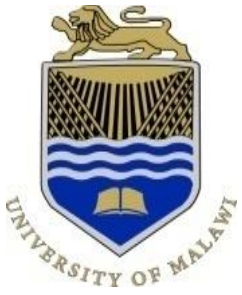


Kamuzu College of Nursing

Quality of Health Information, Education and Counselling (IEC) Services for Effective Secondary Prevention of Sexually Transmitted Infections (STIs) at Bwaila STI Clinic

By

Salome Kanyama-Njinga (Mrs)

(BSc in Nursing, University Certificate in Midwifery)

Dissertation Submitted in Partial Fulfilment of the Requirement for the award of the

Degree of Master of Science in Reproductive Health

November, 2016

Declaration

I, Salome Misozi Kanyama-Njinga hereby declare that this dissertation titled **"Quality of health Information, Education and Counselling (IEC) services for effective secondary prevention of Sexually Transmitted Infections (STIs) at Bwaila STI clinic"** is entirely my original work. This thesis has not been presented for any award at any University within or outside Africa for similar purposes. All the sources of information from other peoples work used in this study have been acknowledged and added to the list of references.

SALOME MISOZI KANYAMA-NJINGA

_____

Signature

_____

Date

Certificate of Approval

The undersigned certify that this dissertation represents the students' own work. It is therefore submitted with our approval.

Signature _____ **Date**_____

Winnie Chilemba, PhD (Senior Lecturer)

Main Supervisor

Signature _____ Date_____

Mary Kamphinda Banda, MSc. (Lecture)

Co-Supervisor

Dedication

I dedicate this thesis to my lovely husband Peter T.C. Njinga for his encouragement and support throughout the study period. To my wonderful daughters NewGlory and Nuria who have brought more joy to my life. Special thanks to my parents Mr F.T. & Mrs M.G. Kanyama, my sisters and brothers for their support and their words of inspiration during the whole study period.

May the almighty God bless you all!

Acknowledgement

I thank the almighty God for giving me good health, courage and protection during my study. I wish to thank my academic supervisors Dr. Winnie Chilemba and Mrs Mary Kamphinda Banda and Dr. Abigail Kazembe and Dr Maluwa for their input and assistance during the preparation, write up and the last phase of this report. I also thank Mr. Mwenyephiri for his assistance on statistics. Thanks to the USAID for their financial support they gave me to conduct the study.

Special thanks should also go to my husband Peter Njinga and daughters for their continued patience and prayer, my sister Tasira Mwaupighu for her support to complete the research process. Thanks to the in charge and all the STI clinic staff at Bwaila Hospital for their support during the study.

I also acknowledge the support of the library staff and my fellow students for their psychological, spiritual, material and moral support throughout the study period, in particular, Mrs Violet Liphava for the support, encouragement and keeping me company during the write up of this research work.

List of abbreviations and Acronyms

COMREC	College of Medicine Research and Ethics Committee
EMONC	Emergency Obstretric and Neonatal Care
HIV	Human Immunodeficiency Virus
HMIS:	Health Management Information System
HPV	Human Papilloma Virus
IEC	Information Education Counselling
KCN	Kamuzu College of Nursing
MDHS	Malawi Demographic and Health Survey
RHU	Reproductive Health Unit
NSO	National Statics Office
PQI RH	Performance and Quality Improvement in Reproductive Health
RTIs	Reproductive Tract Infections
SMA	Syndromic Management Approach
SPO	Structure, Process, Outcome
SPSS	Statistical Package for Social Scientists
STI	Sexually Transmitted Infections
MOH	Ministry of Health
UNAIDS	United Nations Programme on HIV/AIDS
WHO	World Health Organization
ANC	Antenatal Clinic
MSM	Men who have Sex with Men

Operational Definitions

- **Adherence:** This is defined as the extent to which a person's behaviour in terms of taking medications, following a diet and lifestyle changes, concurs with recommendations from health care provider**.**
- **Health care provider:** A health care provider is defined as a person whose job it is to protect and improve the health of their communities. In this study it will refer to a nurse, clinician or counsellor who provides IEC messages to patients at the STI clinic.
- **Secondary prevention:** Slowing the progression of a disease or its sequelae at any point after its inception.
- **Sexually transmitted infections**: Reproductive Tract Infections (RTIs) primarily spread through person-to-person sexual contact.
- **Syndromic management approach**: A multifaceted strategy for STI control that includes the recognition of symptoms by the patient and an effective treatment regime that comprehensively cover the possible etiological agents for a defined syndrome by the health care worker without the need for laboratory diagnosis
- **Quality**: The degree to which health services for individuals and population increases the likelihood of desired outcome and is consistent with current professional knowledge.
- **Quality health care**: providing health services to individuals and communities to improve health outcomes which should be compatible with the required standards
- **Peer education**: Is the teaching or sharing of health information, values and behaviour in educating others who may share similar social backgrounds or life experiences.

Abstract

Sexually Transmitted Infections (STIs) are preventable, though the public continue to be infected and increase reproductive health morbidity and mortality in Malawi. The purpose of this study was to explore and describe the quality of Information, Education and Counselling (IEC) services provided to STI patients at Bwaila hospital in Lilongwe District. A descriptive quantitative design was utilised. The participants were recruited using systematic random sampling method and a total of 384 STI participants were recruited to participate in the study. Data were collected using semi structured questionnaire and observational checklists and analysed using Statistical Package for Social Science (SPSS) version 20.Relationship between variables was established using cross tabulations and Chi-square tests (χ^2).

The quality of IEC services provided to clients attending the STI clinic was sub-standard. This was attributed to inadequate structures and provider practices during provision of IEC. On average, the facility scored 59% on IEC services rendered which is far below the recommended 80% to be regarded as providing quality IEC services. Many participants (65.4% n=251) were not informed about the type of STI they are infected with and acquired limited knowledge on STI signs, symptoms, transmission, complications, prevention, partner notification and return visit. The attendance of group IEC was significantly associated with acquisition of knowledge on STI transmission (χ^2=273.347, df=3, p value=0.000) and time adequacy opinion (χ^2= 271.806, df=1, p value=0.000). Infrastructure renovations, increasing staff, development of protocols, refresher courses emphasising on IEC messages and interpersonal communication skills are some of the strategies which could improve provision of IEC.

Key words: Sexually Transmitted Infections, Information Education Communication, Quality.

Table of Contents

Declaration i
Certificate of Approval ii
Dedication iii
Acknowledgement iv
List of abbreviations and Acronyms v
Operational Definitions vi
Abstract vii
Table of Contents viii
List of Appendices x
List of Figures xi
List of tables xii
Chapter one 13
1.0 Introduction and background 13
1.1 Introduction 13
1.2 Background 14
1.3 Problem statement 21
1.4 Justification of the study 22
1.5 Aim of the study 23
1.6 Specific Objectives 24
Chapter two 25
2.0 Literature review 25
2.1 Introduction 25
2.2 Overview of the quality of care framework and its application to the study 27
2.3 The structural attributes of quality 31
2.4 Process attributes of quality 35
2.5 The outcome attributes of quality 61
2.6 Summary of literature review 62
Chapter three 64
3.0 Research design and methodology 64
3.1 Introduction 64
3.2 Research design 64
3.3 Research Setting 64

3.4 Study population 65
3.5 Recruitment strategy 67
3.6 Sampling 68
3.7 Data collection 69
3.8 Data analysis process 74
3.9 Ethical considerations 76
3.10 Summary 77
Chapter four 78
4.0 Presentation of results 78
4.1 Introduction 78
4.2 Demographic characteristics of participants 78
4.3 Structure quality attributes of IEC 80
4.4 Provider practices during IEC 81
4.5 Outcome attributes of quality 92
4.6 Summary 93
5.0 Discussion 94
5.1 Introduction 94
5.2 Demographic characteristics 94
5.3 The structure and its verification criteria 98
5.4 The provider practices and verification criteria 102
5. 5 The outcome and its verification criteria 139
5.6 Summary 140
5.7 Study limitations 141
5.8 Conclusion 142
5.9 Recommendations 143
6.0 References 147
7.0 Appendices 161

List of Appendices

Appendix A: Participants information letter.....161

Appendix B: Participant's consent form.....164

Appendix C: Kalata yolongosola za kafukufuku.....166

Appendix D: Kalata ya chivomerezo.....169

Appendix E: Checklist 1 for structure quality.....171

Appendix F: Observationalchecklist 2 for care provider practices (process quality).....172

Appendix G: Questionnaire for STI patients.....174

Appendix H: Mafunso a mukafukufuku.....180

Appendix I: Certificate of approval from COMREC.....186

Appendix J: Letter of permission for pre-testing at Kamuzu Central Hospital.....187

Appendix K: Letter of permission to conduct the study at Lilongwe DHO.....188

List of Figures

Figure 1: A Modified Conceptual Framework of Quality Care by Avedis Donabedian 29

Figure 2: Proportion of STI clinic visits by gender of respondents 80

Figure 3: Reasons for not attending group IEC 85

Figure 4: Medical Supplies 89

Figure 5: Time taken during counselling 91

List of tables

Table 1: Social demographic characteristics of participants.....79

Table 2: Structural quality attributes index.....81

Table 3: Group IEC attributes index.....82

Table 4: Individual IEC attributes index.....83

Table 5: Type of IEC provider.....84

Table 6: Proportion of participants who received IEC messages on selected areas.....87

Table 7: Medication compliance instructions.....88

Table 8: Referred places.....90

Table 9: Satisfaction with different areas of IEC.....92

Chapter one

1.0 Introduction and background

1.1 Introduction

Sexually Transmitted Infections (STIs) are very common and important Reproductive Tract Infections (RTIs) in Malawi as well as globally. STIs are primarily spread through person-to-person sexual contact. There are more than 30 different STIs transmitted by bacteria, viruses and parasites. The Centre for Disease Control (CDC) and Prevention (2013) reported that the most common STIs are eight and these are; Syphilis, Gonorrhoea, Hepatitis B, Chlamydia, Trichomoniasis, Herpes, HIV and Human Papilloma Virus (HPV). Syphilis is the commonest among antenatal mothers. Others are chancroid and genital warts. HIV and syphilis can also be transmitted from mother to child during pregnancy as well as childbirth through blood products and tissue transfer.

Hospitals or clinics which provide STI services provide important opportunities for reaching those infected with prevention messages and equip the patients with information to promote safer sex and personal prophylaxis through counselling, contact tracing and condom promotion that are vital to STI patients as well as their sexual partners. These settings also act as an entry point for HIV prevention, detection and referral for proper management.

Health Information Education and Counselling (IEC) is one of the components in Syndromic Management Approach (SMA) in the management of STI patients as well as one of the standards which have to be met when managing STIs according to Reproductive Health

Standards (RHS) in Malawi. Clinic based IEC targets all STI patients. During consultation, the health care practitioner provides health education and counselling services with the aim of preventing re-infection to the patient, prevent further transmission of STIs, facilitating behaviour change and encourage treatment of partners. Furthermore, health education increases necessary knowledge, attitudes and awareness of STI and HIV upon which to make decisions, promote acceptance, use the preventive measures and encourage individuals to adopt and sustain safer sexual behaviour in preventing STIs and promoting sexual health (WHO, 2010).

1.2 Background

Globally, new cases of curable STIs (syphilis, gonorrhoea, Chlamydia, and trichomonias) were estimated at 499 million in 2008 (WHO, 2012). This figure is not much different from the estimated 448 million cases in 2005 (WHO, 2012). It is reported that, young people aged between 15 – 24 accounts for half of the STIs that occur annually (CDC, 2013). In 2011, data reported by 22 countries through the *Global AIDS Response Progress Reporting* (GARPR) indicates that 95% of pregnant women tested positive for syphilis, and 27 countries reported treating at least 95% of pregnant women who tested sero-positive for syphilis. Furthermore, through the same report, it showed that in 2012, 58 countries who reported on percentage of Antenatal Clinic (ANC) attendees who were tested for syphilis at the first visit indicated that 22 reported greater than 95% of ANC attendees had been tested for syphilis (UNAIDS, 2012; WHO, 2013). Muual & Geubbels (2007) indicated that a community based prevalence study in Malawi found that the prevalence of Chlamydia was 4% in women and 4.4% in men. Surveillance data continues to show that numbers and rates of reported Chlamydia and gonorrhoea cases are highest between the ages of 15 and 24. Trend data between 2005 and 2013

show that Men who have Sex with Men (MSM) account for three quarters (75%) of all primary and secondary syphilis cases (WHO, 2013).

