INTERPERSONAL COMMUNICATION AND HEALTH MESSAGE EXPOSURE IN DECISION MAKING ON ABORTION AMONG WOMEN AGED 18-49 YEARS IN NAKURU COUNTY, KENYA

AGNES MERCY MUTHONI WAHOME

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Interpersonal Communication and Health Message Exposure in Decision Making on Abortion among Women Aged 18-49 Years in Nakuru County, Kenya

Agnes Mercy Muthoni Wahome

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DECLARATION

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

Signature…….....Date……

Agnes Mercy Muthoni Wahome

This Thesis has been submitted for examination with our approval as University Supervisors.

Signature…….....Date……

Prof. Hellen K. Mberia, PhD

JKUAT, Kenya

Signature…….....Date……

Dr. Geoffrey Sikolia, PhD

USIU, Kenya

DEDICATION

This thesis is dedicated to my entire family members for their love, encouragement and support throughout my studies.

Special dedication to community women groups in Nakuru County. It is through working with you that I was inspired to undertake this study.

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ABBREVIATIONS AND ACRONYMS

TPB	Theory of Planned Behavior
WHO	World Health Organization
PBC	Perceived Behavioural Control
TV	Television
HIV	Human Immunodeficiency Virus
STI	Sexually Transmitted Infection
IPC	Interpersonal Relationship
UNICEF	United Nations International Children's Emergency Fund
PHAST	Public Health Action Support Team
PAC	Post Abortion Care

OPERATIONAL DEFINITION OF KEY TERMS

Abortion: It is the termination of a pregnancy before the foetus becomes viable, in other words capable of existence outside of the mother's uterus Ferreira (1985)

Unsafe abortion a procedure for terminating an unintended pregnancy either by individuals without the necessary skills or in an environment that does not conform to minimum medical standards or both. It leads to acute life-threatening as well as long-term disabling morbidity WHO. (2004)

Spontaneous abortions: It occurs naturally and is beyond the control of the pregnant woman. Induced abortions are those which occur as the direct result of deliberate action taken, by artificially inducing the loss of the foetus, with the intention of terminating the pregnancy Ferreira, (1985).

Attitude: Involves what people think (cognition), feel (affect) and how they would like to behave towards an attitude object Pötsönen and Kontula, (1999) Attitude towards behaviour refers to an individual's positive or negative evaluation of the behaviour in question. For this study, this component is operationalized as attitude towards abortion, which referred to women's emotional response or attitude towards having an abortion.

Post abortion care (PAC): Encompasses emergency treatment for complications from an incomplete abortion, the provision of family planning services and counselling, and referral for other reproductive health care needs (WHO1992)

Subjective norm: Refers to the perceived social pressure from important others on an individual to execute a specific behaviour. As an example, a woman who has had an abortion may react to social pressure by isolating themselves, experience low self-esteem and feel embarrassed. In this study, Subjective norm is defined as perceived social impact. Fife and Wright (2000) including the following components: (1) social isolation

i.e., feelings of loneliness, uselessness and inferiority to peers and others; 2) social rejection i.e., feelings of stigma and discrimination at work and in society generally; and 3) internalised shame, i.e., the psychological experience of Social rejection.

Perceived behavioural control; is compatible with the concept of perceived self-efficacy. It is an individual's perceived confidence or difficulty to perform a specific behaviour. Perceived behaviour control is operationalized as the respondents' perceived self-efficacy or self-confidence in dealing with an unplanned pregnancy.

Decision making: In this study decision making is defined as respondents' intention to have an abortion or not.

Independent variables: This study identifies health message exposure and the level of interpersonal communication as the key variables in decision making in case of an unplanned pregnancy; whether to have an abortion or not.

Health messages: This study defines it as content on abortion developed for information, education or communication purposes and is distributed verbally by qualified health professionals, in print format such as pamphlets, posters and magazines; electronically through the internet, TV and radio.

Interpersonal communication: In this study, it is the verbal and non-verbal communication between family, peers and members of social groups that influence decision making.

ABSTRACT

Elimination of maternal death and complications due to abortion remains a global concern. Whereas policy and guidelines on the same are in place, studies to guide evidence-based programming in health communication strategies and programs in reproductive health are inadequate. This study sought to examine how interpersonal communication and health message exposure influenced decision making on abortion among women aged between18 to 49 years in Nakuru County. The specific objectives of the study were: to determine the influence of interpersonal communication on decision making on abortion among women aged 18 to 49 years in Nakuru County; to examine influence of health message exposure on decision making on abortion among women of aged 18 to 49 years in Nakuru County; to determine the moderating effects of demographic characteristics between interpersonal communication and decision making on abortion among women of aged 18 to 49 years in Nakuru County, and finally to determine the moderating effects of demographic characteristics between health message exposure and decision making on abortion among women of aged 18 to 49 years in this study site. The study adopted a mixed method research approach, specifically using the convergent parallel designs. The target population of the study was women who had experienced an induced abortion in the age bracket of 18-45 years in Nakuru County. A sample size of 340 women was purposively selected from patients seeking services at four health facilities in Nakuru. Primary data was utilized in this study. Quantitative data was collected using a semi structured questionnaire comprising both closed and open-ended questions. This sample was randomly selected on real time basis from clients seeking Post Abortion Care (PAC) services. Qualitative data was collected using key informant interview guides from 28 health providers who were purposively sampled to include only those providing PAC services at both public hospitals in the county. Ten In-depth interviews were carried out on PAC clients. STATA Version 15 was used to analyse quantitative data while qualitative data was analysed based on thematic areas. The data was later merged and interpreted identifying areas of similarities and convergence as well as contradictions. The study found that interpersonal communication and health message exposure are significant in decision making on abortion in women of reproductive age in Nakuru County. The study concluded that fear of social sanctions like rejection and isolation by the family and social groups was the major cause of termination of pregnancy even among women who had prior health message exposure on abortion and other reproductive health information.The study recommends the need to design anti-abortion community communication campaigns that target families and community groups with the aim of reducing stigma towards women with unplanned pregnancies. The study also recommends empowerment programs for young women to increase their self-efficacy in decision making on matters of reproductive health.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Abortion has dominated global and international discourse as an emotional topic for women and men who find themselves facing the moral dilemma of whether or not to terminate a pregnancy.

Interpersonal communication and mass media have been used successfully in creating awareness and educating the public of various reproductive health issues like HIV, STI and family planning, thus enabling the public to make informed decisions towards sexual behaviour and desire to avoid negative consequences. This relates to the concepts of the Health Belief Model in health promotion practice. On the other hand, interpersonal communication and social networks in Africa play an important role in influencing a woman's decision on her reproductive health status. Brems and Griffiths (1993), in their review observed that ''women's health is strongly conditioned by the political and economic environment in which they live, the society of which they are a part, and the cultural belief that organizes and gives meaning to their lives'' (pg. 257). This society and cultural belief system contain a wide range of influences, including husbands or partners, families, friends, and communities. Nyanzi, Nyanzi, and Bessie (2005) documented the significant role of men as husbands, partners, fathers, brothers, or sons in women's abortion decisions in south western Uganda and noted that interventions and policies should reflect this reality. The decision making on abortion among Africa women therefore remain unclear despite their level of health message exposure on reproductive health and abortion.

According to World Health Organisation (2004) it is estimated that every year approximately 4.2 million African women experience an unsafe abortion. A maternal mortality working group (WHO, UNICEF, UNFPA, UN Population Division, World Bank, outside technical experts) estimated that, in 2005, there were 270,500 maternal deaths in Sub-Saharan Africa Lancet, (2007). Sub-Sahara region accounts for only

17 percent of the world population and 12 percent of births worldwide. Unsafe abortion is one of the leading causes of maternal mortality and morbidity in Sub-Saharan Africa accounting for over 20 percent of maternal deaths. An estimated 300,000 abortions are performed in Kenya each year, and 20,000 women are admitted with abortion-related complications to public hospitals annually. This translates into a daily abortion rate of 800 procedures and the death of 2,600 women every year despite numerous communication strategies used by both government and non-governmental organisations.

Abortion is not new in human society; Devereux (1955) explained that more than 300 industrialized and non-industrialized human societies practiced abortion. Women have performed abortions on themselves or experienced abortions at the hands of others for thousands of years Potts, Diggory and Peel, (1977). Abortions continue to occur today in developing areas under medically primitive conditions. However, modern technology and social change have made abortion a part of modern health care terming it a health rights issue. At the same time, abortion has become a political issue in some countries including Kenya and a flash point for disagreements about the role of women and individual autonomy in life decisions.

Globally, 25 percent of unintended pregnancies end up as 'unwanted or mistimed child births Gipson, Jessica, Koenig and Hindin, (2008), further highlighting that not every woman would invariably opt to undergo an abortion. More importantly, it further suggests that in addition to many 'push' factors that favor abortion, women also experience 'pull' factors that work against abortion. Regardless of whether people support abortion or not, the act has inevitable health and social impacts and cannot be ignored as it is a practice with social ramification, a social phenomenon so prominent that it necessitates the creation of laws. Those women who choose to have an abortion have difficult decisions to make regarding the reasoning behind obtaining an abortion, the consequences of obtaining abortion, and their physical, psychological and financial ability to go through with an abortion or to live with the resulting outcomes of abortion. Abortions are described as controversial and prohibited topics in many African societies due to social, moral, cultural, religious, and political dimensions (Van Look and Cottingham, 2002), and as a result abortion

remains one of the five leading causes of maternal death (Grimes, 2003; Hordand , 2004; World Health Organization,2004).

Numerous studies have shown that decisions regarding resolution of an unplanned pregnancy are not easy for many women. For example, Husfeldt, Hansen, Lyngberg, Noddebo and Petersson (1995) indicated that 44 percent of women expressed doubts about a decision to abort at the time the pregnancy was identified, with 30 percent continuing to express doubts at the time of the induced abortion. The various responses to abortion range from those of the individual and her immediate circle of family and friends to the organizational, community, and even national levels. Each culture and society has specific ways in which it perceives abortion.

Communicating with self and with others within one's social networks to arrive at a decision on how to proceed is important. This affects the decision-making phase, making the process dynamic and situation specific. Interpersonal communication which is communication on a personal level and includes one-to-one communication, small groups, emails, telephone calls and other activities that allow personal listening and response, deals with communicating with others regarding decisions about daily lives, sharing information, and showing ideas and feelings. Decisions are made in the hope that they will result in good outcomes (Yates, 1990). In a case of unplanned pregnancy, communication then becomes a major determinant of the outcome.

Although abortion remains illegal in Kenya, the wording in the Constitution, remain vague and open to personal interpretation. The language of the article reads: "Abortion is not permitted, unless, in the opinion of a trained health professional, there is a need for emergency treatment, or the life or health of the mother is in danger or if permitted by any other written law" (Constitution of Kenya 2010 Article 26). This vagueness has been interpreted as liberalization thus meaning abortion is legal. Despite this understanding, the fear of stigma remains real. Women are ostracized, labelled and stigmatized as killers or murderers, are perceived to be a bad influence on others, and are called prostitutes and accused of being unfaithful to their husbands or boyfriends. Younger women are perceived to be poor candidates for marriage (Heather, Sylvia, Erick, Tamara, Leah and Sinikiwe 2014). These social

pressures communicated in various forms like isolation demonstrates the power of interpersonal communication regardless of what the law states.

On the other hand, health messages articulating the importance of preventing unplanned pregnancies and dangers of abortion have been developed globally over the years as an effort to reduce maternal mortality. In five Latin American countries: Argentina, Chile, Ecuador, Peru and Venezuela for example Safe Abortion Information Hotlines (SAIH) were used as channels provide women with abortion information. The strategy was developed by feminists in countries where abortion was legally restricted and unsafe. These hotlines had a range of goals and toke different forms, but they all offered information by telephone to women about how to terminate a pregnancy using the drug misoprostol (Raquel, 2014). In the same study, Raquel observed that the hotlines promoted women's autonomy and right to decide whether to continue or terminate a pregnancy, thus having the potential to reduce the risk to women's health and lives of unsafe abortion. In the literature review, This study sought to establish if there were similar strategies as those in Latin America or other communication strategies that had been used to provide health messages on abortion in Kenya.

In Kenya, the Ministry of Public Health and Sanitation prioritized increasing awareness on the importance of seeking reproductive healthcare services especially prevention of unsafe abortion. This is articulated in the Reproductive Health Communication Strategy 2010-2012. It is therefore in this background that this study sought to investigate what kind of health messages women in reproductive age in Nakuru are exposed to and the of these messages sources; types of interpersonal communications the women are engaged in and how this influence decision making on abortion among women of reproductive age resulting to an abortion.

Much of the research relating to abortion has mainly been quantitative and focusing on the factors associated with abortion seeking and the reasons for carrying out an abortion. Quantitative studies have limited ability to bring out pre-abortion conversations that women have and the health information they have prior to making a decision to have an abortion. The current study examines the nature of relationships

that women have prior to obtaining an abortion, in order to understand who women turn to within their social network as sources of support in decision making. The study also examines the source and content of health information the women have been exposed to prior to the abortion and whether the information counts in decision making.

The study attempted to provide a theoretical explanation on how health messages are communicated to the public using the Cultivation theory. Interactional theory, which is an interpersonal communication theory, was used to explain how communication in the family and within other social networks can influence decision making on abortion. Using the Theory of Planned Behaviour, the study explored individual cognitive factors like attitudes and beliefs towards abortion. The theory takes cognizance of the role of subjective norm in decision making. The study finally looks at the significance of age, marital status, level of education and religion in influencing decision making on abortion.

1.2 Statement of the Problem

In recent decades, women's reproductive health matters have taken a global centre stage to include their right to make decisions. However, Women and girls in Kenya face numerous barriers to controlling their fertility, experience high rates of unintended pregnancy and commonly encounter stigma associated with unintended pregnancy and abortion (Kamari, Izugbara, Ochako 2013). As a result of the fear and stigma, women use methods such as ingesting chemicals or inserting sharp objects into their uterus to terminate the pregnancy and further go to great lengths to keep their abortions secret (Jayaweera, Ngui, Hall and Gerdts, 2018). Subsequently, the women and girls have suffered from infections and in some cases death.

The rate of abortion in the world has been significant to warrant investigation. According to Guttmacher (2008) the abortion ratio in Kenya is 21.3 abortions per 100 live births while the abortion rate is 34.3 abortions per 1,000 women of reproductive age (WRA= 15- 49 years).

Little is known on the communication dynamics that take place when one finds herself pregnant before she is ready to me a mother and how she arrives at the decision to either take care the pregnancy until delivery or procure an abortion. Rehnström, Lindgren and Faxelid (2018) note that gaps exist in knowledge regarding women's decision-making processes in relation to induced abortions in Kenya. Studies done in Kenya on abortion have mainly focused on biomedical perspective, effects of unsafe abortion and psychological effects of abortion.

Some studies have shown that women opt to have an abortion due to lack of access of knowledge (Kamala & Aboud,2006). Another one Osur (2015) made an attempt to understand the social networks and decision making for clandestine unsafe abortions in Kenya assuming that the social network groups are the main determinants of decisions on abortion. However, these studies did not explore prior health message exposure on reproductive health nor did it consider other interpersonal relations at the family as important in decision making.

This study therefore sought to explore how health message exposure relates to decision making in women who have had an abortion. The study also sought to understand the role of interpersonal communication in decision making on abortion among women aged between18-49 years in Nakuru County. Finally, the study also examined the moderating influence of demographic characteristics such as age, level of education, marital status and socioeconomic status of women seeking post abortion care services. The findings from this study would contribute in filling both policy and program gaps in strategic communication in reducing maternal mortality.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study was to examine the influence of interpersonal communication and health message exposure in decision making on abortion among women aged between18-49 years in Nakuru County.

1.3.2 Specific Objectives

Specifically, the study sought to;

1. Establish the influence of health message exposure on decision making on abortion among women aged 18 to 49 years in Nakuru County.
2. Determine the influence of interpersonal communication on decision making on abortion among women aged 18 to 49 years in Nakuru County
3. Establish the moderating demographic characteristics between health message exposure and decision making on abortion among women of aged 18 to 49 years in Nakuru County, Kenya
4. Determine the moderating demographic characteristics between interpersonal communication and decision making on abortion among women of aged 18 to 49 years in Nakuru County, Kenya

1.4 Research Questions

To address the above objectives, the following research questions were used;

1. What influence does health message exposure have in decision making on abortion among women of aged 18 to 49 years in Nakuru County?
2. What influence does interpersonal communication have in decision making on abortion among women aged 18 to 49 years in Nakuru County.?
3. What influence do demographic characteristics have on the relationship between health message exposure and decision making on abortion among women of aged 18 to 49 years in Nakuru County?
4. What influence do demographic characteristics have on the relationship between interpersonal communication and decision making on abortion among women of aged 18 to 49 years in Nakuru County?

1.5 Research Hypotheses

$H_0$1 There is no significant relationship between health message exposure and decision making on abortion among women of aged 18 to 49 years in Nakuru County

$H_0$2 There is no significant relationship between interpersonal communication and decision making on abortion among women of aged 18 to 49 years in Nakuru County

$H_0$3: Demographic characteristics have no influence on the relationship between health message exposure and decision making on abortion among women of aged 18 to 49 years in Nakuru County

$H_0$4: Demographic characteristics have no influence on the relationship between interpersonal communication and decision making on abortion among women of aged 18 to 49 years in Nakuru County

1.6 Significance of the Study

This study contributes to a global concern on elimination of maternal death and complications due to abortion. The prime justification of research study is that whereas policy and guidelines on elimination of maternal death and complications due to abortion have been developed, the study provides insights for review of the policies. The study also provides justification for evidence-based programming in health communication strategies and programs in reproductive health education.

In Kenya, the Ministry of Health developed a Reproductive Health Research Agenda where it prioritised the following topics; research to determine the level of community education on various reproductive health issues; need to determine the quality and quantity of information, education and communication materials available within communities to raise residents' awareness about reproductive health; identify community resources and willingness to contribute to the enhancement of community reproductive health; prevalence, experience of, and attitudes towards unwanted pregnancies; abortion prevalence, attitudes, beliefs and policy makers' views (MOPHS 2010). This study therefore contributes to the overall research priorities in the country.

The rate of abortion among women in reproductive age in Kenya raises concerns on what influences their decision to actually have an abortion. The women who have had an abortion seem to have unique attitudes towards prevention of unwanted

pregnancies. Whereas the social and environmental factors could influence their decision, little research has been done to explore the relationship between their social networks, health message exposure through media, social norms and interpersonal communication on the decision making. In addition, understanding their attitudes, relationships, family circumstances and behaviours in the process of making that decision is a key research area to explore considering the rise in cases of unsafe abortion leading to maternal mortality in Kenya (Gebreselassie, Gallo, Monyo, & Johnson, 2005).

The findings of this study attempted to answer some the following questions raised by The National Study Incidence and Complications of Unsafe Abortion in Kenya (2013): 1) Under what conditions do Kenyan women opt to have abortions; 2) If any interventions such as sexual education in schools are helping to reduce unintended pregnancies; 3) If women know where to go for contraceptives and appropriate abortion care; 4) Community perspectives on unintended pregnancies and unsafe abortion; 5) The contribution of sexual violence to unintended pregnancies and 6) How the empowerment of women could help to alleviate unintended pregnancies, perhaps through more consistent contraceptive use.

This study provides an opportunity to explain decision making on abortion from a theoretical perspective. A review of the cultivation theory and study findings on health message exposure will encourage health workers to integrate health education content on abortion with other reproductive health information like HIV prevention. The findings will also guide on the preferred media for different age groups. The study findings on how interpersonal communication within networks influences decision making on abortion confirm the interaction theory on the women's need to conform to societal expectations. These findings can be used to design messages targeting families and social groups in prevention of abortion and related stigma.

Health communication is generally a new field of study with very few scholars compared to other disciplines within communication studies. In Kenya, health communication is barely understood. This study therefore will interest communication scholars to study health behaviour in the context of communication.

1.7 Scope of the Study

Nakuru County has consistently had the highest number of cases of abortion-related outpatient cases in the country since at least 2003, with 10,958 deaths in 2004 alone (KMOH, 2005). A national study on incidence and complications of unsafe abortion in Kenya undertaken in 2012 and conducted by the APHRC in collaboration with the Ministry of Health and other partners shows that Nakuru County still recorded the most cases. 153,976 abortions out of the total 464,690 abortions were procured in Rift valley in 2012 among women of reproductive age (15 to 49years). Health facilities in the region reported having attended to 38,687 cases of induced abortions in the same year. This study therefore was purposively carried out at four public hospitals namely, Nakuru Level 5 Hospital, Naivasha Sub-County Hospital, Bahati Sub-County Hospital and one private hospital, namely Nairobi Women Hospital. These are the major referral hospitals according to Ministry of Health classification. The current study was on how interpersonal communication and health message exposure influence on decision making on abortion among women aged 18-49 years in Nakuru

The study examined how sources, content and frequency of health messages influenced decision making on abortion. The study also examined interpersonal communication and decision making on abortion among women aged between18-49 years in Nakuru County who were seeking post abortion care after having an induced abortion. The study further looked at demographic characteristics namely; age, religion, level of education and marital status as moderators.

Literature review included studies focusing on various sources and content of reproductive health messages. It also reviewed literature on interpersonal communication and how studies on these two constructs influence decision making on abortion among women of reproductive age. This study reviwed three theories namely Cultivation Theory, Interaction Communication Theory and the Theory of Planned Behavior to understand decision making in women who had experienced an abortion.

This study employed the convergent parallel research design which is one of the mixed method approaches. It relied on both quantitative and qualitative data which was collected from women aged between 18-49 years who had experienced abortion and health providers who administered post abortion care to those women.

1.8 Limitations of the study

1.8.1 Limitations in data collection

The study faced various limitations and challenges mainly during data collection since it focused on a special population. Abortion has remained a sensitive and private matter and therefore the first challenge was getting respondents willing to be interviewed in the study. To overcome this, the hospital staff in charge of reproductive health services assured the respondents that the information was only for academic purpose. A second limitation was that some of the respondents were initially not truthful in answering questions about who they consulted when deciding to have an abortion but this was mitigated by assuring them of their privacy, going back on already asked question and rephrasing the questions to seek for consistency. Thirdly, interviewing women who had just received PAC services proved to be a problem in some instances as the women were still bleeding and in pain. This was however mitigated by the researcher in stopping the interview and allowing the participant time to get relief. In one case the researcher decided to postpone an interview to a later date.

1.8.2 Systems – related limitations

The fourth limitation was that the study period could not be determined beforehand since the researcher and research assistants had to remain at the health facilities until the desired sample size was attained. In addition, industrial strikes by doctors and nurses in public health facilities affected the flow of patients thus slowing the data collection process. This had a negative implication on both time and financial costs. This was mitigated by collecting data from the private health facility first and then resumed to public health facilities after strike was called off.

Lastly, initially identified private health facilities were not willing to participate in the study without being listed as co-authors and allowed to revise the questionnaire. The researcher opted for a different private health facility.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, several critical areas of relevance to the study are analysed. The first section of literature review provides an overview of relevant theories to this study namely, Cultivation Theory, Interaction Communication Theory and the Theory of Planned Behavior to understand decision making in women who have had an abortion. The purpose for reviewing these theories was to provide an understanding of the theoretical constructs and variables used in this study. The second section of the chapter involves the conceptualization of the variables that were investigated and a conceptual framework developed to connect all the aspects of the study, hence demonstrates the relationship between the independent, moderating and the dependent variables. A review of the research variables and relevant literature is done.

This chapter also presents a detailed review of literature relevant to interpersonal communication and health message exposure, (independent variables) and how this influence decision making on abortion (dependant variable). Also discussed are age, marital status, religion, employment status and level of education as moderating variables. An empirical review of related literature and a critique of existing literature is also included in this chapter. It is within this context that the study demonstrated the lacuna it strives to fill.

2.2 Theoretical Framework

Media and interpersonal communication theories involve many psychological and mental factors and have given communication an interesting field to research. Many theories and models have been put forth to examine decision making on human behavior including abortion among women of reproductive age. This study took a multi perspective approach and draws from three theories. Cultivation Theory in relation to health message exposure, Interaction Communication Theory to explore interpersonal communication at family and Community level and the Theory of

Planned Behavior to understand decision making patterns of women who have had an abortion

2.2.1 Cultivation Theory

The Cultivation theory authored by George Gerbner (1919–2005) is a communication theory which holds that television viewing contributes to beliefs and conceptions of life and society. He devised a unique way to think about media effects in the late 1960s and called his approach "cultivation", with a goal to help us understand the consequences of living in a cultural environment dominated by mediated mass communication. He emphasized on television as it monopolized people's cultural participation and public debate in the mid-twentieth century (before the rise of the Internet). Gerbner's research paradigm was designed to first investigate the institutional processes that underlie the media and the production of its content. Secondly, investigate the most prevalent images in media content, and thirdly to understand the relationships between media exposure and audience beliefs and behaviours.

In its simplest form, cultivation analysis asks if people who watch more television have views that are more reflective of what they see on television than people who have similar demographic characteristics but watch less television (Morgan, Shanahan, and Signorielli, 2009). The earliest cultivation studies investigated how television viewing contributed to beliefs and conceptions of violence and victimization, but the research soon expanded to include many other aspects of life and society, for instance gender roles, minority and age-role stereotypes, health, science, the family, educational achievement and aspirations, politics, religion, the environment – and numerous other topics, many of which have also been examined in a variety of cross-cultural comparative contexts. Television exposure is regarded as the active influence that shapes the cultivation indicators. As a construct, it is conceptualized purely in terms of time. It does not matter what a person watches, only how much he or she watches. This conceptualization is based on two assumptions: uniform messages and nonselective viewing. As viewing increases so does the number of images encountered. The increased exposure eventually leads to

a change in the viewers' perceptions about the real world, and this could possibly lead to a change in attitude (Gerbner, 1970). In examining cultivation theory, viewers are divided into high, moderate, and low viewers depending on the amount of total television they watch. (Potter, 2014)

Cultivation theory holds three core assumptions. The first assumption highlights television as a medium that is visual and auditory. Anyone is able to comprehend the content that is broadcast through television and therefore does not require viewers to be literate. Television programming uses storytelling and engaging narratives to capture people's attention. According to Gerbner, television is the "central cultural arm of society. The second assumption is that television shapes the way individuals within society think and relate to each other and that people live in terms of the stories they tell, and that television tells these stories through news, drama, and advertising to almost everybody most of the time. The final assumption deals with the function of the medium on audiences and their ability to react to it. Cultivation theory asserts that television is a part of a larger sociocultural system. Therefore, although the effects of watching television may be increased or decrease at any point in time, its effect is consistently present.

Cultivation research examines effects in two different ways. Researchers first measure a person's perceptions about the world around him or her. These are considered first-level effects and are often measured by asking about the number of people who engage in a certain activity. Researchers then measure respondents‟ attitudes and beliefs. These are the second level of cultivation effects. If second-level effects are found it means that the viewer has adopted the attitudes of television programming into his or her own attitudes about the world (Gerbner, 2002). Cultivation theory talks of mainstreaming as the phenomenon in which groups that would otherwise differ on opinions and beliefs about issues become more similar to one another when they view television heavily. The idea is that television's message system draws its heavy viewers closer to a mainstream position (Griffin,2012). Thus, for instance, while liberals and conservatives would be expected to disagree on an issue such as whether abortion should be available, the difference is much smaller between liberals and conservatives who are heavy viewers. Gerbner and his colleagues eventually saw

mainstreaming as working toward a blurring of views and ideology toward a somewhat conservative mainstream that would be favored by the corporate-controlled media system.

Researchers inspired by Gerbner's ideas have extended, replicated, reviewed and criticized the cultivation theory. Whereas cultivation theory, argues that the meaning of the messages rests in the messages themselves, many media scholars argue that the meaning is best examined from the receiver's point of view. Hughes (1980) and Newcomb (1978) pointed out that the television world answer may be impossible to determine because viewers take into account so many contextual elements of portrayals (not just the frequency) when they infer meaning from television programming.

2.2.2 Interactional Theory

Various Interpersonal Communication (IPC) theories have been developed to explain how people attach meaning to situations, events, how they make decisions about messages and why they act the way they do. The theories also attempt to explain the effect that communication has on relationships.

Interactional theory is an interpersonal communication theory that was authored by Gregory Bateson in his study of communication and later named by Watzlawick, Beavin and Griffin (2009) known as Palo Alto Group. The significant starting point of the interactional theory is that people can and do create their relationships with others every time they interact and emphasizes ongoing relationships created by particular words exchanged in a specific interaction. Bateson proposed that it is impossible to communicate nothing, usually phrased as one cannot not communicate, noting that silence is also a form of interpersonal communication. Similarly, William Schutz in his theory of fundamental interpersonal relationship orientation argued that people are motivated to satisfy three needs when communicating in a relationship: inclusion, control, and affection. Inclusion is the need to belong and feel included, control refers to one's desire to shape their interactions while affection is the need to feel liked and to maintain the relationship. These motives can be used to explain people's communication behaviours.

Interactional theory looks at the notion of feedback and emphasizes the way in which social actors constantly adapt their language and behaviours to one another. Paul Watzlawick, Beavin and Jackson used the label "family homeostasis" to describe how family members find themselves in a tacit collusion to maintain the status quo. The theorists described a family system as a self-regulating interdependent network of feedback loops guided by members rules; the behaviour of each person affects and is affected by the behaviour of another. They used the example of substance abuse to illustrate how one person's behaviour affects everyone. This study views an abortion as an adaptive behaviour to maintain family and societal status quo in a case of an unplanned pregnancy.

Paul Watzlawick and associates noted that individuals who deviate from rules embraced by others may be judged by those others as irrational (mad) or ill willed (bad). The prescriptive power of rules makes them powerful sources of socialization and control. Rule theorists view humans as rational beings who prefer rewards over punishments. Since deviations from rules can result in negative sanctions, theorists reason that humans are more likely to comply with rules than violate them. Negative sanctions may take many forms, including explicit reprimands or ridicule, demands for corrections or repairs of violations, deterioration or termination of relationships, ostracism, disapproval, misunderstandings, conflicts, or loss of credibility, face, or attraction. This is true of abortion as discussed later in this chapter.

Birdwhistell's social communication theory presents a set of related assumptions: that communication behaviour has pattern, is learned, context bound, multimodal, and multifunctional. The beginning point of social communication theory is the assumption that people interact in patterned, systematic ways; thus, their moment by-moment interactional choices are not random, neither are they due simply to individual preferences. This implies that unstated rules govern interaction and that most people follow these rules, even if they cannot name them explicitly**.** Researchers have examined communication rules among peers, friends, family members, group members and cross-cultural discourse partners. Typically, behaviour that is consistent with rules is considered more valuable than behaviour that deviates from rules, Marshall Scott Poole found that successful groups sometimes needed to

change the rules they use for solving problems and making decisions. However, Bateson and colleagues in the Palo Alto Group used the phrase double bind to describe what happens in schizophrenic families when one family member receives two messages requiring contradictory actions at a single time. For a double bind to operate, action is required, but any action chosen brings negative consequences. The same for unplanned pregnancy; some family members are for abortion while others are not for abortion. The decision to have an abortion is made to maintain positive social value a person claims to have or to maintain face.

2.2.3 Theory of Planned Behaviour

The Theory of Planned Behavior (TPB) of Ajzen, (1985, 1987, 1991) was developed from the Theory of Reasoned Action in 1980 to predict an individual's intention to engage in a behavior at a specific time and place. It is a social cognitive theory that enables mapping of the process by which individuals form intentions to carry out future behaviour that are consistent with their self-determined motives. The TPB is a model based on beliefs that assume that an individual's intention to carry out behaviour is a key determinant for the carrying out of that behaviour (Ajzen and Madden, 1986). Intention is a motivational construct that reflects the extent to which the individual will plan and develop efforts in order to get to carry out the behaviour (Ajzen and Fishbein, 1980). Intention is determined by three conceptually distinct variables: attitudes towards the behaviour, subjective norms, and perceived behavioural control (PBC); Ajzen, (1991). Attitudes reflect an overall positive or negative evaluation of the behaviour. Subjective norms reflect the perceived social pressure that individuals may feel to carry out or not carry out the behaviour. PBC describes the perceived ease or difficulty associated with the execution of future behaviour. Finally, the TPB assumes that PBC predicts behaviour directly only when behaviour is not under complete volitional control and when the perceived control accurately reflects current behaviour (Ajzen & Madden, 1986).

The theory has been used successfully in hundreds of different studies in the last two decades (Ajzen, 2011). One of the major strengths of the Theory of Planned Behaviour is that it is widely applicable to a variety of behaviours in different

contexts, including such diverse areas as health communications. The TPB has been used successfully to predict and explain a wide range of health behaviors and intentions including smoking, drinking, health services utilization, breastfeeding, and substance use, among others. This study offers another opportunity to test the model and apply it to a new area of abortion.

The Theory of Planned Behavior has sometimes been criticized for ignoring emotional determinants of behavior (Conner and Armitage, 1998; Gibbons, 1998; Van DerPligt & de Vries, 1998). Compared to affective processing models, Ajzen's (2006) theory excludes emotional variables such as threat, fear, anxiety, and mood. This is because the Theory of Planned Behavior assumes all behavior is rational. However, humans don't always act based on rational thinking. Ajzen (1988) says these variables can be accounted for in the theory if (and only if) they influence the underlying beliefs that determine the attitude toward the act and subjective Norms. There are several limitations of the TPB, which include the following: It assumes the person has acquired the opportunities and resources to be successful in performing the desired behaviour, regardless of the intention. In this study, the theory assumes that all women are aware of their reproductive health and have the ability and control to make sound decisions. While it does consider normative influences, it still does not take into account environmental or economic factors that may influence a person's intention to perform behaviour. From the literature, it is evident that this is not the case when it comes to decision making on abortion. It assumes that behaviour is the result of a linear decision-making process, and does not consider that it can change over time. Again, literature confirms that decisions on abortion are not linear. There is a lot of consultation and interpersonal communication that takes place. While the added construct of perceived behavioural control was an important addition to the theory, it does not say anything about actual control over behaviour.

The TPB has shown more utility in public health than the Health Belief Model, but it is still limiting in its inability to consider environmental and economic influences. Over the past several years, researchers have used some constructs of the TPB and added other components from behavioural theory to make it a more integrated model.

2.3 Conceptual Framework

According to Goetz and LeCompte (1984), a conceptual framework keeps the researcher on track by providing clear links from the literature to the research goals and increases the trustworthiness of the study. Similarly, Mugenda (2011) describes a conceptual framework as a concise description of the phenomenon under study which is then presented graphically. In this study, the conceptual framework shows how variables interact in a diagram format and illustrates the conceptualized relationship between the independent variables in this case health message exposure and interpersonal communication; and decision making on abortion as the dependent variables. Age, religion, marital status, and level of education come in as moderating variables.

