Still, it is argued that working women could, perhaps, seek treatment on their own without depending on their spouses for money for treatment and therefore need not inform their husbands. The findings on religion contradicted the early reported research whereby it is argued that religion plays a role in spousal communication and marital stability (Aman *et al*., 2019). The discrepancies in the study could be attributed to the other related factors affecting spousal verbal communication.

5.2.2 Knowledge of the common symptoms and treatment practices of RTIs

Knowledge of the common symptoms of RTIs had a significant effect on spousal communication. From the study, it is evident that women, who were aware of the RTIs symptoms, notified their spouses, while those who were unaware did not communicate to their spouses concerning their health status. A probable explanation of the latter could be related to the observed cultural upbringing which dictates that women believe that the occurrence of RTIs symptoms are normal during adolescence and when married, they would get over it. Once they get married, however, they are told that it

happens all the time. Indeed, such a notion clearly plays a role in symptomatic women not informing their spouses since such symptoms are considered normal (Morris *et al*., 2014). Still, at the collective level, symptoms of RTIs are associated with sexual promiscuity. This could explain the reason why some respondents, including those who had knowledge on symptoms of RTIs, did not communicate with their spouses.

Additionally, scarce counseling carried out by reproductive health providers could also play a role lack of knowledge on common symptoms of RTIs. Similar findings were reported by Sharma *et al*. (2018), who in their studies revealed that few women disclosed their RTI since they found it difficult to describe the genital symptoms. Additionally, in their study on care-seeking behavior and barrier to sexual health problems in India, Ravi and Kulasekaran (2014) reported that married women who were unaware of the symptoms hesitated to discuss their reproductive problems due to shame and embarrassment. Whereas, for those who knew of the symptoms and communicated, their actions could be attributed to the need to seek treatment together since it may lead to complications if left untreated.

The use of condoms and practice of sex abstinence in the event of the woman having RTIs symptoms in this study was remarkably low; and still, there was no communication on the same. Contrary, spousal communication resulted in sex abstinence and the use of condoms. For the former, one could argue that various factors influenced the lack of abstinence and use of condoms. One of these factors is the lack of dialogue among spouses, which is evident in the study, given that the number of those

who did not abstain or use a condom and never communicated was high. Notably, in the African set-ups there is low use of condoms among married couples (Evans *et al*., 2019). This, as the authors argue, could be attributed to the notion that condoms have been regarded as intruders in marriages and entry into marriage sharply decreases the acceptability of condom use.

Other major barriers indicated by early studies include cultural norms, perceived lack of control and perceived threat from their spouses (Shingade *et al*., 2015). On the latter, this perhaps could be due to the notion that the few spouses considered their symptoms attributed to their sexual indulgence and as such, abstinence and condom use, was a probable preventive measures. Similarly, seeking treatments for RTIs symptoms was common, and from the data collected, it is evident that partner notification had a significant impact on treatment-seeking on women.

5.2.3. Spousal verbal communication patterns on reproductive tract infections

Many of the conflicts and misunderstandings between two individuals have to do with differences in communication style. The communication style is a set of interpersonal behavior that defines the way we give and receive information. There are four fundamental communication styles which include analytical, intuitive, functional and personal. The communication styles are based on the levels of emotions and linearity in how we give and receive information (Murphy, 2015; Intyaswati *et al*., 2018).

In this study, intuitive, analytical, personal and functional verbal communication patterns on RTIs were reported. A higher proportion of the respondents used personal

communication patterns. A reasonable explanation for this could be that the subject on RTIs is considered sensitive and personal; therefore, spouses develop a deep personal relationship (Murphy, 2015; Intyaswati *et al*., 2018). Furthermore, in the African setup, the socio-cultural environment factors influencing spousal communication such as male dominance may hinder open and detailed communication on RTIs among spouses. Indeed, as Gherghinescu and Glaveanu, (2015) argue these, factors define individual personality and communication style. More importantly, however, most women noted that they were satisfied with the concern their spouses had to towards their illness.

The study also revealed that the level of education and the respondents' residence were significantly associated with the spousal verbal communication patterns. Overall, higher levels of constructive spousal communication associated with RTIs among married women were associated with the need to seek treatment and contributed to the need to continue communicating on the same in the future.