The sub-Saharan Africa has reported the highest rate of new STI cases per 1000 population. WHO (2010) reported that in sub Saharan Africa alone, it is estimated that about 69 million new cases of STIs occur per year in a population of 269 million adults aged 15-49 years, resulting in an incidence rate of 256 per 1000. Almost 70% of people living with HIV worldwide live in sub-Saharan Africa (UNAIDS, 2012). The report further indicated that, in 2011 alone, there were an estimated 23.5 million people living with HIV in Sub-Saharan Africa. This has increased since 2009, when it accounted for 68% (estimated 22.5 million people) of global HIV infections, 68% of new adult HIV infections, 92% of new infections in children and 72% of all AIDS-related deaths. There were 1.2 million deaths due to AIDS in 2011 compared to 1.8 million in 2005 (UNAIDS, 2012). The increase in people living with HIV is partly due to the decrease in AIDS-related deaths in the region especially due to the availability of Anti-retroviral (ART) drugs and improved management of HIV and AIDS cases in the region (UNAIDS, 2012). In addition, HIV Testing and Counselling (HTC) treatment initiation has tripled uptake of HIV treatment in Malawi (Aids map.com, 2013).

STIs are an important cause of morbidity and mortality in Malawi and globally if they remain untreated (Bowie, Muula & Geubbels, 2009; Bowie, et al, 2006). CDC (2010) reported that HPV accounts for the majority of newly acquired STIs and although most of them will go away on their own within two years and cause no harm, some may lead to serious complications or diseases including cervical cancer. On the other hand, for example, undiagnosed and untreated Chlamydia or gonorrhoea can put a woman at increased risk of chronic pelvic pain, ectopic

pregnancy and can increase a woman's chance of infertility. WHO (2007) reported that up to 35% of pregnancies among women with untreated gonococcal infection result in spontaneous abortions and premature deliveries and up to 10% in prenatal deaths.

In addition, congenital syphilis is responsible for serious adverse outcomes during pregnancy, delivery, and the neonatal period, including stillbirths and neonatal deaths. WHO (2012) estimates that in 2008 approximately 215 000 stillbirths (at >28 week) or early fetal deaths (at 22 to 28 week), 90 000 neonatal deaths, 65 000 cases of prematurity or low birth weight, and 150 000 infections in new born occurred as a result of the estimated 1.4 million syphilis infections among pregnant women. Another study done in Mwanza, Tanzania, documented the impact of syphilis on pregnancy outcome, which showed that syphilis was responsible for 50% of the still births in the town, and that a pregnant woman with active syphilis had a 49% chance of an adverse pregnancy outcome (Mabey, Ndowa & Ahmed, 2010). Other serious complications and life threatening conditions are anal-genital cancer and ophthalmic neonatorum in infants. Therefore, failure to diagnose and treat STIs at an early stage may result in many complications as indicated.

Individuals may be at risk of STIs for a variety of reasons. Adolescents are at the centre of the STIs including HIV/AIDS crisis in Malawi (National Statistical Office (NSO), 2011). Various studies show that most young people in Malawi initiate sex at young ages before they get married and that condom use is very low particularly among adolescents and married people. Jackson, Johnson, Gebreselassie, Kangaude, & Mhango (2011) reported that by age of 15–19 years, 37% of adolescent girls and 60% of adolescent boys have had sexual intercourse and 15% of young women (age 15-24) and 14% of young men reported having had sex by the age of 15, only 16% of these young women and 26% of boys used a condom at first sex. In a study

conducted by Chimbiri (2007) in Lilongwe and Blantyre cities, it was found that condom is an intruder in many marriages more especially in rural Malawi. The study noted that the use of condoms is much lower among married men and women compared with their sexually active, single counterparts, probably because of the common belief that condoms are meant for unstable sexual relationships and using them within marriage brings tensions and suspicions about unfaithfulness.

STI infections originate with an infected individual, and some people who know their status continue to practice risky sexual and continue the transmission. Sexual behavior change is needed for secondary prevention of STIs. Secondary prevention has been defined as slowing the progression of a disease or its sequelae at any point after its inception. It aims at reducing the impact of a disease or injury that has already occurred and to reducing rates of re-infections among STI patients. A consultation for an STI provides a unique opportunity for the health workers to provide health information since individuals who have acquired the STI or are at risk for these diseases need adequate information on issues related to secondary prevention and treatment of STI/HIV. Secondary prevention can be promoted through provision of information about STI transmission and prevention, for example, avoid multiple sexual partners, condoms use and abstinence prevent STI/HIV transmission (Dave, Stephenson, Mercey, Panahmand, & Jungmann, 2006). Motivating STI patients to practice prevention measures and have favourable attitudes toward practicing specific behaviours (for example, condom use and secondary abstinence). Secondary prevention can also be promoted through imparting knowledge on behavioral skills for STI prevention (for example, condom demonstration, safer sex negotiation skills).

However, just providing information is usually not sufficient to allow patients to accurately assess their own risk of infection or to deal with life challenges to prevent future infections or deal with complications of STI. Therefore, to deliver more than just education, counselling is also needed (WHO, 2007). Counselling is defined as an interactive confidential process where a care provider assists a patient in reflecting on issues that put him/her at risk of STIs and in exploring possible lines of action. Health workers need to discuss or explore with the patient, on a one-to-one basis, the risk factors for HIV/STI effectively and efficiently. This is an essential part of the STI consultation.

The government of Malawi (GOM), in collaboration with its development partners adopted and started implementing the Syndromic Management Approach (SMA) for management of STIs as recommended by the World Health Organisation (WHO, 2007). STI syndromic management approach is defined as a multifaceted strategy for STI control that includes the recognition of symptoms by the patient and an effective treatment regime that comprehensively cover the possible etiological agents for a defined syndrome by the health care worker without the need for laboratory diagnosis (WHO, 2007). SMA was adopted to promote care of STI patients SMA comprises of identification of the syndrome, treatment for the syndrome, education of the client, condom provision, HIV testing and counselling and adequate notification and management of sexual partners. Appropriate and proper implementation of each component is equally important to ensure success of the SMA in reducing cases of STIs.

Quality health care is the provision of health services to individuals and communities to increase the likelihood of desired health outcomes which are consistent with current standards and professional knowledge (Booth, Snowdon & Lees, 2005). In other words, quality is the

degree to which health services for individuals and population increases the likelihood of desired outcome and is in consistent with current professional knowledge or is the cumulative result of the interactions of people, individuals, teams, organisations and systems. Good quality health services are those which, among others, are readily accessible; are safe, effective, and acceptable to potential users and are staffed by technically competent people; provide prompt comprehensive care and/or linkages to other reproductive health services; provide continuity of care, and where staff is helpful, respectful and non-judgmental. Quality health care ensures that health services are safe, effective, patient centred, timely, efficient and equitable while meeting the needs of clients through achievement of predetermined goals or standards. Quality IEC in the post STI infection is the most important intervention for prevention of secondary infections. Poor quality IEC services during this period often lead to treatment failure, re-infections and increased susceptibility to serious complications of the reproductive system.

For the purpose of this study quality of IEC at the STI clinic was measured based on Structure, Process and Outcome (SPO) model of quality assessment which was developed by Avedis Donabedian in 2003. In addition, quality was measured by using the Malawi Performance and Quality Improvement in Reproductive Health (PQI RH) standards. The SPO model, describes a holistic approach in assessing quality care focusing on structure, process and outcome while the PQI RH standards stipulate key areas to be assessed in a health facility to ensure quality services at a national level. The PQI RH standards involve observing health-care provider adherence to clinical performance standards during service delivery. Thus, the PQI RH standards empower health-care managers and providers to assess and address gaps between actual and desired performance at their facility (Necochea & Bossemeyer, 2005).

Ministry of Health (MOH) Malawi, (2008) indicated twelve areas to be assessed under the quality improvement programme in reproductive health. This study was concerned with two areas under this programme, namely; STI and IEC. Area number 12 of PQI RH standards highlights about the assessment of IEC and community participation (service area) and provision of quality IEC is guided by five standards of which standards number two and five are applicable to this study and will also be assessed at the STI clinic under study. Standard number two stipulates that the facility/clinic manager should ensure availability of IEC materials and IEC standard number five stipulates that the health educator should correctly deliver group health education activities. Furthermore, area number 10 of the PQI RH standards highlight about the assessment of STI SMA (service area) and quality of STI SMA is guided by five performance standards concerned with individual case management of STIs. Standard number one explains about STI clinic preparation for attending patients while standard number two, three and four explains about individual patient assessment, individual IEC and management of presented syndromes respectively.

The performance standard number 3 out of the listed STI SMA standards highlights more on individual IEC that should be given to the patient/client at STI clinic and the performance indicators (verification criteria) to measure the quality of this standard include;

1. Discusses findings with the client including, nature of the infection/ diagnosis, risky behaviours that increase transmission and acquisition of STIs.
2. Educates patients about modes of STI transmission, signs and symptoms of the infection as well as possible complications.

3. Explains about patients increased risk of acquiring and transmitting HIV and explains important of HCT.
4. Encourages client to go for HCT and refers the patient for HCT services and other services accordingly.
5. Counsels and emphasises on the importance of treatment compliance and instructions to increase treatment effectiveness (partner notification and treatment counselling). Counsels patient on preventive measures (abstaining, condom counselling and demonstration).

However provision of IEC at STI clinic requires proper clinic readiness for the tasks involved in terms of availability of human and material and maintenance of audio visual privacy to maintain the quality of IEC services. Therefore, clinic readiness is another standard that will be measured apart from group IEC activities and individual IEC activities (MOH, 2008).

1.3 Problem statement

STI rates can be reduced in instances where individuals have the necessary information, skills and are motivated to comply with preventive measures. Provision of health Information, Education, and Counselling (IEC) is a strategy known to promote access to health information and public awareness on issues relating to the STIs. It is believed that increased public awareness facilitates involvement, participation and promotes activities which will foster health and encourage people to want to be healthy. In Malawi, the concept of IEC is promoted through SMA at STI clinics (Malawi STI Guidelines, 2007). The SMA guidelines recommend that all STI patients should be properly educated and counselled on the nature of the disease and

prevention strategies, offered HIV counselling and testing (HCT) unless opted out and that partner referral and treatment should be encouraged during STI consultation.

Although STIs cause increased disease burden and constitute a huge economic burden for developing countries which is related to high medical costs, absenteeism from work due to clinic attendances, increased morbidity and mortality, little is done on the secondary prevention of STIs. Despite the availability, accessibility and affordability of STI clinics in Malawi the researcher observed that some individuals report with re-infections. In addition, despite various proposed messages of health education interventions promoted in the SMA guidelines and STI SMA standards, there has not been a major focus on IEC services in management of STI patients in many STI clinics. Without the proper IEC, patients usually lack skills, forget and will continue to have limited knowledge on STI/HIV signs and symptoms including preventive measures and may continue the transmission of STIs and HIV and rates of re-infection will remain high.

The quality of IEC provided in STI clinics is not known due to lack of published evidence. This has necessitated the need for an inquiry into the quality of IEC services at Bwaila hospital STI clinic.

1.4 Justification of the study

The findings of this study uncovered the context in which IEC is provided, how it is provided and its adequacy at the STI clinic. The gaps identified enabled the researcher to contribute towards recommendations to inform strategies that can help in improving the practice of providing IEC services at STI clinics. Improved IEC may have a positive impact on reduction of STI/HIV morbidity and mortality in Lilongwe District. Specifically, IEC will have positive

impact among STI patients in promoting behavior change and reduce the behaviour of having many sexual partners, being faithful to one sexual partner, may promote secondary abstinence and adherence to use of condoms.

Since access to proper health information at STI clinics promotes adoption of appropriate sexual behaviours that may prevent further acquisition of STIs among STI patients. Promotion of IEC activities may also be significant to the nations' economy, especially to the health sector as it minimises STI complications and expenditure on drugs spent on treating the complications. The study results may also have an influence on in-service education for health workers in regard to implementation of IEC activities at health facility level. This may enable the health providers to understand the need for IEC among patients seeking care at the STI clinic, especially to focus on the patient's needs when communicating health information.