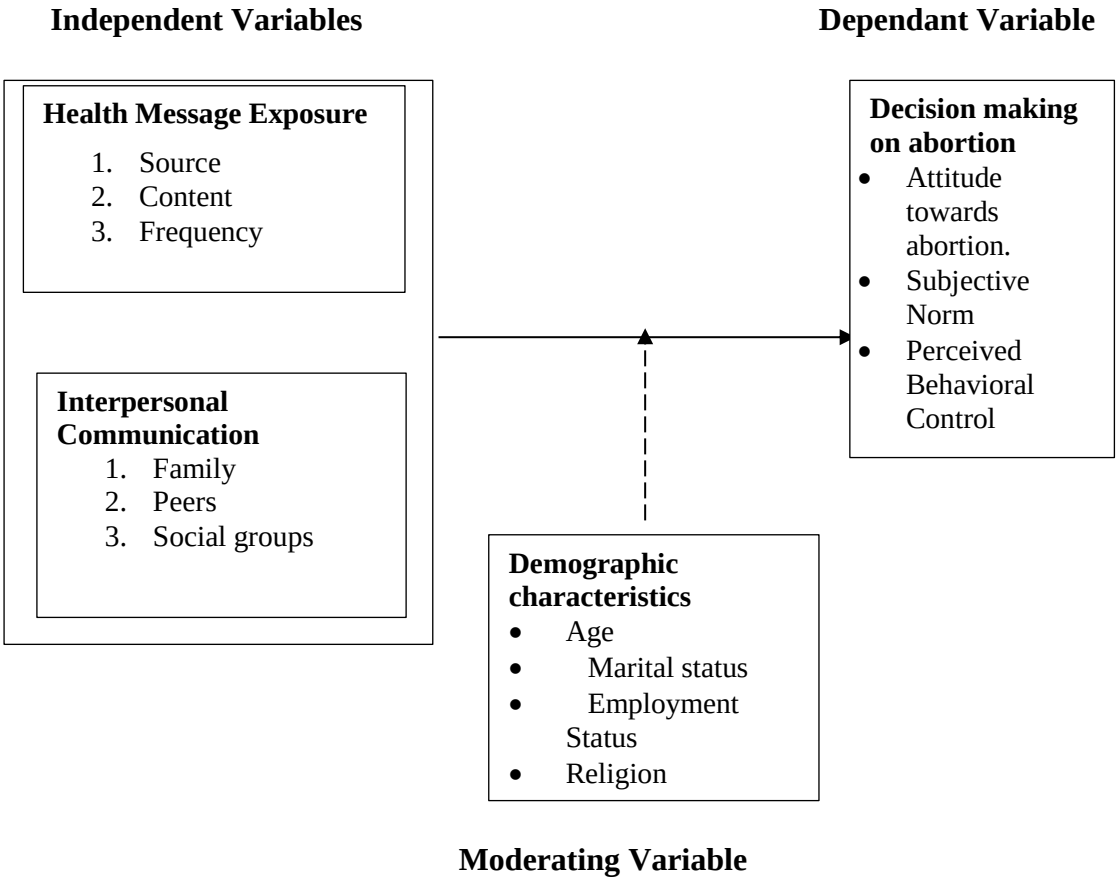

Figure 2.1: Conceptual Framework, Author (2016)

Figure 2.1 shows how the source, content and frequency of exposure to health messages can have an influence on one's attitude towards abortion, their subjective norm as well as their perceived behavioral control. The same can be influenced by one's exposure to interpersonal communication at family level, their peers and the members of social groups they belong to. The diagram further brings out the demographic characteristics that the study considered as moderating variables between independent and dependent variables.

2.4 Review of Variables

This section presents a discussion of each of the research variables as well as a review of literature related to the variables. In the first section, the study looks at the independent variable on health message exposure. Here the sources of reproductive health messages including abortion and the content are discussed. The study also looks interpersonal communication at the family and within social networks. The section further discusses the dependant variable by reviewing various studies on abortion decision making. The section also reviews the moderating variables namely age, religion, marital status, and level of education and how they influence decision making on abortion. The second section reviews studies that explain exposure to health message and interpersonal communication as predictors in decision making on abortion.

2.4.1. Health message Exposure

Attracting the target audience's attention to messages about health remains one of the most challenging objectives in health communication (Pease, Brannon, and Pilling, 2009) and not much is known about the potential of health message features in fostering or inhibiting selective health exposure. Although laboratory studies can tell us a great deal about how to develop persuasive appeals that have maximum impact on individuals who are exposed to them, de Hoog, Natascha and Stroebe, Wolfgang and Wit, John (2007) argue that health messages provide only limited information about the effectiveness of persuasion in a mass media context. In real life, audiences can actively or passively avoid health message exposure (Stroebe et al, 2007). Health messages generally incorporate the severity of a health risk, the efficacy to minimize

or avoid a threat and its negative outcome, as well as presented evidence in form of statistics.

Apart from media and the internet, friends, boyfriends, girlfriends, and spouses are the common sources of information about family planning and reproductive health. Moreover, parents are frequently not the primary source of information (Brown, et al, 2001). A study of adolescents in three provinces in Indonesia suggested that few young people discuss the topics of family planning and reproductive health with their parents, and less than one-third have learned about such topics at school (Achmad and Westley,1999). Another study of university students in the Philippines revealed that 75% of the participants reported poor communication with parents about sex-related issues (Mensch, Clark & Dang, 2003).

Dahlbaack (2007) indicated that most of the adolescent girls fall pregnant either due to the fact that they have limited access to contraceptives or use of contraceptives improperly. Factors that can make an adolescent resort to abortion include fear of parents, fear of bringing shame to society, denial by the prospective, the desire to finish school and lack of resources to support a child. Most adolescents do not have the economic resources to seek a safe abortion hence they seek cheap clandestine abortions which put them in danger of bleeding severely, rupturing their uterus, developing an infection due to an incomplete abortion and in worse case scenarios death.

Olsen and Weed (1992) examined attitudes of students who were enrolled in three different sex education programs emphasizing abstinence. The programs included Values and Choices, Teen Aid, and Sex Respect. The Values and Choices curriculum included discussions of self-esteem, self-respect focused on sexuality and abstinence by focusing on issues of human sexuality, sexual freedom, and decision making. Teen Aid was developed as a health education including drugs, alcohol, exercise, nutrition and reproductive health. The majority of junior high students rated the programs as effective in the education of sexuality and risk-taking behaviours (Olson & Weed, 1992).

One study in done in 2005 England and Wales involving 883 women with second trimester abortions confirmed that one of the main reasons for finally opting to have abortion after too much delay in decision making was because of the man's refusal to cooperate with the pregnant woman (Ingham,2008). Either the relationship broke up when the woman reported that she was pregnant; the man refused to provide support to the woman if she opted to carry on with pregnancy; or the man simply changed his mind about having a baby.

Lasma, Ilz and Ieva (2015) conducted a study to investigate the risk factors associated with unwanted pregnancy in 16- to 25-year-old women in Latvia. The study used a Case-control study of 16- to 25-year-old, sexually active women who did not want to get pregnant: the cases were 144 women who underwent their first abortion whereas 278 nulliparous women served as controls. Data concerning them were obtained by using a semi-structured anonymous questionnaire that included questions about education, sexual life habits, contraceptive practice and a multiple-choice test to assess knowledge about contraception. Results indicated that women who underwent an abortion had had more lifetime sexual partners, had more often not used any contraception, and were significantly less knowledgeable about the latter than controls. No strong correlation between knowledge and actual contraceptive practice was observed in the study groups. Logistic regression analysis showed that the most significant risk factors were non-use of contraception or use of less effective methods. The study concluded risk of unwanted pregnancy was associated with the woman's behaviour; her knowledge of contraception was much less relevant. Sexual health programmes should focus more on intrapersonal and interpersonal factors to promote use of effective contraception among young women.

Correia (2009) conducted a study in Brazil which sought to investigate teenage sexual activity among secondary school girls. The school girls in the study reported receiving very little sexual education from both their parent and teachers, most of the teenagers could not talk about abortion. Due to the fact that parents and teachers do not pass on information about abortion to adolescents this role is played by their peers who in most cases are equally uninformed. This explains why there are so

many misconceptions about abortion and also the methods used to induce an abortion.

Sexual content is prevalent in television programming (Cope-Farrar and Kunkel 2002); Fisher et al. 2004; Franzblau, Sprafkin, and Rubinstein, 1977; Kunkel et al., 2003). This is both for education and entertainment. Sexual health education seeks both to reduce the risks of potentially negative outcomes from sexual behaviour like unwanted or unplanned pregnancies and infection with sexually transmitted diseases, and to enhance the quality of relationships. It is also about developing people's ability to make decisions over their entire lifetime (Forrest, 2002).

Television story lines are often more dramatic, bizarre and fantastical than real life – and abortion story lines are no exception. In a study by Bixby Center (2017) researchers examine how women who seek abortions are portrayed on TV. They identified all fictional representations of abortion decision-making on US television from 2005 through 2014, finding that: compared to real women's reasons for abortion, immaturity and interference with future opportunities were overrepresented on TV, while financial hardship and pregnancy mistiming were underrepresented on TV. Overall, TV abortion stories misrepresented the demographics of real women who seek and obtain abortions, as well as their reasons for doing so.

McManus and Dhar (2008) examined 251 adolescent high school girls' knowledge, perception and attitudes towards STI/HIV, safer sex and sex education in New Delhi. The knowledge that girls had regarding the transmission and prevention of HIV and abortion was good. About 22% of the participants did not believe that there was anything amiss with girls engaging in sex with boys, so long as they loved each other. There were 49% participants who thought condoms should not be made available to adolescents, as they foster their engaging in sex. It was their considered opinion that condoms are there for those who are married

In Zambia, unwanted pregnancies prevention efforts are concentrated on promoting sexual abstinence or late sexual debut for adolescents, being faithful to one partner or encouraging mutual faithfulness, and consistent and correct condom use. This approach is often abbreviated as ABC (A for Abstinence, B for Be faithful and C for

Condoms). Education campaigns have been used as a major thrust of efforts to reduce risky sexual behaviour. Education efforts assume that increased knowledge about the risks will eventually translate into reductions in risky sexual behaviour (Central Statistical Office, 2006).

According to UNFPA (2003), the life-skills approach employs participatory and interactive methodologies including role-playing and other theatre techniques, exploration of feelings, analysis of gender stereotyping, training in negotiation skills, and question and answer sessions. It helps foster critical thinking, problem-solving and interpersonal communications skills that can lead to informed, responsible and voluntary decisions. A life skills-based curriculum can enable young people to challenge harmful gender norms, resist peer pressure and critically assess mass media stereotypes. The aim is to help adolescents navigate a safe passage to adulthood.

Adolescents have inaccurate or incomplete information about sexuality, reproduction and contraception (Bankole and Malarcher, 2010). A study in Uganda found that two in three females did not know that condoms should be used only once (Bankole, 2007) and a study in Ethiopia showed that although nearly all adolescents knew that unprotected sex could result in HIV infection, less than half realized it could also result in pregnancy (Bankole & Malarcher,2010).

Roye and Johnsen (2002) found a low level of awareness about contraceptives. In their study in the Gauteng Province of the RSA, Ehlers et al (2000) indicate that 68% of the adolescent mothers did not know about the availability of Cs. This means that in order to improve contraceptive use by adolescents, awareness campaigns, pamphlets and education should be used to inform adolescents about the availability of all methods of contraception.

Most of the current cultivation research, with regard to sexual themes and attitudes, has examined soap opera viewing. Soap operas often contain situations and characters that are not consistent with the real world. These findings are especially relevant given the large amounts of sex contained in most soap operas. Heintz-Knowles (1996) found that increased exposure to soap operas, looking at both the amount of time spent watching in

a week and the number of years of regular viewing, was associated with a version of the real world that contained many of the themes portrayed in soap operas than those who watched little or no soap operas. Soap opera viewers were significantly more likely to provide higher estimates for the number of divorced males and females and the number of people with illegitimate children.

Mass media has been used world over to influence health behaviour with television being the most preferred due to its ability to favour both literate and uneducated population. This is mainly in form of true-life stories and fiction with most of the TV programs being accessible globally through the internet. According to Bixby Center for Reproductive Health (2017), fictional portrayals of abortion-seeking characters is likely to have notable influence on how the general public thinks about women who consider abortion. Television viewing represents the majority of Americans' daily leisure time and, thus, television portrayals, in specific, of women who seek abortion are likely to have a strong influence.

Njogu and Martin (2003), studied Kenyan high school adolescents and found that their level of knowledge about abortion was high, though it did not have transfer of learning in terms of their sex practices. Kabiru and Orpinas (2009) under took a similar study of 8,556 male and female adolescent high school students in Nairobi, Kenya, and that adolescents would benefit from sex education programmes because they become aware of the factors that predispose them to unwanted pregnancies STIS HIV/AIDS and abortion.

Research on abstinence-only sex education programs, which bar discussion of contraceptive options, has shown that such programs do not have a significant impact in promoting behaviours that prevent unintended pregnancies. For example, a US study on programs in which youth pledge to remain virgins until they marry showed they abstained from sex for 18 months on average but were one-third less likely than non-pledging peers to use contraceptives when they did become sexually active (Bearman and Brückner,2004). On the other hand, comprehensive sexuality education, which discusses the benefits of both delaying sexual intercourse and of using condoms and contraceptives when adolescents become sexually active, has been shown to contribute to adolescents delaying the onset of sexual intercourse, reducing the number of their

sexual partners and increasing use of contraceptives, including condoms (Schutt-Aine and Maddaleno,2003).

This study took cognisance of the fact that most Kenyan have access to media content through television, iPads and smart phones; with 66 percent of women and 78 percent of men in urban areas watching television at least once a week (KDHS, 2014). Content analyses have demonstrated that broadcast television contains a high, growing and increasingly explicit dose of sexual messages, and that a low proportion of such messages display or model either restraint or contraceptive use (Kunkel, et al., 1999; Greenberg et al., 1993)

Cultivation theory has been used in designing of reproductive health messages in form of advertisements for condoms and entertainment series on HIV and abortion prevention for the youth. Research shows that, consistent with cultivation theory, fictional portrayals of abortion impact viewers' beliefs and political opinions of abortion than did abortion's legality (Gretchen & Katrina, 2015). The study therefore sought to establish the source of health messages, including abortion and contraceptive use among women of reproductive age who had procured an abortion in Nakuru County and how the messages influenced their aspects of decision making.

2.4.2 Interpersonal Communication

Interpersonal communication (IPC) is communication that occurs between people in relationships. Researchers have further proposed a variety of criteria to describe the extent to which a communication is interpersonal. The first criterion is the number of people. Communication between two people is the classic criteria for IPC. A second criterion is the medium of communication used. This should be one that is immediate allowing feedback, adaptation, and responsiveness. IPC allows for privacy and is goal oriented focusing on identity and relationship issues. Another criterion is knowledge; how well the communicators know each other and are able to mutually influence one another. Interpersonal communication with various sets of actors in a society form social networks. These networks include the extended family, friends, neighbours, political groups, church group, youth groups, and other formal and informal associations.

An unwanted pregnancy causes an internal distress with the fear of rejection from parents as well as the social stigmatism that goes with being a teenager and pregnant (Engelbrecht, 2005).

Maria, Tanja, Elisabeth and Margareta (2009) conducted a study on an Illusion of Power: Qualitative Perspectives on Abortion Decision-Making among Teenage Women in Sweden. Swedish law permits abortion at the request of a pregnant woman until the 18th week of gestation. However, the extent to which the decision is truly the woman's own is subject to debate; women are often influenced, directly or indirectly, by the attitudes of their partners, family and friends or by social norms. The study used individual in-depth interviews about the pregnancy and the abortion decision were conducted 3–4 weeks post abortion with 25 women aged 16–20 at different periods in 2003, 2005 and 2007. Interviews were audio-taped, transcribed verbatim and analysed using latent content analysis. The study findings indicated that the main reasons for unplanned pregnancy were under-estimation of pregnancy risk and inconsistent contraceptive use. Pregnancy prevention was perceived as the woman's responsibility. The abortion decision was accompanied by mixed emotions, and was seen as a natural yet difficult choice. Social norms and the negative attitudes of family and friends strongly influenced the decision. Partners and parents were regarded as the most important sources of support. After the abortion, the women felt pressured by contraceptive counsellors to use highly effective contraceptives despite their previous negative experiences or worries about side effects. The study concluded that Swedish teenagers' basic right to decide whether to have an abortion may be limited by societal norms and disapproval of teenage childbearing. Given the perception that women are responsible for contraception, programs need to emphasize that pregnancy prevention is a shared responsibility; greater efforts to include males in prevention practices are needed.

Understanding interpersonal communication involves social network analysis where social relationships are viewed in terms of nodes and ties. Nodes are the individual actors within the networks, and ties are the relationships between the actors. Examples of nodes in a social network for abortion services may be the man who caused pregnancy, the relatives that a woman confides in, the friends that provide

ideas and so on. There can be many kinds of ties between the nodes, i.e. the specific contributions that a node may make in the relationship. Research in a number of academic fields has shown that social networks operate on many levels, from families up to the level of nations, and play a critical role in determining the way problems are solved, organizations are run, and the degree to which individuals succeed in achieving their goals (Scott, 1992)

A dialogue-based IPC process can help to fill the void that exists in current efforts to reduce unsafe abortions at the community level in two important ways. Interventions that emphasize dialogue-based IPC are particularly suited for promoting openness and discussion about sensitive, stigmatizing, or exposing topics among families, couples, and peer networks in order to ensure good health outcomes (Duggan, 2006); Valente and Fosados,2006). Duggan found that silence or avoidance reduces the ability of people to receive the necessary social support that would enable them to cope with health problems, access appropriate care, and make health-related decisions. IPC interventions help participants break through this silence and improve their ability to discuss these sensitive health issues with others through dilemma-based role playing, dialogue, and communication skills building.

In recognition of these needs, health communications campaigns are increasingly implementing interpersonal communication (IPC) approaches. Noteworthy among these are interventions and community-engagement processes based on dialogue defined as an iterative turn-taking process in which each participant seeks to clarify what others believe and understand as well as one's own beliefs and understanding that focuses on interpersonal context, including family relationships and social support networks as entry points for social change. There is also the social dilemmas that face society in terms of normative behavior of having a child out of wedlock. The teenager may also want to seek the quickest and easiest way out of the crisis without perceiving the possible consequences because of the nature of the crisis (Hyam, 2002).

In understanding interpersonal communication and of decision making on abortion**,** the study looks at Ring-Cassidy and Gentles (2002) who argue that shame and fear

are the most frequent motivators for secrecy. These include shame of disappointing parents, fear of the effect pregnancy will have on parents, and/or fear of abandonment. Elizabeth et al further state that many decisions to abort are made by young women without the knowledge of their parents. Further research shows that 23 per cent of women having an abortion in North America are pressured into it by their partners, this amounts to about 300,000 (out of 1.3 million) per year in the U.S., and 27,000 (out of 120,000) in Canada.

Puri, Ingham and Matthews (2007) constructed detailed case histories of 30 young married Nepali women and men. They found that decisions around unintended pregnancy and abortion are dynamic and situation specific, and that the role of husbands, health service providers, and others varies depending on the situation.

According to a study by Colman (2009), minors nearing the age of 18 years delayed their abortions till they crossed over to adulthood in order not to involve their parents in decision making for abortion which is a legal requirement in Texas where the study was done. The law in Texas requires parents to give consent for the minor to have abortion. The study suggests that minors would rather not involve their parents in decision making to have abortion. In another study done in the Netherlands Loeber (2008), it was found that the commonest reason why women decided to have abortion was because of relationship problems. An uncooperative man pushed the woman into opting for abortion. The study suggests that if close social contacts (spouse, boyfriend) are not pleased with the pregnancy or the relationship a decision for abortion may be made.

Brems and Griffiths (1993), in their review of sessions addressing issues relating to women in development given at the 18th Annual International Health Conference, observed that “women's health is strongly conditioned by the political and economic environment in which they live, the society of which they are a part, and the cultural belief that organizes and gives meaning to their lives” (pp. 257). This society and cultural belief system contain a wide range of influences, including husbands or partners, families, friends, and communities. Nyanzi, and Bessie (2005) documented the significant role of men as husbands, partners, fathers, brothers, or sons in

women's abortion decisions in South Western Uganda and noted that interventions and policies should reflect this reality.

Social and cultural barriers to safe abortion go beyond lack of knowledge, however, and include lack of social support and stigma. A study in Nepal found that even when women were aware of safe abortion services, they did not reveal unintended pregnancies to their husbands, families, or friends, and some tried to secretly self-induce abortion (Puri, Ingham &Matthews, 2007). In families and among couples, many sexual and reproductive health topics, including abortion, can be highly stigmatized and charged with emotion, shame, and fear (Kumar, Hessini and Mitchell, 2009). For example, Nepali women have historically had little decision-making power regarding their lives and health; instead, decisions about their reproductive health and use of family planning rest mainly with husbands and in-laws. Pressure for early marriage and childbearing is strong. Women are traditionally unable to discuss sexual and reproductive health issues openly with their husbands or in-laws. Therefore, to make abortion safer and more accessible for women, initiatives that continues to challenge the status quo and patriarchal traditions that keep abortion restricted and stigmatized are critical (Kumar et al., 2009).

For many women, informal communication is a primary source of FP information. Gayen and Raeside (2010) found that the informal social networks of women are important on contraception use. They further found out that both structure and attitudinal properties of one's interpersonal networks are associated with their contraception use. The influence of social networks is crucial to informed choice. Most people seek the approval of others and modify their own behaviour to please others or to meet others' expectations. In Nigeria and other West African countries for example, some women said it was difficult for them to use FP because their relatives or friends were not using it.

In South Africa, it was found that women in the process of making a decision to have abortion avoided discussions with the partner and instead talked to their women friends and their mothers whom they perceived to be more understanding and supportive (Harries, 2007). The man was kept in the dark in such circumstances and

neither got to know about the pregnancy nor the abortion. The man was especially avoided in such circumstances if he was known to be looking for a baby.

Interpersonal communication between women of reproductive age and medical workers has also been found to be important in decision making for abortion. Kumar et al. (2004) found that women intending to do abortion sometimes went to health workers for reassurance. The counselling done at health facility level, however, did not make women already decided on having abortion change their minds. Contact with health workers as part of the decision-making process therefore seemed to be aimed at getting more information on abortion (Kumar et al., 2004).

2.4.3 Demographic characteristics and decision making on abortion.

Studies have shown that women's decision-making before an induced abortion is influenced by various factors and at different levels. Gbagbo, Amo-Adjei and Laar (2015) classified factors that influence decision making on abortion into individual factors namely age, marital status, education level, economic independency and whether the woman was a victim of rape or incest; and organisational factors like access to reproductive health information. Other scholars have added societal determinants like religion and social stigma and norms as factors influencing decision making on abortion (Alhassan, Abdul-Rahim & Akaabre, 2016).

Using a sample of 384 women of reproductive age from three hospitals within the Ibadan metropolis in South West Nigeria, Bosedi and Jacob (2014) conducted a study on the factors that determined the demand for abortion and post abortion care in the region, despite induced abortion being illegal and socially unacceptable in Nigeria. The study results showed that 62% of respondents demanded for abortion while 52.3% of those that demanded for abortion received post-abortion care. The findings again showed that economic status was a significant determinant of abortion and post-abortion care demand and that women with higher income were more likely to demand abortion and post-abortion care. Married women were found to be less likely to demand for abortion and post-abortion care. In relation to age, older women were significantly less likely to demand for abortion and post-abortion care. The

women's level of education was only statistically significant in determining abortion demand but not post-abortion care demand.

Rominski, Gupta, and Moyer (2014), conducted a study on female autonomy and reported abortion-seeking in Ghana. The purpose of the study was to investigate factors associated with self-reported pregnancy termination in Ghana. This was a retrospective study where data from the Ghana 2008 Demographic and Health Survey were used to investigate factors associated with self-reported pregnancy termination. Variables on an individual and household level were examined by both bivariate analyses and multivariate logistic regression. A five-point autonomy scale was created to explore the role of female autonomy in reported abortion-seeking behaviour. Of the 4916 women included in the 2008 Ghana DHS, 791 (16.1%) reported having terminated a pregnancy. Factors associated with abortion-seeking included being older, having attended school, and living in an urban versus a rural area. When entered into a logistic regression model with demographic control variables, every step up the autonomy scale (i.e. increasing autonomy) was associated with a 14.0% increased likelihood of reporting the termination of a pregnancy.

In Zambia, pregnancy in an unmarried adolescent is seriously frowned upon. The girl is seen as a wayward person who sleeps around with men; even if she identifies the man responsible, as long as there is no marriage she is seen as a bad influence. Many parents advise their daughters to keep away from her so that they will not get pregnant outside of marriage. The girl is said to bring shame and stigma to the family. To avoid this shame and embarrassment, an adolescent carrying a pregnancy out of wedlock will resort to abortion and although Zambia has one of the most liberal laws supporting abortion, safe legal abortion is not easily accessible. Due to the fact that in most African societies unwanted pregnancies among young unmarried girls are very shameful, a number of young girls terminate pregnancies through clandestine abortionists.

Molsa (1993), conducted a survey of adolescents in Awassa, Nazareth, and Addis Ababa, 64 % of the participants knew of a girl whose schooling was interrupted due to an unwanted pregnancy (Mekonnen & Alemu, 1995).

Oliver and Bloom (2004), did a research study on the teacher's role during adolescent abortion. Within this study they specifically did research on the effects abortion has on the teenager's future. The results showed that most adolescents that undergo abortion are likely either to leave school at that point due to the inability to cope with the stress. It was also reported that there was an increase in the individuals' school absenteeism or a poor academic performance. This has permanent effect on the adolescents' educational future

2.4.4 Decision making on abortion

Sexual health education can help provide adolescents with decision-making information skills and peer-reviewed programs, strategies, and resources for sexual health, mental and emotional health, injury prevention, tobacco and substance abuse, and exercise and healthy eating and issues of abortion. They found that programs which included knowledge, perceived risks, values, attitudes, perceived norms, and self-efficacy were found to be effective in guiding behavioural change (Inman et al, 2011).

Paluku (2010) conducted a study on knowledge and attitudes on illegal abortion among school girls aged 16 to 20 years in Congo, results showed that 82.9% of the girls had knowledge on illegal unsafe abortion. There was a significant association between one's level of knowledge and age as knowledge levels increased with an increase in age. Findings from this study are very interesting because over 80% of the girls knew what illegal unsafe abortion was and its health consequences, yet they engaged in it. While most of participants, 76.2%, were against illegal abortion, 23.8% supported it. The two main reasons for the participants who supported abortions were unplanned pregnancy 9.5%, and prevention of school disruption 8.5%. The largest age-group to support illegal abortion was the 18- year-olds. For those who did not support illegal abortion, spiritual convictions 34.1% and health problems 34.9% were the main reasons identified.

Smetana (2008) did a study on reasoning in the personal and moral domains: adolescent and young adult women's decision-making regarding abortion. The investigation of adolescent and young adult women's reasoning, and decision-making about abortion was conducted to determine whether reasoning about abortion could be described by moral, social-conventional, and personal concepts and to examine relationships between domain of reasoning and action choices. Seventy single women, ranging in age from 13 to 31 and divided between 25 women having abortions, 23 women continuing their pregnancies, and 22 never-pregnant women, were administered a semi-structured clinical interview about abortion and two hypothetical moral judgement dilemmas. A classification task was developed to provide an additional measure of reasoning in different domains. Another 29 single, first-pregnant women provided a comparison of the effects of these procedures on decision-making. Content analysis of the protocols revealed that responses to the abortion interview could be reliably distinguished between concepts of morality and personal issues and their coordination or lack of coordination. Subjects treating abortion as a moral issue were more likely to continue their pregnancies while subjects treating abortion as a personal issue were more likely to obtain an abortion. Differences in reasoning between pregnant and non-pregnant subjects were not observed. Moral responses to the abortion interview were found to be highly related to hypothetical moral judgments.

Maria, Chiara, Andre and Emanuela (2015) assessed the emotional and cognitive decision-making process regarding a hypothetical unplanned pregnancy in a convenience sample of female adolescents (N = 85; mean age 16.8), throughout an electronic role-playing simulation. This work aimed at: describing adolescent's emotional reactions and cognitive responses to an unplanned pregnancy; identifying personal attitudes toward parenthood; evaluating the role played by adolescents' personal attitudes toward parenthood and positive and negative attitudes toward continuing the pregnancy or having an abortion in predicting the final choice (keeping the baby vs. having an abortion). Findings highlighted the presence of three main attitudes toward parenthood (parenthood idealization, rejection of commitment, adolescents' expectations toward the partner) and the importance played by them

together with negative attitudes toward continuing the pregnancy and having an abortion in guiding the adolescents' decision-making process.

Inger et al. (2015) conducted a study to identify perceived deficiencies in the quality of abortion care among healthy women and those with mental stress. The study used multi-centre cohort study which included six obstetrics and gynaecology departments in Sweden. Posttraumatic stress (PTSD/PTSS) was assessed using the Screen Questionnaire-Posttraumatic Stress Disorder; anxiety and depressive symptoms, using the Hospital Anxiety Depression Scale; and abortion quality perceptions, using a modified version of the Quality from the Patient's Perspective questionnaire. Pain during medical abortion was assessed in a subsample using a visual analogue scale. Results indicated 16% of the participants assessed the abortion care as being deficient, and 22% experienced intense pain during medical abortion. Women with PTSD/PTSS more often perceived the abortion care as deficient overall and differed from healthy women in reports of deficiencies in support, respectful treatment, opportunities for privacy and rest, and availability of support from a significant person during the procedure. There was a marginally significant difference between PTSD/PTSS and the comparison group for insufficient pain alleviation. The study concludes that women with PTSD/PTSS perceived abortion care to be deficient more often than did healthy women. These women do require extra support, relatively simple efforts to provide adequate pain alleviation, support and privacy during abortion may improve abortion care.

Abortion also occurs to save the feeling of parents and grandparents as well as to avoid painful confrontations. In a 1985 study by Ervin, one teenager said, "Mom also threw in how she would have a nervous breakdown if I ever became pregnant and Dad would have a heart attack. That confirmed my inability to tell them." (Ring-Cassidy & Gentles, 2002)

Network studies and public opinion research assert that individuals are influenced by the people in their social circles. Social influence has been shown in regards to innovation adoption (Coleman et al., 1957), business practices (Davis & Greve, 1997), college academic performance and the likelihood of joining a fraternity

(Sacerdote,2001), dropping out of school and teenage pregnancy (Crane, 1991), obesity (Christakis and Fowler, 2007), political attitudes (Katz and Lazarsfeld, 1955; Huckfeldt and Sprague, 1995; Mutz, 2006), attitudes toward the homeless (Lee et al., 2004), attitudes toward alternative family forms and practices (Rindfuss et al., 2004) and likelihood of having a racially diverse set of friends (Emerson et al., 2002). Often when individuals are exposed to perspectives and personal experiences different than their own, they are influenced by them.

2.5 Empirical Review of Related Literature

This section is a review of studies that have been done regarding women's decision making on abortion based on one's exposure to reproductive health messages and their interpersonal communication.

2.5.1 Health message Exposure and decision making on abortion

Brockmann, Erich; Anthony, William (2016) explain decision-making as a problem-solving activity yielding a solution deemed to be optimal, or at least satisfactory. According to Brockmann et al, it is therefore a process which can be more or less rational or irrational and can be based on explicit or tacit knowledge and beliefs. Tacit knowledge is often used to fill the gaps in complex decision making processes. In this study, tacit knowledge is health information on prevention of unplanned pregnancy and abortion information that is developed by professional health providers and transmitted through various channels for example use of mass media or face to face. According to KDHS (2014), health providers are expected to discuss reproductive health needs and available contraceptive options and to counsel women on adopting a method of family planning when they visit women in their households or when women visit health facilities. To get insight into the level of contact between none users and health workers, Kenyan women age 15-49 who were not using contraception were asked if they had been visited by a fieldworker during the 12 months preceding the survey. Only 6 percent of nonusers were visited by a fieldworker who discussed family planning and 14 percent of nonusers who had visited a health facility discussed family planning at the facility. The survey report found that 45 percent of women visited a facility and did not discuss family planning.

Overall, 82 percent of none users did not discuss family planning with a fieldworker or while visiting a health facility indicating missed opportunities to inform and educate women about family planning.

Study sources show that lack of reproductive health information or information that lacks content on abortion influences decision making in cases of unplanned pregnancies. Grimes and Benson (2006) did a study on assessed circumstances that surrounded a woman's decision to undergo an unsafe abortion, compared to a decision to continue, when faced with an unintended pregnancy in Sri Lanka. The study examined 171 women admitted to nine hospitals in eight districts following an unsafe abortion (Cases) and 600 women admitted to the same hospitals for delivery of an unintended term pregnancy (Controls). Interviewer-administered-questionnaires and in-depth interviews assessed women's characteristics, decision making process and underlying reasons for their decision. The findings of his study was women's risk of unsafe abortion was associated with unreliable sources of information during decision making that led to poor knowledge and positive attitudes on its safety; poor access to affordable abortion services; and their economic instability.

Kamala and Aboud (2006) did a study on the reasons for abortions among the adolescent in Tanzania. The study examined 3,612 adolescents aged 12 to 25 years, randomly drawn from three types of secondary schools in Nairobi: single-gender, co-educational and both boarding and day secondary schools. It was found that these students have engaged in unsafe sex and some have undergone abortion due to lack of access of knowledge. The study came to conclusion that decision favouring abortion was predominantly based on their economic instability and poor support given by partners, whereas a decision against it was based on ethical considerations over its legal implications. Reliance on non-medical sources of information such as immediate associates leading to poor knowledge as well as positive attitudes on its safety played a crucial role in the decision-making process towards an unsafe abortion. Unsafe methods of termination used have not changed over time

A study to understand the psychological dynamics that shaped women's decisions to choose abortion, adoption or to keep the child when dealing with unplanned, unwanted pregnancies revealed a great deal of conflict. Most of the respondents reported experiencing a deep moral dilemma as they struggled with making a decision. The research showed that the women viewed all the potential outcomes of an unplanned, unwanted pregnancy as evils since the woman is not prepared to become a mother, is equivalent to death of her current self-identity and death of the future self, destroying her projected plans for the future. (Charles & Swope 2015).