5.3. Conclusion

i. The findings underscore that various socio-demographic and economic factors played a major role in influencing spousal communication, including residence and level of education. The tertiary level of education and urban residence were independent predictors of spousal communication on RTIs in Thika Sub-County, Kenya. However, age group, type of marriage, occupation and religion were not significantly associated with spousal verbal communication. The null hypothesis was thus, rejected.

ii. It was evident that some respondents were aware of the common symptoms of RTIs and there was an association between knowledge on the common symptoms of RTIs and spousal verbal communication. Women who were aware were more highly likely to discuss with their spouses than those unaware of the symptoms. In addition, using condoms and seeking treatment while experiencing the symptoms of RTIs were associated with spousal verbal communication. Further, sex abstinence was associated with spousal communication on RTIs. The null hypothesis was therefore, rejected.

iii. Intuitive, analytical, personal and functional spousal verbal communication patterns were reported in this study whereby majority of the respondents used personal communication pattern. The study showed a significant association between level of education and residence of the respondents with the spousal verbal communication patterns on RTIs among married women in Thika Sub-County. Contrary, the respondents' age group, nature of marriage, occupation and religion were not associated with the spousal verbal communication patterns on the RTIs. The null hypothesis was therefore, rejected.

5.4. Recommendations

i. There is a need to prioritize reproductive health programs that stimulates spousal verbal communication. Since urban residency and attainment of tertiary education influence spousal verbal communication, there is a need for Health programs that address beliefs and cultural norms that hinder communication between spouses. Reproductive health personnel should come up with effective strategies that will promote communication among married couples. This

includes creating an efficient and effective way of service delivery and intensifying advocacy campaigns on reproductive issues while amending and refining operations in the field, focusing the attention on the relevant policymakers. Indeed, this will assist in limiting complications and transmission of RTIs, promoting health-seeking behaviors, and prevent infection by promoting the use of prophylactic barriers.

ii. In order to create awareness of common symptoms and encourage positive treatment-seeking behaviors among married women, interactional educative programs involving community leaders, Women and men from the community, and health care practitioners should be put in place.

iii. Programs such as couple counseling at the health care facilities should be encouraged since they support an analytical pattern of communication. Analytical style of communication offer opportunities that will result in dialogue and active participation

5.4. Recommendations for further studies

i. Studies to be extended in other regions of the country given the diverse social and cultural aspects of the people living in Kenya.

ii. Research on spousal communication on reproductive health issues among married men.

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APPENDICES

Appendix I Informed consent form for respondents

Introduction

My name is Gladys Ndung'u a Masters of Reproductive Health student at Kenyatta University, Department of Population, Reproductive Health and Community Resource Management I would like to invite you to participate in a study "Spousal Verbal Communication on Reproductive Tract Infections among Women in Kiambu County." The purpose is to collect information and find the extent of spousal verbal communication on reproductive tract infections among women in Thika sub-county, to determine level of knowledge of the common symptoms and treatment practices in spousal communication of RTIs among married women in Kiambu County and assess spousal verbal communication patterns in spousal communication of RTIs among married women in Thika sub-county, Kiambu County. This information will help in making valid recommendations that can be used to inform various stakeholders such as County Ministry of Health in order to improve the health promotion strategies to the public.

Procedures

Participation in this study will involve answering some questions to be able to understand the various factors that may influence spousal verbal communication on reproductive tract infections, among married women. I request you to be a participant in my study, because your home is located within the areas of the study. Your house is chosen randomly from all the households in the area. I will include around 422 households in this study. If you agree to participate, you will answer or fill in a questionnaire with questions regarding the above topic. Participation in this study is voluntary and you may decline to respond to any question that you feel unsuitable to you. In addition, you may withdraw from the interview at any time you wish.

Discomfort and Risks

I am aware that you could be uncomfortable answering some of the questions in the questionnaire. Therefore, you may refuse to answer these questions if you choose. Answering questionnaire will take about 10-15 minutes.

Benefits

If you participate in this study, you will be able to learn about the extent of spousal verbal communication among married women in Kiambu County.

Reward

This interview is voluntary and no incentives whatsoever will be provided to the respondents

Privacy, anonymity and confidentiality
I will not require you to write your name, address or phone number on any part of the questionnaire. This research is for academic purposes and any findings will never be traced back to you. No name will appear or be mentioned during presentations made on the findings regarding this research.

Contact information
If you have any questions you may contact Dr. Judy Mugo on 0720671286 or Dr. Ngatia on 0720205734 or the Kenyatta University Ethical Review Committee Secretariat on chairman.kuerc@ku.ac.ke.

Should you need more information you can contact me on 0720561577.

Participant's statement
The above information regarding my participants in the study is clear to me. I have been given a chance to ask questions and my questions have been answered to my satisfaction. My participation in this study is entirely voluntary. I understand that the information will be kept in privacy and I can withdraw from the study at any time. I understand the benefits of the study and that no incentive will be given.