Furthermore, the information generated from the study may be utilized by health care managers for proper supervision to ensure delivery of quality IEC services. In addition, the study findings will form a base for other national research studies.

1.5 Aim of the study

The aim of the study was to explore the quality of health education and counselling services provided to STI patients at Bwaila hospital in Lilongwe District.

1.6 Specific Objectives

The specific objectives for the study were to:

1. Assess the availability and usage of resources (human and material) for health education and counselling purposes.
2. Assess health care provider practices during IEC service provision at the STI clinic.
3. Assess STI patients' opinion on satisfaction with IEC services received at Bwaila STI hospital.

Chapter two

2.0 Literature review

2.1 Introduction

This section presents a review of literature relevant to the study. Literature review is a crucial task for researchers because it provides readers with a background and an understanding of the current knowledge on the topic under study and its significance (Polit & Beck, 2010). It involves a systematic, comprehensive and thorough search of information. It focuses on critiquing studies conducted by different researchers in relation to the topic under study. In addition the search engines and search questions used are outlined.

The search engines used in this study included; Hinari, Pubmed open access, Elsevier Science Direct, Google Scholar and Biomed. The published and unpublished studies pertaining to IEC, STI were reviewed to gather information relating to IEC at STI clinics. The study objectives and the research questions helped to generate more information and appropriate information. The search for articles was limited to articles published in English. The terms used to find the articles included; quality of STI management AND health information; quality of STI management AND counselling; quality of STI management AND health education; clinical health education AND structural attributes; clinical counselling AND structural attributes, clinical IEC AND structural attributes; clinical health education AND resources, clinical counselling AND resources; clinical IEC AND resources; health education AND STI; counselling AND STI; IEC AND STI; health education AND STI related knowledge; counselling AND STI related knowledge; IEC AND STI related knowledge; health education

AND clients perception at STI clinics; counselling AND clients perception at STI clinic; STI management AND clients perception of STI care; STI management AND barriers OR challenges for accessing STI treatment; prevention messages AND STI clinics.

Quality health care means providing health services to individuals and communities to increase the likelihood of desired health outcomes which are consistent with the current standards and professional knowledge (Donabedian, 2003; Brawley, 2008). According to Malawi National Reproductive Health Standards (2008) quality implies the extent to which care, resources and services correspond with the standard of services in a particular country. The conceptual framework used in the study identifies three concepts of quality as; structure, process and outcome.

The three components of SPO guided literature review. The structural component which included the availability of IEC infrastructure, availability and usage of staff, availability of equipment and supplies such as IEC instruments, male and female condoms, partner notification cards and condom demonstration models for health education and counselling purposes. The process quality variables included; ways of providing IEC, completeness of messages provided, HTC provision, condom counselling and interpersonal communication skills of counsellors. Outcome quality variables included patient's opinion on satisfaction with the content provided during IEC.

2.2 Overview of the quality of care framework and its application to the study

Quality health care ensures that health services are safe, effective, patient centred, timely, efficient and equitable while meeting the needs of clients through achievement of predetermined goals or standards. This study was guided by the Structure, Process and Outcome (SPO) model of quality assessment which was developed by Avedis Donabedian in 2003. The frame work uses three related concepts namely, Structure of health care, Process of patient care and Outcome of patient care (SPO). According to Donabedian (2003), the model describes a holistic approach in assessing quality care focusing on structure, process, and outcome as such quality of care can be measured by evaluating the concepts of the framework. This model has been chosen because it describes all the important components and elements of the health care delivery system that are essential in quality care.

Structure refers to the conditions of settings under which care is being provided. It involves material resources such as basic infrastructure, human and material resources, organizational characteristics such as presence of teaching and research functions as well as policies, guidelines and protocols. Higher quality care is expected when staff is clear about their roles and responsibilities and there are strategies for monitoring adherence to recommended procedures (Donabedian, 2003). The context in which care is delivered affects processes and outcomes. For example, if the place where care is being delivered is unpleasant people will not come to seek for the service, as a result patients will not receive the care (Donabedian, 2003).

Process, refers to what is actually done in providing and receiving health care. It involves the actual activities, procedures and programmes that take place. Therefore, each organization

should have enough skilled personnel to provide quality care. The process requires knowledge that may not come naturally for example, for one to be able to perform procedures there is a need for training. Health workers need good interpersonal skills with patients in order to have a good process. Process of care is the main focus of this model because it assesses whether a patient received what is known to be good care (Donabedian, 2003).

Outcomes are desirable or undesirable changes in individuals attributable to the care they received. It can be in health status, behaviours of patients, an improvement in symptoms or mobility as well as satisfaction of patients and their families. It also encompasses intended outcomes such as relief of pain and unintended outcomes such as complications. Health outcomes are dependent on the care provided and it matters most (Donabedian, 2003). The elements of Donabedian's model of quality assessment have been summarised in figure 1.

Figure 1: A Modified Conceptual Framework of Quality Care and its elements adapted from Avedis Donabedian, 2003

According to Donabedian (2003), the three concepts of the quality framework are interrelated in a way that process is influenced by the setting and structural factors in which care is provided while outcome is dependent on processes in patient care. If the available structure is not conducive and inadequate, the process will be of poor quality. If , for example, there is lack of materials such as IEC guidelines, or IEC support materials for providing information it means that delivery of information will be affected. Similarly, the information delivered will affect the outcome in such a way that if inadequate information is delivered the recipients will be dissatisfied and it will have a negative impact on their health.

In this study the concepts of Donabedian Conceptual framework have been used to measure the quality of IEC at the STI clinic under study. Different kinds of information were obtained based on the concepts on which one can infer whether quality is good or not. Some of the information obtained was on the availability of infrastructure, availability of staff, equipment and supplies such as IEC materials, male and female condoms, the condom demonstration models for IEC purposes. The process quality attributes included; provisions for group IEC and/or individual IEC, STI messages provided, completeness of IEC information, distribution of supplies to patients and interpersonal communication skills demonstrated.

The SPO model can be used together with the Model for Improvement called Plan-Do-Study-Act (PDSA), developed by Associates in Process Improvement (Langley, Moen, Nolan, Nolan, & Norman et al., 2009). The model provides a framework to guide improvement in different health care processes and outcomes and accelerate work. The model does not replace other models for quality improvement hence it can be used with the already existing models. On the other hand SPO model can be compared with a four-level model by Ferlie & Shortell (2001)

in which the health care system is divided into four nested levels namely: the individual patient; the care team, which includes professional care providers (clinicians, pharmacists, and others), the patient and family members; the organization (hospital, clinic, nursing home, etc.) that supports the development and work of care teams by providing infrastructure and complementary resources; and the political and economic environment (regulatory, financial, payment regimes, and markets) including the conditions under which organizations, care teams, individual patients and individual care providers operate.

2.3 The structural attributes of quality

Structure refers to the conditions of settings under which care is being provided. It involves conditions such as basic infrastructure, human and material resources, organizational characteristics such as presence of teaching and research functions as well as policies, guidelines and protocols. The context in which care is delivered affects processes and outcomes.

2.3.1 Infrastructure

Proper structures are crucial in clinical practice for provision of quality health services. The national reproductive health standards in Malawi (2008) stipulate that an important aspect in the provision of quality reproductive health service is the facility dependent characteristics. WHO and UNAIDS (2007) state that adequate clinical infrastructure that include adequate counselling rooms which are spacious and provide visual and auditory privacy are critical for HIV counselling. However literature has shown that this is a challenge for many countries. Nuwagaba-Biribonwoha, Mayon-White, Okong, & Carpenter (2007) in their study in Uganda found that shortage of space for counselling eventually compromised counselling privacy and

confidentiality. Further in support of this notion, are findings from a qualitative study conducted in British Columbia in Canada on service providers at STI clinic who expressed concern over the main scarcity issues such as, limited physical space shortage of material resources and staff during interviews (Masaro, Johnson, Chabot, & Shoveller, 2012). Similarly, Moore, Palmer, Anderson-Allen, Billings, & McDonald-Kerr, (2008) in Kingston Jamaica and Nguyen, Oosterhoff, Pham, Hardon, & Wright (2009) found lack of physical space as a challenge that prevents provision of proper services. Similar findings were also noted in a study conducted by Phrasisombath, Thomsen, Sychareun, & Faxelid, (2012) in Laos where it was found that the main barriers to service use were inconvenient location of the clinic and not knowing where to get the services needed. The participants for the former study were care providers in the later study were female sex workers, however, both found deficits in the infrastructures for delivery of STI services. This shows that the clinical infrastructures for proper IEC are usually not available. Hence, this study also assessed the quality of infrastructures at the STI clinic.

The good physical environment contributes to the patient/client being psychologically at ease and ready to actively participate in the counselling process and facilitate effective communication. These studies demonstrate that the clinic infrastructure can be helpful in improving the clinical practice for provision of quality IEC services. Poor infrastructure has been identified in most STI clinics hence the need to explore the situation at the chosen study clinic.

2.3.2 Human resources

Human resources in particular, are very important in the provision of IEC and other services at STI clinics because they are the implementers of programmes. Health facilities should

have adequate staff which are familiar with the service guidelines, protocols, and standards which form a knowledge base for provision of a comprehensive service. According to HIV counselling and testing guidelines for Malawi, one counsellor is expected to conduct eight counselling sessions per day (MOH & NAC, 2003). However, this is not always possible as indicated by the guidelines about nurses' shortage in which 26 nurses provide care to every 100,000 people. A study by Muzombwe (2015) conducted at Queen Elizabeth Central Hospital in Blantyre, Malawi also found that nurses did not communicate health information due to shortage of nursing staff and increased workload among others. Based on findings by Muzombwe it was recommended that there was need for more staff to provide adequate information. A study conducted in United States of America (USA) by Buerhaus et al. (2007) reported that there were increased communication problems due to nursing shortage. Having adequate staff to provide IEC to STI patient/clients improves provision of comprehensive STI information. Another study conducted in Sweden showed that increased workload plays a part in the quality of health information provided (Ringnér, Jansson & Graneheim, 2011). Shortage of staff creates a gap for provision of IEC activities since adequate personnel is not available for tasks. Limited staff prevents providers to spend more time and build rapport with patients which may result in inadequate communication of heath information and affect proper decision making among STI patients. Hence, the need to explore the staff numbers at the clinic.

2.3.3 Equipment and supplies

Adequate resources with an uninterrupted supply assist in provision of comprehensive STI services. Availability of material resources can be used as an indicator for monitoring and evaluation of the quality of care services (Bradley & McAuliffe, 2009). This notion is supported

in the study conducted by Metcalfe (2007) in Malawi where the results revealed that during a three months period of unavailability of condoms, the incidence of urethral discharge increased and when condoms were provided in the same population for another three months, the incidence of urethral discharge declined. This study shows that uninterrupted supply of condoms may have a positive role in the reduction of STIs, therefore, condom counselling and provision is very essential.

Kazembe (2014) and Phiri (2010) in their studies conducted in southern Malawi found that the majority of the STI clinics under study had no IEC materials. The only difference was the former study was carried in an antenatal clinic while the later was carried out at STI clinic. However, Pelesi (2007) in a study on assessment of the quality of STI services in Johannesburg found that many clinics had IEC materials. Although there were many IEC materials, over 60% of these IEC materials were not in local language. When IEC materials are not used in IEC activities, patients usually forget and will continue to have limited knowledge of STI/HIV messages that the IEC materials might have carried. Therefore, patients may continue the transmission of STIs/HIV and rates of re-infection in the population remain high. From these studies it is learnt that improving supply of material resources could assist in the provision of comprehensive IEC services.

2.3.4 STI guidelines

Basing on literature review STI guidelines, standards and protocols are important materials which ensure standardized clinical services. STI consultation rooms should have current STI syndromic case management guidelines otherwise quality might be compromised.

Sibanda et al. (2012) in a study that aimed to assess the Zimbabwe Ministry of Health counselling programme found lack of operational guidelines in facilities which offered HTC. Lack of STI/HIV and IEC guidelines in places where IEC activities are offered affects provision of information. Furthermore, Chimtembo, Maluwa, Chimwaza, Chirwa, & Pindani, (2013) in their study in Dedza, Malawi found that supervision and follow-up assessment of guidelines use by health care providers was rarely done. The study also revealed that 6 months prior to the study, 81% of the midwives had not been visited by their supervisors while 17% of the participants were visited once and 2% were visited twice during the last six months prior to the study. The only difference was that the former survey was carried out in different facilities which offer HTC while the later study was carried out in one facility. Guidelines and supervision provides health providers with checks and balances in relation to implementation of standards of care. Thus, supervision allows providers to improve on their clinical practices and provides an avenue for supervisors to provide support where necessary, hence leads to staff motivation.