2.5.2 Interpersonal communication and decision making on abortion

In Nepal, various factors affecting abortion decision-making have been reported. A study among 412 women (aged 15-24 years) and 125 men (aged 15-27 years) in five districts of Nepal who had unintended pregnancies reported various factors that influenced their abortion decision making process (Puri, et al., 2007). The study found exposure to mass media played a role in decision making and that woman tend to consult with her husband, mother, mother-in-law, family relatives, friends and the abortion care providers. The study also found that people who lived in the rural areas (Male - 12.7%, Female - 6.1%) had a higher incidence of abortion than people from the urban areas (Male -2.2%, Female - 7.2%). In general, people with higher levels of education had significantly greater prevalence of abortion compared to people with no education (15.5%), primary (10.5%), secondary (11.9%), or higher (32.4%) education. Participants from Hinduism responded with higher abortion rates (15.8%) than Buddhism (0.0%). Both poor and rich people were involved in abortion with significant abortion rates among poor people. Other factors affecting decision-making were ethnicity.

Grimes and Benson (2006) did a study on assessed circumstances that surrounded a woman's decision to undergo an unsafe abortion, compared to a decision to continue, when faced with an unintended pregnancy in Sri Lanka. The findings of his study were that women's risk of unsafe abortion was associated with unreliable sources of information during decision making that led to poor knowledge and positive attitudes

on its safety; poor access to affordable abortion services; and their economic instability.

A study was conducted by Akinrinola, Susheela and Taylor (1998) on the reasons why women have induced abortion. Findings from 32 studies in 27 countries were used to examine the reasons that women give for having an abortion, regional patterns in these reasons and the relationship between such reasons and women's social and demographic characteristics. The data came from a range of sources, including nationally representative surveys, official government statistics, community-based studies and hospital- or clinic-based research. Results showed that worldwide, the most commonly reported reason women cite for having an abortion is to postpone or stop childbearing. The second most common reason - socioeconomic concerns - includes disruption of education or employment; lack of support from the father; desire to provide schooling for existing children; and poverty, unemployment or inability to afford additional children. In addition, relationship problems with a husband or partner and a woman's perception that she is too young constitute other important categories of reasons. Women's characteristics are associated with their reasons for having an abortion: With few exceptions, older women and married women are the most likely to identify limiting childbearing as their main reason for abortion.

In Kenya, a study done by Osur et al, (2015) made an attempt to understand the social networks and decision making for clandestine unsafe abortions. The study found that 95% of women consulted their social networks as part of decision making before aborting clandestinely and unsafely. The man responsible for pregnancy, friend of same sex and woman's mother were the most consulted at 64%, 32% and 23% respectively. 92% of advice was for the woman to abort. The man responsible for pregnancy and the woman's mother were the most influential advisors ($p < 0.05$). Intermediaries linked the woman to clandestine and unsafe abortion and included agents and previous clients of clandestine abortion providers and the woman's friends and relatives.

2.6 Critique of Existing Literature

Kamala and Aboud (2006) did a study on the reasons for abortions among the adolescent in Tanzania. The study examined 3,612 adolescents aged 12 to 25 years, randomly drawn from three types of secondary schools: single-gender, co-educational and both boarding and day secondary schools. It was found that these students have engaged in unsafe sex and some have undergone abortion due to lack of access of knowledge. The study came to conclusion that decision favouring abortion was predominantly based on their economic instability and poor support given by partners, whereas a decision against it was based on ethical considerations over its legal implications. Reliance on non-medical sources of information such as immediate associates leading to poor knowledge as well as positive attitudes on its safety played a crucial role in the decision making process towards an unsafe abortion. Unsafe methods of termination used have not changed over time.

Sing (2005), has described how unsafe abortions are performed in Uganda. In health facilities, physicians were found to favour dilation and curettage over vacuum aspiration and medical abortion which are recommended by the WHO. Most informal providers in urban areas were thought to use hormonal drugs or rubber catheters, and many providers in rural areas, as well as women who induce their own abortions, were found to use herbs and sharp objects such as sticks and hangers

In summary, little is known about the conditions under which unsafe abortions are performed. The available literature however classifies these into conditions inside of health facilities and those outside. In both cases, the conditions go against those recommended in various statutes as well as by WHO and more so in terms of health education is not clear in the literature on decision to remove unwanted pregnancy.

2.7 Research Gaps

Having gone through previous studies, much of the researches relating to abortion have mainly focused on the factors associated with abortion seeking and the reasons for carrying out an abortion. In addition, prior studies that have looked at decision making prior to obtaining an abortion have been largely quantitative.

Previous studies on decision to terminate unwanted pregnancies in Malawian women reported that the main reason for them to terminate the unwanted pregnancy was due to fear of rejection in the society and family (Levandowski, et al., 2012)

A similar study in Kenya would be necessary to examine the sources and content of health messages post abortive women have received and to understand they communication and consult within their social networks on abortion

A Study done by Osur, Orago, Mwanzo and Bukusi (2015) made an attempt to understand the social networks and Decision Making for Clandestine Unsafe Abortions in Kenya. The study found that 95% of women consulted their social networks as part of decision making before aborting clandestinely and unsafely. This study therefore concluded that decision making and seeking for abortion were shared responsibilities (Osur et al., 2015). However, the study does not explain the interpersonal communication that takes place between the pregnant woman/girl and the partner or persons referring for abortion, and therefore assumes a one way communication. The study did not explore the level of prior exposure on health messages on abortion thus assuming only one source of information; that of the social network. The research fails to provide a theoretical explanation to the phenomena and therefore this study sought to understand how interpersonal communication and health message exposure influence decision making on abortion among women aged 18-49 years in Nakuru

2.8 Summary

In this chapter, several critical areas of relevance to the study have been discussed. The section provided an overview of relevant theories to this study namely, Cultivation Theory, Interaction Communication Theory and the Theory of Planned Behavior to and reviewed them against concept of decision making. The section also provided a detailed review of the variables used in this study.

The chapter also looked at the Conceptual Framework, as a research tool intended to assist the researcher develop an understanding of the situation under scrutiny which is to investigate interpersonal communication and health message exposure, (independent

variables) and how these correlates with the decision making on abortion (dependant variable). Age, marital status, religion, employment status and level of education were discussed. An empirical review of related literature and a critique of existing literature were discussed in this chapter.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodological approaches used in the study. It presents a description of the study site, study design and techniques of data collection and analysis. The study adapted a mixed method approach and more specifically a Convergent Parallel research design. This chapter also explains how the design was applied.

3.2 Site Selection and Description

The site of study was Nakuru County, which is located in the south eastern part of the Rift Valley and is divided into eleven sub counties namely; Nakuru Town East, Nakuru Town West, Bahati, Naivasha, Gilgil, Subukia, Kuresoi North, Kuresoi South, Molo, Rongai and Njoro. Ministry of Health (2012) showed that Rift Valley recorded the most abortion cases in the country. 153,976 abortions out of the total 464,690 abortions were procured in Rift valley in 2012 among women of reproductive age (15 to 49 years). Rift Valley therefore accounted for 33% of all abortions recorded in the country. According to Health Management Information Systems (HMIS), (2015), Nakuru County provided PAC services to 2901 women, again, this was the highest figure compared to the other counties. The researcher therefore selected Nakuru County as the study site.

Nakuru County is one of the 47 counties in Kenya. It is located in the former Rift Valley Province of Kenya, about 165 km to the north west of Nairobi. Nakuru County is the fourth largest county in Kenya covering an area of 7496.5 square kilometres and is home to 1, 603, 325 people (male – 50.2% and female – 49.8%), according to the 2009 National Census and an estimated 134,004 women of reproductive age 18 - 49 years (KNBS, 2010).

Nakuru town and Naivasha are the largest urban centres in the county with 349,573 and 252,224 people respectively while Bahati is a rural sub county with 162,985

people. Nakuru County (2017). Nakuru is a cosmopolitan county with people originating from all the major tribes of Kenya and majority of people living in the county being Christians, a small number of Muslims and Hindus being present in major towns. (KDHS 2014)

3.3 Research Design

A research design is the structure of research. Newing (2011) states that a research design is a general plan or strategy for conducting a research study to examine specific testable research questions of interest. The study adopted a cross-sectional research design where data on interpersonal communication and health message exposure was collected from women who has procured an abortion at one point in time (Lavrakas. 2013). Specifically, the study employed a Convergent Parallel research method which is one of the mixed method approaches. Mixed Methods Research is defined "as a method that focuses on collecting, analysing, and mixing both quantitative and qualitative approaches in a single study or series of studies (Tashakkori & Teddlie, 2010).

Qualitative research approach is characterized by significantly initiative and open-ended methods of data collection, analysis and interpretation. This type of research has four major features which are; ability of the researcher to understand the meaning of the target research audience, investigation of specific settings influenced by which the activities and individuals being studies are located, explaining the procedures by which the context in question leads to specific outcomes, and clearly integrating the researcher's subjectivity (Maxwell, & Reybold, 2015). The qualitative research approach employed in this study included use of open-ended questions guide to interview health workers and also conduct a case study on selected post abortion care clients. On the other hand, quantitative research approach is the process of collecting quantifiable data, analysing the data using statistical and mathematical methods and interpretation of the results (Creswell, 2002). In this study, the quantitative research approach utilised the closed ended questions asked to the post abortion care clients.

The use of quantitative and qualitative approaches, in combination, provides a better understanding of research problems than either approach alone (Creswell & Plano

Clark, 2011, p.27). Creswell et al. (2011) further described a convergent parallel research design as one that collects and analyses two independent strands of quantitative and qualitative data at the same time/ in a single phase. It prioritizes the methods equally and keeps the data analysis independent. Later, the results are mixed during the overall interpretation with the aim of trying to look for convergence, divergence, contradictions, or relationships of two sources of data. The use of Convergent Parallel research design aided the researcher in arriving at an integrated summary of the predictors (quantitative research), and views and personal experiences (qualitative research) on decision making on abortion.

3.4 Study Population

Burns and Grove (2003) describe population as all the elements that meet the criteria for inclusion in a study. Population is therefore the entire group of individuals, events or objects having a common observable characteristic. This study had two study populations of interest.

The main study population was women of reproductive age (18-49 years) from Nakuru who were seeking post abortion care after an induced abortion. The study sought to examine how health message exposure and interpersonal communication correlated with decision making on abortion in this study population. This population was important in providing personal experiences in this study.

The second population of interest comprised of health workers who were providing post abortion services at the time of the study in the four hospitals in Nakuru County. This population gave a provider's perspective to the problem including information on their views on how access to reproductive health services and community beliefs influence women's decision making patterns.

The inclusion and exclusion criteria for this study population are specified below:

3.4.1 Inclusion Criteria

Inclusion criteria is defined as a predetermined set of features for identification of subjects that will be included in a research study (Salkind, 2012). The selection

criteria used the following considerations for inclusion; all women receiving Post Abortion Care at the Nakuru level 5, Naivasha Sub County, Bahati Sub County and Nairobi Women's Hospitals, all health workers; nurses, medical officers, clinical officers and doctors on shift providing post abortion care services and Main hospitals providing post abortion care services. These are Nakuru level 5, Naivasha Sub County, Bahati Sub County and Nairobi Women's Hospitals.

3.4.2 Exclusion Criteria

Exclusion criteria is defined as a set of predetermined features used in a research study to identify the individuals that will be excluded in participation of the study (Salkind, 2012). The participants who had the following characteristics were excluded from the study participation. The participants who were under 18 years since they cannot give consent since only their parents can give consent and patients who opted not to be interviewed even though the facility confirmed them to have had an induced abortion.

3.5 Sampling Frame

According to Lavrakas, (2013), a sampling frame is a list of all units within a population by which a sample can be drawn for study purposes. Specifically, the sampling frame for the study was the major public referral hospitals and the major private reproductive health hospitals in Nakuru County.

The public health system in Nakuru consists of different health service centres classified from levels 1 at community and household level which consists of mainly counselling and preventive health services, to 5 levels which is mainly curative with specialized health providers. PAC services in the county are mainly provided in level 4 with seven facilities and level 5 which is only one in Nakuru County. Private hospitals that have been enlisted to provide specialized reproductive health services in the county include Nairobi women, Family Health Options and Marie Stopes. MOH (2012). The researcher therefore focused on Nakuru level 5 and two facilities in level 4: Naivasha sub county hospital located in an urban centre and Bahati sub

county hospital located in a rural centre. Nairobi women hospital represented the private facilities.

3.6 Sample and Sampling Technique

3.6.1 Sample size

According to Polit and Beck (2003), a sample is a proportion of population to be researched, while Suter (2014), explains sampling as a statistical method of selecting a sub-set of individual representative of a population for statistical inference. Statistical inference is therefore use of information from a sample to make a conclusion about the entire population of interest (Cox, 2006). Over the years, scholars have consistently agreed that determining an adequate sample size is one of the most controversial aspects of sampling (Oliver, 2013).

According to Mugenda and Mugenda (2003) and Kothari (2004) a population of more than ten thousand potential sampling units is called a large population. To determine if the study was of a large population, this research considered data collected in Kenya using the Abortion Incidence Complications Methodology (AICM) and the Prospective Morbidity Survey (PMS). This is a well-recognized methodology in giving estimates of induced abortions based on a nationally representative sample that included both public and private health facilities. (Singh, Prada & Juarez 2010). The data indicated that an estimated that 38,567 of the 119,502 (32%) induced abortion complications treated in Kenya in 2012 were from the Rift Valley. (Mohamed, *et al*., 2015).

To determine the sample size for a large population which is assumed to be normally distributed at a confidence interval of 95% or significance interval of 5%, Daniel (1999) recommends using the formula given as;

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

This study adopted the same formula to determine the sample size of the post abortion care patients that were included in the study.

Where:

n = Sample size for large population

Z = normal reduced variable at 0.05 level of significance z is 1.96

p = Proportion of women having induced abortion, where for this study it is set at 32% (0.32). This is based on the proportion of women who had induced abortions in (Muhamed et al 2015)

d = Precision level desired or the significance level which is 0.05 for the study

The substituted values in determining the sample size for a large population are as follows.

$$\frac{1.96^2 * 0.32 * (1 - 0.32)}{0.05^2} = 334$$

According to Singh & Masuku (2014), 10% is commonly added in quantitative research. Therefore, sample size for this study was 367 women who had received post abortion care after an induced abortion. In addition, 34 informants were purposively selected as the qualitative sample; 24 as participants as key informant interviewees comprising of PAC health providers and 10 key in depth interviewees comprising of PAC clients. According to Guest, Bunce, & Johnson (2006) a sample of 6 interviews may be sufficient to enable development of meaningful themes and useful interpretations therefore the 34 key informants were sufficient for this research study. The reason for the use of these multiple respondents was to provide accounts from different perspectives about decisions around abortion. By comparing and contrasting these perspectives, the study was able to notice the essential aspects that appear across the sources and to recognize variations in how the experience appears.

3.6.2 Sampling technique

The ultimate test of a sampling technique is how well it represents the characteristics of the population it purposes to (Kothari, 2004). The sampling technique to be

employed is determined by the kind of population of interest and the desired sample size with the highest precision.

There are two major sampling techniques namely probability and non-probability sampling. Probability sampling is a technique in which samples are selected in a way suggested by a probability theory while non-probability sampling involves samples being selected in a way not suggested by any probability theory (Babbie, 2012). According to Wolf (2016), one may use non probability sampling when the subjects in question lie in the hard to find population hence a probability sampling technique is not the best in this situation. Women who have undergone an abortion are a special population hence the use of non-probability sampling.

Specifically, this study employed a purposive (judgemental) non probability sampling technique. This is a method where by the units to be observed are selected on the basis of the researcher's judgment about which ones will be the most useful or representative (Babbie, 2012). Purposive sampling technique was used to obtain only the hospital clients who were seeking post abortion care (PAC) after having an induced abortion. According to Patton (1990) it is important to select "information-rich cases for in depth study. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the research, thus the term purposive sampling" (p. 169).

Health providers were guided in identifying the patients who had induced abortion after they had received treatment. At all hospitals, all patients were received at the emergency outpatient department for triage. Here the nurses were the first to attend to the patients after registration where they took their vital signs like temperature before sending them to the doctor or clinical officers. Patients with abortion complications were taken to PAC rooms for treatment. The number of patients attended with abortion complications could not be determined beforehand therefore the researcher and assistants were stationed at the four facilities and recruited respondents on a continuous basis until the sample size of 340 out of the expected 367 respondents was achieved. This took a total of 8 months. Creswell (2011) suggest the use of a different or same group of people as a sample in quantitative and

qualitative studies when using the convergent parallel design. In this study, 10 in-depth interviews were conducted with PAC clients. However, respondents under the age of 18years and those not willing to participate were excluded from the study.

Quota sampling was applied to determine the health providers to be interviewed for the qualitative enquiries. In quota sampling, the researcher decides while designing the study how many people with which characteristics to include as respondents (Natasha 2005). PAC services varied with the seriousness and complications involved with some patients requiring counselling offered by nurses, Manual Vacuum Aspiration (MVA) performed by clinical officers or surgical management in theatre performed by doctors. In this study therefore, Clinical officers, medical doctors and nurses providing PAC services per facility were sampled as key informants forming the quota.

Table 3.1: Overview of selected facilities

Health Facility	**Cadre of provider**			**Total PAC providers**	**PAC clients**	**Key informants**
	Doctor	**Clinical officers**	**Nurse**			
Level 5-Nakuru PGH	2	2	3	7	98	5
Level 4-Bahati	1	2	3	6	46	1
Level 4-Naivasha	1	2	3	6	63	2
Private-Nairobi Women	1	1	3	5	21	1
Total 4	**5**	**7**	**12**	**24**	**228**	**10**

Table 3.1 presents the distribution of respondents and key informants in the sampled facilities. Natasha (2015) advises that purposive sample sizes are often determined on the basis of theoretical saturation which is the point in data collection when new data no longer bring additional insights to the research questions. The sample size of 24 providers and 10 PAC clients was sufficient and there was no need for additional interviews.

3.7 Data collection Tools

Lincoln and Guba (2000) asserts that double measure of the same construct enables the researcher to get more accurate data and thus reduce measurement errors hence the use of both qualitative and quantitative data in this study. Structured questionnaires and unstructured interview guides to obtain both quantitative and qualitative data was used respectively.

3.7.1 Semi-Structured Questionnaire

The quantitative data collected from the post abortion care clients was done using a semi structured questionnaire (Appendix 2). Schwab (2005) defines questionnaires as measuring instruments that ask individuals to answer a set of questions or participant to a set of statement. Mugenda and Mugenda (2003) and Kothari (2004) define a questionnaire as a document that consists of a number of questions printed or typed in a definite order on a form or set of forms. The tool was self-administered whereby women of reproductive age accessing post abortion care at the health facilities filled out the questionnaires by themselves. According to Campbell et al., (1999) use of self-administered questionnaires is particularly useful in collection of data on sensitive topics such as sexual behaviour**.** The researcher assisted those who needed assistance with clarification. The questionnaire was available in both English and Kiswahili with questions comprised of Likert scales, binary, nominal and ordinal variables.

3.7.2 Key informant Interview Guide

Qualitative data was obtained from the health workers who provided post abortion services to the PAC clients as the key informants in this study. Using an unstructured interview guide (Appendix III), the researcher collected information on the demographic characteristics of the health worker, their view on community health programs on reproductive health, access to health services in relation to abortion, and communication strategies recommendations.

In addition, qualitative data collected from selected PAC clients was done using an in-depth interview guide for PAC clients (Appendix IV) that was developed in the

view of answering other concerns of these clients. The interview guide comprised of open-ended questions to capture a more detailed perspective of the subject from PAC client. The questions also touched on the other indicators in the closed ended questionnaire to complement the quantitative information.

All the tools used were approved by the KNH-UON Ethical Research Committee and National Commission for Science Technology and Innovation (NACOSTI) for data collection.

3.8 Data Collection Procedure

The researcher sought a research permit from The National Commission for Science, Technology and Innovation (NACOSTI). This is a government body that coordinates all research done in the county. Application for a research permit was done by filling out an application form, attaching the ethical clearance, an introduction letter from school of postgraduate, uploading the proposal and making a payment to NACOSTI. Upon review and approval, NACOSTI provided a permit (Annex IV) and letters of introduction to Nakuru County Commissioner and Ministry of Education. The respective offices provided introduction letters to be presented at the health facilities. Clearance was also sought from the County director of Health Services (Annex V)

The researcher identified three clinical officers as research assistants based on their experience as clinicians in understanding the ethical principles of handling patients. They were then taken through a two days training on first understanding the study objectives and research tools, and secondly on how to collect data and the respondent behaviour aspects to observe during piloting.

The training was also to ensure that all respondents are respected and that the research assistant's views and values on the subject of study, that is abortion, are not drawn into the study. The research assistants were therefore not to be judgemental and understand that participant were at will to exit the interview at any point as they wished. An introduction letter was prepared and carried by each research assistant for use when making contact with facilities and respondents.

The researcher and three research assistants were at the four hospitals simultaneously on a daily basis for a period of 8 months between May and December 2017 until. During this period, 340 PAC clients fitting the inclusion criteria were identified against a sample size of 367. However, only 228 women of the 340 who met the inclusion criteria agreed to be interviewed. While so doing, the research team offered voluntary services like counselling, treating and escorting the patients to the relevant departments.

Because of the difficulty in being able classify patients according to whether they had an induced or a spontaneous abortion, the research team had to rely on the health providers to avail respondents after administering post abortion care services to them. A consent form was presented to the patients and a verbal explanation done to clarify their understanding on the inclusion and free consent to participate in the study. The researcher administered a standardized questionnaire that helped gather quantitative data. After that, in-depth interviews were conducted with the selected and willing respondents to get a deeper understanding of the subject matter, thus generating qualitative data. An unstructured in-depth interview guide was used in this process.

Key informant interviews were conducted with the health providers as the key informants. Only providers of PAC services were interviewed in this study. An interview guide was used to guide the discussions with probing and clarifications being made. According to Singleton (pg. 235), "with unstructured interviews, the interviewer is free to adapt the interview to capitalize on special knowledge, the experience, or insights of the participant".

The study adopted the data triangulation technique by using a combination of data sources with the effect that the strengths and weaknesses in each source are compensated when used together. The aim was to improve the validity of the findings when answering the study questions and meeting the study objectives.

3.9 Pilot Testing

Pilot testing is the rehearsal of survey administration and procedures while pre-testing refers to the method of validating survey instruments and its measurements (Rothgeb 2008, pp 584). According to Saunders, Thornhill and Lewis (2009), pre-testing refines the questionnaire so that respondents will have no problems in answering the question. Both piloting and pretesting provide the researcher valuable opportunity for revision of research instruments before one incurs costs due to errors. For high precision pre-testing studies, 1% to 10% of the sample should constitute the pre- test size (Lancaster, Dodd and Williamson, 2010). For purposes of this study the pre- test was conducted using questionnaires and interview guides administered to 30 women (10%) who were randomly sampled from the study population. This was done at the Nakuru Provincial General Hospital (Nakuru Level 5 Hospital) since it has a high turnout of patients. The number of patients to be attended with abortion complications per day could not be determined beforehand therefore the researcher and assistants had to be stationed at the health facility and recruited respondents on a continuous basis until the pilot sample of 30 was reached. Of the 30 respondents identified to participate in the pilot study, 20 agreed to proceed with the exercise. The health provider interview guide was tested on 5 staff at the same facility while the PAC client interview guide was tested on 3 clients. The subjects participating in the pre-testing were not included in the final study to avoid survey fatigue.

The research team further debriefed and reviewed the research tools to check how long it took a respondent to complete the questionnaire, the time taken during the interviews and if the instructions were clear. The team also if the tools had a logical flow of the questions and that they are adequate in each topic. The questions were reviewed to make them simple, concise and free from technical jargon, unbiased, culturally sensitive and non-judgemental.

3.9.1 Reliability

Reliability is the consistency of a measurement, or the degree to which an instrument measures the same way each time it is used under the same condition with the same subjects. Reliability does not, however, imply validity because while a scale may be

measuring something consistently, but it may not necessarily be what it is supposed to be measuring. The researcher used the most common internal consistency measure known as Cronbach's Alpha (α) which was generated by SPSS. Nunnally (1978) suggested that as a rule of thumb, a reliability coefficient value of above 0.6 is statistically reliable and acceptable for a study. This study employed this standard to measure the extent to which the presented set of items measure individual latency of the variable under examination. The women participating in the pre-testing were not included in the final study to avoid response bias.

Table 3.2: Reliability Results

Variable	Cronbach's Alpha	Number of Items	Comment
Health message exposure	0.889	5	Reliable
Interpersonal communication network	0.857	7	Reliable
Decision making on abortion	0.894	9	Reliable

The findings on Table 3.2 indicate that health message exposure, interpersonal communication and decision making on abortion had reliability coefficients of 0.889, 0.857 and 0.894 respectively. All variables depicted that the value of Cronbach's Alpha values were above 0.6, thus the study variables were reliable. The pilot results represented a high level of reliability.

3.9.2 Validity

According to Mugenda and Mugenda (2003), validity is the accuracy and meaningfulness of inferences, which are based on the research results. In other words validity is the degree to which results obtained from the analysis of the data actually represent the phenomenon under study. Validity exists if the data measure what they are supposed to measure. The questionnaire was tested for validity proof by discussing with two randomly selected communication experts. The comments from the communication experts were reviewed and incorporated to enhance the validity of the questionnaire. The questionnaire was then pre-tested in the field to ensure it is not faulty and that it is understood by the respondents.

3.9.3 Sampling Adequacy Test

The researcher performed Kaiser-Meyer-Olkin (KMO) to test for adequacy.

Table 3.3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**0.864**
Bartlett's Test of Sphericity	Approx. Chi-Square	21.925
	Df	3
	Sig.	**0.000**

The value of the KMO Measure of Sampling Adequacy for both the dependent and independent variables was 0.864. The significance of the KMO coefficient was evaluated using a Chi-Square test and a critical probability value (p-value) of 0.05. A Chi-Square coefficient of 21.925 and a p-value of 0.000 imply that the coefficient is significant. This further implies that there was a significant correlation between the parameters measuring aspects of health message exposure and interpersonal communication and decision making on abortion. According to Field (2005), KMO Value/Degree of Common Variance of between 0.90 to 1.00 is “Marvelous”, 0.80 to 0.89 is “Meritorious”, 0.70 to 0.79 is “Middling” 0.60 to 0.69 is “Mediocre”, 0.50 to 0.59 is “Meritorious”, 0.00 to 0.49 is “Don't Factor”. Thus, a KMO coefficient of 0.864 is “Marvelous” for this study.

3.9.4 Tests of assumptions

Test of assumptions for a binary logistic regression were done before fitting of the models to ensure the results were valid. There are two major assumptions for a binary

logistic regression namely linearity and multicollinearity of the predictor variables (Dohoo, I. R., Martin, S. W., & Stryhn, H. 2012). In this study, the following was observed in the test of assumptions. In regards to linearity, all the predictor variables were continuous hence the assumption for normality did not apply.

However, of there were continuous predictor variables we could have tested for a linear relationship between continuous predictor variables and the logit of the outcome.

Multicollinearity refers to correlation of the predictor variables which can lead to poor estimation of the model coefficients. This assumption was tested using the Variance Inflation Factor (VIF) and in this study the assumption of multicollinearity was not

violated as the VIFs values ranged between 3 to 5. If the VIFs values were greater than 5, the assumption would have been violated.

3.10 Data Processing and Analysis

3.10.1 Quantitative data

Data analysis refers to examining what has been collected in a survey and making deductions and references (Kombo and Tromp,2006). It involves scrutinizing the acquired information and making inferences (Ndati, 2013). The feedback obtained from the 228 questionnaires was edited, coded using the variable identified and then entered in excel spreadsheet and a cleaning process done to check on errors. This Quantitative data was analysed using STATA version 15 software.

3.10.2 Bivariate and multivariate Analysis

Bivariate analysis refers to the tests of differences or measures of association between two variables at a time (Zikmund, 2003), while multivariate measures association of more than two variables.

In this study, both the independent and dependent (outcome) variables were categorical. The outcome variable consisted of three indicators which were binary i.e. attitude towards abortion (positive or negative), subjective norm which referred to perceived social pressure to have an abortion (agree/disagree) and third is perceived behavioural control which was the respondents' perceived self-efficacy or

self-confidence in decision making on abortion (strong/weak). Each independent variable had three categories which were coded.

The Pearson chi-square test is a non-parametric statistical tool for measuring the level of association between two variables (bivariate) when the outcome variable is nominal. Unlike other non – parametric tests, this statistical test gives details on the differences within the different groups in the study giving the researcher a high level of details (McHugh, 2013). This study adopted the Pearson chi-square test to conduct bivariate analysis since the variables were categorical. Specifically, the three sets of independent and dependent variables were tested at a 95% confidence interval and interpretation done using the test statistic and the p-value for validity.

Logistic regression is a statistical tool for analysing data with categorical outcome variables to explain how each of category of the independent variable affects the outcome variable (Hosmer and Lemeshow, 2013). Since the outcome variables were binary, this study employed the binary logistic regression method to conduct multivariate analysis. Dummy variables were created for categorical variables and a reference variable assigned to each. Specifically, for independent variables which had a statistically significant association with the outcome variable, the regression was conducted at 95% confidence interval and interpretation done using odds ratios, confidence intervals and p-values. The assumptions for using the logistic regression model were verified so as to avoid biases in interpretation of results.

3.10.3 Qualitative data

Taylor-Powell and Renner (2003) point out that in qualitative analysis, the researcher focuses on respondents' narratives in response to questions asked. Qualitative data from 10 in-depth interviews with women aged 18-49years who had an abortion and 28 health workers as key informants providing PAC services were summarized according to thematic areas.

Merged data analysis strategies were used whereby side-by-side comparison in discussion section and summary table was done, thereafter, the results were mixed during the overall interpretation as the researcher tried to look for convergence,

divergence, contradictions, or relationships of the two sources of data in order to get important insights into the issues of interpersonal communication, decision making and abortion.

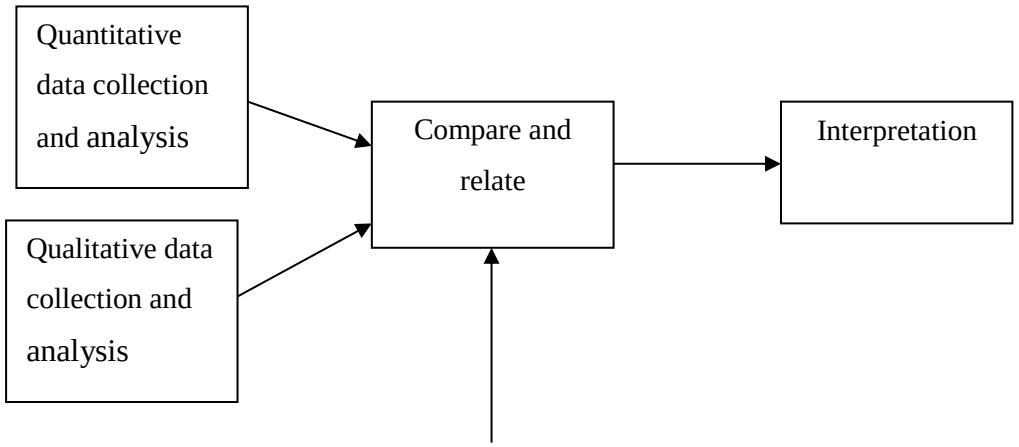

Figure 3.1: Convergent parallel design Procedure Flowchart

3.10.4 Descriptive Statistics

According to Zikmund (2003), descriptive responses or observations are typically the first form of analysis. Descriptive statistics is important as the starting point in any statistical analysis because it can help in detecting any abnormalities in the data collected. The study therefore computed the means, standard deviations, frequencies and percentages.

3.12 Ethical Consideration

According to Connolly (2003), research ethics involve a consideration of the conduct of researchers in relation to their own personal behaviour as well as how they relate to and treat others during their research. Given that this study involved patients, it was therefore a requirement to seek ethical approval Ethical approval to carry out this study was sought from Kenyatta National Hospital Ethics and Research Committee. This is a body that reviews all medical research that involves human

subjects. After the review, the committee recommended inclusion of private facilities in the study. In addition, a medical review committee in Nakuru level 5 hospital suggested that the questionnaires be translated to Kiswahili and the informed consent summarized to one page.

The researcher also sought a research permit from The National Commission for Science, Technology and Innovation. This is a government body that coordinates all research done in the county. Additional clearance was issued by the County Commissioner, County Director of Education, County Director of Health and the respective heads of participating health facilities.

This study comprised of post abortion care clients and abortion being a highly personal subject, ethical issues in research on human sexuality had to be taken into consideration. The three areas main ethical issues that were considered in this research were; informed consent, right to privacy and protection from harm. Informed consent emphasizes on the importance of both accurately informing the respondents on the nature of the research and obtaining a verbal or written consent to participate in the study without coercion. In this study, respondents appended their signatures on the consent form and as recommended by Babbie (2012), participants were free to terminate their involvement in the research at any time. Privacy on the other hand involves protection of the protection of the subject's identity through anonymity and confidentiality. Confidentiality was maintained by the researcher as the names of the respondents were not given and the responses were later coded. Lastly, protection from harm is protecting the respondents from emotional or psychological distress and physical harm was ensured by engaging research assistance who had a clinical training background.

An introduction letter was prepared and carried by each research team for use when making contact with institutions/centres and respondents. The purpose of the study was explained to all the respondents and they were assured of confidentiality after which they were requested to sign a consent form. Of the 340 respondents identified to participate in the study, 228 agreed to proceed. Information obtained from the respondents was treated with strict confidentiality during the study.

The study sought to ensure that all respondents are respected and that the researcher's views and values on the subject of study, that is abortion, are not drawn into the study. The researcher was therefore not judgemental. The participant was also at will to exit the interview at any point as they wish.

The research study posed no direct or indirect harm to the respondents. At the same time, the study was not of any direct or benefit to the respondents and therefore no compensation was given to the respondents. The main anticipated benefits of this study is that it provided evidence and recommendations to the government and its partners when developing reproductive health communication strategies and programs aiming at reducing maternal mortality due to abortion.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents findings of the study that examined the relationship between interpersonal communication and exposure to health message on decision making on abortion among women of reproductive age (18-49years) in Nakuru County The study aimed at answering four research questions: 1) What influence does health message exposure have on decision making on abortion among women of aged 18 to 49 years in Nakuru County? 2) What influence does interpersonal communication have on decision making on abortion among women aged 18 to 49 years in Nakuru County? 3) What effects do demographic characteristics have on the relationship between health message exposure and decision making on abortion among women of aged 18 to 49 years in Nakuru County? 4) What effects do demographic characteristics have on the relationship between interpersonal communication and decision making on abortion among women of aged 18 to 49 years in Nakuru County?