Code of participant……

Signature or thumb print ……... Date…….

Investigator`s statement
I, the undersigned, I have explained to the volunteer in a language she/he understands, the procedures to be followed in the study and the risks and benefits involved.

Name of interviewer……..

Interviewer signature…….. Date ……..

Appendix II Questionnaire for women aged 18-49 years

INTRODUCTION

I kindly request for some minute of your time to ask a few question in regard to my study. The information provided will be anonymous and confidential. It will solely be for academic purposes. You may skip or withdraw from the survey at any time. However, I do assure your opinion will be of great value to this study.

Tick (√) where appropriate

PART 1: SOCIO-DEMOGRAPHIC INFORMATION

Information about the respondent

1. Age: Young Age Group (18-27) [ ] Middle Age Group (28-37) [ ] Old Age Group (38-49) [ ]

2. Nature of marriage: Monogamous [ ] Polygamous [ ]

3. Residence: Rural [ ] Urban [ ]

4. Occupation: Employed [ ] self- employed [ ] Non-employed [ ]

5. Educational level: primary [ ] secondary [ ] tertiary [ ]

6 .Religion: Christian [ ] Muslim [ ] other [ ] others [ ]. Specify

PART 2: HEALTH INFORMATION and COMMUNICATION

1. **Knowledge about Reproductive Tract Infection (RTIs)**

Yes [ ] No [ ]

Communication between husband and wife in regard to symptoms experienced 3 months prior to survey

Symptoms	Partner Notification Status		Reasons	Communication Pattern
	Yes	No		
Genital itching				
Painful coitus				
Menstrual disorder				
Spotting after coitus				
Dysuria				
Low abdominal pain				
Vaginal discharge				
Genital sores				
Others				

2. Sexual and treatment seeking practice

Behavioral characteristics

i. Use of condoms: Yes [ ] No [ ]. Reasons

If Yes When?

If No, Why?

ii. Seek treatment: Yes [ ] No [ ]. Reasons

If Yes When?

If No, Why?

iii. Sex abstinence: Yes [ ] No [ ]. Reasons

If Yes When?

If No, Why?

Appendix III Key informants guide

GUIDING QUESTIONS

1. What are the common RTIs affecting women who visit the facilities?
2. What communication patterns do you see in your clients?
3. What in your opinion influences your clients ability to communicate on RTIs to their partners?
4. What communication advice to you give to your clients?
5. Are there any programs that empower women on the treatment and management of RTIs?
6. What strategy do you think would enhance communication between spouses on RTIs?

Appendix IV Map of Thika Sub-County

Sourced from county government of Kiambu

Appendix V Approval letter ethics review committee Kenyatta University

Kenyatta University
P.O Box 43844-00100
Nairobi-Kenya

REF: KU/ERC/APPROVAL/VOL1/1 Date: 25th October, 2019

Gladys Wambui Ndung'u
P.0 Box 43844-00100

NAIROBI

Dear Ms Ndung'u,

RE: APPLICATION NUMBER: PKU/2002/I1150 SPOUSAL VERBAL COMMUNICATION ON REPRODUCTIVE TRACT INFECTIONS AMONG MARRIED WOMEN IN KIAMBU COUNTY, KENYA

This is to inform you that ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE*** has reviewed and approved your above research proposal. Your application approval number is **PKU/2002/I1150.** The approval period is ***14th October, 2019-14th October, 2020.***

This approval is subject to compliance with the following requirements;

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE***.
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE*** within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE*** within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.

vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE***.

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

Yours sincerely

Prof. Judith Kimiywe

CHAIRPERSON- KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE.

Appendix VI NACOSTI research license

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 260823

Date of Issue: 06/November/2019

RESEARCH LICENSE

This is to Certify that Ms.. GLADYS WANGUI of Kenyatta University, has been licensed to conduct research in Nairobi on the topic: SPOUSAL VERBAL COMMUNICATION ON REPRODUCTIVE TRACT INFECTIONS AMONG MARRIED WOMEN IN KIAMBU COUNTY ,KENYA. for the period ending : 06/November/2020.