2.4 Process attributes of quality

The process involves the actual activities, procedures and programmes that take place. During provision of IEC many activities take place. The process requires knowledge that may not come naturally for example, for one to be able to perform procedures there is a need for training. Health workers need good interpersonal skills with patients in order to have a good process.

2.4.1 Provision of group IEC

The provision of group health education has been found to be effective in reducing sexual risk behaviour when communicating to groups of patients or individuals with similar problems in a hospital settings. Group IEC allows in-depth coverage and discussion of relevant materials to a large group of patients in a short time. Chin et al. (2012) in their study conducted in U.S found that group based risk reduction interventions (comprehensive risk reduction and abstinence education) were an effective strategy to reduce HIV and STIs. Neumann et al. (2011) in their study conducted in New York and San Juan STI clinics found that those participants who attended a 45minutes video for condom education and safer sex and group discussion sessions scored higher on scales of STI knowledge (4.90 vs. 3.83, $P< 0.001$), condom knowledge (27.6% vs. 24.3%, $P< 0.05$) than non-attendees.

A review of literature in USA, found that group behavioural interventions have been effective in reducing sexual risks among STI clinic patients (Scott-Sheldon, Fielder & Carey, 2010). Similarly, a study by Riedner et al. (2006) was conducted to assess the trends in STI prevalence and HIV incidence and associated factors in female bar-workers exposed to behavioural interventions and STI screening and treatment in Tanzania. The intervention involved providing group and individual IEC sessions to the bar workers and the results showed that during the 3-monthly examinations the prevalence of gonorrhoea declined steadily from 22.2 to 6.8% ($P< 0.001$). The prevalence of all other STI/RTI, except for genital herpes and bacterial vaginosis, also decreased significantly. Group health education ensures that more patients have access to STI related information before they leave the clinic and this helps to reduce sexual risk behaviour among clients at STI. In addition, group members have a chance to learn from each

other's experiences. However, there is a need to ensure that misconceptions are properly dispelled. Hence there is a need to explore if there is the provision for group IEC activities at the stated STI clinic.

On the other hand, peer education among female sex workers was associated with an increase in protected sex. For instance, Luchters et al. (2008) in their study conducted in Kenya showed that those sex workers exposed to peer education intervention (28.7%), had more consistent condom use with clients compared with unexposed female sex workers (86.2% versus 64.0%). Peers were 2.3 times more likely to suggest condom use and 1.7 times more likely to refuse clients unwilling to use condoms. As regards to knowledge, 79.3 of peers compared with 61.2% of non-peers knew ≥ 2 symptoms of STI in women, 46.9% of peers cited ≥ 2 ways to prevent STI, compared with 23.8% of non-peers. In support of peer education are findings from a study conducted in Philippine by Donald et al. (2007) where the results showed that after peer education and STI training there was a lot of consistence in condom use and a decline in STIs was noted and HIV cases were lower in intervention group than in control group. Peer education is a form of group based intervention and is used to share health information in educating others who may share similar social backgrounds or life experiences. Peer education provides the necessary knowledge, attitudes and awareness of STI/HIV hence helping to promote behaviour change among sexually active individuals.

2.4.2 Provision of individual IEC

During individual counselling the provider together with the patients explore behaviours (from the sexual history or client's particular life circumstances) that place him/her at increased

risk for STIs, and determine what individual specific steps the client believes s/he can take to reduce those risks. This increases the likelihood of patients' assuming new or enhancing current risk-reduction practices. The US Preventive Services Task Force (2008) &Lin, Whitlock, O'Connor, & Bauer (2008) in their systematic review of literature concluded and recommended a high-intensity behavioural counselling to prevent sexually transmitted infections (STIs) for all sexually active adolescents and for adults at increased risk for STIs.

Rietmeije (2007) who aimed at evaluating counselling efficacy in the US identified the client centred counselling techniques as including; ability to conduct an in-depth, individualised risk assessment, use of open-ended questions, attentive listening, being non-judgmental, assist the client in identifying acceptable measures of risk reduction, clarify critical misconceptions verbalised by the patient, provide skill building opportunities such as; condom demonstration and return demonstration. However, Rietmeijer found that brief, individual-level interventions, cannot address the full range of clients' needs due to time constraints; moreover, brief, individual counselling interventions have not been widely adopted in standard STI care, because of the perception that providing such counselling is not feasible because of time and staffing constraints.

Research has demonstrated that client centred counselling is essential to achieve behaviour change in patients with STIs. For instance, a study project aimed at evaluating the efficacy of a brief, clinic-based, safer sex program administered by a health adviser by Crosby, DiClemente, Charnigo, Snow, & Troutman, (2009) found that men randomized to the control condition, those receiving the intervention were significantly less likely to acquire subsequent STDs (50.4% vs. 31.9%; $P = .002$) and more likely to report using condoms during last sexual

intercourse (72.4% vs. 53.9%; *P* = .008). Furthermore, Anderson et al. (2013) in their study conducted in Kingston, Jamaica, to assess counselling massage effectiveness between avoidance of unprotected sex and promote condom use during STI consultation found that women with experience with condoms may benefit significantly more from the counselling message that included condoms, whereas women without such experience may benefit significantly more from the abstinence messages. However, the study failed to prove that one message is superior over the other and there is need to ensure that the patient gets more information in order to have wide options on which to base decision. This means that there is need to conduct thorough individual assessment when determining the best counselling message and prevention approach for an individual patient. In other words counselling should be client centred and according to individual needs to increase the likelihood of patients' assuming new practices in order to achieve behaviour change. This analysis shows that individual IEC proved to have a positive impact in reducing sexual risk behavior among different study characteristics as seen in the reviewed studies. The only difference was that the former study was carried out on men while the later was carried out on women. However, health providers should be encouraged to provide other optional prevention messages for the client to make an informed decision.

Knowledge alone (as provided in group IEC sessions) is not sufficient to achieve behaviour change but individual counselling provides more than just information and appeals to one's emotional feelings by engaging the patient/client at his or her own level of readiness to change and takes into account the client's particular life circumstances (WHO, 2007). Both individual and group based sexual risk reduction interventions can be efficacious when

implemented together in STI clinic settings, hence, there is need to find out the circumstances under which these prevention interventions are provided at the STI clinic under study.

2.4.3 IEC on STI diagnosis

It is very important to let patients know their health problems. The knowledge of one's own health problem is very crucial in the participation of one's own health. For STI patients the knowledge will assist them to comply with treatment instructions. A qualitative study carried out in Rio de Janeiro public clinics, Brazil, found that many of the participants interviewed reported being physically examined and given a prescription, but not specifically counselled regarding the fact that they had an STI, nor the type of STI (Malta et al., 2007). Therefore, health care providers should be familiar with presentations of different types of STIs in order to give the right information to patients. The current study did not rely on patients reports only this is the reason why observations were carried out to establish the truth of the reports by patients attending the clinic.

2.4.4 IEC on STI transmission

It is very important to let patients know their health problems. The knowledge of one's own health problem is very crucial in the participation of one's own health. For STI patients the knowledge will assist them to comply with treatment instructions. A qualitative study carried out in Rio de Janeiro public clinics, Brazil, found that many of the participants interviewed reported being physically examined and given a prescription, but not specifically counselled regarding the fact that they had an STI, nor the type of STI (Malta et al., 2007). Therefore, health care providers should be familiar with presentations of different types of STIs in order to give the

right information to patients. The current study did not rely on patients reports only this is the reason why observations were carried out to establish the truth of the reports by patients attending the clinic.

However, various studies show that many people continue to engage in high-risk behaviours, for example, early sexual debut, low condom use, early marriages as well as temporary sexual relationships and are likely to have multiple sexual partners, hence, they are at increased risk of acquiring STIs including HIV/AIDS (Munthali, 2011; Jackson et al., 2011). The National AIDS Control Programme Strategic Planning Unit (2005) reported that some adolescents argue that sex before marriage is essential because 'practice makes perfect' and it demonstrates one's progression to manhood or womanhood. Adolescents and young people are already vulnerable to STIs due to the developmental changes in their body. Therefore, engaging in these risky sexual practices put them at high risk of contracting STI/HIV.

In addition, several cultural issues are critical risk factors for STI transmission. For instance, a man or a woman who is in a polygamous marriage relationship can increase STI transmission rate (Banerjee & Sharma, 2007). Similarly sexual relations during initiation ceremonies and wife cleansing ceremonies after the death of a husband in Malawi are some cultural practices that facilitate STI transmission. Therefore, failure of several cultural norms to properly promote less risky sexual behaviour is a major cause of sexual promiscuousness and transmission of STIs.

People usually engage in risky behaviours yet most of them lack basic knowledge and skills in negotiating safer sex in relationships. This lack of knowledge allows them to make

wrong decisions on sexuality issues and often leave them vulnerable to STIs that may have a negative impact on their long-term health. However, literature shows that the situation can be improved if STI patients are properly informed, educated and counselled. A Study conducted by Kalichman, Cain, Eaton, Jooste & Simbayi (2011) in Cape Town, South Africa, to examine the effects of a brief counselling intervention designed to reduce HIV risk behaviours and STI found that brief single-session HIV prevention counselling delivered to STI clinic patients has the potential to increase HIV related information about HIV transmission, condom use and AIDS-related knowledge**.** The study noted a reduction (24% fewer) in incident STIs and significant reductions in unprotected vaginal and anal intercourse among participants who received risk reduction counselling as compared to members of the control condition after 12 months period.

2.4.5 IEC on STI signs and symptoms

The study by Lan, Lundborg, Mogren, Phuc & Chuc (2009) who investigated knowledge of STI among women in Bavi, Vietnam and found lower levels of STI knowledge among women of reproductive age, indicating that out of the 1,805 respondents, 78% (73% married vs. 93% unmarried, $p < 0.001$) did not know any symptoms of STI. A qualitative study in Rio de Janeiro public clinics, Brazil, found low levels of STI knowledge among the participants and that all participants delayed seeking care for at least one week and others waited for as long as few months to over a year, after the onset of symptoms as they assumed that the symptoms would resolve with time. Furthermore, several of the study participants that suspected they had an STI prior to clinical diagnosis reported trying to alleviate their symptoms through self-medication (Malta et al., 2007). Dalal, Jahan & Wang (2014) in their study conducted in India reported that women with knowledge about STIs, HIV/AIDS and effectiveness of condom use

were more likely to receive treatment than those with less information. However, the finding in the later study revealed that more men and women had heard of STIs. The results on knowledge of STI were different and this could be attributed to the different study designs used in the two studies.

Possession of information to be able to recognize and correctly interpret one's signs and symptoms as manifestations of an STI is necessary to increase the likelihood of seeking treatment. This analysis shows that knowledge on STIs vary, some individuals had low knowledge on STI related signs and could not recognise the symptoms which caused delay in seeking care. Such findings indicate that there is a further need to explore and improve the quality of counseling regarding STI signs and symptoms. So that communication of signs and symptoms of STIs should be promoted and patients acquire enough information which will make them identify STI related problems and seek health care assistance without delays. Hence, this study was carried out to enquire if the IEC messages at the STI clinic under study include information on signs and symptoms of STIs.

2.4.6 IEC on STI dangers

Provision of information on dangers of STIs and knowledge of complications of untreated STIs is very important among STI patients. On the contrary, findings from the cross-sectional study conducted in Faisalabad, Pakistan on patients attending STI clinics showed that few participants were aware of the STI associated complications (Maan, Hussain, Iqbal & Akhtar, 2011). Furthermore, Lan et al. (2009) in their study which investigated knowledge of STI among women of reproductive age in a rural district of Vietnam found that half of the

women did not know any STI complication. Both studies used structured questionnaire to collect data among patients attending the STI clinic and the results appear to be similar, however, the current study also used observation method in addition to the questionnaire to strengthen the findings.