Descriptive and inferential statistics was used to analyse the quantitative data. The descriptive statistics included percentages and frequencies for categorical variables and mean, mode and median for continuous data. The inferential statistics involved both bivariate and multivariate analysis. For bivariate analysis, the Pearson Chi-square test was used to determine the association between the exposure to health messages and interpersonal communication and decision making on abortion. For multivariate analysis, binary logistic regression was employed to measure the influence of exposure to health messages and interpersonal communication on decision making on abortion. Qualitative data was analysed by theme and finally convergent parallel research was used to augment the findings.

The chapter also discussed the study findings in relation to the study variables. A detailed discussion has also been provided as the current findings are compared to findings of other studies in related areas.

4.2 Response Rate

The number of questionnaires administered to all the respondents was 340. The respondents were women aged 18-49 years who had sort for post abortion care at either Nakuru level five, Nairobi Women's Hospital Nakuru branch, Bahati or Naivasha Sub County Hospitals. The health providers at the point of service helped to identify only those women who voluntarily disclosed that they had procured an abortion and that they had not suffered from spontaneous abortions. Out of the 340 questionnaires administered, a total of 228 women (67%) agreed to participate in the study and signed the consent form, while 112 women (33%) declined to be included in the study.

Table 4.1: Response Rate

Data collection	Response	Frequency	Percentage%
Questionnaire	Consented	228	67
	Not consented	112	33
	Total	**340**	**100**

Table 4.1 shows a response rate of 67%. According to Babbie (2004) response rates of 50% are acceptable to analyse and publish a research, 60% is good and 70% is very good. Similarly, Wimmer and Dominick (2006), assert that a response rate of 21% – 70% is acceptable for self-administered questionnaires. It guarantees accuracy and minimizes bias. Based on these assertions, a response rate 67% is therefore adequate for the study.

A further 10 women seeking PAC services were identified and consented to participate in the in-depth interviews. Twenty-four health providers offering PAC services in Level 5, Nairobi women, Naivasha and Bahati health facilities were interviewed as key informants.

Table 4.2: Distribution of Study Informants

Data collection	Response	Targeted	Actual
In-depth interview	PAC client	10	10
Key Informant interviews	Health Providers	24	24
Total respondents		**34**	**34**

4.3 Demographics characteristics of women seeking PAC services

Presentation of findings for this study started by an examination of the demographic information, home origin of the respondents; this information was obtained from the responses in section A of the questionnaire. This section analyses the demographic characteristics of the respondents and presents the descriptions of the respondents in terms of their age bracket, marital status, education level, employment status, religion and Home County.

4.3.1 Age of Respondents

Table 4.3 gives an overview of the age bracket of the respondents who took part in the research study.

Table 4.3: Age of women seeking PAC services

Characteristic	Frequency (n)	Percentage (%)
Age		
18 – 23	120	53
24 – 29	72	32
30 – 35	24	10
36 – 41	12	5
42 – 49	0	0
Total	**228**	**100**

The results in table 4.3 shows that majority of the respondents (85%) were below 30 years while 15% of the respondents indicated that they were over 30 years. None of

the respondents reported that they were 42-49 years. These findings agreed with that of Correia (2009) who conducted a study in Brazil and found that teenagers and women in their youth had higher chances of abortion than old people. This implied that it is more likely to find young women having to make a decision on abortion than it is to find older women. In fact, the study reveals that as the women grow older the less the intentions of having an abortion.

4.3.2 Marital status of Respondents

The study tried to establish the marital status of women seeking PAC services in specific health facilities in Nakuru County.

Table 4. 4: Marital status of women seeking PAC services

Characteristic	Frequency (n)	Percentage (%)
Marital Status		
Married	72	32
Unmarried	150	64
Separated	6	2
Widowed	0	0
Total	**228**	**100**

Results in Table 4.4 show that out of the 228 women included in the study, slightly more than a third (32%) were married while a majority of the respondents (64%) stated that they were unmarried. However, none of the respondents reported that were widowed in this study. These findings agreed with that of Puri, Igham and Mathews (2007) who concluded that young unmarried women have higher chances of procuring an abortion than married women. The findings indicate both married and unmarried women procured abortions.

4.3.3 Level of education of Respondents

The respondents were further asked to indicate the highest level of education they had attained. It is worth noting that majority of the respondents reported that they were ongoing students in college, secondary and university

Table 4.5: Level of education of women seeking PAC services

Characteristic	Frequency (n)	Percentage (%)
Level of Education		
Primary	42	18
Secondary	90	40
Tertiary(certificate/artisan)	6	3
Diploma College	48	21
University	42	18
Total	**228**	**100**

Table 4.5 shows that 58% of the respondents had attained some basic education (primary and secondary) while 42% had attained higher education. These findings do not agree with those of Puri et al. (2007) who found that people with higher levels of education had significantly greater prevalence of abortion compared to people with no education. Contrary, the findings in this study indicated that those with highest level of education being university level and those with the lowest level of education which was primary education were equal at 18%. This therefore implies that the level of education did not determine one's intention to procure abortion. The qualitative responses also supported these results.

> Respondent 1: *".....I dropped out of university in first year due to pregnancy, I was not going to drop out again this time so I went for an abortion.*
>
> Respondent 2: *".....even though it is said that somebody can get a baby then come back to school, getting a baby before finishing school is still a big thing and most girls do not even come back. Those who come back have no friends and are always last in class position."*|

The findings are is support of Oliver and Bloom (2004) who opined that most adolescents that undergo abortion are likely either to leave school at that point due to the inability to cope with the stress and an increase in the individuals' school absenteeism or a poor academic performance which has permanent effect on the adolescents' educational future.

4.3.4 Economic status of Respondents

The study tried to establish the economic status of women seeking PAC services by asking them to indicate if they were employed or not, and whether they were self-employed.

Table 4.6: Economic status of women seeking PAC services

Characteristic	Frequency (n)	Percentage (%)
Employment status		
Employed	54	31
Unemployed	162	66
Self-employed	12	3
Total	**228**	**100**

In regards to the respondents' economic status, table 4.6 illustrates that 66% of the respondents were unemployed and only 31% had economic resources since they were working. Three out of the four health facilities in the study, were government facilities providing free services and therefore were most appropriate for unemployed respondents. However, even though 66% of the women were unemployed, none of the respondents gave employment status or poverty as a reason for procuring an abortion. Most of the respondents gave fear of social sanctions isolations and rejections in the community as the greatest push factor when considering to have an abortion.

4.3.5 Religion of Respondents

Table 4.7: Religious affiliation of women seeking PAC services

Characteristic	Frequency (n)	Percentage (%)
Religion		
Catholic	54	24
Muslim	7	3
Protestant	167	73
Total	**228**	**100**

The findings reveal that 73% of the respondents were Protestants, 24% were Catholics while 3% indicated that they were Muslims. The findings indicate that in as much as most respondents were Christians (97%). Further findings show that 70.2% of the respondents indicated that they terminated their pregnancies due to fear of rejection and isolation in the religious groups. The study findings disagree with the Theory of Planned Behaviour that describes decision making as a rational process influenced by one's attitudes on the subject matter, and instead asserts that subjective norms are important in decision making.

4.4 Correlation Matrix

Table 4.8: Correlation Matrix for the demographic characteristics

	Age bracket	**Marital status**	**Education level**	**Employment status**	**Religion**
Age bracket	1.0000				
Marital status	-0.6895	1.0000			
Education level	-0.3035	0.1801	1.0000		
Employment status	0.1685	-0.1051	0.1715	1.0000	
Religion	0.2255	-0.1754	0.0462	0.2735	1.0000

**significant values*

Table 4.8 above shows the correlation between the demographic characteristics. The variables of interest were age bracket, marital status, education level, employment status and religion. Age bracket & marital status, age bracket & education level, marital status & employment status and marital status & religion were negatively associated at -0.6895, -0.3035, -0.1051 and -0.1754 respectively. The variables that were positively associated were age bracket & employment status, age bracket & religion, marital status & education level, education level & employment status, education level & religion and employment status & religion at 0.1801, 0.1685, 0.1715, 0.2255, 0.0462 and 0.2735 respectively. The correlation between age bracket

& marital education, level, age bracket & employment status and age bracket & religion were statistically significant at 95% C.I. In addition, the correlation between marital status & education level, marital status & religion, education level & employment status and employment status and religion were statistically significant at 95% C.I.

4.5. Analyses of Study Variables

In this section, descriptive and inferential statistics from respondents' opinions were used to present and analyse quantitative and qualitative data derived from the questionnaire and in-depth interviews respectively, under the study objectives. Descriptive statistics was done to form the basis of analysis for the variables in each study objective. Secondly, bivariate analysis was done to measure the association between the independent variable (health measure exposure/interpersonal communication) and decision making on abortion. Finally, a binary logistic regression analysis was done to measure the extent to which health message exposure and interpersonal communication influence decision making on abortion.

4.5.1 Decision making on abortion

Decision making in this study is defined as respondents' intention to have an abortion or not. According to the theory of planned behaviour, intention is a motivational construct that reflects the extent to which the individual will plan and develop efforts in order to get to carry out the behaviour (Ajzen and Fishbein, 1980). Ajzen further stated that decision making or intention is determined by three conceptually distinct variables: attitudes towards the behaviour, subjective norms, and perceived behavioural control PBC; Ajzen, (1991). Decision making on abortion as the dependent variable was therefore measured using three indicators: attitude towards abortion, subjective norm and perceived behavioral control.

4.5.1.1 Attitude towards abortion

According to the theory of planned behaviour, people's evaluations of, or attitudes toward behaviour are determined by their accessible beliefs about the behaviour,

where a belief is defined as the subjective probability that the behaviour will produce a certain outcome. Specifically, the evaluation of each outcome contributes to the attitude in direct proportion to the person's subjective possibility that the behaviour produces the outcome in question (Baker, 2017), in this case abortion. In an attempt to determine the respondent's attitude towards abortion, a series of 9 statements were used to interrogate them. This section presents the level of agreement in regard to attitude towards abortion.

Table 4.9: Attitude towards abortion

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Termination of pregnancy is the right of every woman in your community	64 (28%)	34 (15%)	0(0)	100 (44%)	30 (13%)
It is ok for a woman to have an abortion if she is married and does not want more children	93 (41%)	48 (21%)	(0)	41(18%)	46(20%)
It is ok for a woman to have an abortion if the woman's own health is endangered by the pregnancy	0 (0%)	7(3%)	0 (%)	109(48%)	112(49%)
Abortion is ok if the family has a very low income and cannot afford any more children	108 (47%)	30 (13%)	(0)	90(39%)	0 (0%)
Abortion is ok if she became pregnant as a result of rape	24 (11%)	54 (14%)	5(2%)	39 (17%)	128(56%)
It is ok for a woman to have an abortion if she is not married and does not want to marry the man	57(25%)	42 (18%)	(0)	57 (25%)	72(32%)
Abortion in the first trimester (0-12 weeks)	34(15%)	48 (21%)	7(3%)	36(16%)	103(45%)
Abortion is ok in the second trimester and third (13-28 weeks)	55(24%)	52(23%)	18(8%)	27(12%)	76(33%)
It is ok to terminate a pregnancy in the third trimester (29-40 weeks)	109(48%)	96(42%)	(0%)	11(5%)	34(15%

The study findings in Table 4.9 revealed that 43% of the respondents felt that termination of pregnancy was not a right of every woman in their community while 57% felt otherwise. 62% felt that it was not ok for a woman to have an abortion if she was married and does not want any more children with 38% felt it was ok for

married women to have an abortion for the same reason. The results further showed that 97% of the respondents agreed with the statement that it was ok for a woman to have an abortion if the woman's own health is seriously endangered by the pregnancy.

In addition, a total of 60% of the respondents disagreed with the statement that it was ok for a woman to have an abortion if the family has a very low income and cannot afford any more children with 47% strongly disagreeing. However, 73% were of the opinion that it was ok for a woman to have an abortion if she became pregnant as a result of rape. The results further showed that 57% of the respondents disagreed with the statement that it was ok for a woman to have an abortion if she is not married and does not want to marry the man responsible for the pregnancy. Table 4.23 further shows that 61% of the respondents agreed that it was ok to terminate a pregnancy in the first trimester (0-12 weeks) with 3% being neutral. However the attitude to have an abortion changes with the age of the pregnancy with 45% and 20% agreeing that it was ok to terminate a pregnancy in the second (13-28 weeks) and third (29-40 weeks) trimester respectively.

The theory of planned behaviour states that attitudes reflect an overall positive or negative evaluation of the behaviour. The study therefore asked the respondents to state whether they considered their attitude towards abortion positive or negative. Table 4.10 presents the summary of the responses.

Table 4.10: Respondents overall attitude towards abortion

Variable	Category	Frequency (n)	Percentage (%)
Attitude	Positive	84	37
	Negative	144	63
	Total	**228**	**100**

All 228 respondents had experienced an abortion despite 63% having a negative attitude towards the behaviour. These findings are inconsistent with Theory of Planned Behavior (TPB) which argued that individual's attitude to carry out

behaviour is a key determinant for the carrying out of that behaviour (Ajzen and Madden, 1986).

4.5.1.2 Subjective norm

The study went further to establish the perceived social impact on women with unplanned pregnancies and weather this has an influence on the decision to terminate the pregnancy among women of reproductive age in Nakuru County. To achieve this, the respondents were requested to indicate their levels of agreement on a five-point likert scale. (1 = strongly disagree, 2 = Disagree 3 = Neutral, 4 = Agree, 5 = strongly agree) was used. For the purposes of interpretation 4 and 5 (agree and strongly agree) were grouped together as agree, 1 and 2 (strongly disagree and disagree) were grouped as disagree while 3 was neutral. The results of this study are as depicted in Table 4.11.

Table 4.10: Perceived Social Impact

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
It is a taboo in my family for a young woman to have a baby out of wedlock	0 (0%)	7 (3%)	11 (5%)	141 (62%)	68 (30%)
It is a taboo in my community for a young woman to have a baby out of wedlock	7 (3%)	14 (6%)	30 (13%)	134 (59%)	43 (19%)
It is a taboo in my religion for a young woman to have a baby out of wedlock	7 (3%)	18 (8%)	18 (8%)	160 (70%)	27 (12%)
Termination of pregnancy is due to fear of punishment, rejection and isolation in, my family level	0 (0%)	18 (8%)	0 (0%)	134 (59%)	75 (33%)
Termination of pregnancy is due to fear of punishment, rejection and isolation by my spouse/boyfriend	0 (0%)	73 (32%)	30 (13%)	98(43%)	30 (13%)
Termination of pregnancy is due to fear of punishment, rejection and isolation in my social group	5 (2%)	68 (30%)	5 (2%)	125 (55%)	23(10%)
Termination of pregnancy is due to fear of punishment, rejection and isolation in my religious group	7 (3%)	43 (19%)	18 (8%)	137 (60%)	23(10%)

Table 4.11 shows that 92% of the respondents agreed that it was a taboo in their family for a young woman to have a baby out of wedlock, 78% agreed that it was a taboo in their community to have a baby out of wedlock and 82% agreed that it was a taboo in their religion for a young woman to have a baby out of wedlock. This

confirms that there are also the social dilemmas that face society in terms of normative behavior of having a child out of wedlock. The teenager may also want to seek the quickest and easiest way out of the crisis without perceiving the possible consequences because of the nature of the crisis (Hyam, 2002).

In addition, the results showed that majority of the respondents (92%) agreed that termination of pregnancy was due to fear of punishment, rejection and isolation in their family level. The findings are in tandem with Fife and Wright (2000) who asserted that perceived social impact included social isolation i.e., feelings of loneliness, uselessness and inferiority to peers and others; social rejection i.e., feelings of stigma and discrimination at work and in society generally; and internalised shame, i.e., the psychological experience of social rejection.

The results further showed that 55% of the respondents agreed that termination of pregnancy was due to fear of punishment, rejection and isolation by their spouse/boyfriend. The findings are in agreement with responses from the case studies where the respondents gave various reasons for terminating the pregnancies. For instance; a respondent gave the following reasons for termination of her pregnancy

Respondent: "I *was not going to face my parents with yet another baby even before I am done with school. My boyfriend promised to take care of me but I couldn't trust him to do so considering he didn't take care of me last time"*

Respondent; *"Fear of dropping out of school and being chased away from home will make me do it again"*

These findings agreed with that of Loeber (2008) who found that the commonest reason why women decided to have abortion was because of relationship problems. Rejection from a man pushed the woman into opting for abortion. The study suggests that if close social contacts (spouse, boyfriend) are not pleased with the pregnancy or the relationship a decision for abortion may be made.

The results indicated that majority of the respondents 65% agreed that termination of pregnancy was due to fear of punishment, rejection and isolation in their social

group. These findings agreed with that of Engelbrecht (2005) who found that unwanted pregnancy causes an internal distress with the fear of rejection from parents as well as the social stigmatism that goes with being a teenager and pregnant.

The results further indicated that 70% of the respondents agreed that termination of pregnancy was due to fear of punishment, rejection and isolation in their religious group. Finally, the respondents were asked if they had an abortion due to fear of the negative impact from family and friends because of an unplanned pregnancy by responding with either agree or disagree.

Table 4.11: Respondents overall perceived social impact

Variable	Category	Frequency (n)	Percentage (%)
		228	**100**
	Total		
Abortion due to fear of negative impact	Agree	126	55
	Disagree	102	45
	Total	**228**	**100**

Table 4.12 shows that 55% of respondents agree that they feared the social impact they would have to face from family and friends if they were discovered to be pregnant. These findings agreed with that of Levandowski et al (2012) who argued that the main reason for women to terminate the unwanted pregnancy was due to fear of rejection in the society.

It was also clear that from the case studies the respondents indicated that cultural values had a role to play in the decision to terminate pregnancy. Some of these cultural values were as stated:

Respondent 1: "*the community will see me as a loose girl if I have 2 babies while still at home"* another

Respondent 2:*"... the cultural values played a big role in decision making very much, even though it is said that somebody can get a baby then come back to school, getting a baby before finishing school is still a big thing and most girls do not even come back."*

The health care providers were asked to indicate whether there are community beliefs and practice that influence one's decision making on abortion. The respondents indicated that there are community beliefs and practices that influence one's decision making on abortion. The following were some of the responses.

Provider 1 '*Yes. Getting a baby before marriage is still a taboo in communities here. People are also Christians therefore do not want to be seen as going against their faith. To save their image, making a decision to abort is not difficult'*

Provider 2 '*Yes. Getting a baby before marriage is not accepted. Some women get pregnant from men who are not their husbands so they have to terminate. Others here want to keep their jobs in the flower farms*.'

The health care providers were further asked to indicate the influence of relationship at household and community levels on decision to have an abortion. The respondents indicated that the community and household members are the most influential in abortion decision. The following were some of the responses.

Provider 3: '*other people are the ones that push especially the peers*'

Provider 4: '*These two are the worst in pushing women to abort. Everyone fears the stigma at the community. At family level the mother is punished with her daughter'*

The health care providers were further asked to indicate the communication strategies they would recommend at their facility to target those who have had abortion. The respondents indicated that there was need for counselling for those who have aborted. The following were the responses.

Provider 1: *'We need counselling for those who have aborted so that they do not repeat.'*

Provider 2: *'We need counselling, communication materials both visual and written on how to cope after abortion'*

The health care providers were further asked to give their recommendation on communication strategies for the community in prevention of abortions. The respondents indicated that there was need for community programs to address stigma towards women and girls with unplanned pregnancies. The following were the responses.

Provider 3: *'We need preventive counselling, communication materials both visual and written on how to avoid unplanned pregnancy and risks of abortion'*

Provider 4: *'First people need to talk about abortion openly, the reasons why women abort and the effects, both immediate and long-term effects'*

These findings agreed with that of Kumar, Hessini and Mitchell (2009) who found that in families and among couples, many sexual and reproductive health topics, including abortion, can be highly stigmatized and charged with emotion, shame, and fear thus not discussed.

4.5.1.3 Perceived behavioral Control

The theory of planned behavior assumes that perceived behavioural control predicts behaviour directly only when behaviour is not under complete volitional control and when the perceived control accurately reflects current behaviour (Ajzen and Madden, 1986). This study therefore attempted to establish the level of self-efficacy in women of reproductive age in Nakuru in making independent decisions in regards to abortion by responding true or false to section D of the questionnaire. Table 4.13 presents the results.

Table 4.12: Respondents' perceived behavioural control

Variable	True n (%)	False n (%)
It is my right to have an abortion at will	72 (32)	156 (68)
I do not need to consult anyone before having an abortion	84 (37)	144 (63)
I believe I have all the information needed to make a decision	42 (18)	186 (82)
I have confidence to make a decision on abortion	109(48)	119(52)

Only 32% of the respondents were felt they had a right to have an abortion at will. And only 37% stating that they do not need to consult when having an abortion. However, only 18% believed they had all information needed to make a decision on abortion. These findings agreed with the critiques of Theory of Planned Behavior Ajzen's (2006) that argued that the theory excludes emotional variables such as threat, fear, anxiety, and mood. However, given that 48% felt they had confidence to make the decision means self-efficacy still applies in decision making on abortion.

These results were further supported by the findings from the in-depth interviews where the respondents were asked to indicate why they did not consult anyone when making the decision. Majority of the respondents indicated they did not expect to get support from those they would have consulted. One participant had the following to say:

Participant 1:'*I was not going to face my parents with yet another baby even before I am done with school. My boyfriend promised to take care of me but I couldn't trust him to do so considering he didn't last time'*

These findings were consistent with those of Maria, Tanja, Elisabeth and Margareta (2009) who found that the extent to which the decision is truly the woman's own is subject to debate; women are often influenced, directly or indirectly, by the attitudes of their partners, family and friends or by social norms. The study findings therefore

dispute the Theory of Planned Behaviour which assumes that all behavior is rational and dependent on one's self efficacy.

The study went further to enquire what benefits the respondents hoped to achieve from the abortion and whether they had any prior knowledge on the risks of abortion.

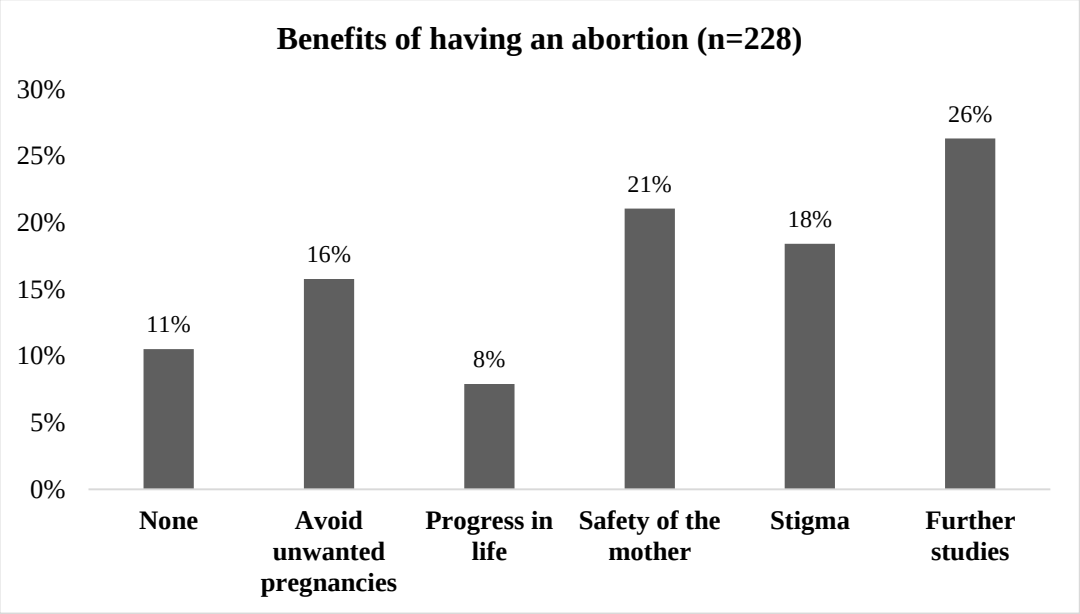

Figure 4.1: Benefits of having an abortion

Majority (26%) reported that they chose to abort so that they can continue with their studies of which all said they did not have adequate health information to help in making a decision on abortion. Only 8% reported that progress in life was a benefit of having an abortion.

During the interviews, respondents were asked to state what they considered as the benefits of having an abortion. The following were some of the responses.

Participant 13 '*able to continue with studies'*

Participant 6 and 7 '*continue with school, not embarrass the family'*

These findings agreed with that of Akinrinola, Susheela and Taylor (1998) who found that the most common reason of having an abortion included fear of disruption

of education or employment; lack of support from the father; desire to provide schooling for existing children; and poverty, unemployment or inability to afford additional children.

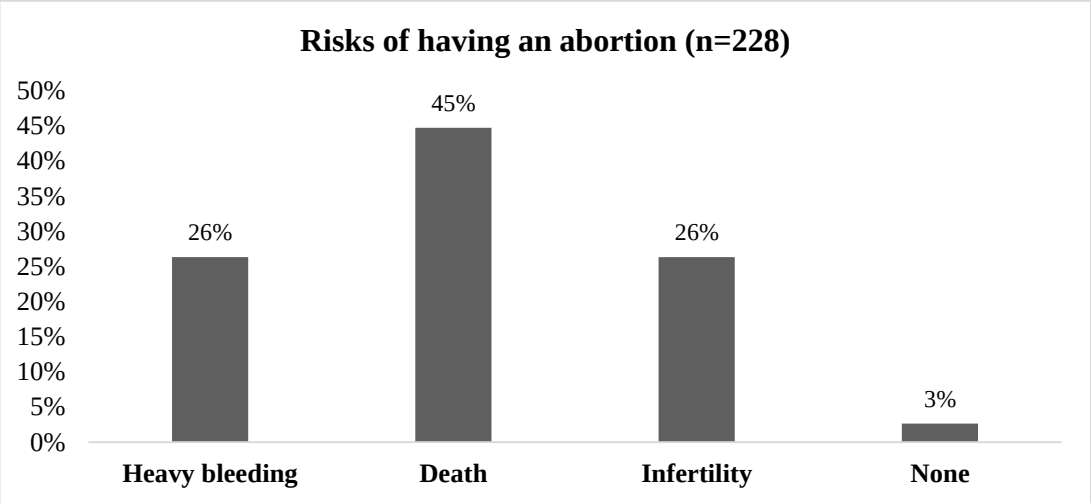

Figure 4.2: Risks of abortion

As shown above, almost a half (45%) of the respondents reported that death was a risk of having an abortion while only 3% felt that there was no risk of abortion. Respondents who felt that heavy bleeding and infertility were risks of abortion were equal at 26%.

The respondents were further asked to indicate the risks of having an abortion. Majority of the respondents indicated death and infertility. Other risks that were stated included severe bleeding and infection. The following were some of the responses.

Participant 1 '*death and bareness'*

Participant 2 '*infertility'*

Participant 3 '*death and infertility'*

The findings imply that all the respondents could mention the risks but the need to terminate and maintain the status quo was important than the risks. The findings are

in support of the case studies where the respondents were asked to share their experience throughout pregnancy period and after termination of pregnancy. The responses were;

Participant 1; "*The first pregnancy was hell on earth. I was thrown out of home and had to work as a house girl. I was stressed. Now a second pregnancy… I better die than go through that again"*.

Participant 2; "I *didn't even wait for it to grow, I just missed my periods and sorted it out immediately here in the kijiji".*

And as for the experience after terminating the pregnancy; the participant said

Participant 8 *'Not good at all. I thought it was a simple thing of taking madawa. I started having a smelly discharge and stomach pain. I was told parts of the baby remained and I had to be washed.'*

Participant 4*'It was very scary especially the bleeding after but I do not regret my decision. My education will not be interrupted and neither will my relationship with my parents be affected. I feel relieved'*

The respondents were further asked to indicate the risk of abortion that they considered most scary. Majority of the respondents indicated death while others indicated heavy bleeding and fear of infertility. The respondents gave some advice to all women in child bearing age.

Participant 1: "do *anything to avoid unplanned pregnancy and there is nothing like safe abortion."*

These findings agreed with those of Kumar et al. (2004) who found that women intending to have abortion sometimes went to health workers for reassurance. The counselling done at health facility level, however, did not influence the decision to have an abortion in this study as the women sought services after the abortion. From the data presented, respondents were well aware of the risks of abortion with majority mentioning death as a danger due to abortion. However, this did not deter

them. The study findings therefore dispute the Theory of Planned Behaviour which assumes that all behavior is rational and dependent on one's self efficacy.

In summary, Table 4.14 presents the three indicator of the outcome variable which is decision making on abortion.

Table 4.13: Overall decision making on abortion

Indicator	Category	Frequency (n)	Percentage (%)
Attitude	Positive	84	37
	Negative	144	63
	Total	**228**	**100**
Subjective Norm	Agree	126	55
	Disagree	102	45
	Total	**228**	**100**
Perceived Behavioural control	True	109	48
	False	119	54
	Total	**228**	**100**

The outcomes association with exposure to health messages and interpersonal communication were then measured using the Pearson chi-square test of association at 95% confidence level since the variables of interest were categorical. P-values less than 0.05 for the independent and dependent variables were considered to be statistically significant at 95% confidence level.

4.5.2 Exposure to messages health

The first objective of the study was to establish to what extent health message exposure influenced decision making on abortion among women of aged 18 to 49 years in Nakuru County. The study sought to find out whether the respondents in the study had prior exposure to any form of health education. More specifically the study wanted to establish if the study subjects had received reproductive health education on prevention of unplanned pregnancies and abortion among other reproductive health information, the sources of these information, its content and the frequency of exposure to the messages. This was done to understand if the respondent's exposure to health messages influenced their decision making on abortion by influencing their attitude towards abortion, their perceived behavioural control, and societal norms on abortion. The null hypothesis was that there is no significant relationship between health message exposure and decision making on abortion among women aged 18-49 years in Nakuru County.

4.5.2.1 Source of health message

Women requiring PAC services present with bleeding from the uterus and in most cases the services are sort as an emergency. Proximity to a health facility is therefore important. In this section the study wanted to find out if women seeking PAC services were from Nakuru County or they had travelled from other counties to seek the health services. This was an open-ended question and all respondents who had travelled from other counties were classified as others during the analysis.

Table 4.14: Home county women seeking PAC services

Characteristic	Frequency (n)	Percentage (%)
Home town		
Nakuru	132	58
Others	96	42
Total	**228**	**100**

From the study findings in table 4.15, 42% of the respondents did not live in Nakuru and had to travel to the county to seek PAC services.

This study sort to establish if the women in Nakuru visited the nearest health facility to their home for these emergency services or they preferred to go far where they were not known to the local community. The respondents were asked to indicate their nearest health facility. Results are shown in table 4.16.

Table 4.15: Nearest Health Facility

Health facility	Frequency	Percentage
Bahati Sub-county Hospital	12	5.3
Bondeni Health Centre	12	5.3
Dagoretti Dispensary	6	2.6
Dundori Health Centre	6	2.6
Gilgil Sub-county Hospital	6	2.6
Kapenguria Hospital	6	2.6
Kapkures Health Centre	6	2.6
Kiambogo Health Centre	6	2.6
Kinangop Dispensary	6	2.6
Koinange Dispensary	6	2.6
Lanet Health Center	6	2.6
Langalanga Health Centre	18	7.9
Molo Health Centre	6	2.6
Naivasha Referral Hospital	72	31.6
Njoro Health Centre	30	13.2
Nakuru Level 5 Hospital	24	10.5
Total	**228**	**100**

The data collection was in four health centres which were PGH Level 5, Nairobi Women Hospital, Bahati Sub-county Hospital and Naivasha sub-County hospitals. However, only 47.4% indicated these four centres as their nearest health facility, which means that 52.6% preferred not to seek PAC services from the nearest facility. Study respondents said they felt safer in the higher-level facilities. Some chose to go

far from their nearby home as they did not want neighbors and family members knowing what services they were seeking.

Participant 1.“*no one knows me here (PGH) so I will be treated and go back to Naivasha like nothing happened”* explained one respondent.

The respondents were asked to indicate their main source of reproductive health information and more specifically their source of abortion information. The results are shown in table 4.17.

Table 4.16: Main source of reproductive health and abortion information

Variable	**Peer n (%)**	**Social group n (%)**	**Family n (%)**	**Media n (%)**	**Health Provider n (%)**	**Total n (%)**
Main source of reproductive health information	67 (29)	73 (32)	6 (3)	34 (15)	48 (21)	**228 (100)**
Main source of abortion information	95 (42)	76 (33)	13 (6)	21 (9)	23 (10)	**228 (100)**

The study findings indicate that women considered their social group as a key source for reproductive health information while family members were least sought at 32% and 3% respectively. The key informants were further asked to explain the uptake of reproductive health services by the community. The respondents indicated that majority of the users of reproductive health services are women.

Participant 1 “*Women are the ones who pay more attention to these services at the community especially young married ones in their 20-30 years. Men never want to hear about FP and not many will accompany their wives for ANC.*

The youth are active at the youth friendly clinic but much of the information there is on HIV prevention"

Participant 2 "*Women are the ones interested in RH services at the community especially young married ones. Condom distribution is also done especially for the youth"*

These findings agreed with that of Brown, et al., (2001) who found that parents are frequently not the primary source of information.

Table 4.17 further presents study findings on the main source of abortion information for the respondents. The table shows that peers play a significant role when women are seeking information on abortion. The study revealed that 42% of the respondents saw their peers as a main source of abortion information, while only 6% indicated family members as their main source on the same. Further findings indicate that only 10% sort information from health providers, hence showing the power of peers and interpersonal communication as opposed to seeking health messages from professionals. These findings agreed with those of Correia (2009) who found that most people received abortion information from their friends and peers. This is due to the fact that parents and teachers do not pass on information about abortion hence this role is played by their peers who in most cases are equally uninformed. Results further indicate that though respondents sought information on abortion from various sources, their actions were the same as all the respondents in the study had experienced an abortion.