License No: NACOSTI/P/19/2599

260823

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

Appendix VII Letter of research approval by government of Kiambu County

COUNTY GOVERNMENT OF KIAMBU
DEPARTMENT OF HEALTH SERVICES
P.O Box 2344 - 00900 Kiambu, Kenya
Tel: +254 709 877 000 Email: info@Kiambu.go.ke Website: www.Kiambu.go.ke Twitter: @KiambuCountyGov

Ref. No: KIAMBU/HRDU/AUTHO/2019/12/16/Ndung'U GW

Date: 16 Dec 2019

TO WHOM IT MAY CONCERN,

RE: CLEARANCE TO CONDUCT RESEARCH IN KIAMBU COUNTY

Kindly note that we have received a request by **Ms. Gladys Wangui Ndung'U** of **Kenyatta University** to carry out research in Kiambu County, the research topic being on *"Spousal Verbal Communication On Reproductive Tract Infections Among Married Women In Kiambu County, Kenya"*.

We have duly inspected her documents and found that she has been cleared by **National Commission For Science, Technology And Innovation** until **06 Nov 2020**. She thus does not need any further clearance with another regulatory body in order to conduct research within the county of Kiambu.

However, it is incumbent upon the facility in which the research is being carried out to ensure that they are conversant with the remit of the study and operate in line with their institutional norms on conducting research. This note also accords her the duty to provide feedback on her research to the county at the conclusion of her research.

DR. M. NDIRITU NDIRANGU
COUNTY HEALTH RESEARCH DEVELOPMENT UNIT
KIAMBU COUNTY

Appendix VIII Letter of research authorization by County Commissioner of Kiambu

OFFICE OF THE PRESIDENT
MINISTRY OF INTERIOR AND CO-ORDINATION OF NATIONAL GOVERNMENT
COUNTY COMMISSIONER, KIAMBU

Telephone: 066-2022709

Fax: 066-2022644
E-mail: countycommkiambu@yahoo.com
When replying please quote

County Commissioner
Kiambu County
P.O. Box 32-00900
KIAMBU

Ref.No: **ED.12/1(A)/VOL.III/180**

Date: **9th December, 2019**

Ms. Gladys Wangui
Kenyatta University
P.O. BOX 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Reference is made to National Commission for Science, Technology and Innovation letter Ref No. **NACOSTI/P/19/2599** dated **6th November, 2019**.

You have been authorized to conduct research on ***"SPOUSAL VERBAL COMMUNICATION ON REPRODUCTIVE TRACT INFECTIONS AMONG MARRIED WOMEN IN KIAMBU COUNTY, KENYA."*** The data collection will be carried out in ***Kiambu County*** *for a period ending* ***6th November, 2020.***

You are requested to share your findings with the County Education Office, Kiambu upon completion of your research.

Festus Kimeu
FOR: COUNTY COMMISSIONER
KIAMBU COUNTY

Copy to: The National Commission for Science, Technology and Innovation
P.O. Box 30623-00100
NAIROBI

The County Director of Education
KIAMBU COUNTY

All Deputy County Commissioners (***For information and record purposes***)
KIAMBU COUNTY

APPENDIX IX: PUBLICATION

Pan African Medical Journal - New Manuscript Submission Inbox x

Submission - Manuscript Hut Pan African Medical Journal <submission@panafrican-med-journal.com> Mon, Jul 26, 9:32 AM

to me, Jane, Justus, Submission, Editor

Dear Gladys Ndung'u

Your submission was received by the editorial office of the journal and will soon be processed.

Summary of submission

Spousal verbal communication on reproductive tract infections among married women in Kenya

Manuscript ID : 30930 - 5401202125074O
Date submission started : 25 Jul 2021
Date submission ended : 25 Jul 2021
Authors : Gladys Ndung'u,Jane Mugo,Justus Ngatia
Submitted as : Case study
Keywords : Spousal communication, reproductive tract infections, women (Gynecology)
Journal: : Pan African Medical Journal

Abstract

Reproductive tract infections adversely affect the reproductive health of both women and men. However, the consequences are widespread and devastating among women. Limited informatio is available about spousal communication on reproductive tract infections among women in Kenya. This study investigated spousal verbal communication on reproductive tract infection among married women in Thika Sub-County, in Kiambu County. The study enrolled 422 respondents, married women, between the ages of 18-49 years old. The findings from this stud showed that the tertiary level of education and urban residence were independent socio-demographic predictors of spousal communication on RTIs among married women in Thika Sub County. Besides, there was an association between spousal communication on RTIs with knowledge, use of condoms, sex abstinence and seeking of treatment. The residence and level c education were significantly associated with the spousal communication patterns on the RTIs. This study recommends that fostering open and effective communication between spouses allo partners to voice out their concerns and worries about reproductive health issues. This ensures co-operation in seeking treatment and strategizing on preventive measures.