This shows that few individuals were aware of the complications of STIs, although the effect of STIs is significant in affecting reproductive potential of affected individuals. Lipinge & Pretorius (2012) reported that untreated STIs could cause infertility, adverse neurological condition, cardiovascular risks, ano-genital cancer, ectopic pregnancy, congenital abnormalities, and neonatal deaths. So, if the patients are well informed about the dangers/complications of STIs they may not delay in seeking treatment to prevent these effects. Therefore, efforts should be made to communicate this information to STI patients, hence the need to find out if STI complications messages are provided to patients at the clinic.

2.4.6 IEC on STI prevention

Accurate messages about prevention of STI/HIV must build on a wide range of risk avoidance and risk reduction approaches to include delayed initiation of sexual intercourse, mutual faithfulness and selection of low risk partners (Genuis, 2008). The CDC and Prevention STI treatment guidelines (2010) reported that the main strategy for preventing secondary infections involves counselling index patients either to abstain from sex while they remain infectious or to use condoms consistently and correctly to protect against the transmission of STIs. A qualitative study in Rio de Janeiro public clinics, Brazil found that men who have sex with men (MSM) interviewed generally exhibited high levels of STI knowledge and in many

cases prior experiences with STIs. However, only a minority of participants reported having discussions regarding condom use or partner notification with their attending STI care provider (Malta et al., 2007). This study was carried out in two public hospitals in Brazil and used a qualitative approach while the current study was carried out in one public hospital and used a quantitative approach because of limited time provided to finalise academic research

Communication and possessing information regarding preventive measures of STIs is necessary to reduce the spread of the infection. Systematic and epidemiologic reviews support that behaviour interventions are very effective in reducing sexual risk behaviours among STI patients. Wetmore, Manhart & Wasserheit (2010) in their review on randomized controlled trials of interventions to prevent STIs found that almost two-thirds of behavioural interventions were effective, but the magnitude of effects varied. A review of literature conducted in the USA on 48 behavioural interventions to reduce sexual risk behaviour among 67,538 patients at STI clinic in the United States found that behaviour interventions were successful in improving condom use and reducing numbers of sexual partners for durations of up to 40 weeks (Scott-Sheldon et al., 2010). This means that adherence to behavioural interventions is very crucial in ensuring sustainable behaviour change. Therefore, if widely implemented, behaviour interventions can help to lower long-term occurrence of STI/HIV among potential patients.

Literature also indicates that sexual risk reduction education and counselling delays early sexual initiation, promotes abstinence and reduces acts of unprotected sexual intercourse. A study by Kohler, Manhart & Lafferty (2008) in USA found that comprehensive sex education on abstinence and condom use was associated with a lower likelihood of reporting having engaged in vaginal intercourse than those who received no sex education. Abstinence usually means

encouraging young people to delay their sexual initiation with the intention of reducing their exposure to sexual acts before committing to a stable and hopefully long-lasting partner. Therefore, Age at first sex (AFS) is a key indicator for measuring behaviour of abstaining and is an important measure in STI prevention. Although, abstinence cannot be maintained throughout a lifetime, it is a reliable way to avoid contracting most STI and/or HIV even in already sexually active individuals who might choose to practice secondary abstinence.

Literature has also revealed that clinic based safer sex counselling on partner faithfulness may be an efficacious way to reduce incidence of STIs. Being faithful to one sexual partner is an important measure in STI prevention. The notion is supported in a study conducted by Crosby et al. (2009) in a Southern U.S city which revealed that men randomized to a single-session sexual risk reduction counselling receiving STI services reported fewer sexual partners and were more likely to report using condoms during the last sexual intercourse, fewer acts of unprotected sex and an increase in condom application skills was noted. Furthermore, 50.4% receiving the intervention were less likely to acquire subsequent STIs as compared to 31.9% in the control group. Counselling to make patients understand the need to stick to one partner enhances fidelity in a marriage relationship, which is obviously a guard against STIs. Therefore, faithfulness to their sexual partners needs to be encouraged among STI patients.

This analysis shows that knowledge on STIs prevention measures varies, some individuals had low knowledge on STI prevention measures. Such findings indicate that there is a further need to explore and improve the quality of counseling regarding prevention of STIs. Hence, this quantitative research was done to better understand the quality and completeness of

information regarding prevention of STIs received among patients attending STI clinic under study.

2.4.7 IEC on Condom use and demonstration

The CDC STI report (2006) noted that, when used consistently and correctly, male latex condoms are effective in preventing sexual transmission of HIV and other STIs, including chlamydia, gonorrhoea, syphilis, genital HPV, and trichomoniasis. Consistent condom use was associated with a decrease in the risk for bacterial vaginosis and associated vaginal micro flora (Hutchinson, Kip & Ness, 2007). Hence, by limiting lower genital tract infections, male condoms can also prevent pelvic inflammatory disease in women. However, Malta et al. (2007) in their qualitative study in Rio de Janeiro public clinics, Brazil, found that only a minority of participants (men who have sex with men) interviewed reported having discussions regarding condom use or partner notification with their attending STI care provider. The majority of patients assessed in this study were between 18 and 44 years. They missed out the middle aged adults who are usually at the peak of their lives with high risk of acquiring STIs. Hence, middle aged adults were included in the current study because during this developmental stage their sexual responses may become slower and less intense due to decreased testosterone levels, as a result, especially men, tend to search for partners among younger women to prove to others and to themselves that they are still sexually active.

More studies support a protective effect of condoms against acquisition of genital herpes, chlamydia, and gonorrhoea. A study in an Australian STI clinic, found that condom use was associated with a lower chance of rectal, but not urethral chlamydia among MSM (Hocking &

Fairley, 2006). In addition, Paz-Bailey, Koumans, Sternberg, Pierce, Papp, Unger, Markowitz et al. (2005) in a study conducted in an urban adolescent healthcare clinic in USA which aimed at assessing the prevalence of chlamydia or gonorrhoea as a function of reported condom use in 509 predominantly African American adolescent girls, found that although consistent and correct use was reported low, it was associated with reduced chances of acquiring chlamydia and gonorrhoea. These studies show that the risk of chlamydia infection is reduced in presence of condom use. This suggests that patients need to receive comprehensive information on condom use to prevent STI/HIV infection.

Furthermore, various reviews conducted support the effect of behavioural interventions featuring condom promotion in increasing condom use and reduction in STIs. Golden & Manhart (2005); Ward, Rowe, Pattison, Taylor, & Radcliffe (2005) in their systematic reviews show that behavioural interventions featuring condom promotion are associated with increases in reported condom used and subsequent decreases in incidence of STIs. Another systematic review which evaluated evidence for the effectiveness of female controlled physical and chemical barrier methods in preventing STI/HIV transmission concluded that female condoms confer as much protection from STIs as male condoms (Minnis & Padian, 2005).

In addition, another systematic review showed that adding condom promotion to interventions focusing on abstinence does not undermine the abstinence message (Underhill, Operario, & Montgomery, 2007). Furthermore Scott-Sheldon et al. (2010) in their review of 174 condom related prevention approaches concluded that sexual risk reduction interventions do not increase unsafe sexual behaviour. Since condom use is effective in reducing the rate of transmission of STI/HIV, IEC about condom use and its role in STI/HIV prevention should form

a major component in IEC programmes to control STI/HIV, therefore, it should be investigated at the STI clinic under study.

Literature also supports that condom demonstration and distribution allows acquisition of right skills in condom use and compliance in condom use. A study in Kanarkata , India by Shaw et al. (2011) found that Female Sex Workers (FSW) reported highest Consistence Condom Use (CCU) with all clients among those who ever observed a condom demonstration by staff and CCU was lowest among FSWs' who had not witnessed demonstrations. Another study conducted in the three cities in US on efficacy of a brief intervention to promote correct and consistent use of condoms among Black male youths attending STI clinics reported that distributing condoms to STI clinics may achieve a notable increase in safer sex practices and could help alleviate the STI/HIV burden (Crosby et al., 2014).

2.4.8 IEC on HTC

The Malawi STI reproductive health guidelines (2007) state that all STI clients should be offered HIV testing and counselling unless opted out and that partner referral and treatment should be encouraged during STI management. Evidence has shown that STIs act as co-factors in the sexual transmission of HIV. Recently, an Ethiopian CDC report on STI surveillance (2015) indicated that when HIV status was categorized by STI type, higher HIV prevalence was observed among Genital Ulcer Disease-Vesicular (GUDV), Inguinal Bubo Syndrome (ING) than Genital Ulcer Disease-Non Vesicular (GUDNV). Genital inflammation may result in damage of genital epithelial tissues affording HIV a portal of entry hence increasing the chance of HIV to enter the bloodstream more easily. Non-ulcerative diseases also increase the risk of acquiring or

transmitting HIV during sexual contact since there will be migration of white blood cells (vulnerable cells which have receptor sites for HIV) in the genital tract due to an increase in infection.

In addition, STIs also facilitate transmission of the virus from HIV-infected partners by increasing their HIV infectiousness (Ward & Rönn, 2010). Given the strong association between STI and HIV infection as a result of these factors, people who contract STIs are among the populations at highest-risk for HIV infection in the world. However, a Malawi study conducted in Mangochi, Balaka and Machinga STI clinics by Phiri (2010) revealed that few clients from the three districts were counselled on HIV testing, with Machinga and Mangochi just slightly above half (59% and 52% respectively). This shows that efforts to reduce transmission of HIV are compromised and persons unaware of their HIV status may continue to contribute to HIV transmission since HIV and STIs co-exist. Such findings indicate that there is a further need to explore and improve the quality of counseling regarding HTC. Hence, In turn, we employed this quantitative research method to better understand the quality and completeness of information regarding HTC services among patients attending STI clinic under study. So that, initiatives to provide IEC on HTC at STI clinics should be improved to ensure early diagnosis and referral into care and treatment for HIV infection.

It is clear that offering HTC services at STI clinics increase HIV testing acceptance among patients. Carey, Coury-Doniger, Senn, Vanable, & Urban (2008) evaluated whether an educational digital video disc (DVD) or participating in stage-based behavioural counselling (SBC) promote rapid HIV testing among STD clinic patients who initially declined testing. The results revealed that both DVD and SBC can increase rapid HIV testing acceptance among

patients who are reluctant to be tested and patients receiving both interventions improved their attitudes and knowledge about testing. However, patients receiving SBC agreed to HIV test more often (45%) than did patients who viewed the DVD (19%). This means that counselling was more effective than just providing information-based intervention. Another cross sectional study to assess the uptake of Provider Initiated HIV Testing and Counselling (PITC) amongst women attending an urban STI clinic in South Africa found that PITC was acceptable and uptake was improved following group information and education on HIV and STDs in the clinic waiting area (Kharsany, Karim, & Abdool Karim, 2010).

2.4.9 IEC on partner notification and treatment

Literature indicates that patient based sexual partner notification counselling programme can help reduce the risk for subsequent STIs by treating the asymptomatic partner. Malta et al. (2007) in their qualitative study in Rio de Janeiro public clinics, Brazil, found that only a few participants (men who have sex with men) interviewed reported having discussions regarding Partners' Notification and Treatment (PNT) with their attending STI care provider. A study conducted by Das-Anjana et al. (2013) among FSWs at known high STI prevalence sites in India to determine the effectiveness of the STI service package found that high rates of STIs persisted despite the interventions partly due to minimal partner treatment. Such findings indicate that there is a further need to explore and improve the quality of counseling regarding PNT. Therefore, this quantitative research was carried out to assess completeness of information regarding PNT provided to patients attending STI clinic under study to better understand the quality of IEC.

In addition, many studies have supported the influence of IEC on PNT. For example, a study by Alam et al. (2011) in Dhaka district, Bangladesh was carried out to evaluate the role of patient-oriented single session counselling on partner referral among index cases diagnosed as having sexually transmitted infections (STIs). The results revealed that partner notification was achieved by 37% in the counselling group and 27% in a control group. The study further estimated that patient notification and referral of partner for gonorrhoea and Chlamydia infection resulted in treatment of 29% to 59% of partners. Furthermore, a modelling analysis in USA estimated that increasing either partner notification by 2-fold or Chlamydia screening by 3-fold in Alaska, Idaho, Oregon, and Washington in the USA could cause a 23% reduction in chlamydia (Kretzschmar, Satterwhite, Leichliter & Berman, 2012). Therefore, asking high risk patients with STIs to notify and refer their sexual partners for screening and treatment is one possible strategy and can only be achieved if comprehensive counselling is provided to STI patients.