4.5.2.2 Content of health information received

This study sought to establish the content of reproductive health information that the respondents had been exposed to. More specifically, the study was interested in finding out if issues on abortion had been included in the health education they had received and whether they found it adequate and if provided in a friendly manner. Respondents were requested to indicate their levels of agreement on a five-point likert scale. (1 = strongly disagree, 2 = Disagree 3 = Neutral, 4 = Agree, 5 = strongly agree) was used. For the purposes of interpretation 4 and 5 (agree and strongly agree)

were grouped together as agree, 1 and 2 (strongly disagree and disagree) were grouped as disagree while 3 was neutral. The results of this study are as depicted in Table 4.18

Table 4.17: Content of Health Messages

Variable	Strongly disagree n (%)	Disagree n (%)	Neutral n (%)	Agree n (%)	Strongly agree n (%)	Total n (%)
I have received health information on abortion and its effect	182 (80)	44 (19)	0 (0)	1 (0.5)	1 (0.5)	**228 (100)**
I have received health information on HIV and AIDs	0 (0)	0 (0)	0 (0)	219 (96)	9 (4)	**228 (100)**
I have received health information on the risks of sexually transmitted diseases	101 (44)	80 (35)	26 (11)	19 (8)	2 (1)	**228 (100)**
I have been educated on importance of using contraceptive and other family planning methods	3 (1)	21 (9)	71 (31)	17 (7)	116 (51)	**228 (100)**
I have access to reproductive health services at my nearest facility	1 (1)	2 (1)	2 (1)	105 (46)	118 (51)	**228 (100)**

Out of 228 respondents, almost all 226 (99 percent) disagreed on having received adequate health information on abortion while almost all 219 (96 percent) agreed that they had received adequate health information on HIV & AIDs. More than three quarters 181 (79 percent) of the respondents disagreed having been adequately educated on importance of using contraceptive and other family planning methods and health services. These results show that there is a missed opportunity in providing information on abortion as part of reproductive health services like HIV/AIDS. It also reveals an over concentration in HIV/AIDS over family planning.

This observation is in tandem with that of with KDHS (2014). In addition, the results revealed that majority of the respondents 63% agreed that they had attended educative forums in regards to HIV and STIs. Results further showed that 32% agreed that they knew the importance of using contraceptive and other family planning methods. These findings disagreed with those of Njogu and Martin (2003) who found that the level of knowledge about abortion was high, though it did not have transfer of learning in terms of their sex practices.

Lastly, almost all 223 (98 percent) disagreed that they had easy access to reproductive. The findings are in agreement with responses of the PAC clients collected through in-depth interviews, who asserted that they sought information from health workers mostly in chemists due to lack of access to friendly reproductive health services in the health care facilities.

From the interview guide, the health care providers were asked to give their views on how access to reproductive health services contributed to influencing women's decisions on abortion. The respondents indicated that they don't talk much about abortion. This therefore confirmed the reason as to why most women opted to have unsafe abortions since they were not exposed to health messages regarding the issue since the health care providers were not comfortable talking about abortion.

Participant 5 *'We do not talk much about abortion but we talk about FP. I think not talking about it makes women terminate pregnancy without full information on their options and dangers of abortion in cases of unplanned pregnancies'*

Participant 7'*Abortion is discussed when it happens not before'*

These findings disagreed with that of Schutt-Aine and Madaleno (2003) who argued that comprehensive sexuality education, which discusses the benefits of both delaying sexual intercourse and of using condoms, contraceptives and having an abortion when adolescents become sexually active, has been shown to contribute to adolescents delaying the onset of sexual intercourse, reducing the number of their sexual partners and increasing use of contraceptives, including condoms.

4.5.1.3 Frequency of exposure to health message

Cultivation theory is based on the assumptions that as viewing of a message increases and the number of images encountered increases, the viewer's perception also changes and this could possibly lead to a change in attitude (Gerbner, 1970). To establish whether there was an association between the frequency of exposure to health messages and the outcome behaviour of procuring an abortion, the study sought to explore how often the respondents were exposed to reproductive health messages.

The respondents were asked to indicate if they received the health messages rarely, moderately or regularly. Specifically, they were asked their frequency on access to health information on abortion and its effects, reproductive health services at any nearest facility, received health information on HIV/AIDs, risk of sexually transmitted diseases and importance of using contraceptives and other family planning methods. Table 4.19 presents the findings.

Table 4.18: Respondents frequency of exposure to health messages

Variable	Rarely n (%)	Moderately n (%)	Regularly n (%)	Total n (%)
I access health information on abortion and its effect	163 (71)	65 (29)	0 (0)	**228 (100)**
I receive health information on HIV and AIDs	0 (0)	0 (0)	228 (100)	**228 (100)**
I receive health information on the risks of sexually transmitted diseases	98 (43)	129 (57)	1 (1)	**228 (100)**
I get educated on importance of using contraceptive and other family planning methods	0 (0)	106 (46)	122 (54)	**228 (100)**
I access reproductive health services at my nearest facility,	0 (0)	106 (46)	122 (54)	**228(100)**

Out of the 228 respondents a majority 163 (71 percent) reported that they rarely had access to health information on abortion and its effects while all the respondents reported that they regularly receive health information on HIV and AIDs. More than a half 129 (57 percent) of the respondents reported that they moderately received health information on the risks of sexually transmitted infections. Slightly more than a half 122 (54 percent) reported that they regularly get educated on importance of using contraceptive and other family planning methods and have access to reproductive health services at their nearest facility.

On the other hand, health care providers were asked to indicate whether there had community health programs on reproductive health including abortion prevention at these facilities. The respondents indicated that there were reproductive health activities

Participant 1 *'We have reproductive health activities in different departments for example at the youth friendly center, FP and the ANC clinic. They are conducted on a daily basis. Community ones are done at the dispensary and household levels by community health workers'*

Participant 2 *'We have reproductive health activities in the community under the community strategy. They are conducted depending on the partner's priorities HIV remains the main agenda'*

4.5.2.4 Exposure to health messages and decision making on abortion

The outcomes association with exposure to health messages were measured using the Pearson chi-square test of association at 95% confidence level since the variables of interest were categorical. P-values less than 0.05 for the independent and dependent variables were considered to be statistically significant at 95% confidence level. The model used for logistic regression analysis of the moderating variables on independent variables against the dependent variable was expressed in the general form as given below;

$\text{Ln}\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 \ldots + \beta_P X_P + \varepsilon$

where :

$\left(\frac{p}{1-p}\right)$= odds of decision making on abortion (related to attitude, subjective norms and perceived behavioural control)

β_0 = constant

β_i' s = Regression coefficients

X_i' s = Predictor variables (related to exposure to health messages)

ε = error term

Table 4.19: Association between exposure to health messages and attitude towards abortion

Exposure to health messages verses attitude towards abortion	P-Value	Test Statistic, Pearson Chi (df)
Source of health message		
Main source of reproductive health information	<0.0001	67.81 (4)
Main source of abortion information	<0.0001	36.03 (4)
Content of health message		
Received adequate health information on abortion and its effects	0.147	5.37 (3)
Received adequate health information on HIV and AIDs	<0.0001	10.06 (1)
Received adequate health information on risks of sexually transmitted diseases	<0.0001	23.16 (4)
Adequately educated on importance of using contraceptives and other family planning methods	0.003	15. 98 (4)
Easy access to reproductive health services at their nearest facility	0.054	9.31 (4)
What is considered as the benefits of having an abortion	<0.0001	70.83 (5)
What is considered as the risks of having an abortion	0.122	5.79 (3)
Frequency of exposure to health messages		
Access to health information on abortion and its effects	0.532	0.39 (1)
Received health information on HIV and AIDs	*	*
Received health information on the risks of sexually transmitted diseases	0.114	4.35 (2)
Educated on importance of using contraceptives and other family planning methods	0.013	6.21 (1)
Access reproductive health services at their nearest facility	0.013	6.21 (1)

Table 4.20 represents the association between exposures to health messages and attitude towards abortion categorized as positive or negative. Regarding the source of the health message, the main source of reproductive health information and abortion information were significantly associated with the attitude of the women towards

abortion (P-value <0.0001). Regarding the content of health message, respondents reception of adequate health information on HIV and AIDs and risks of sexually transmitted diseases were significantly associated with the attitude of the women towards abortion (P-value <0.0001). Adequate education on importance of using contraceptives and other family planning methods was significantly associated with the attitude of the women towards abortion (P-value=0.003). The respondent's consideration of the benefits of having an abortion was significantly associated with the attitude of the women towards abortion (P-value <0.0001). Regarding the frequency of exposure to health messages, education on importance of using contraceptives and other family planning methods and access reproductive health services at their nearest facility were significantly associated with the attitude of the women towards abortion (P-value = 0.013).

However, some variables did not provide sufficient data to indicate the association between content & frequency of health messages and attitude towards abortion at 95% confidence level. Specifically under content of health messages, receiving adequate health information on abortion and its effects, easy access to reproductive health services at their nearest facility and what is considered as the risks of having an abortion were not significantly associated with attitude towards abortion (P-values = 0.147, 0.054 & 0.122 respectively). Under frequency of exposure to health messages, frequency of access to health information on abortion and its effects was not significantly associated with attitude towards abortion (P-value = 0.532). Lastly, all the respondents reported that they regularly received health information on HIV and AIDs. However, there was no association with their attitude towards abortion.

Table 4.20: Association between exposure to health messages and subjective norm

Exposure to health messages verses subjective norm	P-Value	Test Statistic, Pearson Chi (df)
Source of health message		
Main source of reproductive health information	<0.0001	21.69 (4)
Main source of abortion information	0.160	6.58 (4)
Content of health message		
Received adequate health information on abortion and its effects	0.004	13.37 (3)
Received adequate health information on HIV and AIDs	0.006	7.59 (1)
Received adequate health information on risks of sexually transmitted diseases	0.002	17.32 (4)
Adequately educated on importance of using contraceptives and other family planning methods	<0.0001	68.49 (4)
Easy access to reproductive health services at their nearest facility	<0.0001	61.32 (4)
What is considered as the benefits of having an abortion	<0.0001	94.98 (5)
What is considered as the risks of having an abortion	0.027	9.15 (3)
Frequency of exposure to health messages		
Access to health information on abortion and its effects	<0.0001	24.92 (1)
Received health information on HIV and AIDs	*	*
Received health information on the risks of sexually transmitted diseases	<0.0001	53.90 (2)
Educated on importance of using contraceptives and other family planning methods	<0.0001	57.60 (1)
Access reproductive health services at their nearest facility	<0.0001	53.62 (1)

Table 4.21 represents the association between exposures to health messages and subjective norm where the subjective norm was measured by respondents being asked if people of importance to them would approve their decision making on abortion and they either agreed or disagreed. Regarding the source of the health

message, the main source of reproductive health information was significantly associated with the subjective norm (P-value <0.0001). However, main source of abortion was not significantly associated with subjective norm (P-value = 0.160). Regarding the content of health message, respondent's reception of adequate health information on abortion and its effects, HIV and AIDs and risks of sexually transmitted diseases were significantly associated with the subjective norm (P-value 0.004, 0.006 and 0.002) respectively. Adequate education on importance of using contraceptives and other family planning methods and easy access to reproductive health services at their nearest facility were significantly associated with the subjective norm (P-value <0.0001). The respondent's consideration of the benefits and risks of having an abortion were significantly associated with the subjective norm (P-value <0.0001 and 0.027) respectively. Regarding the frequency of exposure to health messages, access to health information on abortion and its effects, health information on the risks of sexually transmitted diseases, education on importance of using contraceptives and other family planning methods and access reproductive health services at their nearest facility were significantly associated with the attitude of the women towards abortion (P-value <0.0001).

Table 4.21: Association between exposure to health messages and perceived behavioral control

Exposure to health messages verses perceived behavioral control	P-Value	Test Statistic, Pearson Chi (df)
Source of health message		
Main source of reproductive health information	0.027	10.98 (4)
Main source of abortion information	<0.0001	22.15 (4)
Content of health message		
Received adequate health information on abortion and its effects	0.002	15.37 (3)
Received adequate health information on HIV and AIDs	0.114	2.50 (1)
Received adequate health information on risks of sexually transmitted diseases	0.218	5.75 (4)
Adequately educated on importance of using contraceptives and other family planning methods	<0.0001	22.11 (4)
Easy access to reproductive health services at their nearest facility	0.121	7.29 (4)
What is considered as the benefits of having an abortion	<0.0001	70.71 (5)
What is considered as the risks of having an abortion	<0.0001	19.89 (3)
Frequency of exposure to health messages		
Access to health information on abortion and its effects	0.092	2.84 (1)
Received health information on HIV and AIDs	*	*
Received health information on the risks of sexually transmitted diseases	0.022	7.67 (2)
Educated on importance of using contraceptives and other family planning methods	0.012	6.26 (1)
Access reproductive health services at their nearest facility	0.012	6.26 (1)

Table 4.22 represents the association between exposures to health messages and perceived behavioral control. The perceived behavioral control was measured whereby the respondents were asked if their decision making on abortion was not influenced by anyone with a true or false response. Regarding the source of the

health message, the main source of reproductive health and abortion information and were significantly associated with the perceived behavioral control (P-value=0.027 and <0.0001) respectively. Regarding the content of health message, respondent's reception of adequate health information on abortion and its effects was significantly associated with the perceived behavioral control (P-value=0.002). In addition, adequate education on importance of using contraceptives and other family planning methods, consideration of the benefits of having an abortion and consideration of the risks of having an abortion were significantly associated with the perceived behavioral control (P-value <0.0001). However, reception of adequate health information on HIV and AIDs, risks of sexually transmitted diseases and easy access to reproductive health services at their nearest facility were not significantly associated with the perceived behavioral control (P-value = 0.114, 0.218 & 0.121 respectively). Regarding the frequency of exposure to health messages, health information on the risks of sexually transmitted diseases, education on importance of using contraceptives and other family planning methods and access reproductive health services at their nearest facility were significantly associated with the perceived behavioral control (P-value=0.022, 0.012 and 0.012) respectively. Frequency of access to health information on abortion and its effects, reception of health information on risks of sexually transmitted diseases were not significantly associated with perceived behavioral control (P-values = 0.092 and 0.022 respectively).

4.5.1.3 Logistic regression analysis between health message exposure and decision making on abortion

From the finding on association between health message exposure and decision making on abortion some of the variables did not provide sufficient statistical evidence to indicate that there was an association between exposure to health message and decision making on abortion. The variables on source, content and frequency of exposure to health messages were measured against attitude, subjective norm and perceived behavioural control as the outcome variables.

Multivariate analysis for the significant variables was used to examine the influence of health message exposure and decision making on abortion through binary logistic regression. The interpretations for this section are based on the odds ratios. Specifically, if the odds ratio is 1 it means that there is no effect hence they don't have p-values and 95% confidence intervals. For an odds ratio whose value is between 0 and 1; the outcome of interest is 100*(1-OR) percent less likely to occur for those in the category assigned the value 1 compared to those in the reference category. For an odds ratio whose value greater than 1 but less than 2, the outcome of interest is 100*(OR-1) percentage more likely to occur for those in the category assigned the value 1 compared to those in the reference category. Finally, for an odds ratio with value greater than 2, the outcome of interest is OR times more likely to occur those in the category assigned the value 1 compared to those in the reference category. However, this conclusion is only made if the odds ratio is significant and 95% C.I (the p-value is <0.05 and the 95% confidence interval does not include 1).

Table 4.22: Influence of exposure to health messages on attitude towards abortion

Characteristic	Odds ratios	P-value	95% Confidence Interval
Source of health message			
Main source of reproductive health information			
Peer (Reference)	1		
Social group	0.011	<0.0001	0.001-0.086
Family	1		
Media (social/mass)	0.721	0.438	0.315-1.649
Health provider	1.351	0.436	0.634-2.881
Main source of abortion information			
Peer (Reference)	1		
Social group	0.111	<0.0001	0.050-0.248
Family	0.248	0.043	0.064-0.959
Media (social/mass)	0.752	0.555	0.292-1.938
Health provider	0.636	0.334	0.254-1.593
Content of health message			

Received adequate health information on HIV/AIDs			
Disagree (Reference)	1		
Neutral	1		
Agree	1		
Received adequate health information on risks of STDs			
Disagree (Reference)	1		
Neutral	6.384	<0.0001	2.536-16.070
Agree	2.587	0.041	1.038-6.451
Adequately educated on importance of using contraceptives and other family planning methods			
Disagree (Reference)	1		
Neutral	2.717	0.096	0.836-8.833
Agree	3.526	0.029	1.142-10.888
What is considered as the benefits of having an abortion			
None (Reference)	1		
Avoid unwanted pregnancy	1		
Progress in life	0.500	0.218	0.166-1.506
Safety of mother	3.000	0.009	1.142-10.888
Avoiding stigma	0.400	0.032	0.173-0.926
Further studies	1		
Frequency of exposure to health messages			
Educated on importance of using contraceptives and other family planning methods			
Rarely (Reference)	1		
Moderately	1		
Regularly	2.012	0.013	1.157-3.499
Access reproductive health services at their nearest facility			
Rarely (Reference)	1		
Moderately	1		
Regularly	2.012	0.013	1.157-3.499

Table 4.23 shows how exposure to health messages influenced attitude towards abortion. Attitude was measured as either positive or negative with negative attitude being the reference dummy variable selected based on order levels. Under source of

health message, respondents whose main source of reproductive health information was a social group were 99 percent less likely to have a positive attitude towards abortion (OR=0.011; 95% CI=0.001-0.086) compared to those who had the information from a peer. However, respondents whose main source of reproductive health information was media (social/mass) and health provider effect on attitude towards abortion was not statistically significant (OR=0.721; 95% CI=0.315-1.649 & OR=1.351; 95% CI=0.634-2.881 respectively) compared to those who had the information from a peer. Respondents whose main source of abortion information was a social group were 89 percent less likely to have a positive attitude towards abortion (OR=0.111; 95% CI=0.001-0.086) compared to those who had the information from a peer. Those who got the information from family were 75 percent less likely to have a positive attitude towards abortion (OR=0.248; 95% CI=0.064-0.959) compared to those who had the information from a peer. Respondents whose main source of abortion information was media (social/mass) and health provider effect on the attitude towards abortion was not statistically significant (OR=0.752; 95% CI=0.292-1.938 & OR=0.636; 95% CI=0.254-1.593 respectively) compared to those who had the information from a peer.

Under content of health message, respondents who felt neutral and agreed to have received adequate health information on HIV and AIDs had no effect on the attitude towards abortion (OR=1) compared to those who disagreed. However, respondents who felt neutral on receiving adequate health information on risks of sexually transmitted diseases were 6 times more likely to have a positive attitude towards abortion (OR=6.384; 95% CI=2.536-16.070) compared to those who disagreed. Also those who agreed that they had received adequate health information on risks of sexually transmitted diseases were 3 times more likely to have a positive attitude towards abortion (OR=2.587; 95% CI=1.038-6.451) compared to those who disagreed. The respondents who agreed to have been adequately educated on importance of using contraceptives and other family planning methods were 4 times more likely to have a positive attitude towards abortion (OR=3.526; 95% CI=1.142-10.888) compared to those who disagreed. Also, respondents who were neutral on having been adequately educated on importance of using contraceptives and other family planning methods effect on attitude towards abortion was not statistically

significant (OR=2.717; 95% CI=0.836-8.833) compared to those who disagreed. Respondents who considered safety of the mother as a benefit of having an abortion were 3 times more likely to have a positive attitude towards abortion (OR=3.000; 95% CI=1.142-10.888) compared to those who felt that there is no benefit of abortion. In addition, respondents who felt that avoiding stigma was a benefit of abortion were 60 percent less likely to have a positive attitude towards abortion (OR=0.400; 95% CI=0.173-0.926) compared to those who felt that there is no benefit of abortion. However, respondents who considered to go for further studies and avoiding unwanted pregnancies as a benefit of having an abortion had no effect attitude towards abortion (OR=1) compared to those who felt that there is no benefit of abortion. Finally, respondents who considered progress in life as a benefit of having an abortion effect on attitude towards abortion was not statistically significant (OR=0.500; 95% CI=0.166-1.506) compared to those who felt that there is no benefit of abortion.

Under frequency of exposure to health messages, respondents who reported that they are regularly educated on importance of using contraceptives and other family planning methods are twice more likely to have a positive attitude towards abortion (OR=2.012; 95% CI=1.157-3.499) compared to those who rarely get educated. In addition, respondents who are reported that they regularly access reproductive health services at their nearest facility are twice more likely to have a positive attitude towards abortion (OR=2.012; 95% CI=1.157-3.499) compared to those who rarely access the services. There was no effect of the respondents who reported that they are moderately educated on importance of using contraceptives and other family planning methods and have access reproductive health services at their nearest facility on the attitude towards abortion (OR=1) compared to those who rarely get educated and have access reproductive health services at their nearest facility.

Table 4.23: Influence of exposure to health messages on subjective norm

Characteristic	Odds ratios	P-value	95% Confidence Interval
Source of health message			
Main source of reproductive health information			
Peer (Reference)	1		
Social group	0.833	0.591	0.429-1.621
Family	1		
Media (social/mass)	3.784	0.009	1.386-10.333
Health provider	0.486	0.062	0.228-1.037
Content of health message			
Received adequate health information on abortion and its effect			
Disagree (Reference)	1		
Neutral	1		
Agree	1		
Received adequate health information on HIV/AIDs			
Disagree (Reference)	1		
Neutral	1		
Agree	1		
Received adequate health information on risks of STDs			
Disagree (Reference)	1		
Neutral	0.439	0.060	0.186-1.036
Agree	4.970	0.012	1.414-17.464
Adequately educated on importance of using contraceptives and other family planning methods			
Disagree (Reference)	1		
Neutral	5.625	<0.0001	2.937-10.774
Agree	1		
Have easy access to reproductive health services at my nearest facility			
Disagree (Reference)	1		
Neutral	1		
Agree	1		
What is considered as the benefits of having an abortion			
None (Reference)	1		

Characteristic	Odds ratios	P-value	95% Confidence Interval
Avoid unwanted pregnancy	1		
Progress in life	0.125	<0.0001	0.039-0.401
Safety of mother	0.083	<0.0001	0.034-0.207
Avoid stigma	0.333	0.014	0.138-0.803
Further studies	1		
What is considered as the risks of having an abortion			
None (Reference)	1		
Heavy bleeding	1.5	0.272	0.728-3.091
Death	1.429	0.276	0.752-2.713
Infertility	1		
Frequency of exposure to health messages			
Access to health information on abortion and its effects			
Rarely (Reference)	1		
Moderately	1		
Regularly	0.216	<0.0001	0.116-0.404
Received health information on the risks of STDs			
Rarely (Reference)	1		
Moderately	0.109	<0.0001	0.057-0.205
Regularly	1		
Educated on importance of using contraceptives and other family planning methods			
Rarely (Reference)	1		
Moderately	1		
Regularly	0.103	<0.0001	0.054-0.192
Access reproductive health services at their nearest facility			
Rarely (Reference)	1		
Moderately	1		
Regularly	0.113	<0.0001	0.061-0.210

Table 4.24 shows how exposure to health messages influenced subjective norm. Subjective norm was measured by respondents reporting how their relationships with family, peers and members of their social networks influenced their decision-making

on abortion reference dummy variable. Under source of health message, respondents whose main source of reproductive health information was media (social/mass) were 4 times more likely to have approval by people of importance to them on their decision making on abortion (OR=3.784; 95% CI=1.386-10.333) compared to those who got the information from peers. However, respondents whose main source of reproductive health information was social group and health provider effect on approval by people of importance to them on their decision making on abortion were not statistically significant (OR=0.833; 95% CI=0.429-1.621 & OR=0.486; 95% CI=0.228-1.037 respectively) compared to those who got the information from peers. There was no effect for respondents whose main source of reproductive health information was family on approval by people of importance to them on their decision making on abortion (OR=1) compared to those who got the information from peers.

Under content of health message, the effect of respondents who neutral on having received adequate health information on risks of sexually transmitted diseases on approval by people of importance to them on their decision making on abortion was not statistically significant (OR=0.439; 95% CI=0.186-1.036) compared to those who disagreed. respondents who reported that they agreed to have received adequate health information on risks of sexually transmitted diseases were 5 times more likely to have approval by people of importance to them on their decision making on abortion (OR=4.970; 95% CI=1.414-17.464) compared to those who disagreed. There was no effect for respondents who were neutral & agreed to have received adequate health information on abortion and its effect & HIV/AIDs on approval by people of importance to them on their decision-making on abortion (OR=1) compared to those who disagreed. respondents who reported that they had a neutral feeling on being adequately educated on importance of using contraceptives and other family planning methods effect on approval by people of importance to them on their decision making on abortion was not statistically significant (OR=0.439; 95% CI=0.186-1.036) compared to those who disagreed. In addition, there was no effect for respondents who agreed and were neutral easy access to reproductive health services at their nearest facility on approval by people of importance to them on their decision making on abortion (OR=1) compared to those who disagreed.

Respondents who felt that the benefits of having an abortion were to progress in life, safety of mother and to avoid stigma were 88 percent, 92 percent and 67 percent less likely to have approval by people of importance to them on their decision making on abortion(OR=0.125; 95% CI=0.039-0.401, OR=0.083; 95% CI=0.034-0.207 and OR=0.333; 95% CI=0.138-0.803 respectively) compared to those who felt that there is no benefit of abortion. In addition, there was no effect for respondents who felt that the benefits of having an abortion were to avoid unwanted pregnancies and for further on approval by people of importance to them on their decision making on abortion (OR=1) compared to those who felt that there is no benefit of abortion. Finally, the effect of respondents who felt that the risks of having an abortion were heavy bleeding and death on approval by people of importance to them on their decision making on abortion were not statistically significant (OR=1.500; 95% CI=0.728-0.3.091 and OR=01.429; 95% CI=0.752-2.713 respectively) compared to those who felt that there is no risk of abortion.

Under frequency of exposure to health messages, respondents who reported that they have regular access to health information on abortion and its effects were 78 percent less likely to have approval by people of importance to them on their decision making on abortion(OR=0.216; 95% CI=0.116-0.404) compared to those who rarely access the information. There was no effect for respondents who reported that they moderately have access to health information on abortion and its effects on approval by people of importance to them on their decision making on abortion (OR=1) compared to those who rarely access the information. Respondents who moderately receive health information on the risks of sexually transmitted diseases were 89 percent less likely to have approval by people of importance to them on their decision making on abortion (OR=0.109; 95% CI=0.057-0.205) compared to those who rarely receive the information. There was no effect for respondents who regularly receive health information on the risks of sexually transmitted diseases on approval by people of importance to them on their decision making on abortion (OR=1) compared to those who rarely receive the information. Respondents who are regularly educated on importance of using contraceptives and other family planning methods were 90 percent less likely to have approval by people of importance to them on their decision making on abortion (OR=0.103; 95% CI=0. 0.054-0.192)

compared to those who rarely educated on the importance. There was no effect for respondents who were moderately educated on importance of using contraceptives and other family planning methods on approval by people of importance to them on their decision making on abortion (OR=1) compared to those who rarely educated on the importance. Finally, respondents who regularly access reproductive health services at their nearest facility were 89 percent less likely to have approval by people of importance to them on their decision making on abortion (OR=0.113; 95% CI=0.061-0.210) compared to those who rarely access the health services. There was no effect for respondents who moderately access reproductive health services at their nearest facility on approval by people of importance to them on their decision making on abortion (OR=1) compared to those who rarely access the health services.

Table 4.24: Influence of exposure to health messages on perceived behavioral control

Characteristic	Odds ratios	P-value	95% Confidence Interval
Source of health message			
Main source of reproductive health information			
Peer (Reference)	1		
Social group	0.902	0.817	0.374-2.172
Family	1		
Media (social/mass)	0.982	0.974	0.333-2.893
Health provider	2.750	0.020	1.169-6.467
Main source of abortion information			
Peer (Reference)	1		
Social group	1.537	0.275	0.710-3.324
Family	0.444	0.452	0.054-3.678
Media (social/mass)	0.561	0.468	0.118-2.666
Health provider	6.933	<0.0001	2.572-18.694
Content of health message			
Received adequate health information on abortion and its effect			
Disagree (Reference)	1		
Neutral	1		
Agree	0.270	<0.0001	0.196-0.371
Adequately educated on importance of using contraceptives and other family planning methods			
Disagree (Reference)	1		
Neutral	0.315	0.019	0.120-0.829
Agree	0.167	<0.0001	0.065-0.425
What is considered as the benefits of having an abortion			
None (Reference)	1		

Characteristic	Odds ratios	P-value	95% Confidence Interval
Avoid unwanted pregnancy	12.000	<0.0001	3.964-36.331
Progress in life	3.000	0.099	0.812-11.081
Safety of mother	2.000	0.210	0.677-5.909
Stigma	1		
Further studies	1		
What is considered as the risks of having an abortion			
None (Reference)	1		
Heavy bleeding	0.375	0.019	0.166-0.849
Death	0.200	<0.0001	0.090-0.442
Infertility	1		
Frequency of exposure to health messages			
Received health information on the risks of sexually transmitted diseases			
Rarely (Reference)	1		
Moderately	0.411	0.008	0.214-0.789
Regularly	1		
Educated on importance of using contraceptives and other family planning methods			
Rarely (Reference)	1		
Moderately	1		
Regularly	0.438	0.014	0.228-0.844
Access reproductive health services at their nearest facility			
Rarely (Reference)	1		
Moderately	1		
Regularly	0.438	0.014	0.228-0.844

Table 4.25 shows how exposure to health messages influenced perceived behavioral control. Perceived behavioral control was measured by respondents reporting whether their decision-making on abortion was influenced by anyone where no influence was the reference dummy variable. Under source of health message, respondents whose main source of reproductive health information was a health provider were 3 times more likely to be influenced in their decision making on abortion (OR=2.75; 95% CI=1.169-6.467) compared to those whose main source of health information was peers. However, the effect of respondents whose main source of reproductive health information was social group and media (social/mass) on influence in their decision making on abortion were not statistically significant (OR=0.902; 95% CI=0.374-2.172 & OR=0.982; 95% CI=0.333-2.893) compared to those whose main source of health information was peers. In addition, there was no effect for respondents whose main source of reproductive health information was family on influence in their decision-making (OR=1) compared to those whose main

source of health information was peers. Respondents whose main source of abortion information was a health provider were 7 times more likely to be influenced in their decision making on abortion (OR=6.933; 95% CI=2.572-18.694) compared to those whose main source of abortion was peers. However, Respondents whose main source of abortion information was a social group, family and media (social/mass) on influence in their decision making on abortion were not statistically significant (OR=1.537; 95% CI=0.710-3.324, OR=0.444; 95% CI=0.054-3.678 & OR=0.561; 95% CI=0.118-2.666) compared to those whose main source of abortion was peers.

Under content of health message, respondents who agreed that they had received adequate health information on abortion and its effect were 73 percent less likely to be influenced in their decision making on abortion (OR=0.270; 95% CI=0.196-0.371) compared to those who disagreed. However, there was no effect for respondents who agreed that they had received adequate health information on abortion and its effect on influence in their decision-making on abortion (OR=1) compared to those who disagreed. Respondents who had a neutral feeling and agreed to have been adequately educated on importance of using contraceptives and other family planning methods were 69 and 83 percent less likely to be influenced in their decision making on abortion (OR=0.315; 95% CI=0.120-0.829 and OR=0.167; 95% CI=0.065-0.425 respectively) compared to those who disagreed. Respondents who considered the benefit of having an abortion as to avoid unwanted pregnancy were 12 times more likely to be influenced in their decision making on abortion (OR=12; 95% CI=3.964-36.331) compared to those who felt that abortion has no benefit. However, the effect of respondents who considered the benefit of having an abortion as progress in life and safety of the mother on influence in their decision making on abortion was not statistically significant (OR=3.000; 95% CI=0.812-11.081 & OR=2.000; 95% CI=0.677-5.909 respectively) compared to those who felt that abortion has no benefit. Finally, respondents who considered the risk of having an abortion as heavy bleeding and death were 62 and 80 times less likely to be influenced in their decision making on abortion (OR=0.375; 95% CI=(0.166-0.849) & OR=0.200; 95% CI=(0.090-0.442) compared to those who felt that abortion has no risk. There was no effect for respondents who considered the risk of having an

abortion infertility on influence in their decision-making on abortion (OR=1) compared to those who felt that abortion has no risk.

Under frequency of exposure to health messages, respondents who reported that they moderately receive health information on the risks of sexually transmitted diseases were 59 percent less likely to be influenced in their decision making on abortion (OR=0.411; 95% CI=0.214-0.789) compared to those rarely receive the health information. Respondents who reported that they are regularly educated on importance of using contraceptives and other family planning methods and regularly access reproductive health services at their nearest facility were 56 percent less likely to be influenced in their decision making on abortion (OR=0.438; 95% CI=0.228-0.844) compared to those rarely get educated on importance of using contraceptives and access to the reproductive health facilities. There was no effect for respondents who reported that they regularly receive health information on the risks of sexually transmitted diseases on being influenced in their decision making on abortion (OR=1) compared to those rarely receive the health information. There was also no effect for respondents who reported that they are moderately educated on importance of using contraceptives and other family planning methods and have access reproductive health services at their nearest facility on being influenced in their decision making on abortion (OR=1) compared to those rarely get educated on importance of using contraceptives and access to the reproductive health facilities.

In conclusion, on the test of hypothesis the study rejected the null hypothesis for the variables with a p-value less than 0.05 at a 95% confidence level and concluded that there was a significant relationship between exposure to health messages and decision making on abortion. For the variables whose p-values were more than 0.05, we failed to reject the null hypothesis and concluded there was no relationship.

4.5.3 Interpersonal communication and decision making on abortion

The second objective of the study was to establish to what extent interpersonal communication influenced decision making on abortion among women aged 18 to 49 years in Nakuru County. More specifically, the interpersonal communication was measured by establishing the number of people living in the study subject's household, the relationship of the study subjects to the members of the household, the first person the study subjects consulted in case of a problem, which social groups the study subjects belonged to and with whom they discuss about their pregnancy. Decision making on abortion was measured by establishing attitude towards abortion, perceived behavioural control and influence from other people on their decision making on abortion. The null hypothesis was that there is no significant relationship between interpersonal communication and decision making on abortion among women aged 18- 49 years in Nakuru County.

4.5.3.1 Interpersonal communication with family, peers and social group members

Respondents in the study were asked to indicate the number of people they lived with in the same household. Table 4.26 below presents the findings.

Table 4.25: Members of Household

Category	Frequency (n)	Percentage (%)
One	12	5
Two	6	3
Three	42	18
Four	30	13
Five	30	13
Six	66	29
Seven	24	11
Eight	18	8
Total	**228**	**100**
Descriptive statistics		
Mean = 5	Variance = 3.3656	Coeff. of Var = 37.08%
Mode = 6	Std. dev = 1.8346	

The mean number of persons per household was 5 (mean = 5) with most of the households having 6 persons (Mode =6). However, the distribution was associated with significant disparities with 37.08% variation about the mean. These finding deviate from Kenya Bureau of statistics (2016) that indicates that the average household size in Kenya is 4.4%. The study went further to enquire with whom the women consulted when they had a general problem.

Table 4.26: Consultation in case of a general problem

Individual	Frequency	Percent
Husband/boy friend	54	24
Friend	108	47
Mother	30	13
Father	12	5
Sister	6	3
Brother	6	3
Grand parent	6	3
In laws	6	3
Total	**228**	**100**

As shown above, women in Nakuru mainly consulted a friend (47%) in case of general problems. Immediate family members were the least consulted.

4.5.3.2 Membership in social groups

The study sought to find out the social group the respondents belonged to. Results are as shown in Figure 4.2.

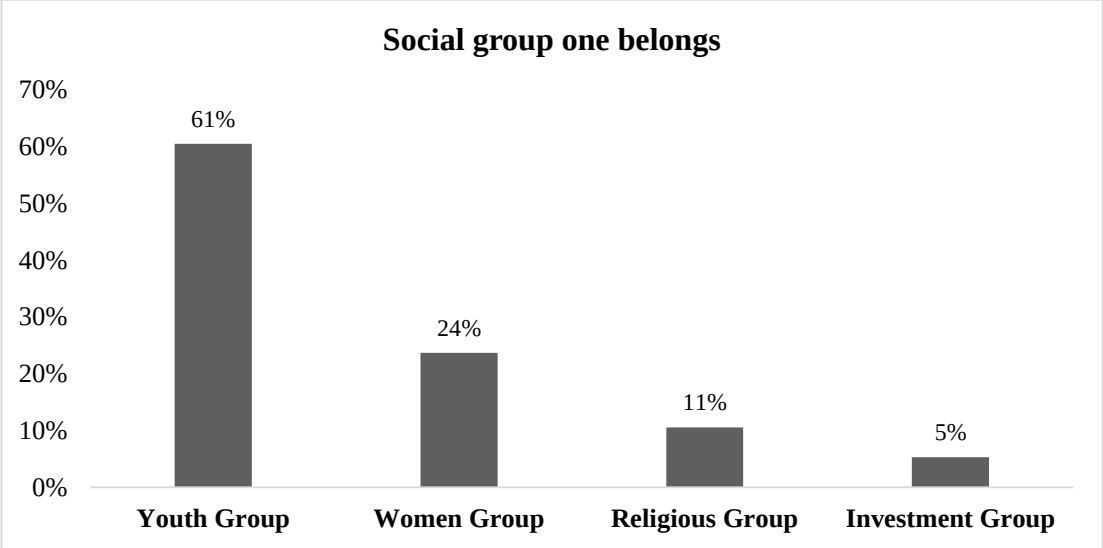

Figure 4.3: Social Group

Figure 4.3 illustrates that 61% of the respondents were in youth groups, 24% were in women groups and 11% were in religious groups while 5% who were in investment groups. This implied that all the respondents belonged to a social network group. This confirms the importance of social groups and the need to belong and conform in order to remain in the group. These findings agreed with those of Gayen and Raeside (2010) who found that the informal social networks of women are important even in influencing their contraception use.

4.5.3.3 Consulting on abortion

The study went further to understand the consultations made when making a decision on abortion. The respondents were asked to indicate whether they had consulted anyone on their decision to terminate the pregnancy. Results are presented in Figure 4.4

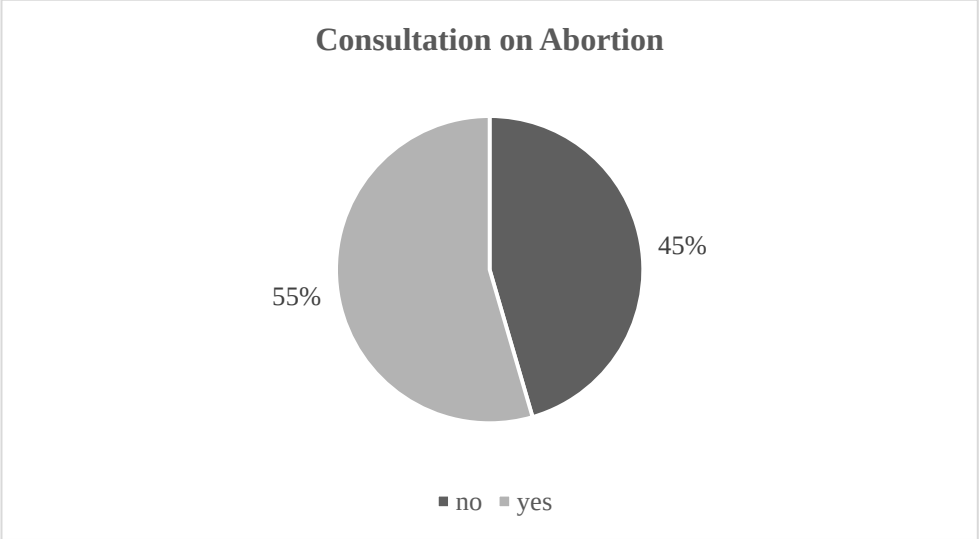

Figure 4.4: Consultation on Abortion Decision

Figure 4.4 illustrates that 126 (55%) of the respondents consulted someone on the decision to terminate the pregnancy while 102 (45%) of the respondents did not consult anyone on decision to terminate the pregnancy. These findings were inconsistent with that of Puri, Ingham and Matthews (2007) where women were aware of safe abortion services, they did not reveal unintended pregnancies to their husbands, families, or friends and some tried to secretly self-induce abortion.

The findings further disagreed with the Theory of Planned Behaviour which assumed behaviour is the result of a linear decision-making process, and does not consider that it can change over time. This is because there is a lot of consultation and interpersonal communication that takes place.

The respondents who stated that they consulted someone on the decision to terminate the pregnancy were further asked to state the person they consulted. Table 4.28 presents the findings of the people consulted on the decision to terminate the pregnancies.

Table 4.27: Persons Consulted on Abortion Decision

Person(s)	Frequency	Percent
Friend	66	52
Health provider	18	14
Husband/boyfriend	24	19
Relative	18	14
Total	**126**	**100**

The results revealed that out of the 126 that consulted 52% of the respondents consulted friends on decision to terminate the pregnancy, 14% consulted health provider and relatives and friend and 19% consulted their boyfriends.

These findings agreed with those of Harries (2007) who found that women in the process of making a decision to have abortion avoided discussions with the partner and instead talked to their women friends and their mothers whom they perceived to be more understanding and supportive.

These findings were also consistent with the responses in the in-depth interview with PAC clients where some of the respondents indicated that they sought health information before termination of pregnancy. The following were some of the responses;

Participant 1 *'Yes I did, I did my own internet search on abortion but none on use of contraceptives'*

These findings agreed with that of Roye and Johnsen (2002) who found a low level of awareness about contraceptives among women who had abortions. The findings also agree with those from the case studies who indicated in regards to whose views mattered most in the decision to carry a child to term or terminate before term were Participant 1: "*My parents. Though not directly, their reaction and actions speak loudly", and Participant 2; "My family and friends"*

These findings were inconsistent with those of Harries (2007) who found that women in the process of making a decision to have abortion avoided discussions with the

partner and instead talked to their women friends and their mothers whom they perceived to be more understanding and supportive.

4.5.3.4 Interpersonal communication and decision making on abortion

Abortion decision making was measured using three variables: attitude towards abortion, subjective norm and perceived behavioral control. The outcomes association with interpersonal communication were measure using the Pearson chi-square test of association at 95% confidence level since the variables of interest were categorical. P-values less than 0.05 for the independent and dependent variables were considered to be statistically significant at 95% confidence level. The model used for logistic regression analysis of the moderating variables on independent variables against the dependent variable was expressed in the general form as given below;

$$\text{Ln}\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 \ldots + \beta_P X_P + \varepsilon$$

where :

$\left(\frac{p}{1-p}\right)$= odds of decision making on abortion (related to attitude, subjective norms and perceived behavioural control)

β_0 = constant

β_i' s = Regression coefficients

X_i' s = Predictor variables (related to interpersonal communication)

ε = error term

Table 4.28: Association between interpersonal communication and attitude towards abortion

Interpersonal communication verses attitude towards abortion	P-Value	Test Statistic, Pearson Chi (df)
Relationship with members of household	0.014	15.94 (6)
First person to consult in case of a problem at the family	<0.0001	41.05 (5)
Social group one belongs to	0.047	7.95 (3)
Whom you discuss about their pregnancy	<0.0001	25.65 (3)

Table 4.29 shows the association between interpersonal communication messages and attitude towards abortion where attitude is either positive or negative. The relationship with members of the household was significantly associated with the attitude towards abortion (P-value = 0.014). In addition, the first person the respondents consult in case of a problem, social group they belong to and whom they discuss about their pregnancy was also significantly associated with the attitude towards abortion (P-value = <0.0001, 0.047 and <0.0001) respectively.

Table 4.29: Association between interpersonal communication and subjective norm

Interpersonal communication verses attitude towards abortion	P-Value	Test Statistic, Pearson Chi (df)
Relationship with members of household	<0.0001	49.42 (6)
First person to consult in case of a problem	<0.0001	22.93 (5)
Social group one belongs to	0.001	16.85 (3)
Whom you discuss about their pregnancy	0.002	14.64 (3)

Table 4.30 represents the association between interpersonal communication and subjective norm. Subjective norm was measured based on people considered importance to the respondents to the point of influencing their decision making on

abortion. The relationship with members of the household and the first person the respondents consult in case of a problem were highly significantly associated with the subjective norm (P-value = <0.0001). In addition, social group they belong to and whom they discuss about their pregnancy was also significantly associated with the subjective norm (P-value = 0.001 and 0.002) respectively.

Table 4.30: Association between interpersonal communication and perceived behavioural control

Interpersonal communication verses attitude towards abortion	P-Value	Test Statistic, Pearson Chi (df)
Relationship with members of household	<0.0001	38.98 (6)
First person to consult in case of a problem	0.012	14.61 (5)
Social group one belongs to	<0.0001	60.80 (3)
Whom you discuss about their pregnancy	<0.0001	51.51 (3)

Table 4.31 shows the association between interpersonal communication and perceived behavioral control. Perceived behavioral control was measured based on whether the respondent's decision making on abortion was influenced by anyone or not. The relationship with members of the household, social group one belonged to and with whom the respondents discuss about their pregnancy were highly significantly associated with the perceived behavioral control (P-value = <0.0001). Also, the first person the respondents consult in case of a problem was associated with the perceived behavioral control (P-value=0.012).

4.5.3.5 Logistic regression analysis between interpersonal communication and decision making on abortion

Based on the finding on association between interpersonal communication and decision making on abortion some of the variables did not provide sufficient statistical evidence to indicate that there was an association between interpersonal communication and decision making on abortion. The variables on interpersonal

communication were measured against attitude, subjective norm and perceived behavioural control as the outcome variables.

Multivariate analysis for the significant variables was used to examine the influence of interpersonal communication and decision making on abortion through binary logistic regression.

Table 4.31: Influence of interpersonal communication on attitude towards abortion

Characteristic	Odds ratios	P-value	95% Confidence Interval
Relationship with members of household			
Husband (Reference)	1		
Friend/Peer	1.500	0.491	0.473-4.761
Mother	3.000	0.057	0.968-9.302
Father	1.200	0.754	0.383-3.756
Sister	1.000		
Children	1.714	0.315	0.599-4.905
Grand parent	1.500	0.555	0.390-5.768
First person to consult in the family in case of a problem			
Husband (Reference)	1		
Mother	0.509	0.046	0.263-0.987
Father	1.000		
Sister	0.267	0.015	0.092-0.776
Brother	1.000		
Grand parent	1.000		
Social group one belongs to			
Youth group (Reference)	1		
Women group	0.444	0.029	0.215-0.919
Religious group	1.556	0.320	0.652-3.713
Investment group	1.556	0.464	0.477-5.073
Whom you discuss with about your pregnancy			
Spouse (Reference)	1		
Friend/Peer	0.480	0.023	0.255-0.905
Family member	1.000		
Group member	1.000		

Table 4.32 shows the extent to which interpersonal communication influenced the attitude towards abortion. The attitude towards abortion was either positive or negative with negative being the reference dummy variable. The data did not provide sufficient statistical evidence to indicate the extent of the relationship with members of the household on attitude towards abortion. Specifically, the effect of respondents

whose relationship with the member of the household were friend/peer, mother, father, child and grandparent on the attitude towards abortion was not statistically significant (OR=1.500; 95% CI=0.473-4.761, OR=3.000; 95% CI=0.968-9.302, OR=1.200; 95% CI=0.383-3.756, OR=1.714; 95% CI=0.599-4.905 & OR=1.500; 95% CI=0.390-5.768 respectively) compared to on who consults the husband. However, a respondent who first consults the mother in case of a problem is 49 percent less likely to have a positive attitude towards abortion (OR=0.509; 95% CI=0.263-0.987) compared to on who consults the husband. A respondent who first consults the sister in case of a problem is 73 percent less likely to have a positive attitude towards abortion (OR=0.267; 95% CI= (0.092-0.776) compared to on who consults the husband. However, there was no effect for respondents who first consults the father, brother and grandparent in case of a problem the attitude towards abortion (OR=1) compared to on who consults the husband.

The study showed that a respondent who belongs to a women group is 56 percent less likely to have a positive attitude towards abortion (OR=0.444; 95% CI=0.215-0.919) compared one who belongs to a youth group. However, the effect of respondents who belongs to a religious and investment group on the attitude towards abortion was not statistically significant (OR=1.556; 95% CI= (0.652-3.713) & OR=1.556; 95% CI= (0.477-5.073) compared one who belongs to a youth group. Finally, a respondent who discusses their pregnancy with a friend/peer is 52 percent less likely to have a positive attitude towards abortion (OR=0.480; 95% CI=0.255-0.905) compared to one who discusses their pregnancy with the spouse. There was no effect for a respondent who discusses their pregnancy with a family member and group member on the attitude towards abortion (OR=1) compared to one who discusses their pregnancy with the spouse.

Table 4.32: Influence of interpersonal communication on subjective norm

Characteristic	Odds ratios	P-value	95% Confidence Interval
Relationship with members of household			
Husband (Reference)	1		
Friend/Peer	0.667	0.491	0.210-2.116
Mother	0.067	<0.0001	0.019-0.238
Father	0.444	0.151	0.147-1.346
Sister	1.000		
Children	0.278	0.016	0.098-0.788
Grand parent	1.000		
First person to consult in the family in case of a problem			
Husband (Reference)	1		
Mother	1.257	0.498	0.649-2.436
Father	0.533	0.174	0.214-1.320
Sister	0.267	0.015	0.092-0.776
Brother	1.000		
Grand parent	1.000		
Social group one belongs to			
Youth group (Reference)	1		
Women group	0.804	0.501	0.425-1.518
Religious group	0.643	0.320	0.269-1.535
Investment group	1.000		
Whom you discuss with about your pregnancy			
Spouse (Reference)	1		
Friend/Peer	3.333	<0.0001	1.725-6.441
Family member	4.000	0.016	1.290-12.402
Group member	2.000	0.283	0.564-7.087

Table 4.33 shows how interpersonal communication influenced subjective norm. Subjective norm was measured by respondents reporting whether people of importance to them influenced their intention to procure an abortion. A respondent whose relationship to a member of the household was the mother is 93 percent less

likely to have approval by people of importance to them on their decision making on abortion (OR=0.067; 95% CI=0.019-0.238) compared to a respondent who relationship is a husband. In addition, a respondent whose relationship to a member of the household was their children is 72 percent less likely to have approval by people of importance to them on their decision making on abortion (OR=0.278; 95% CI=0.098-0.788) compared to a respondent who relationship is a husband. However, the effect of a respondent whose relationship to a member of the household was a friend/peer and father on approval by people of importance to them on their decision making on abortion was not statistically significant (OR=0.667; 95% CI=0.210-2.116 & OR=0.444; 95% CI=0.147-1.346) compared to a respondent who relationship is a husband. There was no effect for a respondent whose relationship to a member of the household was a sister and grandparent on approval by people of importance to them on their decision-making on abortion (OR=1) compared to a respondent who relationship is a husband.

In terms of consulting when there is a problem, a respondent who first consults the sister in case of a problem is 73 percent less likely to have approval by people of importance to them on their decision making on abortion (OR=0.267; 95% CI=0.092-0.776) compared one who first consults the husband. The effect of a respondent who first consults the mother and father in case of a problem on approval by people of importance to them on their decision making on abortion was not statistically significant (OR=1.257; 95% CI=0.649-2.436 & OR=0.533; 95% CI=0.214-1.320 respectively) compared one who first consults the husband. There was no effect of a respondent who first consults the brother and grandparent in case of a problem on approval by people of importance to them on their decision making on abortion (OR=1) compared one who first consults the husband. There was no sufficient statistical evidence to indicate the level of influence of the social groups on the subjective norm. Specifically, the effect of a respondent who belongs to a women's group and religious group on approval by people of importance to them on their decision making on abortion was not statistically significant (OR=0.804; 95% CI=0.425-1.518 & OR=0.643; 95% CI=0.269-1.535 respectively) compared one who belongs to a youth group. There was no effect for a respondent who belongs to an investment group on approval by people of importance to them on their decision

making on (OR=1) compared one who belongs to a youth group. In terms of discussion of the pregnancy, a respondent who discusses about their pregnancy with a peer/friend is 3 times more likely to have approval by people of importance to them on their decision making on abortion (OR=3.333; 95% CI=1.725-6.441) compared to one who discusses with their spouse. Finally, a respondent who discusses about their pregnancy with a family member is 4 times more likely to have approval by people of importance to them on their decision making on abortion (OR=4.000; 95% CI=1.290-12.402) compared to one who discusses with their spouse. However, the effect of a respondent who discusses about their pregnancy with a group member on approval by people of importance to them on their decision-making on abortion was not statistically significant (OR=2.000; 95% CI=0.564-7.087) compared to one who discusses with their spouse.

Table 4.33: Influence of interpersonal communication on perceived behavioural control

Characteristic	Odds ratios	P-value	95% Confidence Interval
Relationship with members of household			
Husband (Reference)	1		
Friend/Peer	0.200	0.008	0.061-0.655
Mother	1.000		
Father	0.167	0.003	0.051-0.541
Sister	1.000		
Children	0.571	0.245	0.222-1.469
Grand parent	1.000		
First person to consult in the family in case of a problem			
Husband (Reference)	1		
Mother	0.571	0.130	0.277-1.180
Father	0.500	0.199	0.173-1.441
Sister	1.000		
Brother	1.000		
Grand parent	1.000		
Social group one belongs to			
Youth group (Reference)	1		
Women group	3.000	0.014	1.253-7.183
Religious group	3.500	<0.0001	1.512-9.438
Investment group	1.500	<0.0001	0.293-3.766
Whom you discuss with about your pregnancy			
Spouse (Reference)	1		
Friend/Peer	1.600	0.335	0.616-4.159
Family member	4.000	0.036	1.094-14.624
Group member	1.000		

Table 4.34 shows how interpersonal communication influenced perceived behavioral control. Perceived behavioral control was measured by respondents reporting whether their decision-making on abortion was influenced by anyone where no

influence was the reference dummy variable. A respondent whose relationship to a member of the household is a friend/peer is 80 percent less likely to be influenced on their decision-making on abortion (OR=0.200; 95% CI=0.061-0.655) compared to one whose relationship is a husband. Also, a respondent whose relationship to a member of the household is a father is 83 percent less likely to be influenced on their decision-making on abortion (OR=0.167; 95% CI=0.051-0.541) compared to one whose relationship is a husband. The effect of a respondent whose relationship to a member of the household is a child on influence on their decision-making on abortion was not statistically significant (OR=0.571; 95% CI=0.222-1.469) compared to one whose relationship is a husband. There was no effect for a respondent whose relationship to a member of the household is a mother, sister and grandparent on influence on their decision-making on abortion (OR=1) compared to one whose relationship is a husband. The data did not provide sufficient statistical evidence to indicate the extent of which the first person to consult in the family in case of a problem by the respondent influenced the perceived behavioral control. Specifically, the effect of a respondent who first consulted the mother and father on influence on their decision-making on abortion was not statistically significant (OR=0.571; 95% CI=0.277-1.180 & OR=0.500; 95% CI=0.173-1.441 respectively) compared to one who consulted the husband. There was no effect for a respondent who first consulted the sister, brother and grandparent on influence on their decision-making on abortion was not statistically significant (OR=1) compared to one who consulted the husband.

However, a respondent who belongs to a women group, religious group and investment group is 3, 4 and 2 times more likely to be influenced on their decision making on abortion respectively (OR=3.000; 95% CI=1.253-7.183, OR=3.500; 95% CI=1.512-9.438, OR=1.500; 95% CI=0.293-3.766) compared to one who belongs to a youth group. Finally, a respondent who discusses their pregnancy with a family member is 4 times more likely to be influenced on their decision-making on abortion (OR=4.000; 95% CI=1.094-14.624) compared to one who discusses with the spouse. The effect of a respondent who discusses their pregnancy with a friend on the influence on their decision-making on abortion was not statistically significant (OR=1.600; 95% CI=0.616-4.159) compared to one who discusses with the spouse.

There is not affect for a respondent who discusses their pregnancy with a group member on the influence on their decision-making on abortion (OR=1) compared to one who discusses with the spouse.

In conclusion, on the test of hypothesis we rejected the null hypothesis for the variables with a p-value less than 0.05 at a 95% confidence level and concluded that there was a significant relationship between interpersonal communication and decision making on abortion. For the variables whose p-values were more than 0.05, we failed to reject the null hypothesis and concluded there was no relationship with the decision making on abortion.

4.5.4 Moderating Effect of Demographic Characteristics on Health Message Exposure and Decision making on abortion

The third objective of the study was to determine whether demographic characteristics moderated the relationship between health message exposure and the decision making on abortion among women of aged 18 to 49 years in Nakuru County. The variables on health message exposure used in this section are the ones that were significant in the logistic regression analysis. The demographic characteristics are age, marital status, employment status, education and religion. The moderating effect of the demographic characteristics on the health message exposure and decision making on abortion was significant at 95% confidence level if the p-value for the interaction term was <0.05.

The model used for logistic regression analysis of the moderating variables on independent variables against the dependent variable was expressed in the general form as given below;

$$\text{Ln}\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_1 * X_2 + \ldots + \varepsilon$$

Where :

$\left(\frac{p}{1-p}\right)$= odds of decision making on abortion (related to attitude, subjective norms and perceived behavioural control)

β_0=constant

β_i' s= Regression coefficients

X_i's = Predictor variables (related to exposure to health messages)

X_2's = demographic characteristic

$X_1 * X_2$ = Interaction between exposure to health message and a demographic characteristic

ε = error term

4.5.4.1 Moderating Effect of Age on Health Message Exposure and Decision making on abortion

Logistic regression was used to investigate whether age moderated the relationship between exposure to health messages and decision making on abortion among women aged 18-49 years in Nakuru County. In this section, Table 4.35, 4.36 and 4.37 represents the results on the moderating effect of age on the relationship between source, content and frequency of exposure to health messages; and attitude towards abortion, subjective norm and perceived behavioural control and ultimately the decision to have an abortion.

Table 4.34: Moderating effect of age on health message exposure and attitude towards abortion

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Source of health message			
Main source of reproductive health information*Age	1	*	*
Main source of abortion information*Age	1	*	*
Content of health message			
Received adequate health information on risks of sexually transmitted diseases*Age	1	*	*
Adequately educated on importance of using contraceptives and other family planning methods*Age	1	*	*
What is considered as the benefits of having an abortion*Age	1	*	*
Frequency of exposure to health messages			
Educated on importance of using contraceptives and other family planning methods*Age	1	*	*
Access reproductive health services at their nearest facility*Age	1	*	*

**No values as the odds ratio are 1*

Table 4.35 shows that age is not a moderating variable in the relationship between exposure to health messages and attitude towards abortion (OR=1). Specifically, the effect of respondent's source of reproductive health and abortion information on their attitude towards abortion does not vary with their age. Similarly, the effects of health message content and frequency of exposure to these messages on the attitude towards abortion does not vary with age.

Table 4.35: Moderating effect of age on health message exposure and subjective norm

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Source of health message			
Main source of reproductive health information*Age	0.493	0.341	(0.115-2.114)
Content of health message			
Received adequate health information on risks of sexually transmitted diseases*Age	0.080	<0.0001	(0.020-0.312)
Adequately educated on importance of using contraceptives and other family planning methods*Age	0.048	<0.0001	(0.010-0.231)
Easy access to reproductive health services at my nearest facility*Age	4.782	0.041	(1.066-21.462)
What is considered as the risks of having an abortion*Age	1	*	*
Frequency of exposure to health messages			
Educated on importance of using contraceptives and other family planning methods*Age	8.136	0.004	(1.961-33.762)
Access reproductive health services at their nearest facility*Age	7.630	0.004	(1.912-30.448)

***No values as the odds ratio are 1*

Table 4.36 shows that age has no moderating effect on the relationship between the source of health message and subjective norm (P-value=0.341). The p-value is more than 0.05 hence not statistically significant. This means that the respondent's source of reproductive health information and its effect on what they perceived as a norm when making a decision to have an abortion did not vary with age. However, age has a moderating effect on content of health message and subjective norm. Table 4.36

further shows that the subjective norm of a respondent who received adequate health information on risks of sexually transmitted diseases and those who were adequately educated on importance of using contraceptives and other family planning methods varied with age (P-value<0.0001). In addition, age moderated the effect of easy access to reproductive health services at their nearest facility on the subjective norm varies with age (P-value<0.041) respectively. Lastly, age moderated the effect of frequency of exposure to education on importance of using contraceptives among other family planning methods and frequency in accessing reproductive health services at their nearest facility health messages, on the subjective norm. (P-value=0.004).

Table 4.36: Moderating effect of age on health message exposure and perceived behavioural control

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Source of health message			
Main source of reproductive health information*Age	1	*	*
Main source of abortion information*Age	0.434	0.539	(0.030-6.245)
Content of health message			
Received adequate health information on abortion *Age	1	*	*
Adequately educated on importance of using contraceptives and other family planning methods*Age	1	*	*
What is considered as the benefits of having an abortion*Age	1	*	*
What is considered as the risks of having an abortion*Age	1	*	*
Frequency of exposure to health messages			
Educated on importance of using contraceptives and other family planning methods*Age	1	*	*
Access reproductive health services at their nearest facility*Age	1	*	*

**No values as the odds ratio are 1*

Table 4.37 shows p-values of more than 0.05 in all interaction terms of exposure to health messages (source, content and frequency) hence not statistically significant. This implies that age does not have a moderating effect in the relationship between exposure to health messages and perceived behavioural control when making a decision on abortion among women aged between 18-49 years old in Nakuru County.

4.5.4.2 Moderating Effect of Marital Status on Health Message Exposure and Decision making on abortion

Logistic regression was used to investigate whether marital status moderated the relationship between exposure to health messages and decision making on abortion among women aged 18-49 years in Nakuru County. In this section, Table 4.38, 4.39 and 4.40 represents the results on the moderating effect of marital status on the relationship between source, content and frequency of exposure to health message; and attitude towards abortion, subjective norm and perceived behavioural control indicating the decision to have an abortion.

Table 4.37: Moderating effect of marital status on health message exposure and attitude towards abortion

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Source of health message			
Main source of reproductive health information*Marital status	0.290	0.187	(0.046-1.824)
Main source of abortion information* Marital status	0.420	0.333	(0.072-2.436)
Content of health message			
Received adequate health information on risks of sexually transmitted diseases* Marital status	1.880	0.075	(0.789-15.057)
Adequately educated on importance of using contraceptives and other family planning methods* Marital status	18.103	0.028	(1.365-24.013)
What is considered as the benefits of having an abortion* Marital status	2.000	0.488	(0.282-14.198)
Frequency of exposure to health messages			
Educated on importance of using	1	*	*

contraceptives and other family planning methods* Marital status			
Access reproductive health services at their nearest facility* Marital status	1	*	*

Table 4.38 shows that marital status does not moderate the effect of source of health messages on attitude towards abortion as both source of reproductive health information and source of abortion information were not significant (P-value = 0.187 and 0.333 respectively). In terms of the content of health message, marital status moderated the effect of adequate education on importance of using contraceptives and other family planning methods on the attitude towards abortion varies with marital status (P-value=0.028). However, marital status did not have any moderating effect on content with risks of sexually transmitted diseases as well as benefits of having an abortion and attitude towards abortion, (P value =0.075 and 0.488 respectively). Finally, Table 4.38 shows p-values of more than 0.05 in terms of frequency to exposure to health messages, hence not statistically significant. This implies that marital status does not have a moderating effect in the relationship between frequency to exposure to health messages and attitude towards making a decision on abortion among women aged between 18-49 years old in Nakuru County.

Table 4.38: Moderating effect of marital status on health message exposure and subjective norm

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Source of health message			
Main source of reproductive health information* Marital status	1.292	0.772	(0.228-7.311)
Content of health message			
Received adequate health information on risks of sexually transmitted diseases* Marital status	1.565	0.645	(0.233-10.504)
Adequately educated on importance of using contraceptives and other family planning methods* Marital status	1.611	0.734	(0.102-25.358)
Easy access to reproductive health services at my nearest facility* Marital status	0.107	0.001	(0.027-0.413)
What is considered as the risks of having an abortion* Marital status	0.025	<0.0001	(0.004-0.138)
Frequency of exposure to health messages			
Educated on importance of using contraceptives and other family planning methods* Marital status	0.784	0.834	(0.081-7.585)
Access reproductive health services at their nearest facility* Marital status	0.765	0.817	(0.079-7.397)

Table 4.39 shows that marital status does not moderate the effect of source of health messages on subjective norm in abortion decision making. (P-value=0.772). However, marital status moderated some content of health message and subjective norm. Content on access to reproductive health services at their nearest facility (P-value=0.001) and ccontent on the risk of having an abortion (P-value<0.0001) were statistically significant. On the contrary, there was no moderating effect of marital status on content about on risks of sexually transmitted diseases and importance of using family planning methods and the subjective norm. (P-value=0.645 and 0.743 respectively). Finally, there was no moderating effect of marital status on frequency of exposure to health messages and subjective norm as both indicators in the interaction term has a P- value of less more 0.05 thus statistically insignificant.

Table 4.39: Moderating effect of marital status on health message exposure and perceived behavioural control

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Source of health message			
Main source of reproductive health information* Marital status	1	*	*
Main source of abortion information* Marital status	19.079	0.001	(4.455-45.397)
Content of health message			
Received adequate health information on abortion * Marital status	1	*	*
Adequately educated on importance of using contraceptives and other family planning methods* Marital status	1	*	*
What is considered as the benefits of having an abortion* Marital status	1	*	*
What is considered as the risks of having an abortion* Marital status	1	*	*
Frequency of exposure to health messages			
Educated on importance of using contraceptives and other family planning methods* Marital status	1	*	*
Access reproductive health services at their nearest facility* Marital status	1	*	*

Table 4.40 shows that marital status does not moderate the effect of content of health messages and perceived behavioural control towards abortion and neither does it moderate the effect of frequency of exposure to health messages and perceived behavioural control, (OR=1). However, there is a moderating effect of marital status on main source of abortion information and perceived behavioural control (P-value=0.001).

4.5.4.3 Moderating Effect of Employment Status on Health Message Exposure and Decision making on abortion

Logistic regression was used to investigate whether employment moderated the relationship between exposure to health messages and decision making on abortion

among women aged 18-49 years in Nakuru County. In this section, Table 4.41, 4.42 and 4.43 represents the results on the moderating effect of employment on the relationship between source, content and frequency of health message exposure; and attitude towards abortion, subjective norm and perceived behavioural control and ultimately the decision to have an abortion.

Table 4.40: Moderating effect of employment status on health message exposure and attitude towards abortion

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Source of health message			
Main source of reproductive health information*Employment status	1	*	*
Main source of abortion information* Employment status	2.839	0.304	(0.389-20.720)
Content of health message			
Received adequate health information on risks of sexually transmitted diseases* Employment status	7.719	0.069	(0.854-69.734)
Adequately educated on importance of using contraceptives and other family planning methods* Employment status	2.539	0.439	(0.239-26.938)
What is the benefits of having an abortion* Employment status	1	*	*
Frequency of exposure to health messages			
Educated on importance of using contraceptives and family planning methods* Employment status	1	*	*
Access reproductive health services at their nearest facility* Employment status	1	*	*

Table 4.41 shows that employment does not moderate the effect of exposure to health messages and attitude towards having an abortion as the P-values of the interaction terms were more than 0.05 or had an odd ratio of 1(OR=1), thus statistically insignificant.

Table 4.41: Moderating effect of employment status on health message exposure and subjective norm

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Source of health message			
Main source of reproductive health information* Employment status	1	*	*
Content of health message			
Received adequate health information on risks of sexually transmitted diseases* Employment status	8.854	0.010	(1.685-46.536)
Adequately educated on importance of using contraceptives and other family planning methods* Employment status	15.339	0.033	(1.243-189.268)
Easy access to reproductive health services at my nearest facility* Employment status	1.592	0.565	(0.326-7.761)
What is considered as the risks of having an abortion* Employment status	1.319	0.645	(0.268-8.405)
Frequency of exposure to health messages			
Educated on importance of using contraceptives and other family planning methods* Employment status	0.447	0.306	(0.096-2.089)
Access reproductive health services at their nearest facility* Employment status	0.388	0.220	(0.085-1.760)

Table 4.42 shows that employment does not moderate the effect of source and frequency of exposure to health messages and subjective norm in decision making on abortion. This is because of their interaction terms had an odd ratio of 1(OR=1) for content of health messages and the P-values of more than 0.05 for frequency, thus statistically insignificant.

Employment was found to have a moderating effect on the relationship between content of health messages and subjective norm. This implies that the perception of social impact towards abortion in respondents who reported that they received adequate health information on risks of sexually transmitted diseases on subjective norm varied with employment status (P-value=0.010). Also, the effect of respondents

who reported that were adequately educated on importance of using contraceptives and other family planning methods on subjective norm varied with employment status (P-value=0.003).

Table 4.42: Moderating effect of employment status on health message exposure and perceived behavioural control

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Source of health message			
Main source of reproductive health information* Employment status	1	*	*
Main source of abortion information* Employment status	2.448	0.422	(0.276-21.727)
Content of health message			
Received adequate health information on abortion * Employment status	1	*	*
Adequately educated on importance of using contraceptives and other family planning methods* Employment status	0.025	0.004	(0.002-0.313)
What is considered as the benefits of having an abortion* Employment status	1	*	*
What is considered as the risks of having an abortion* Employment status	1	*	*
Frequency of exposure to health messages			
Educated on importance of using contraceptives and other family planning methods* Employment status	1	*	*
Access reproductive health services at their nearest facility* Employment status	21.136	<0.0001	(1.867-23.929)

The results in Table 4.43 indicate that there is no moderating effect of employment status on the respondent's source of health messages and perceived behavioural control. However, employment status had a moderating effect on content of health message specifically among respondents who reported that they were adequately educated on importance of using contraceptives and other family planning methods; and perceived behavioral control. (P-value=0.004). In term of the frequency of

exposure to health messages, employment status had a moderating effect on frequency to access reproductive health services at their nearest facility and perceived behavioral control (P-value<0.0001).