However, literature revealed that high rates of promotion of contact treatment do not necessarily mean that information given by the provider is utilised by the patient. Phiri, (2010) in the Malawi study found that out of the 237 STI index clients who came for treatment at Mangochi STI clinic, only 68 (28.7%) contacts came for treatment while at Balaka and Machinga, there was no documentation of STI contacts that came for treatment. The Mangochi partner notification and reporting rate was similar to what was found in South African STI clinics in 2008 which indicated that partner tracing rate remained a challenge because it was 23.6 % in 2007 and 24.2 % in 2008 (South African Government Information, 2009). The studies indicate low number of contacts being seen at STI clinics. This shows that sexual partner

notification and treatment may not have achieved the intended results. Thus, an opportunity is being missed to trace and treat asymptomatic individuals who may result in an increase in the new cases of STIs since the transmission cycle is continued. This situation necessitates the need to promote partner notification counselling, so that the index STI patient/client understands clearly its importance and how to approach it.

Other PNT studies conducted in China, South Africa and Peru recommended further evaluation of the effectiveness of partner-delivered treatment approaches in developing countries because of low number of partners known to receive treatment for STIs after notification (Clark et al., 2007;Young et al., 2007;Wang et al., 2007).

Alam, Chamot, Vermund, Streatfield & Kristensen (2010) further reported barriers in notifying partners as included socio-cultural factors such as stigma, fear of abuse for having an STI, and infrastructural factors related to the limited number of STI clinics, and trained providers and reliable diagnostic methods. In a systematic literature review which aimed to examine STI PNT uptake in China, more barriers were noted as, social stigma, fear of relationship breakdown, uncertainty of how to notify and lack of partner contact information, in addition, perceived infrastructure barriers included limited time and trained staff, mistrust of health workers and lack of PNT guidelines (Wang, Peng, Tucker, Cohen & Chen, 2012).

The studies reviewed have shown that IEC on PNT has an effect on partner referral and treatment for STIs and HIV. Partner notification is an important STI prevention measure in the promotion of appropriate healthcare seeking behaviours among sexual partners of STI patients. Hence, index patients presenting at the clinic still remain the key players for notifying their

sexual partners and IEC provides opportunity to make index patients understand their sexual partners' exposure so that they can facilitate the process to have their sexual partners treated. This implies that IEC on PNT can influence health seeking behaviour of sexual partners and will increase identification, diagnosis and treatment of those who may have asymptomatic STI infections.

2.4.10 IEC on treatment compliance instructions and provision of supplies

Khosropour et al. (2007) carried out a study in USA to examine the association between self-reported imperfect adherence to Doxycycline and clinical and microbiologic failure among men with non-gonococcal urethritis (NGU). The results showed that out of 184 men with non-gonococcal urethritis (NGU) who were randomised to active Doxycycline and provided data on adherence, 28% of men reported missing ≥1 dose in 7 days. The study showed that this was associated with microbiologic failure among men with CT (95% CI 1.00 to 89.2) and this was more common among those men missing ≥1 dose in 7 days. This shows that non-compliance with treatment protocols was one of the factors that may contribute to poor treatment outcomes.

It is clear that distribution of essential supplies at STI clinic promotes its usage and compliance to STI treatment. For instance, a study by Sandøy, Zyaambo, Michelo, & Fylkesnes (2012) was conducted in Livingstone, Zambia to assess the impact of a condom distribution and peer education intervention targeting places where people meet new sexual partners on condom use and sexual risk taking among people socializing there. After condom distribution in high risk venues it was revealed that there was a reduction in reported sexual risk taking among guests socializing in the venues where condoms were placed and reporting of recent condom use

increased more among people interviewed in the intervention (57% to 84%) than in the control community (55% to 68%) where condom distribution and peer education was not done. In agreement with this notion, Metcalfe (2007) in Malawi, found that during the three months period of unavailability of condoms, the incidence of urethral discharge increased and when condoms were provided in the same population for another three months, the incidence of urethral discharge declined. This study showed that uninterrupted supply of condoms may have a positive role in the reduction of STIs.

Similarly, a study by Crosby et al. (2014) in US which aimed at finding the efficacy of a brief intervention to promote correct and consistent use of condoms among Black male youths attending STI clinics, found that correct and consistent use rates changed significantly more for the intervention than the control group, both from baseline to 2 months ($P = .01$) and from baseline to 6 months ($P = .001$). The intervention group began the study with far lower rates of correct and consistent use (16.9%) than the control group (26.9%); however, correct and consistent use in the intervention group exceeded that in the control group by the end of 2 months, and the effect remained at 6 months. The intervention included graphic and visual presentations on condom use, as well as a greater emphasis on negotiating condom use. The study concluded that distributing condoms to STI clinics may achieve a notable increase in safer sex practices and could help alleviate the STI/HIV burden.

Furthermore, Biddlecom, Munthali, Singh & Woog (2007) in their study in Burkina Faso, Ghana, Malawi and Uganda noted that some young men attach fear, embarrassment and shame to going to facilities and stores to obtain or buy condoms. This situation might reduce compliance as well as consistent condom use. Therefore, the distribution of essential supplies

including condoms, drugs and IEC materials among STI patients is an important practice during counselling. The supplied items provides a basis on which the individual can practice the learnt behaviour or something to refer to (leaflets) and in so doing promote compliance on the part of the patient/client during management of STIs. Specifically condom distribution may promote its utilization.

2.4.11 IEC on Follow up visit

The care providers are supposed to inform patients about the circumstances and date when to report back at the clinic to review if symptoms have been relieved after the initial treatment. The Malawi STI guidelines (2007) states that STI patients should return for a follow up visit as scheduled. Phiri (2010) in the study conducted in the three districts of Malawi, found that the majority (76.5%) of mystery clients were not given an appointment date for review and only 23.5% of the clients were told to come back for review.

Sihavong, Lundborg, Syhakhang, Kounnavong, Wahlström & Freudenthal, (2011) in their study in Laos also found that the main barriers to seeking health care among patients with RTI/STI symptoms were both structural such as travel costs, clinic opening hours, and social stigma and individual such as fear of social discrimination and clinicians' negative attitudes. Furthermore, in Vietnam, among FSWs the decision to seek care is compromised by high costs, long waiting time, and judgmental attitudes of HCPs (Ngo, Ratliff, McCurdy, Ross, Markham & Pham, 2007). A qualitative study in Rio de Janeiro public clinics, Brazil, observed that female participants appeared to possess greater levels of perceived STI-related stigma than male

participants, resulting in additional confusion and anxiety regarding whether to seek care (Malta et al., 2007).

Having knowledge on follow up dates promotes proper health seeking behaviour which is crucial in ensuring that the proportion of patients eventually cured remains high. Hence, IEC on follow up visits and dates should be intensified to improve the prevention and control of STI/HIV. Therefore, there is a need for this study to find out if these massages are provided clearly to the patients at Bwaila STI clinic.

2.4.2.11 Using IEC support materials

Phiri (2010) found that, out of the 24 mystery clients from Mangochi STI clinic, 23 (96%) were counselled without IEC materials, while at Balaka STI clinic 25 (100%) and Machinga 27 (100%) were counselled without use of IEC materials. Other studies suggest that illiterate individuals could benefit from provision of information and non-written audio-visual media (Wahl, Banerjee, Manikam, Parylo & Lakhanpaul, 2011; Carey et al., 2008). The use of video-based patient education had been recommended to improve STI related knowledge and attitudes and in achieving some consistency of prevention services without placing additional demands on physician time.

This suggest that provision of information supplemented by visual aids and other written materials is more effective during provision of IEC since they assist to simplify the health information being provided and promote comprehension of information. Therefore, the availability and use of these IEC support materials is crucial in promoting understanding of STI

related information among patients, hence the need to explore its implementation and usage at the STI clinic.

2.4.12 Privacy during IEC

Various data have shown that enhancing privacy and confidentiality is vital to delivery of IEC activities in STI care. UNAIDS & WHO (2007) state that adequate clinical infrastructure that include adequate counselling rooms which are spacious and provide visual and auditory privacy are critical for HIV counselling. The Malawi STI guidelines (2007) also state that all services must be provided in complete privacy (both visual and audio) and ensures confidentiality at all times. However, Phiri (2010) in Malawi found that Balaka and Machinga STI stand-alone clinics were allowing staff and friends to enter the counselling room while STI counselling was in progress. Only Mangochi STI clinic maintained the privacy of clients during the time of observation. This shows that privacy had been compromised in the STI clinics.

Privacy and confidentiality are very crucial in provision of IEC at STI clinics since issues about STIs are sometimes emotional and appeal to feelings. Therefore, it is important that health care providers should always put in practice measures that ensure privacy and confidentiality during counselling is maintained. Hence the need for this study to find out the clinical practices carried out by the health providers in maintenance of privacy and confidentiality.

2.4.13 Interpersonal communication skills

It is clear that, a good provider- patient relationship improves communication between the two. The Malawi guidelines (2007) on STIs also emphasized that improving the interaction

between the service providers and the clients would ultimately improve comprehension of information being given and help clients to reduce their risk of infection and may result in better quality services.

However, poor attitudes of health workers and poor provider client relationships have been identified in previous studies where health care workers often have treated patients in an insensitive manner without paying adequate attention to their concerns. Kazembe (2014) in a study conducted to explore the quality of pre and post HIV counselling to antenatal women at Ndirande and Limber health centres found that 44% of the providers did not greet and introduce themselves at the beginning of each counselling session.

Similarly, a study by Phiri (2010) in Mangochi, Balaka and Machinga stand-alone STI clinics in the southern region of Malawi found that out of the 76 clients, 12 (16%) had indicated that they were not treated in a polite manner. In addition, out of the 6 mystery (imposter clients will act the role of an STI client to obtain information on quality of care of specific STI clinics) clients who visited Balaka STI clinic, 4 indicated that they were not received in a friendly manner while at Mangochi and Machinga, all mystery clients were received in a friendly manner. Furthermore, Phrasisombath, Thomsen, Hagberg, Sychareun & Faxelid (2012) in their study in the district of Laos which aimed to assess the knowledge and attitudes among Health Care Providers (HCPs) providing STI service to female sex workers (FSWs) found that out of 244 respondents, about half moderately or strongly agreed with the statement that “no matter how much FSWs were counseled, they would continue to infect others”. This shows that many providers had negative attitudes towards FSWs with STI symptoms.

Cegala & Post (2009) noted that when interacting with patients who actively participated during consultations, physicians engaged in significantly more patient centred communication overall than when communicating with low participation patients. The study also noted that the patient centred communication involved more exploring of the patients' disease and illness. High patient's participation in this study was taken as frequency of information seeking/verifying, asking questions, providing information, assertive utterances and expressing concerns. However, Rietmeije (2007) noted that the critical characteristic of the prevention counselling model counselling relationship is the ability of the counsellor–client interaction to negotiate the risk reduction plan. Furthermore, Sihavong et al. (2011) in their study in Laos also recommended that there is an argent need to improve communication between STI service consumers and clinicians. Good communication and active participation of the patient during consultations improve the patients' self-perception of risk and help them to prioritize their needs.

The Malawi Emergency Obstetric and Neonatal Care (2010) reported that one of the critical challenges for effective delivery of health services in Malawi is negligence where the health providers tend to relax and regard IEC activities as unimportant business for the day at the clinic contrary to the requirements and guidelines for the STI service provision. Furthermore, Mayaud & Mabey (2004) indicated that little emphasis on educational and other efforts to prevent infection is one of common reasons why STI control programmes often fail in low-income countries. This implies that even in presence of other challenges IEC activities are not regarded as a priority in care practices. Interpersonal communication skills are very crucial in provision of IEC at STI clinics since issues about STIs are sensitive and need proper understanding of patients' life circumstances. Poor relationships creates uncondusive

environment for sharing relevant information that might be useful during counselling. Hence, there is need to explore how the provider-client relationships are maintained at Bwaila STI clinic.

2.5 The outcome attributes of quality

Outcomes are desirable or undesirable changes in individuals attributable to the care they received. It can be in health status, behaviours of patients, an improvement in symptoms or mobility as well as satisfaction of patients and their families. Health outcomes are dependent on the care provided. Opinion of care is very important in determining quality and often determines ones willingness to comply and continue with the care received. Some studies on STI have reported satisfaction with the care received, interpersonal relationship/attitude and the counselling services.