4.5.4.4 Moderating Effect of Religion on Health Message Exposure and Decision making on abortion

This section presents the results on the moderating effect of religion on the relationship between health message exposure and decision making on abortion among women of reproductive age in Nakuru County. Table 4.44, 4.45 and 4.46 represents the moderating effect of religion on health message exposure on attitude towards abortion, subjective norm and perceived behavioural control respectively.

Table 4.43: Moderating effect of religion on health message exposure and attitude towards abortion

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Source of health message			
Main source of reproductive health information*Religion	1	*	*
Main source of abortion information* Religion	1.250	0.908	(0.028-55.623)
Content of health message			
Received adequate health information on risks of sexually transmitted diseases* Religion	3.126	0.340	(0.300-32.560)
Adequately educated on importance of using contraceptives and other family planning methods* Religion	1.321	0.875	(0.042-42.004)
What is considered as the benefits of having an abortion* Religion	1	*	*
Frequency of exposure to health messages			
Educated on importance of using contraceptives and other family planning methods* Religion	0.333	0.539	(0.010-11.072)
Access reproductive health services at their nearest facility* Religion	0.344	0.120	(0.090-1.320)

Table 4.44 indicates that religion has no moderating effect on the relationship between exposure to health messages and attitude towards abortion as all the interaction terms were statistically significant.

Table 4.44: Moderating effect of religion on health message exposure and subjective norm

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Source of health message			
Main source of reproductive health information* Religion	3.625	0.501	(0.085-154.552)
Content of health message			
Received adequate health information on risks of sexually transmitted diseases* Religion	1	*	*
Adequately educated on importance of using contraceptives and other family planning methods* Religion	1	*	*
Easy access to reproductive health services at my nearest facility* Religion	2.309	0.309	(0.461-11.576)
What is considered as the risks of having an abortion* Religion	0.333	0.560	(0.008-13.425)
Frequency of exposure to health messages			
Educated on importance of using contraceptives and other family planning methods* Religion	1	*	*
Access reproductive health services at their nearest facility* Religion	1	*	*

Table 4.45 Table also indicates that religion has no moderating effect on the relationship between exposure to health messages and subjective norm as all the interaction terms were statistically significant.

Table 4.45: Moderating effect of religion on health message exposure and perceived behavioural control

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Source of health message			
Main source of reproductive health information* Religion	1	*	*
Main source of abortion information* Religion	0.038	0.008	(0.003-0.423)
Content of health message			
Received adequate health information on abortion * Religion	1	*	*
Adequately educated on importance of using contraceptives and other family planning methods* Religion	1	*	*
What is considered as the benefits of having an abortion* Religion	1	*	*
What is considered as the risks of having an abortion Religion	1	*	*
Frequency of exposure to health messages			
Educated on importance of using contraceptives and other family planning methods* Religion	1	*	*
Access reproductive health services at their nearest facility* Religion	1	*	*

Table 4.46 indicates that religion has a moderating effect on the relationship between the main source of abortion information and perceived behavioural control towards abortion (P-value=0.008). However, religion does not have a moderating effect on content and frequency of exposure to health messages and perceived behavioural control.

4.5.5 Moderating Effect of Demographic Characteristics on Interpersonal Communication and Decision making on abortion

The fourth objective of the study was to determine whether demographic characteristics moderate the relationship between interpersonal communication and the decision making on abortion among women of aged 18 to 49 years in Nakuru County. The variables on interpersonal communication used in this section are the

ones that were significant in the logistic regression analysis. The demographic characteristics are age, marital status, employment status, education and religion.

The model used for regression analysis of the moderating variables on independent variables against the dependent variable was expressed in the general form as given below;

$$\text{Ln}\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_1 * X_2 + \ldots + \varepsilon$$

Where :

$\left(\frac{p}{1-p}\right)$= odds of decision making on abortion (related to attitude, subjective norms and perceived behavioural control)

β_0=constant

β_i' s= Regression coefficients

X_i's = Predictor variables (related to interpersonal communication)

X_2' s = demographic characteristic

$X_1 * X_2$ = Interaction between exposure to interpersonal communication and a demographic characteristic

ε = error term

4.5.5.1 Moderating Effect of Age on Interpersonal Communication and Decision making on abortion

A logistic regression analysis was conducted to find out how the age of women receiving post abortion care services moderated the effect of interpersonal communication and the decision making on abortion among women of reproductive age in Nakuru County. Table 4.47, 4.48 and 4.49 represents the moderating effect of age on health message exposure and attitude towards abortion, subjective norm and perceived behavioural control respectively.

Table 4.46: Moderating effect of age on interpersonal communication and attitude towards abortion

Interaction terms	Odds ratios	P-value	95% Confidence Interval
First person to consult in the family in case of a problem*Age	1	*	*
Social group one belongs to*Age	1	*	*
Whom you discuss with about your pregnancy*Age	1	*	*

Table 4.47 indicates that age does not have a moderating effect on the relationship between interpersonal communication of respondents when consulting with family in case of a problem, belonging to a social group and discussing their pregnancy; and attitude towards abortion, which ultimately influences decision making on abortion since the odd ratios are statistically insignificant(OR=1).

Table 4.47: Moderating effect of age on interpersonal communication and subjective norm

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Relationship with members of household*Age	1	*	*
First person to consult in the family in case of a problem*Age	0.469	0.390	(0.083-2.636)
Whom you discuss with about your pregnancy*Age	1	*	*

Table 4.48 also indicates that age does not have a moderating effect on the relationship between interpersonal communication of respondents when consulting with family in case of a problem, belonging to a social group and discussing their pregnancy; and subjective norm, which ultimately influences decision making on abortion since the odd ratios were statistically insignificant (OR=1, P-value=0.390 and OR=1 respectively).

Table 4.48: Moderating effect of age on interpersonal communication and perceived behavioural control

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Relationship with members of household*Age	1	*	*
Social group one belongs to*Age	1	*	*
Whom you discuss with about your pregnancy*Age	1	*	*

Similarly, Table 4.49 indicates that age does not have a moderating effect on the relationship between interpersonal communication of respondents when consulting with family in case of a problem, belonging to a social group and discussing their pregnancy; and perceived behavioural control, which ultimately influences decision making on abortion since the odd ratios were statistically insignificant(OR=1).

4.5.5.2 Moderating Effect of Marital Status on Interpersonal Communication and Decision making on abortion

This section presents the results on the moderating effect of marital status on the relationship between interpersonal communication and the decision making on abortion among women of reproductive age in Nakuru County. Table 4.50, 4.51 and 4.52 represents the moderating effect of marital status on health message exposure and attitude towards abortion, subjective norm and perceived behavioural control respectively.

Table 4.49: Moderating effect of marital status on interpersonal communication and attitude towards abortion

Interaction terms	Odds ratios	P-value	95% Confidence Interval
First person to consult in the family in case of a problem*Marital status	1	*	*
Social group one belongs to* Marital status	1	*	*
Whom you discuss with about your pregnancy* Marital status	1	*	*

Table 4.50 indicates that marital status does not have a moderating effect on the relationship between interpersonal communication of respondents when consulting with family in case of a problem, belonging to a social group and discussing their pregnancy; and attitude towards abortion, which ultimately influences decision making on abortion since all the odd ratios were statistically insignificant (OR=1).

Table 4.50: Moderating effect of marital status on interpersonal communication and subjective norm

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Relationship with members of household* Marital status	1	*	*
First person to consult in the family in case of a problem* Marital status	1	*	*
Whom you discuss with about your pregnancy* Marital status	1	*	*

Table 4.51 indicates that marital status does not have a moderating effect on the relationship between interpersonal communication of respondents when consulting with family in case of a problem, belonging to a social group and discussing their pregnancy; and subjective norm, which ultimately influences decision making on abortion since all the odd ratios were statistically insignificant (OR=1).

Table 4.51: Moderating effect of marital status on interpersonal communication and perceived behavioural control

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Relationship with members of household* Marital status	1	*	*
Social group one belongs to* Marital status	1	*	*
Whom you discuss with about your pregnancy* Marital status	1	*	*

Table 4.52 indicates that marital status does not have a moderating effect on the relationship between interpersonal communication of respondents when consulting with family in case of a problem, belonging to a social group and discussing their

pregnancy; and perceived behavioural control, which ultimately influences decision making on abortion since all the odd ratios were statistically insignificant (OR=1).

4.5.5.3 Moderating Effect of Employment Status on Interpersonal Communication and Decision making on abortion

This section presents the results on the moderating effect of employment status on the relationship between interpersonal communication and the decision making on abortion among women of reproductive age in Nakuru County. Table 4.53, 4.54 and 4.55 represents the moderating effect of employment status on health message exposure and attitude towards abortion, subjective norm and perceived behavioural control respectively.

Table 4.52: Moderating effect of employment status on interpersonal communication and attitude towards abortion

Interaction terms	Odds ratios	P-value	95% Confidence Interval
First person to consult in the family in case of a problem*Employment status	1	*	*
Social group one belongs to* Employment status	0.237	0.121	(0.038-1.463)
Whom you discuss with about your pregnancy* Employment status	1	*	*

Table 4.53 indicates that employment does not have a moderating effect on the relationship between interpersonal communication of respondents when consulting with family in case of a problem, belonging to a social group and discussing their pregnancy; and attitude towards abortion, which ultimately influences decision making on abortion since all the odd ratios were statistically insignificant (OR=1, P-value=0.121 and OR=1 respectively).

Table 4.53: Moderating effect of employment status on interpersonal communication and subjective norm

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Relationship with members of household* Employment status	1	*	*
First person to consult in the family in case of a problem* Employment status	1	*	*
Whom you discuss with about your pregnancy* Employment status	1	*	*

Table 4.54 shows that employment does not have a moderating effect on the relationship between interpersonal communication of respondents when consulting with family in case of a problem, belonging to a social group and discussing their pregnancy; and subjective norm, which ultimately influenced decision making on abortion since all the odd ratios were statistically insignificant (OR=1).

Table 4.54: Moderating effect of employment status on interpersonal communication and perceived behavioural control

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Relationship with members of household* Employment status	1	*	*
Social group one belongs to* Employment status	1	*	*
Whom you discuss with about your pregnancy* Employment status	1	*	*

Table 4.55 also shows that employment does not have a moderating effect on the relationship between interpersonal communication of respondents when consulting with family in case of a problem, belonging to a social group and discussing their pregnancy; and perceived behavioural control, which ultimately influenced decision making on abortion since all the odd ratios were statistically insignificant (OR=1).

4.5.5.4 Moderating Effect of Religion on Interpersonal Communication and Decision making on abortion

This section presents the results on the moderating effect of religion on the relationship between interpersonal communication and the decision making on abortion among women of reproductive age in Nakuru County. Table 4.56, 4.57 and 4.58 represents the moderating effect of religion on health message exposure and attitude towards abortion, subjective norm and perceived behavioural control respectively.

Table 4.55: Moderating effect of religion on interpersonal communication and attitude towards abortion

Interaction terms	Odds ratios	P-value	95% Confidence Interval
First person to consult in the family in case of a problem*Religion	2.091	0.667	(0.065-67.258)
Social group one belongs to* Religion	1	*	*
Whom you discuss with about your pregnancy* Religion	4.571	0.377	(0.156-133.624)

Table 4.56 show that religion does not have a moderating effect on the relationship between interpersonal communication of respondents when consulting with family in case of a problem, belonging to a social group and discussing their pregnancy; and attitude towards abortion, which ultimately influences decision making on abortion since all the interaction terms were statistically insignificant (P-value=0.66, OR=1 and P-value=0.377).

Table 4.56: Moderating effect of religion on interpersonal communication and subjective norm

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Relationship with members of household* Religion	1	*	*
First person to consult in the family in case of a problem* Religion	1.468	0.828	(0.046-47.139)
Whom you discuss with about your pregnancy* Religion	0.962	0.981	(0.040-23.159)

Table 4.57 indicates that one's religion does not have a moderating effect on the relationship between interpersonal communication of respondents when consulting with family in case of a problem, belonging to a social group and discussing their pregnancy; and subjective norm, which ultimately influence decision making on abortion since all the odd ratios were statistically insignificant (OR=1 and P-values of 0.828 and 0.982 respectively).

Table 4.57: Moderating effect of religion on interpersonal communication and perceived behavioural control

Interaction terms	Odds ratios	P-value	95% Confidence Interval
Relationship with members of household* Religion	1	*	*
Social group one belongs to* Religion	1	*	*
Whom you discuss with about your pregnancy* Religion	1	*	*

Table 4.58 indicates that religion does not have a moderating effect on the relationship between interpersonal communication of respondents when consulting with family in case of a problem, belonging to a social group and discussing their pregnancy; and perceived behavioural control, which ultimately influences decision making on abortion since all the odd ratios were statistically insignificant (OR=1).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the findings, the conclusion and recommendations. This was done in line with the objectives of the study. Areas of further research were suggested and limitations of the study were taken into account.

5.2 Summary of Findings

This section summarizes the findings obtained in chapter four in line with the study objectives.

5.2.1 Health message exposure and Decision Making on Abortion

The first objective was to establish the influence of health message exposure on decision making on abortion among women of aged 18 to 49 years in Nakuru County. Health message exposure was measured specifically in terms of the source, content and frequency of exposure to the messages. In terms of source, the findings revealed that most respondents sought for health advice including information on abortion from their peers, health workers, social groups and media. In terms of content, the findings revealed that most respondents said that they had received health information on HIV and AIDs, had been educated on importance of using contraceptives and other family planning methods and have access to reproductive health services. Finally, in terms of frequency, a majority of the respondents reported that they regularly receive health information on HIV and AIDs, get educated on importance of using contraceptives and other family planning methods and have access to reproductive health services at their nearest health facility. These findings were supported by responses from the key informants who agreed that they had received health education concerning abortion and its effects, had attended educative forums in regards to HIV and STIs and that they knew the importance of using contraceptive and other family planning methods. However, with all the information they received they went ahead to have an abortion. The findings revealed even

though there was health education at the community level, abortion was not discussed as most of the discussions were on HIV/AIDS and contraceptives. Majority of the respondents were dissatisfied with the information provided on abortion. Health providers also confirmed that they avoided the topic.

Logistic regression analysis results indicated that exposure to health messages in terms of source, content and frequency influenced the decision making on abortion. Specifically, source of reproductive health information influenced the respondent's attitude towards abortion and the perceived behavioural control. Secondly, the content of health messages influenced the attitude towards abortion, subjective norm and perceived behavioural control. Finally, the frequency of exposure to health messages influenced the subjective norm and perceived behavioural control. In conclusion, the null hypothesis was rejected which indicated that health message exposure influenced decision making on abortion.

5.2.2 Interpersonal Communication and Decision Making on Abortion

The second objective of the study was to determine the influence of interpersonal communication on decision making on abortion among women aged 18 to 49 years in Nakuru County. The study findings indicated that a majority of the respondents consulted their friend in case of a general problem, belonged to a youth group, discussed with their friends about their pregnancy. Subjective norms which are the perceived social pressures communicated verbally and none verbally were major push factors in abortion decision making process. The pressures included fear of bringing shame to the family, isolation from peers in the society and rejection by partner. It is for the same reasons that the women opted to seek services in facilities that were far from where they lived. These study findings further indicated that communicating with self and with others within one's social networks to arrive at a decision on how to proceed therefore was inevitable and hence affected the decision-making phase, making the process dynamic and situation specific. This therefore implies that decision making on abortion is as a result of intra and interpersonal communication at various stages. Those involves in the process include peers,

friends, husbands, boyfriends, family members, those of the same religion, social groups and even the health providers.

Logistic regression analysis results revealed that interpersonal communication influenced decision making on abortion. Specifically, the social group that one belongs and discussion about pregnancy influenced the attitude towards abortion. Secondly, the relationship with members of the household, first person to consult in case of a problem and whom the respondents discuss with about their pregnancy influenced subjective norm. Finally, the relationship of the respondents with members of household, social group one belongs and with whom they discuss their pregnancy influenced the perceived behavioural control. In conclusion, the null hypothesis was rejected indicating that interpersonal communication influenced decision making on abortion.

5.2.3 Effects of Demographic Characteristics on the relationship between Health message exposure and Decision making on abortion

The third objective of the study was to establish whether demographic characteristics moderate between health message exposure and decision making on abortion among women of aged 18 to 49 years in Nakuru County. The findings indicated that age, marital status, employment status and religion moderates the influence of health message exposure on decision making on abortion. Specifically, age moderates the influence of content of health message and frequency of exposure to health messages on the subjective norm. Marital status moderates the influence of content of health message on attitude towards abortion and subjective norm while influence of source of health message on perceived behavioural control is moderated by marital status. Employment status moderates the influence of content on health message on subjective norm and perceived behavioural control. Finally, the influence of source of health message on perceived behavioural control is moderated by religion.

5.2.4 Effects of Demographic Characteristics on the relationship between Interpersonal Communication and Decision making on abortion

The fourth objective of the study was to determine whether demographic characteristics moderate between interpersonal communication and decision making on abortion among women of aged 18 to 49 years in Nakuru County. The findings indicated that the influence of interpersonal communication on decision making on abortion does not vary according to the demographic characteristics.

5.3 Conclusions

Based on the research findings the study concluded that interpersonal communication and health message exposure had a positive and significant influence on decision making on abortion.

5.3.1 Health message exposure and decision making on abortion

Health messages that specifically target abortion were missing and the women expressed dissatisfaction on how the topic was covered when receiving reproductive health education. Health providers did not also display comfort and confidence when addressing the issue. They were however available to offer Post Abortion Care services and counselling for prevention of repeat abortions. The findings revealed that women's risk of abortion was associated with unreliable sources of information that led to poor knowledge during decision making. The study therefore concludes that the level of health message exposure greatly influences the decision making on abortion.

5.3.2 Interpersonal communication and abortion decision making

The study concluded that to have an abortion or not depended on multiple factors including subjective norms, which are communicated verbally and none verbally but have great impact on decision making. These include fear of punishment in case of an unplanned pregnancy in both married and unmarried women, rejection and isolation in the family and social groups and especially religious groups. Fear of

disruption of one's status quo like education or employment was also found to be an important consideration in the decision-making process.

The study further concludes that interpersonal communication greatly influences the decision making on abortion and that all women want to belong to a social group. The fear of rejection and isolation among other social sanctions and the need to conform to societal expectations overrides the need for personal health safety.

5.3.3 Demographic characteristics and decision making on abortion

Finally, the study concluded that demographic characteristics namely economic status, age, religion and level of education has a moderating influence on the relationship between interpersonal communication and health message exposure in decision making on abortion. However marital status does not influence the relationship between interpersonal communication and health message exposure in decision making on abortion.

5.4 Recommendations

It is evident from the study that there is need to increase health message exposure, and more specifically on reproductive matters including abortion in women of reproductive age. There is also need to address stigma and discrimination of women with unplanned pregnancies within the social networks in the community. To do so, this study recommends various interventions.

5.4.1 Health message exposure and decision making on abortion

Health providers need to be supported to provide comprehensive reproductive health education. Health communication tools can be developed to aid the health workers especially when they are to address topics that are considered a taboo in the society. The study also recommends development of reproductive health messages specifically targeting young people that can be easily accessed through social media. The study recommends that communities, churches and health centres need to initiate seminars to sensitize women and men on issues regarding abortion. The health providers should also come up with open forums and workshop to discuss health

issues relating to abortion. This will help to minimize the cases of abortion. Health providers need training on how to communicate and address taboo topics like abortion.

5.4.2 Interpersonal communication and abortion decision making

This study sees the need to empower women who have unplanned pregnancies and recommends the need for community health workers to identify them at the community and encourage them form support groups that will help them increase their self-efficacy in decision making and challenge stigma. The study findings have shown that women access information through inter-personal communication with family, friends and community members and through existing community health workers. These individuals are important resources that interventions can target to transfer information to the women who need this information most.

The government through the Department of Community Health Promotion needs to develop supportive policies that address comprehensive reproductive health education within the current HIV/STI and family planning programs. The department needs to develop a referral system for rescue counselling support of women who have unplanned and are willing to give birth despite social pressure. The department needs to develop an abortion prevention communication strategy to address issue of stigma and discrimination against with unplanned pregnancies and women who have has an abortion. The strategy can be implemented through the Ministry of Health Community Strategy Framework. There is need for community groups to understand the role they are playing in pushing women to have abortions. This will help shift the focus from the women who are viewed as victims, to addressing the push factors like stigma towards women with unplanned pregnancies. This can be achieved through community health communication campaigns in religious groups and women and youth groups, schools and families. In addition, interpersonal approaches that engage community leaders and influencers may counteract negative social norms regarding abortion and associated stigma. Collaborative actions of government, NGOs and private partners should capitalize on this potential power of communities to reduce the impact of abortion on women and teenager girls.

5.5 Suggestions for Further Research

Having seen the significant role of social communication networks in influencing decision making on abortion on women of reproductive age, it would be interesting to establish whether members of these networks for example parents, peers and religious leaders see themselves as key determinants in decision making on abortion in their community.

Further research on the role of men in the decision making on abortion would shed more light on the push factors of abortion. Other studies can also focus on effects of advertising abortion services among adolescents, teenager girls in Kenya. It would be of interest to understand the role of social media in shaping attitudes towards sexuality.

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APPENDICES

Appendix I: Test of Research Question

Test of research question

Objective	Research question	Hypothesis	Model	Type of Analysis
To examine the relationship between level of health message exposure and decision making on abortion among women aged 18-49 years in Nakuru County	$\boldsymbol{Rq_1}$: How does exposure to health messages influence decision making to procure an abortion among women aged 18-49 years in Nakuru County?	$(H_0)1$: There is no significant relationship between health message exposure and decision making on abortion among women aged 18-49 years in Nakuru County.	Ln $(\frac{p}{1-p})$ $= \beta_0 + \beta_1 X_1 + \ldots + \beta_P X_P + \varepsilon$ Where : $(\frac{p}{1-p})$=odds making a decision to procure an abortion β_0=constant β_i' s= Regression coefficients X_i' s= Predictor variables related to health message exposure ε = error term	Logistic regression analysis
To determine the relationship interpersonal communication and decision making on abortion among women aged 18- 49 years in	$\boldsymbol{Rq_2}$: What is the relationship between interpersonal communication and decision making on abortion among women	$(H_0)2$: There is no significant relationship between interpersonal communication and decision making on abortion among women	Ln $(\frac{p}{1-p})$ $= \beta_0 + \beta_1 X_1 + \ldots + \beta_P X_P + \varepsilon$ Where : $(\frac{p}{1-p})$=odds decision to	Logistic regression analysis

Nakuru County	aged 18- 49 years in Nakuru County?	aged 18- 49 years in Nakuru County	terminate the pregnancy β_0=constant β_i' s= Regression coefficients $X_{i'}$ s= Predictor variables related to interpersonal communication ε = error term	
To determine whether demographic characteristics moderate health message exposure and decision making on abortion among women aged 18- 49 years in Nakuru County	$\boldsymbol{Rq_3}$: Do demographic characteristics moderate health message exposure and decision making on abortion among women aged 18- 49 years in Nakuru County?	(H_0)3: Age, marital status, level of education, employment status and religion do not moderate health message exposure and decision making on abortion among women aged 18- 49 years in Nakuru County	Ln $(\frac{p}{1-p})$ = β_0+ $\beta_1 X_1$+ $\beta_2 X_1$* X_2+…+ ε Where : $(\frac{p}{1-p})$=odds of outcome variables β_0=constant β_i' s= Regression coefficients X_1* X_2 = Interaction between a predictor variables a demographic characteristic ε = error term	Logistic regression analysis

To determine whether demographic characteristics moderate between interpersonal communication and decision making on abortion among women of reproductive age in Nakuru County	$\boldsymbol{Rq_4}$: Do demographic characteristics moderate between interpersonal communication and decision making on abortion among women of reproductive age in Nakuru County?	(H_0)4: Age, marital status, level of education, employment status and religion do not moderate between interpersonal communication and decision making on abortion among women of reproductive age in Nakuru County?	Ln $(\frac{p}{1-p})$ $= \beta_0 + \beta_1 X_1 + \beta_2 X_1 * X_2 + \ldots + \varepsilon$ Where : $(\frac{p}{1-p})$=odds of outcome variables β_0=constant β_i' s= Regression coefficients $X_1 * X_2$= Interaction between a predictor variables a demographic characteristic ε = error term	Logistic regression analysis

Appendix II: Participant Information and Consent Form

Title of Study: Interpersonal communication and health message exposure and their influence on intention to procure an abortion among women aged 18-49 years in Nakuru County

Principal Investigator Wahome Agnes Mercy Muthoni **Institutional affiliation:** JKUAT

Introduction:

My name is _____I am interviewing individuals who are receiving Post Abortion Care at the various health facilities in Nakuru County. The purpose of the interview is to find out if there is a relationship between interpersonal communication and exposure to health messages when making decisions on abortion. Participants in this study will be randomly chosen.

WHAT WILL HAPPEN IF YOU DECIDE TO BE IN THIS RESEARCH STUDY?

You will be interviewed by a trained interviewer in a private and comfortable area for approximately 35min. The interview will cover topics such as your knowledge on reproductive health matters, your source of information, who you engaged before having the abortion

All the information given will be treated as confidential and only used for the purpose of this study.

WHAT ARE YOUR CHOICES?

Your decision to participate in research is voluntary. You are free to decline participation in the study and you can withdraw from the study at any time without injustice or loss of any benefits.

ARE THERE ANY RISKS, ASSOCIATED WITH THIS STUDY?

The study does not involve taking any samples and therefore no physical harm. However, answering questions in the interview may be uncomfortable so if there are any questions you do not want to answer, you can skip them. Also, asking questions when you are still in pain may be stressful. The study staff will allow you to rest and interview you when appropriate

ARE THERE ANY BENEFITS BEING IN THIS STUDY?

You may benefit by receiving free counseling and health information on maternal health. This information is a contribution to science and policy.

WILL BEING IN THIS STUDY COST YOU ANYTHING?

Being in this study will not cost you anything. You will be interviewed during your visit to the health facility after you have received your services. However incase this is not possible and you have to come back for the interview, transport expenses will be reimbursed on the day of the interview.

If you have further questions or concerns about participating in this study, please call or send a text message to **Agnes Mercy Muthoni Wahome 0722802429**

Participant's statement

I have read this consent form/ had the information read to me. I have had my questions answered in a language that I understand. The risks and benefits have been explained to me. I understand that my participation in this study is voluntary and that I may choose to withdraw any time. **I freely agree to participate in this research study: Yes No**

I agree to provide contact information for follow-up: Yes No

Participant printed name: _____

Participant signature / Thumb stamp _____**Date** _____

Contact information _____

Researcher's statement

I, the undersigned, have fully explained the relevant details of this research study to the participant and believe that the participant has understood and has willingly and freely given his/her consent.

Researcher's Name: _____ **Date**: _____

Signature _____

Appendix III: Questionnaire

This questionnaire is meant to collect data regarding the title of the thesis Interpersonal communication and health message exposure influence on decision making on abortion among women aged 18-49 years in Nakuru

SECTION A: Demographic Characteristics

1. Age Bracket (tick as appropriate)

No	Age Bracket	Tick as Appropriate
i.	18-23	
ii.	24-29	
iii.	30-35	
iv.	36-41	
v.	42-49	

2. Marital Status

1) Married 2) Never married 3) Separated 4) widowed

3. Highest level of Education Level

1) Primary 2) Secondary 3) Tertiary 4) College 5) University

4. Employment status

1) Employed 2) unemployed 3) Self employed

5. Religion

1) Catholic 2) Muslim 3) Protestant 4) Others (Specify) _____

6. Which is your home county where you (where you born?)_____

SECTION B: Health Message Exposure

Source of health messages

7. Which is your nearest public health facility_____?

8. Tick your main source reproductive health information

a) Peer b) Social group c) Family d) Media (social/Mass) e) Health provider

9. Which is your main source abortion information

a) Peer b) Social group c) Family d) Media (social/Mass) e) Health provider

Content of health message

This section has statements regarding the content of health message received. Kindly respond with the response that matches you opinion by ticking the most appropriate in the boxes using a tick (√) or cross mark (x).

	Statement	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
10.	I have received adequate health information on abortion and its effect					
11.	I have received adequate health information on HIV and AIDs					

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
12	I have received adequate health information on the risks of sexually transmitted diseases					
13.	I have been adequately educated on importance of using contraceptive and other family planning methods					
14	I have easy access to reproductive health services at my nearest facility					

15. What do you consider are the benefits of having an abortion?

16. What do you consider are the risks of having an abortion?

Frequency of Exposure to Health Messages

This section has statements regarding the frequency of exposure to health message received. Kindly respond with the response that matches you opinion by ticking the most appropriate in the boxes using a tick (√) or cross mark (x).

	Statement	Rarely	moderately	regularly
17.	I access health information on abortion and its effect			
18.	I receive health information on HIV and AIDs			
19	I receive health information on the risks of sexually transmitted diseases			

	Statement	Rarely	moderately	regularly
20.	I get educated on importance of using contraceptive and other family planning methods			
21.	I access reproductive health services at my nearest facility,			

SECTION C: Interpersonal communication and networks

22. Number of people living in the same household_____

23. **What is your relationship with members of household (Tick all applicable)**

1) Husband 2) Friend/peer 3) Mother 4) Father 5) Sister 6) your children 7) Grandparent 8) Other

24. At the family, who is the first person you consult in case of a problem?

1) Husband 2) Mother 3) Father 4) Sister 5) Brother

6) Grandparent 7) Other

25. Which of the following social groups do you belong to?

1) Youth group 2) Women group 3) Religious group 4) Investment group

26. With whom did you discuss about your pregnancy?

1) Spouse 2) Friend/peer 3) Family member 4) Group member

SECTION D: Decision making on abortion

Attitude towards abortion

27. My attitude towards abortion is shaped by:

1) Religion 2) Education 3) Community 4) Family 5) Health message 6) Peers

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
28.	Termination of pregnancy is the right of every woman in your community					
29.	It is ok for a woman to have an abortion if she is married and does not want any more children					
30.	It is ok for a woman to have an abortion If the woman's own health is seriously endangered by the pregnancy					
31.	It is ok for a woman to have an abortion if the family has a low income and cannot afford any more children					
32.	It is not ok for a woman to have an abortion if she became pregnant as a result of rape					
33.	It is ok for a woman to have an abortion if she is not married and does not want to marry the man					
34.	It is ok to terminate a pregnancy in the first trimester (0-12 weeks)					
35.	It is not ok to terminate a pregnancy in the (13-28 weeks)					
36	It is not ok to terminate a pregnancy in the (29-40 weeks)					

37 Overall, I have a **Positive (+ve)** or **Negative (-ve)** attitude towards abortion

SECTION E: Subjective Norm

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree

	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
38.	It is a taboo in my family for a young woman to have a baby out of wedlock					
39.	It is a taboo in my community for a young woman to have a baby out of wedlock					
40	It is a taboo in my religion for a young woman to have a baby out of wedlock					
41.	Termination of pregnancy is due to fear of punishment, rejection and isolation in, my family level					
42.	Termination of pregnancy is due to fear of punishment, rejection and isolation in my social group					
43	I had an abortion due to fear of the negative impact from family and friends	Tick one	Agree		Disagree	

SECTION D: Perceived behavioural control

	Statement	True	False
44.	It is my right to have an abortion		
45.	I do not need to consult anyone before having an abortion		
46.	I believe I have all the information needed to make a decision on abortion		
47	I have confidence to make a decision on abortion		

Appendix IV: Interview Guide: Health Care Provider

Name of the Hospital ……

Educational Qualification ( ) Certificate ( ) Diploma ( ) Bachelor's Degree ( ) Post Graduate Degree

Designation…….

Are there community health programs on reproductive health including abortion prevention by this facility? Kindly explain

which ones they are,

where they are conducted,

when they are conducted and

by whom.

Please explain the users of reproductive health services in the community. Be specific on age, religion, level of education, marital status and economic status.

In your view, how has access to reproductive health services contributed to influencing women's decisions on abortion? Explain

Are there community beliefs and practices that influences one's decision making on abortion.

What is your view on the influence of relationship at household and community levels on decision to have an abortion?

What communication strategies would you recommend at your facility to target those who have had abortions?

What communication strategies would you recommend for the community in prevention of abortions?

Appendix V: In-depth Interview guide for selected PAC clients

Did you receive any health information prior to termination of the pregnancy?

If yes, where did you receive the information from?

What was the information majorly about?

Did the information change your opinion about abortion?

What pushed you into termination of this pregnancy?

According to you, whose view matters most in the decision to carry a child to term or terminate before term?

Do you believe cultural values have a role to play in the decision to terminate pregnancy?

If yes, what are some of these cultural values?

Are there negative consequences attached to breaking of the cultural values?

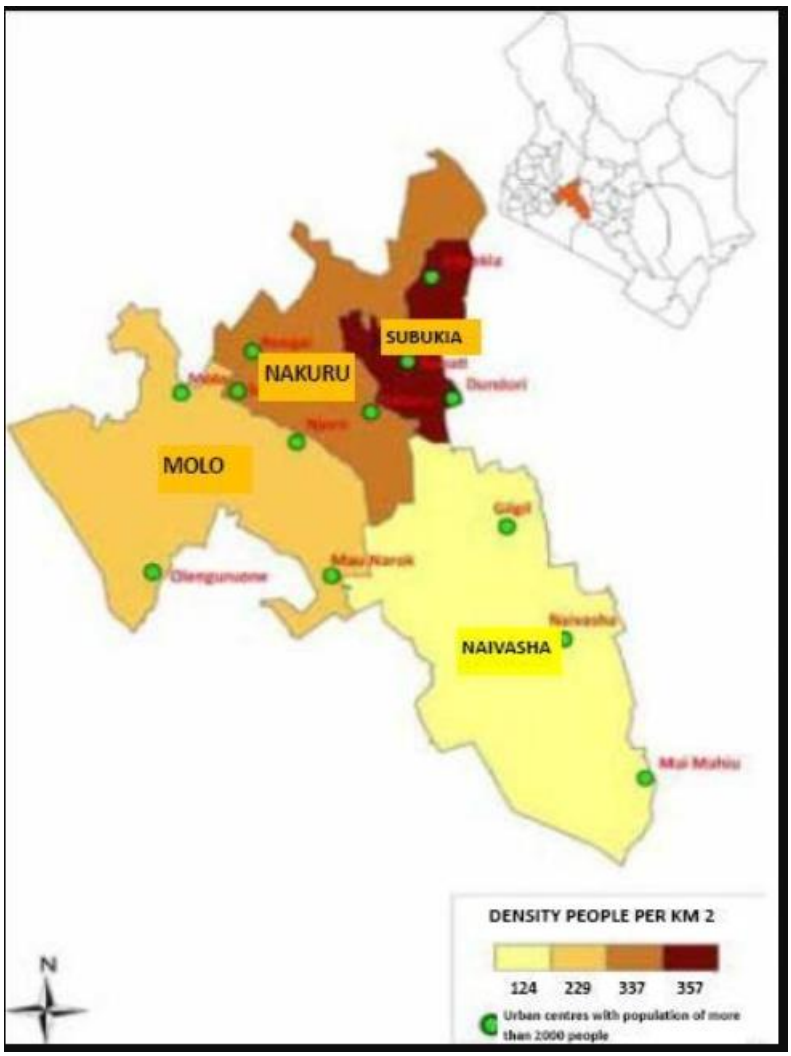
Did you factor in these consequences before going through with the termination of pregnancy?