The study done at Mangochi, Balaka and Machinga stand-alone STI clinics in Malawi, reported that overall a high degree of satisfaction with counselling was noted among mystery clients (72%, n=13) while a few (28%, n=5) mystery clients were not satisfied (Phiri, 2010). Health workers attitude towards STI clients was found to be reasonably good for Mangochi and Machinga while at Balaka, it was unsatisfactory. Similar findings were noted in a New York study which aimed at evaluating a unique, two-step (brief-individual and intensive-group based) approach to sexual risk reduction at a publicly-funded STI clinic. When the participants evaluated the intensive group interventions using a 4-point scale the results indicated that almost all of their needs were met and scored 3.6 on the 4 point scale, furthermore, they indicated that they were very satisfied and scored 3.8 on the 4 point scale (Carey et al., 2008). In addition, a

study conducted in Botswana found that patients at public STI clinics where training was provided to providers would strongly agree with the satisfaction statements including that of IEC (Weaver et al., 2008). This implies that if health providers are trained they usually provide satisfactory services. Unsatisfactory services creates uncondusive environment for patients and may not comply with the treatment. This necessitates the need to find out if health care providers provide satisfactory IEC services at the clinic.

2.6 Summary of literature review

The literature review has shown that several studies have been conducted related to structure of STI clinics, clinical practices and patient satisfaction. However, information on quality of IEC alone was scarce. The review of literature has shown that infrastructure and resources are inadequate in many countries to necessitate the provision of quality and comprehensive STI IEC services. Furthermore, provision of IEC on various aspects of STIs by the health care providers was minimal such that little or no health education and counselling was provided at various STI clinics and most interventions concentrated on diagnosis and treatment.

It has also been established that there is a gap in adherence to STI guidelines in provision of IEC, limited time for provision of IEC activities and most health providers exhibited poor interpersonal communication skills. The review has also shown that most clients were satisfied with STI care. The majority of the studies that have been reviewed were carried out in developed countries and very few in developing countries, like Malawi. Furthermore most of the studies that were done in Malawi concentrated on all components of SMA. Hence, the need to conduct

this study and to gain more knowledge on the situation under which IEC is provided at Bwaila hospital STI clinic.

Chapter three

3.0 Research design and methodology

3.1 Introduction

In this chapter, the researcher describes in detail the methods that were employed to explore the quality of IEC services provided to patients with STIs. The research design, study setting, study population, sample size, data collection instrument, data management and analysis, ethical consideration, limitations and plans for dissemination of the study findings have been presented.

3.2 Research design

A research design is an overall plan for the study in addressing research questions and strategies for enhancing integrity (Polit & Beck, 2008). The study used a descriptive design that utilized a quantitative approach. A descriptive study is designed to gain more information about characteristics within a particular field of study and its purpose is to provide a picture of a situation as it naturally happens (Burns & Grove, 2005). It provides an accurate portrayal or account of characteristics of a particular individual, situation or group that can be behaviour, attitude, beliefs, skills and knowledge. Therefore, the design was considered suitable for this study because it aimed at describing the circumstances under which IEC were provided including the care provider practices relating to provision of IEC. This was a quantitative study and no mixed methods were used. Mixed methods requires more time for the research process. This paper being an academic one, limited time was available for the research process, hence, a

quantitative method was chosen to allow the researcher to complete the research process within the specified time frame.

Quantitative design is usually concerned with assessing and measuring characteristics and statistical techniques are used to analyse the data. The tools that were used to collect data were observation checklists and a questionnaire. The design enabled the investigator to gather information on the variables of interest in persons with STIs and to make inference about possible relationships between variables (Creswell, 2009).

3.3 Research Setting

The study was conducted in the central region in Lilongwe district, at Bwaila Hospital STI clinic located at Out Patient Department (OPD). The hospital was purposively selected because it is a referral hospital for all health centres in Lilongwe district and it has provisions for STI management hence it was envisaged that an adequate number of participants would be recruited from this setting.

3.4 Study population

A research design is an overall plan for the study in addressing research questions and strategies for enhancing integrity (Polit & Beck, 2008). The study used a descriptive design that utilized a quantitative approach. A descriptive study is designed to gain more information about characteristics within a particular field of study and its purpose is to provide a picture of a situation as it naturally happens (Burns & Grove, 2005). It provides an accurate portrayal or account of characteristics of a particular individual, situation or group that can be behaviour, attitude, beliefs, skills and knowledge. Therefore, the design was considered suitable for this

study because it aimed at describing the circumstances under which IEC were provided including the care provider practices relating to provision of IEC. This was a quantitative study and no mixed methods were used. Mixed methods requires more time for the research process. This paper being an academic one, limited time is available for the research process, hence, a quantitative method was chosen to allow the researcher to complete the research process within the specified time frame.

Quantitative design is usually concerned with the collection of data that focuses on numbers, frequencies and trends and statistical techniques are used to analyse the data. The tools that were used to collect data were observation checklists and a questionnaire. The design enabled the investigator to gather information on the variables of interest in persons with STIs and to make inference about possible relationships between variables (Creswell, 2009).

Furthermore, they are more concerned with the social behaviours and may be less inclined to appreciate their risk of acquiring an STI and usually forget the potential consequences of their actions. The young adults were included since they also strive for independence during this stage of development while learning to be responsible and accountable for their actions. However, with little knowledge on STIs and preventive practices, they often face challenges when managing their lifestyles and sexual behaviour hence they should be the focus of IEC programs (Bearinger et al., 2007; Baloyi, 2006).

Middle aged adults were also included because during this developmental stage their sexual responses may become slower and less intense due to decreased testosterone levels, psychological or social changes related to aging as well as chronic illnesses or medications. As a

result, especially men, tend to search for partners among younger women to prove to others and to themselves that they are still sexually active.

3.5 Recruitment strategy

At the clinic, potential respondents were approached to seek their consent to participate in the study. The researcher administered a questionnaire to those who accepted. The health providers were informed that the researcher will be present during the STI consultation on that particular day. Observation was done to those health workers who were willing to be observed and they were providing services at the STI clinic.

3.5.1 Inclusion criteria

Study participants were recruited after meeting the inclusion criteria. The inclusion criteria were STI patients 18 years and above to ensure that all participants can provide consent and all participants who were able to communicate in English or Chichewa, the health providers providing services at the STI clinic. All participants who met this inclusion criterion were eligible for the study. Polit & Beck (2010) reported that the study should recruit participants who will best contribute to the information needs of the study as well as those who are willing to participate.

3.5.2 Exclusion criteria

The exclusion criterion included those STI patients less than 18 years and who were not able to effectively communicate in English or Chichewa were not included. Furthermore, those who were not willing to participate were not included.

3.6 Sampling

The study utilised systematic random sampling to select cases to be part of the study. Walter, (2010) defined systematic random sampling as the process of drawing the *K*th case from the unordered list of elements in the population by using the sampling fraction to determine a system of drawing a random sample. By dividing the population size (all clients aged 18 and above) by the desired sample size the researcher established the sampling interval. In this case, the data from HIMS at Bwaila hospital showed that the sampling population from which the sample was to be taken was 2617 STI cases for three months. However, for one month it was expected that 872 cases would form the available population size from which the sample would be drawn. Therefore, dividing 872 by the sample size of 384 we got the sampling interval of 1 to 2. This sampling interval was utilised and every second patient was selected to participate in the study after giving a written consent until 384 cases were drawn.

3.6.1 Calculating sample size

The sample size for respondents of questionnaire recruited for this study was calculated using a formula $n = \frac{[Z^2\,(P)(1-P)]}{d^2}$ by Lemeshow et al. (1990); where;

n = is the sample size

Z= is the standard value of the normally distributed variable which for a 95%
Confidence interval takes a value of 1.96

P= the estimated proportion of STI patients above 18 years. In view of lack of data
At the Facility, P has been set at 50% (0.50).

d = the desired level of precision or allowable error of which in this study has been
set at 5% (0.05).

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

$$n = \frac{[1.96^2\,(0.50)(1-0.50)]}{0.05^2}$$

$$n = \frac{[3.84(0.50)(0.50)]}{0.0025}$$

$$n = \frac{[3.84(0.25)]}{0.0025}$$

$$n = \frac{[0.96]}{0.0025}$$

$$n = 384$$

Therefore to make inference from the study the sample size for respondents of the questionnaire was 384.

3.7 Data collection tools

The researcher used two data collection instruments, namely, the observation checklist and the questionnaire.

3.7.1 Development of the observation checklists and the questionnaire

The researcher had two observational checklists, one was used to observe the structural attributes of quality and the other was used for observing health providers while providing group and individual IEC to STI patients. The checklists for assessing both structure and process attributes of quality were adapted from the Malawi PQI RH Standards (MOH, 2006) and

Donabedian's conceptual framework. The researcher took parts or concepts which were related to structure and process from each of the two (Malawi PQI RH Standards and Donabedian's conceptual framework) to come up with both checklists. Structural and process quality of IEC was measured based on the final checklists developed. However, the researcher avoided shortcomings of observational method such as reactivity of the observed event and biases by use of masking or blinding. Masking is described as concealing information from the participants to enhance objectivity (Polit & Beck, 2010). Therefore, to conceal information, the heath workers were told that the researcher would be observing how treatment is provided instead of communicating to them that the researcher will be assessing IEC. The observational checklists collected data on three areas namely, infrastructure, resources and provider practices in order to describe quality IEC services (Appendix E and F). The infrastructure was the venue or context where IEC was being provided and resources described the availability of staff, equipment and supplies. The provider practices included ways of delivering health education, what messages were communicated, distribution of supplies to patients and interpersonal communication skills demonstrated. Data collected through observation assisted the researcher to supplement the data collected from the questionnaire.

A semi-structured questionnaire (Appendix G & H) was used to collect data from STI patients. A questionnaire is a preferred method of data collection because it is an efficient and cost effective means of collecting data from a large number of respondents and can be anonymously completed (Burns & Grove, 2005). The questionnaire was developed by the researcher based on review of literature, conceptual frame work and the Malawi PQI RH Standards. The questionnaire had both open and closed ended questions and was provided in

English (Appendix G) and Chichewa (Appendix H). The semi-structured questionnaire directed the interviewer into a focused interview and it helped the researcher to be consistent in asking questions and at the same time to prompt or encourage the interviewee to elaborate and get more information, however, the depth of answers from respondents may be limited (Polit & Beck, 2010).

Section A of the questionnaire collected data on the demographic variables of STI patients which include age, sex, religion, educational level and occupation status. Section B of the questionnaire collected data on structure and process quality variables of IEC. The structural quality attributes included the availability of infrastructure, availability and usage of staff, equipment and supplies such as IEC materials, male and female condoms, the condom demonstration models for health education and counselling purposes. The process quality attributes included; provisions for group IEC and/or individual IEC, STI messages provided distribution of supplies to patients and interpersonal communication skills demonstrated.

Section C of the questionnaire collected data on outcome quality attributes which included patient's opinion on satisfaction with the STI massages on various areas and general satisfaction. Garr's patient's satisfaction with obstetric care questionnaire was adapted to be used for this purpose in this study. It was modified to focus only on patient's satisfaction with communicated content and general satisfaction. It has 5 score points (very satisfied, satisfied, neutral, dissatisfied and very dissatisfied). This instrument was chosen because it can easily be quantified and analysed (Mackey & Gass, 2005).

The developed questionnaire in English was translated into Chichewa by the researcher and then a final questionnaire was agreed upon by the principal investigator and the supervisors. The questionnaire was then pre-tested to review and assess the feasibility of the instruments for appropriateness in generating accurate information

3.7.2 Reliability and validity

Validity refers to the degree to which an instrument is capable of giving the "truth", while reliability refers to the ability of the instrument to being consistent in giving results when applied (Burns & Grove, 2005). To ensure validity, the researcher used the questionnaire and the observation checklist adapted from the Malawi PQI RH standards developed by the MoH in 2007. According to MoH (2007), the guidelines were developed with the intention to assist evaluators of reproductive health programs in monitoring and evaluating progress and have been in use for a long period in Malawi. The instruments were reviewed by the supervisor to establish whether there was proper flow of questions and the instruments were sufficiently comprehensive to give proper responses. To check reliability in this study, the questionnaire was pre-tested and the results were used to correct any inconsistencies in the instrument hence reliability was achieved by correcting errors and revising the questions and responses after the pre-testing before the actual study. Furthermore, the pre-testing of the instruments was done to test the accuracy of the questionnaire and observation checklists.