What was your experience throughout pregnancy period?

What has been your experience after termination of pregnancy?

What advice would you give to women in child bearing age?

Appendix VI: Map of Nakuru County



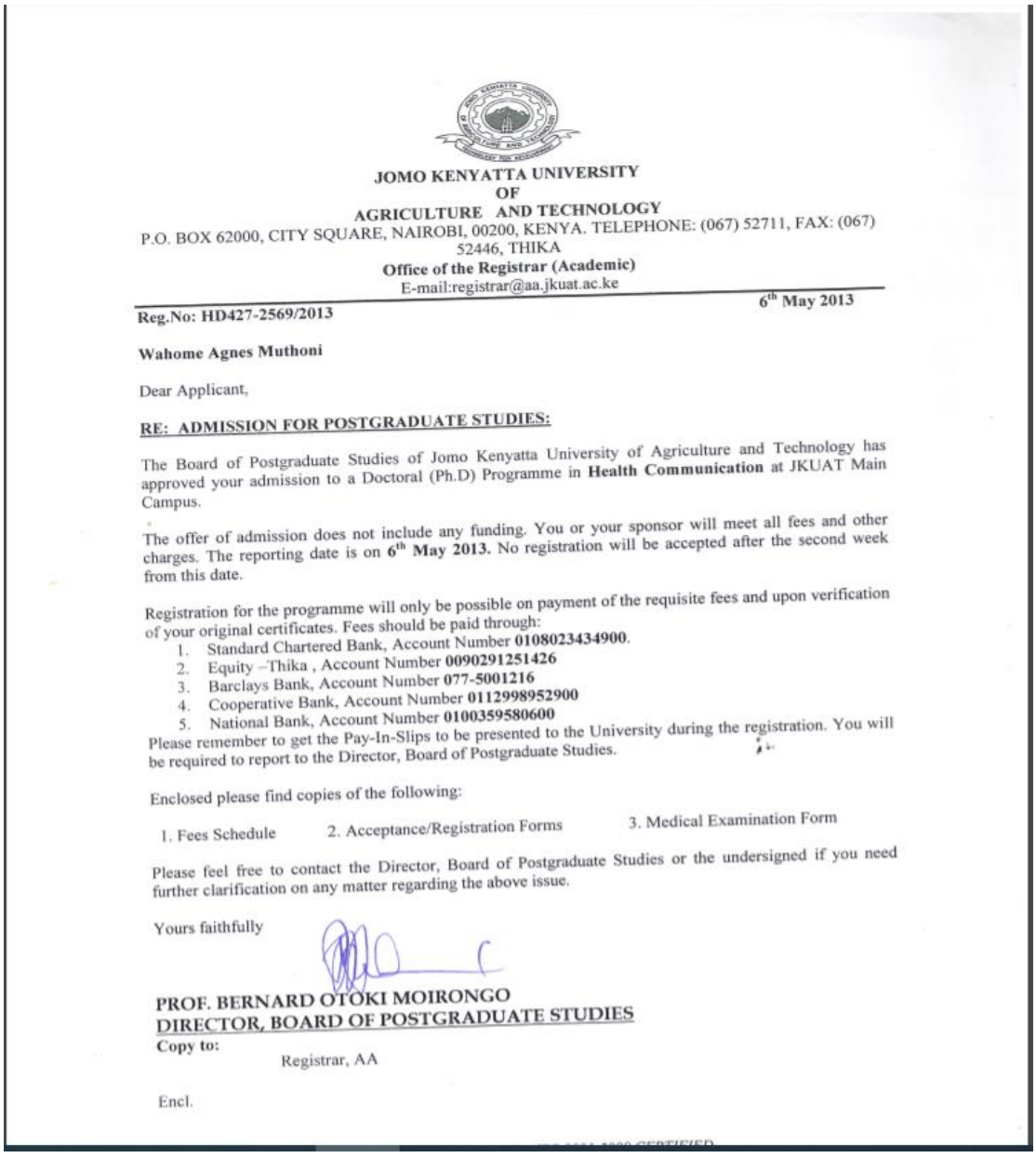
Number of Counties 14

Capital Nakuru

Population (2009 Census)

- **Total** 10,006,805
- **Density** 55/km^2 (140/sq mi)

Appendix VII: Admission Letter



JOMO KENYATTA UNIVERSITY
OF
AGRICULTURE AND TECHNOLOGY
P.O. BOX 62000, CITY SQUARE, NAIROBI, 00200, KENYA. TELEPHONE: (067) 52711, FAX: (067) 52446, THIKA
Office of the Registrar (Academic)
E-mail:registrar@aa.jkuat.ac.ke

Reg.No: HD427-2569/2013 **6th May 2013**

Wahome Agnes Muthoni

Dear Applicant,

RE: ADMISSION FOR POSTGRADUATE STUDIES:

The Board of Postgraduate Studies of Jomo Kenyatta University of Agriculture and Technology has approved your admission to a Doctoral (Ph.D) Programme in **Health Communication** at JKUAT Main Campus.

The offer of admission does not include any funding. You or your sponsor will meet all fees and other charges. The reporting date is on **6th May 2013.** No registration will be accepted after the second week from this date.

Registration for the programme will only be possible on payment of the requisite fees and upon verification of your original certificates. Fees should be paid through:

1. Standard Chartered Bank, Account Number **0108023434900**.
2. Equity –Thika , Account Number **0090291251426**
3. Barclays Bank, Account Number **077-5001216**
4. Cooperative Bank, Account Number **0112998952900**
5. National Bank, Account Number **0100359580600**

Please remember to get the Pay-In-Slips to be presented to the University during the registration. You will be required to report to the Director, Board of Postgraduate Studies.

Enclosed please find copies of the following:

1. Fees Schedule 2. Acceptance/Registration Forms 3. Medical Examination Form

Please feel free to contact the Director, Board of Postgraduate Studies or the undersigned if you need further clarification on any matter regarding the above issue.

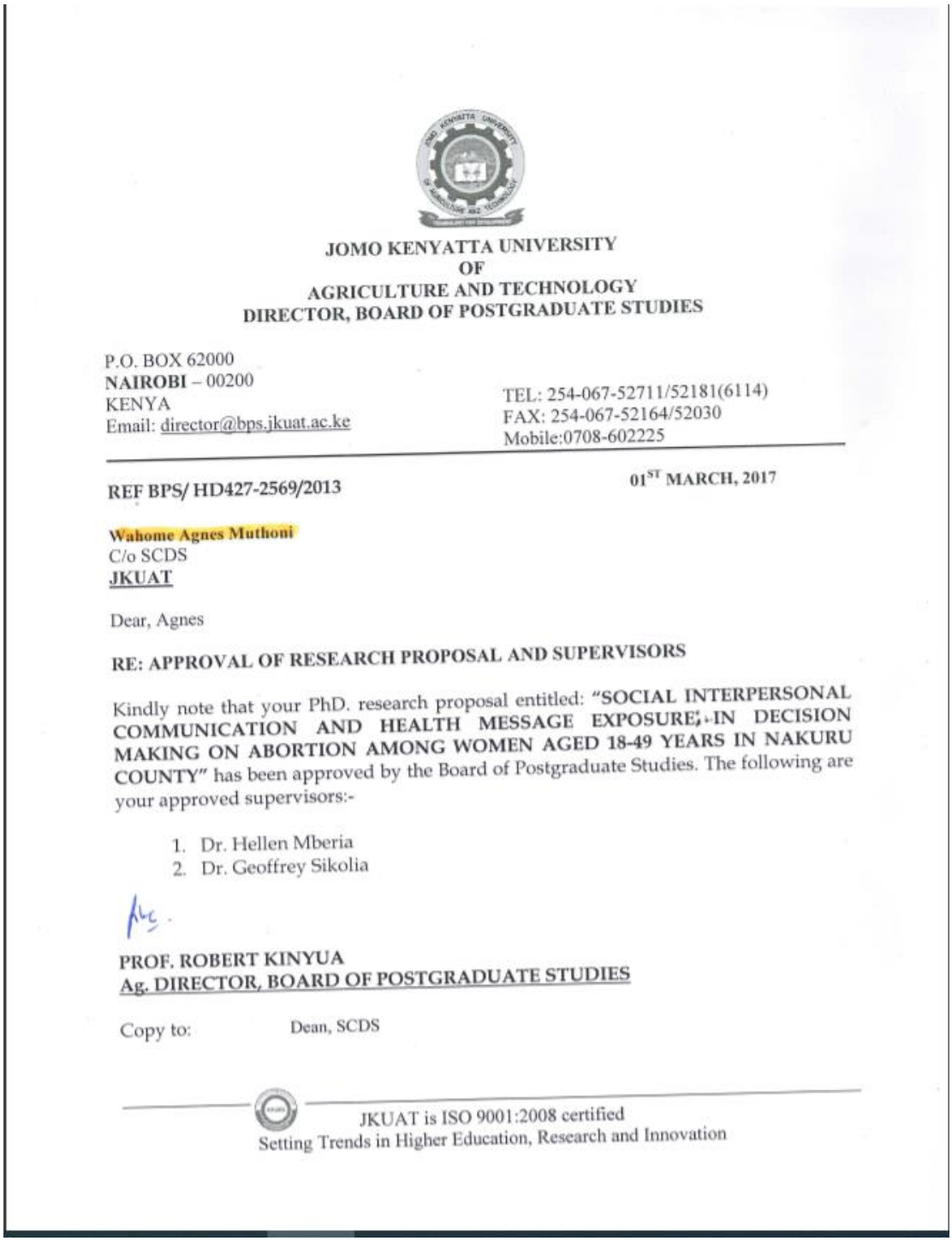
Yours faithfully

PROF. BERNARD OTOKI MOIRONGO
DIRECTOR, BOARD OF POSTGRADUATE STUDIES

Copy to:
Registrar, AA

Encl.

Appendix VIII: Approval of research proposal and supervisors



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P.O. BOX 62000
NAIROBI – 00200
KENYA
Email: director@bps.jkuat.ac.ke

TEL: 254-067-52711/52181(6114)
FAX: 254-067-52164/52030
Mobile:0708-602225

REF BPS/ HD427-2569/2013 **01ST MARCH, 2017**

Wahome Agnes Muthoni
C/o SCDS
JKUAT

Dear, Agnes

RE: APPROVAL OF RESEARCH PROPOSAL AND SUPERVISORS

Kindly note that your PhD. research proposal entitled: **"SOCIAL INTERPERSONAL COMMUNICATION AND HEALTH MESSAGE EXPOSURE IN DECISION MAKING ON ABORTION AMONG WOMEN AGED 18-49 YEARS IN NAKURU COUNTY"** has been approved by the Board of Postgraduate Studies. The following are your approved supervisors:-

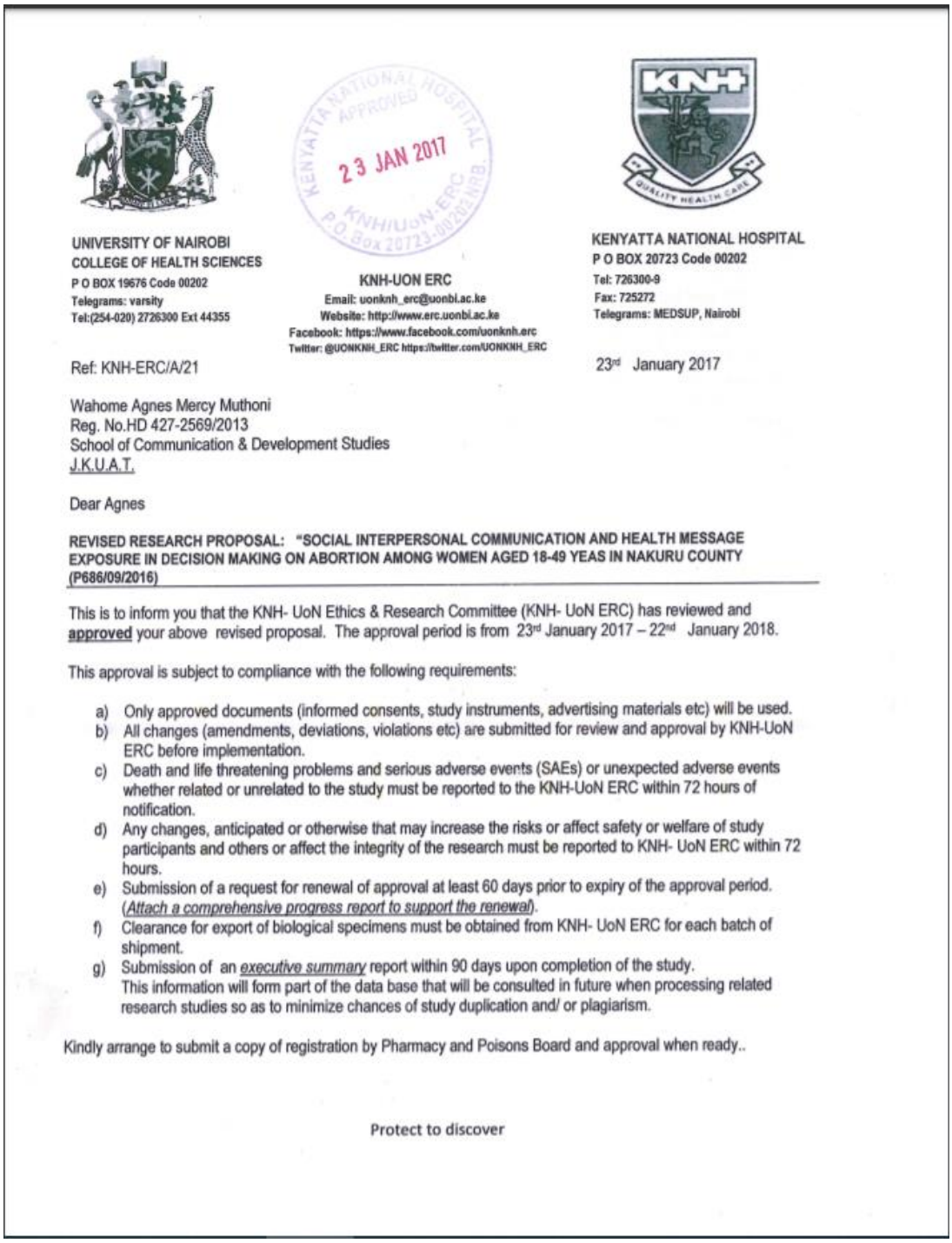
1. Dr. Hellen Mberia
2. Dr. Geoffrey Sikolia

PROF. ROBERT KINYUA
Ag. DIRECTOR, BOARD OF POSTGRADUATE STUDIES

Copy to: Dean, SCDS

JKUAT is ISO 9001:2008 certified
Setting Trends in Higher Education, Research and Innovation

Appendix IX: Ethical Approval



KENYATTA NATIONAL HOSPITAL APPROVED 23 JAN 2017 KNH/UoN-ERC P.O. Box 20723-00202 NBI

UNIVERSITY OF NAIROBI
COLLEGE OF HEALTH SCIENCES
P O BOX 19676 Code 00202
Telegrams: varsity
Tel:(254-020) 2726300 Ext 44355

KNH-UON ERC
Email: uonknh_erc@uonbi.ac.ke
Website: http://www.erc.uonbi.ac.ke
Facebook: https://www.facebook.com/uonknh.erc
Twitter: @UONKNH_ERC https://twitter.com/UONKNH_ERC

KENYATTA NATIONAL HOSPITAL
P O BOX 20723 Code 00202
Tel: 726300-9
Fax: 725272
Telegrams: MEDSUP, Nairobi

Ref: KNH-ERC/A/21

23rd January 2017

Wahome Agnes Mercy Muthoni
Reg. No.HD 427-2569/2013
School of Communication & Development Studies
J.K.U.A.T.

Dear Agnes

REVISED RESEARCH PROPOSAL: "SOCIAL INTERPERSONAL COMMUNICATION AND HEALTH MESSAGE EXPOSURE IN DECISION MAKING ON ABORTION AMONG WOMEN AGED 18-49 YEAS IN NAKURU COUNTY (P686/09/2016)

This is to inform you that the KNH- UoN Ethics & Research Committee (KNH- UoN ERC) has reviewed and approved your above revised proposal. The approval period is from 23rd January 2017 – 22nd January 2018.

This approval is subject to compliance with the following requirements:

a) Only approved documents (informed consents, study instruments, advertising materials etc) will be used.
b) All changes (amendments, deviations, violations etc) are submitted for review and approval by KNH-UoN ERC before implementation.
c) Death and life threatening problems and serious adverse events (SAEs) or unexpected adverse events whether related or unrelated to the study must be reported to the KNH-UoN ERC within 72 hours of notification.
d) Any changes, anticipated or otherwise that may increase the risks or affect safety or welfare of study participants and others or affect the integrity of the research must be reported to KNH- UoN ERC within 72 hours.
e) 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*).
f) Clearance for export of biological specimens must be obtained from KNH- UoN ERC for each batch of shipment.
g) Submission of an *executive summary* report within 90 days upon completion of the study. This information will form part of the data base that will be consulted in future when processing related research studies so as to minimize chances of study duplication and/ or plagiarism.

Kindly arrange to submit a copy of registration by Pharmacy and Poisons Board and approval when ready..

Protect to discover

For more details consult the KNH- UoN ERC website **http://www.erc.uonbi.ac.ke**

Yours sincerely,

PROF M. L. CHINDIA
SECRETARY, KNH-UoN ERC

c.c. The Principal, College of Health Sciences, UoN
The Deputy Director, CS, KNH
The Assistant Director, Health Information, KNH
The Chair, KNH- UoN ERC
Supervisors: Dr. Hellen K. Mberia, Dr. Geoffrey Sikolia

Appendix X: NACOSTI research permit

THIS IS TO CERTIFY THAT:
MS. AGNES MERCY MUTHONI WAHOME
of JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, 0-200 Nairobi,has been permitted to conduct research in *Nakuru County*

on the topic: *SOCIAL INTERPERSONAL COMMUNICATION AND HEALTH MESSAGE EXPOSURE IN DECISION MAKING ON ABORTION AMONG WOMEN AGED 18-49 YEARS IN NAKURU COUNTY*

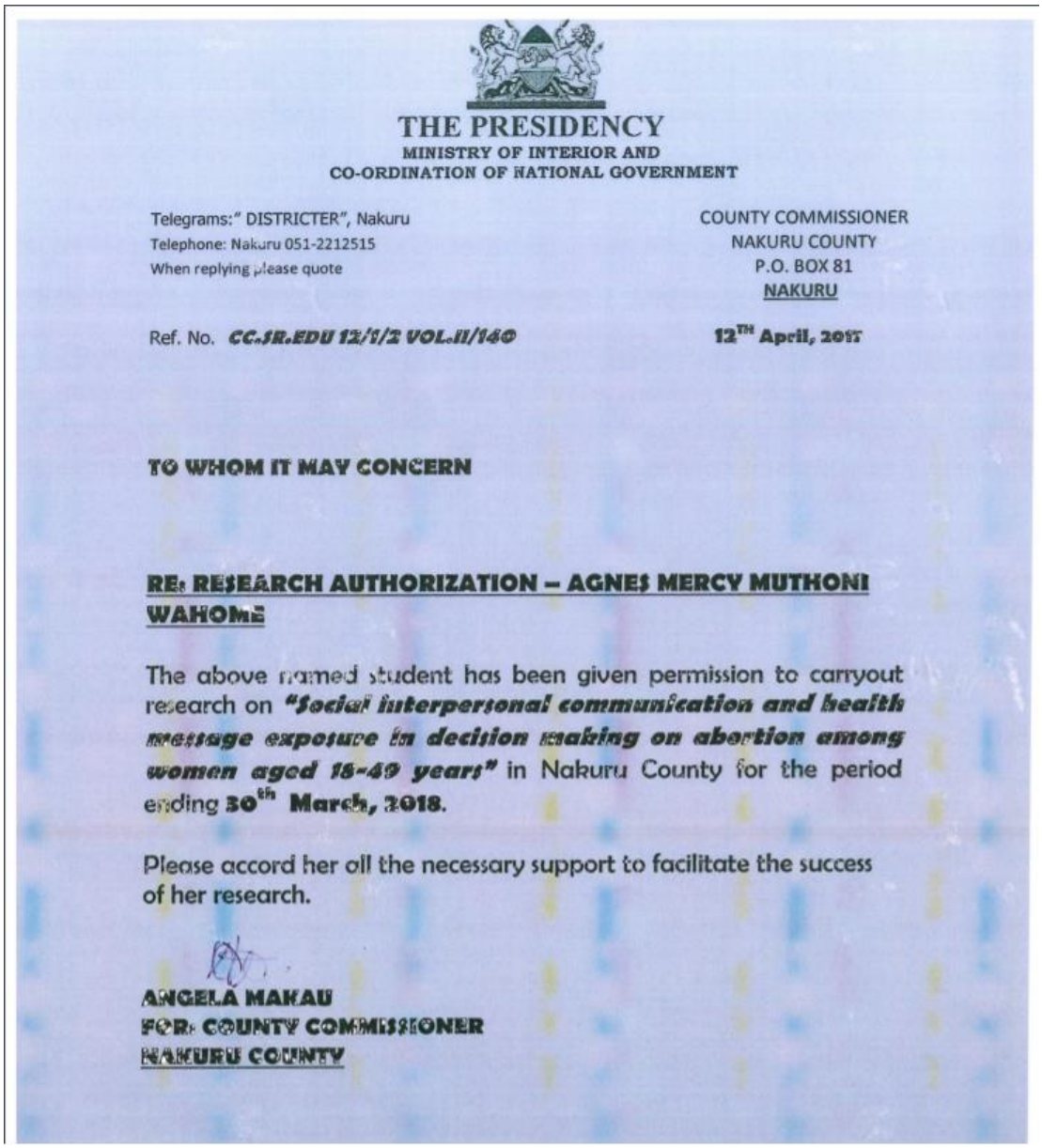
for the period ending:
30th March,2018

Applicant's Signature

Permit No : NACOSTI/P/17/53606/16123
Date Of Issue : 31st March,2017
Fee Recieved :Ksh 2000

Director General
National Commission for Science, Technology & Innovation

Appendix XI: County Commissioner authorization



THE PRESIDENCY
MINISTRY OF INTERIOR AND
CO-ORDINATION OF NATIONAL GOVERNMENT

Telegrams:" DISTRICTER", Nakuru
Telephone: Nakuru 051-2212515
When replying please quote

COUNTY COMMISSIONER
NAKURU COUNTY
P.O. BOX 81
NAKURU

Ref. No. CC.SR.EDU 12/1/2 VOL.II/140

12TH April, 2018

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION – AGNES MERCY MUTHONI WAHOME

The above named student has been given permission to carryout research on ***"Social interpersonal communication and health message exposure in decision making on abortion among women aged 15-49 years"*** in Nakuru County for the period ending **30th March, 2018.**

Please accord her all the necessary support to facilitate the success of her research.

ANGELA MAKAU
FOR: COUNTY COMMISSIONER
NAKURU COUNTY

Appendix XII: Ministry of Education authorization

MINISTRY OF EDUCATION
State Department of Basic Education

Telegrams: **"EDUCATION"**,
Telephone: **051-2216917**
Fax: **051-2217308**
Email: **cdenakurucounty@yahoo.com**
When replying please quote
Ref. NO.
CDE/NKU/GEN/4/1/21 VOL.V/54

COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY
P. O. BOX 259,
NAKURU.

11th April, 2017

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION:
AGNES MERCY MUTHONI WAHOME –
NACOSTI PERMIT NO.P/17/53606/16123

Reference is made to letter ref. NACOSTI permit No. P/17/53606/16123 dated 31st March, 2017.

Authority is hereby given to the above named to carry out research on ***"Social interpersonal communication and health message exposure in decision making on abortion among women aged 18-49 years in Nakuru County,"*** for a period ending 30th March, 2018.

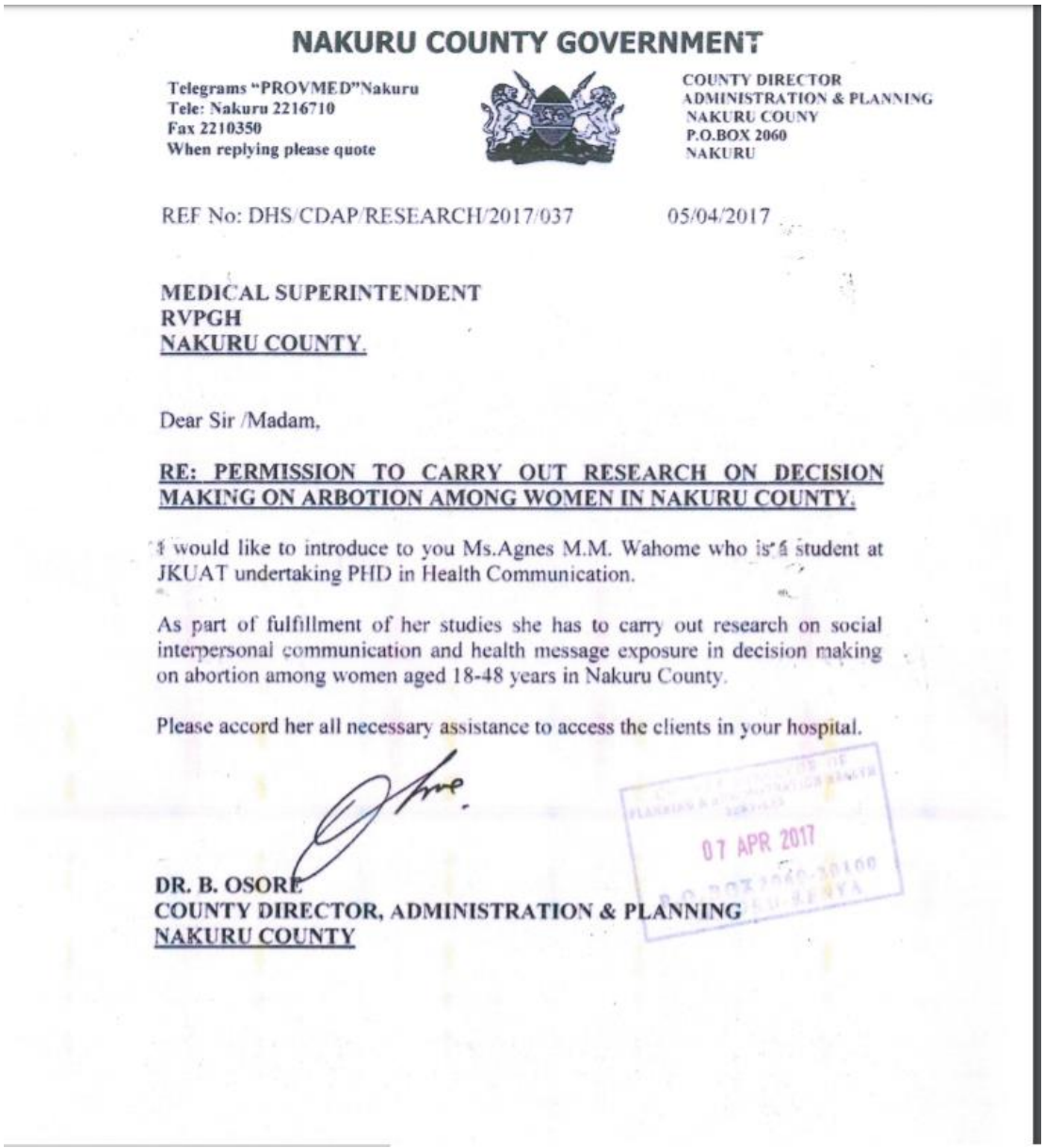
Kindly accord her the necessary assistance.

G. M. ONTIRI
FOR: COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY

Copy to:

Jomo Kenyatta University of Agriculture & Technology
P. O. Box 62000-02200
NAIROBI

Appendix XIII: Authorization by County Director of Health



NAKURU COUNTY GOVERNMENT

Telegrams "PROVMED"Nakuru
Tele: Nakuru 2216710
Fax 2210350
When replying please quote

COUNTY DIRECTOR
ADMINISTRATION & PLANNING
NAKURU COUNY
P.O.BOX 2060
NAKURU

REF No: DHS/CDAP/RESEARCH/2017/037 05/04/2017

MEDICAL SUPERINTENDENT
RVPGH
NAKURU COUNTY.

Dear Sir /Madam,

RE: PERMISSION TO CARRY OUT RESEARCH ON DECISION MAKING ON ARBOTION AMONG WOMEN IN NAKURU COUNTY.

I would like to introduce to you Ms.Agnes M.M. Wahome who is a student at JKUAT undertaking PHD in Health Communication.

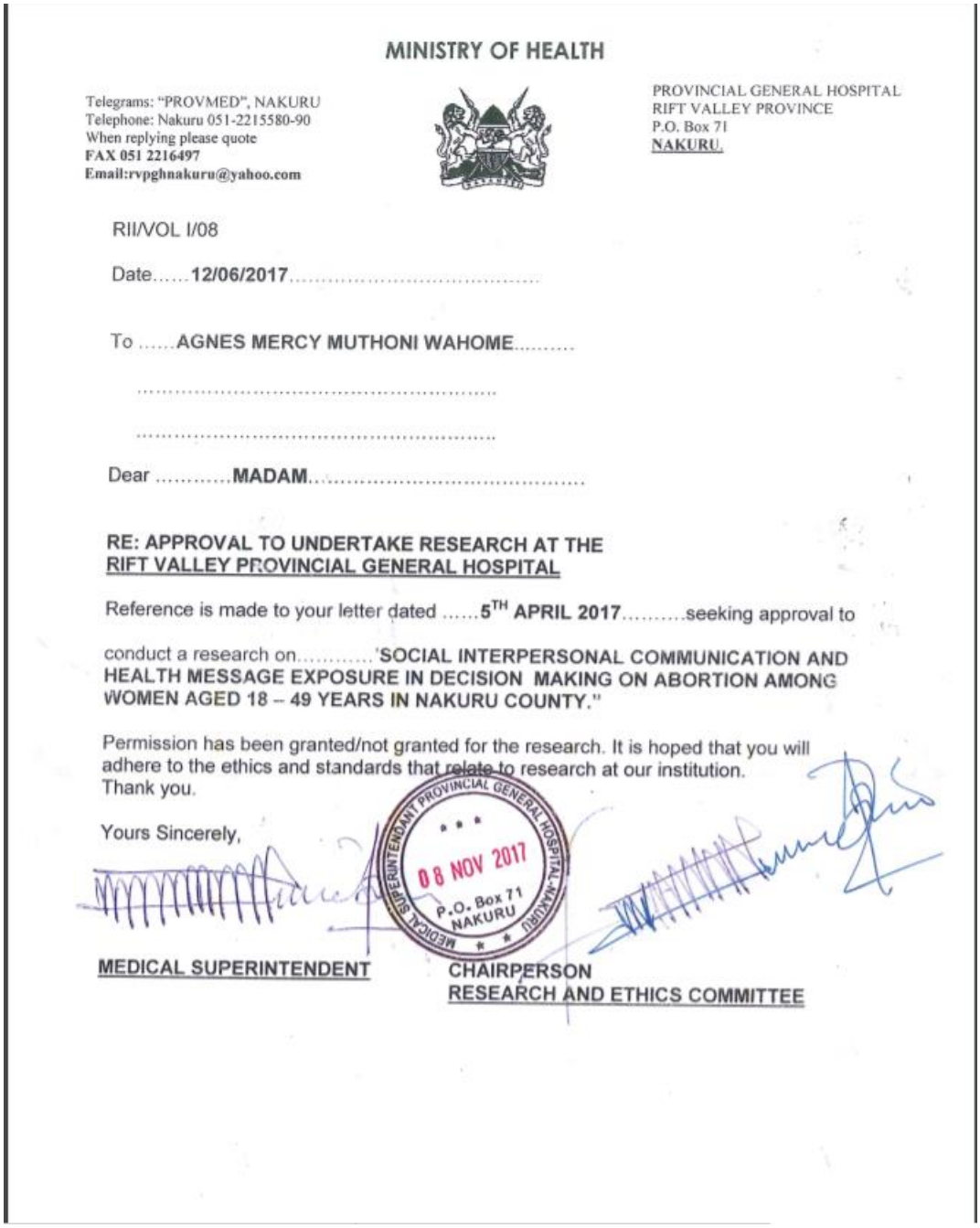
As part of fulfillment of her studies she has to carry out research on social interpersonal communication and health message exposure in decision making on abortion among women aged 18-48 years in Nakuru County.

Please accord her all necessary assistance to access the clients in your hospital.

07 APR 2017

DR. B. OSORE
COUNTY DIRECTOR, ADMINISTRATION & PLANNING
NAKURU COUNTY

Appendix xiii: County Ethical Research Committee approval



MINISTRY OF HEALTH

Telegrams: "PROVMED", NAKURU
Telephone: Nakuru 051-2215580-90
When replying please quote
FAX 051 2216497
Email:rvpghnakuru@yahoo.com

PROVINCIAL GENERAL HOSPITAL
RIFT VALLEY PROVINCE
P.O. Box 71
NAKURU

RII/VOL I/08

Date.....12/06/2017.....

To .....AGNES MERCY MUTHONI WAHOME.....

.....

.....

Dear .....MADAM.....

RE: APPROVAL TO UNDERTAKE RESEARCH AT THE RIFT VALLEY PROVINCIAL GENERAL HOSPITAL

Reference is made to your letter dated .....5TH APRIL 2017.....seeking approval to conduct a research on.....'SOCIAL INTERPERSONAL COMMUNICATION AND HEALTH MESSAGE EXPOSURE IN DECISION MAKING ON ABORTION AMONG WOMEN AGED 18 – 49 YEARS IN NAKURU COUNTY."

Permission has been granted/not granted for the research. It is hoped that you will adhere to the ethics and standards that relate to research at our institution.
Thank you.

Yours Sincerely,

MEDICAL SUPERINTENDANT PROVINCIAL GENERAL HOSPITAL NAKURU
08 NOV 2017
P.O. Box 71
NAKURU

MEDICAL SUPERINTENDENT

CHAIRPERSON
RESEARCH AND ETHICS COMMITTEE