3.7.3 Pre testing the questionnaire

The questionnaire was pre-tested at Kamuzu Central Hospital (KCH) STI clinic on a sample of 10 STI patients. The purpose for pre-test interview is to review and assess the

feasibility of the proposed methods or instruments for appropriateness in generating accurate information to make the research study more efficient, effective and well-constructed. The questionnaire was administered to the pilot respondents (these were not included in the final sample) while the researcher noted for clarity of questions, time taken to administer the questionnaire and to suggest any modifications where necessary. The pre-tested questionnaire was given to the research supervisor for comments in refining the tool. The suggested changes included rephrasing some questions, adding optional answers for the semi structured questions and clarifying the instructions to questions.

3.7.4 Data collection process

A copy of the proposal was sent to Bwaila hospital and the DHO granted the permission for data collection at the institution (Appendix K). Upon obtaining ethical approval from the College Of Medicine Research Committee (COMREC) (Appendix I) and completing the pretesting, the researcher contacted the nurse managers for the data collection sites to get access to the clinic. Upon reaching the clinic, permission was also obtained from the nurses conducting the clinic to observe the health providers and interview the patients.

Two midwives who were awaiting deployment were approached to assist in data collection. They were chosen because they had previous experience in data collection and STI management. They were initially informed of the aims of the study and trained in the procedure for data collection. Data was collected through observing the health providers carrying out IEC activities and scores were recorded for carrying out specific tasks. A total of six observations on health providers were made. A total of 384 eligible participants among the patients were

approached, informed and given the information sheet (appendix A & C). Once consent was obtained the researcher initiated the interview and the questions on the questionnaire were read to the individual participant to provide responses.

Data was collected by the two assistants and the researcher on each day of the clinic from Monday to Friday. After the clinic, all the completed questionnaires were collected and checked. The data collection process took two and a half months.

3.8 Data analysis process

The data were analysed using Statistical Package for Social Sciences (SPSS) software version 20, to enter and summarize data. Before analysis, a spread sheet to capture data was prepared using SPSS version 20. Data from demographic variables which included age, sex marital status, religion, educational level and occupation status were analysed by running frequency and percentage distribution. Data on infrastructure, human and material resources were analysed using descriptive analysis by tabulating frequency and percentage of performance indicators (verification criteria). Data on messages acquired on STI transmission, signs and symptoms, preventing and dangers, on drug compliance instructions (process attributes of quality stated above) were analysed by running frequency and percentage distribution of the variables. Similarly, data on outcome quality variable, that is, satisfaction with different areas of IEC was analysed using frequencies and descriptive analysis.

Cross tabulation of different categories of variables was done during the analysis to determine their association. Cross tabulations were done because most of the data in this study were categorical (data or variables that are separated into different categories that are mutually

exclusive from one another). For example, demographic characteristics such as age and level of education was cross tabulated with messages on STI transmission, messages on STI signs and symptoms, messages on STI prevention, messages on STI dangers, medication instruction compliance and patient satisfaction cross tabulated with IEC on STI transmission, STI prevention , STI dangers and STI medication compliance instructions. Furthermore, group IEC was cross tabulated with messages on STI transmission, messages on STI signs and symptoms, messages on STI prevention and messages on STI dangers medication instruction compliance and patient satisfaction with IEC on STI transmission, STI prevention, STI dangers and STI medication compliance instructions.

In addition type of care provider was cross tabulated with knowledge on STI transmission, knowledge on STI signs and symptoms, knowledge on STI prevention and knowledge on STI dangers, medication instruction compliance and patient satisfaction with IEC on STI transmission, STI prevention, STI dangers and STI medication compliance instructions. After the cross-tabulations were done and tests for significance of the relationship were applied. The data analysis was performed at 5% significant level. Where variables were suspected to relate and relationship were established using Pearson chi square.

Furthermore, data scores from observation checklist on structural and process quality variables (availability and usage of infrastructure, equipment's, supplies, education and counselling messages) were analysed using SPSS software. The statistical descriptive analysis was done by tabulating frequency and percentage of performance indicators (verification criteria) achieved in IEC. This clinical observation data was used to calculate a performance score for the each standard of IEC and by totalling the scores for all verification criteria for IEC (service area)

the final score was achieved. The final score obtained was converted into percentages and the mean average score was obtained. This was later compared with the standard performance score of 80% as recommended by PQI RH standards on STI SMA, area number 10 (as explained above). Scores above 80% means that the clinic was providing quality care for the service area and scores of below 80% indicate inadequate quality care for the service area.

The analysed data have been presented in frequency distribution tables, descriptive statistics and as graphs in chapter 4.

3.9 Ethical considerations

To protect participants and the researcher as well, the proposal was submitted to College of Medicine Research and Ethics Committee (COMREC) for ethical review before data collection. Approval from the hospital director of KCH (Appendix J) and District Health Officer (DHO) of Bwaila (Appendices K) to conduct the pretesting and study in these facilities was also obtained. To ensure autonomy, the participants were not forced or persuaded to take part in the study. The participants were allowed to make a decision to either decline, participate or withdraw from a study and they gave both verbal and written consents (Appendix B & D). The informed consent was also made available in local language of Chichewa (Appendix D). Participants were allowed to sign the consent form to participate in the study. An informed consent simply means a written agreement signed by a study participant and a researcher concerning the terms and conditions of voluntary participation in the study (Polit and Beck, 2011). To avoid violating autonomy for participants with little or no educational background,

information on study purpose, benefits, confidentiality was simplified in a language they understood.

The names of participants were not used on the questionnaires only code numbers were used to ensure anonymity and confidentiality (Burns & Grove, 2005). Accessibility of collected data was restricted to the researcher and the research assistant who assisted with data collection. After data collection, the completed questionnaires were kept in safe storage which only the researcher could access.

3.10 Summary

A descriptive study was found appropriate for this study which was conducted at Bwaila hospital. Ethical approval for the conduct of this study was obtained from the College of Medicine Research and Ethics Committee (COMREC). The study recruited 384 STI patients. Data were collected using a semi structured provider administered questionnaire. The questionnaire was pre- tested to test its validity and reliability before data were collected. The collected data was entered into SPSS statistical package version 20 and was analysed by the same package. Chapter 4 presents the study findings.

Chapter four

4.0 Presentation of results

4.1 Introduction

This chapter presents findings of the study. The results were guided by study objectives which were; availability of IEC resources, health provider practices during IEC provision and patient satisfaction with IEC. The results were presented in four sections.

4.2 Demographic characteristics of participants

The characteristics of the respondents are presented in Table 1. A total of 384 young people and adults were interviewed. Out of 384 participants the majority (60.7%, n=233) were in the age category of 25-40. The mean age of all participants was 30.4 years (S.D. 7.6) with a median of 29 years. About (75%) of the participants were married.

Table 1: Social demographic characteristics of respondents

Characteristics		Frequency (N=384)	Percent (%)
Age	18-24	110	28.6
	25-40	233	60.7
	41-65	41	10.7
	Total	384	100.0
Gender	Male	146	38.0
	Female	238	62.0
	Total	384	100.0
Marital status	Married	288	75.0
	Single	60	15.6
	Divorced	28	7.3
	Widower	8	2.1
	Total	384	100.0
Denomination	Christian	335	87.2
	Moslem	38	9.9
	Other	11	2.9
	Total	384	100.0
Education	Primary	196	51.0
	Secondary	152	39.6
	Tertiary	14	3.6
	Other	22	5.7
	Total	384	100.0
Occupation	Business	161	41.9
	Employed	88	22.9
	Farmer	28	7.3
	Others	107	27.9
	Total	384	100.0

4.2.1 Number of clinic visits

The majority of the clients who accessed the STI services in the clinic during the days of the interview were not regular clients. Almost a third 74% (n= 284) of the respondents were attending the clinic for the first time. Figure 2 shows the proportion of STI clinic visits by gender of the respondents.

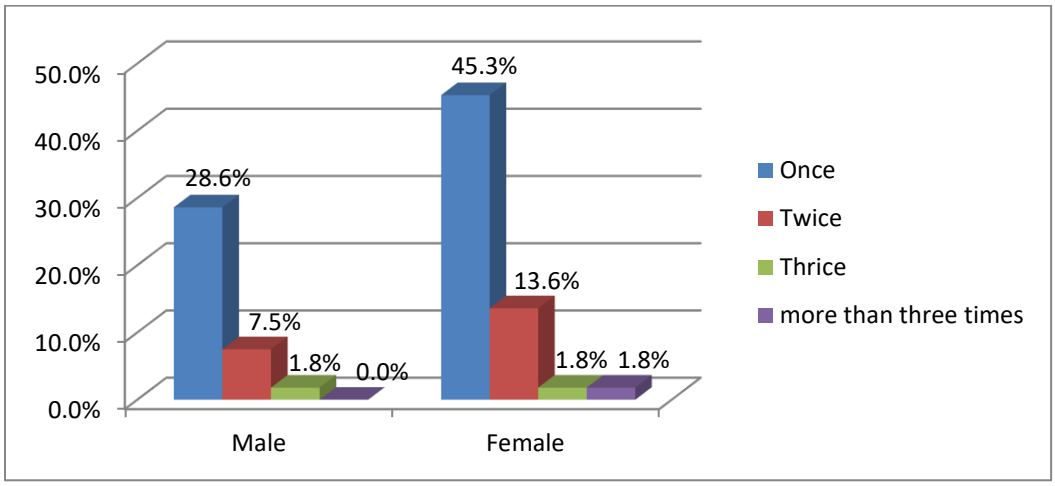


Figure 2: Proportion of STI clinic visits by gender of respondents

4.3 Structure quality attributes of IEC

4.3.1 Availability of IEC resources

Table 2 shows the observation based results on structural quality attributes, the structural quality scored an average of 57.3%.

Table 2: Structural quality attributes index indicating achieved scores (1=yes, 0=no)

Structural quality indicators	Total indicators observed	Total indicator score (n=1)	Percent score (%)
Waiting area ventilated, clean, spacious, chairs	16	0	33.3
Consultation room available, spacious, three chairs, desk	16	1(n=2)	100.0
Consultation room door closed, curtain drawn	16	1(n=2)	100.0
Nurses available	16	0 (n=2)	50.0
Counsellors available	16	1	100.0
IEC guidelines available	16	0(n=3)	33.3
Male condoms available	16	1	100.0
Partner notification cards available	16	1	100.0
Female condoms available	16	1	100.0
Condom Models available	16	0	0.0
Posters available	16	0	0.0
Charts available	16	1	100.0
Leaflets/booklets available	16	0	0.0
IEC materials in local language	16	1	100.0
STI/IEC guidelines displayed at the clinic	16	0	0.0
STI/IEC materials displayed at the clinic	16	0	0.0
Average percent score		50	57.3

4.4 Provider practices during IEC

4.4.1 Observational based results for group IEC

The process quality analysis subdivided the IEC standards into clinical tasks. The results revealed that group IEC was provided at the STI clinic every morning and afternoon by HIV counsellors before individual consultations. The delivery of group counselling took an average of 30 minutes and reviewed facts of STI/HIV. A table top flipchart was the main IEC support material which guided the group counsellor and the participants through the session content. Tables 3 indicate achieved scores for group IEC tasks.

Table 3; Group IEC attributes index indicating achieved scores (1=yes, 0=no)

Process quality indicators for group IEC	Total indicators observed	Total indicator score (n=1)	average Percent score (%)
Provider explains about meaning STI/HIV/AIDS	17	1	100.0
Provider informs about STI/HIV transmission	17	1	100.0
Provider informs STI and HIV link	17	1	100.0
Provider refers for HIV testing	17	1	100.0
Provider informs about STI/HIV dangers	17	1	100.0
Explains about PEP	17	0	0.0
Provider explains about window period	17	0	0.0
Provider explains about positive/negative results	17	0	0.0
Provider informs about Partner Notification Tx	17	0	0.0
Provider informs about STI/HIV prevention	17	1	100.0
Provider informs about treatment options	17	1	100.0
Provider informs about condom use	17	1	100.0
Provider explains about STI/HIV misconception	17	1	100.0
Provider explains about health living	17	1	100.0
Provider explains on stigma/discrimination	17	1	100.0
Provider use IEC support materials	17	1	100.0
Provider demonstrates interpersonal skills	17	1	100.0
Total percent score		76.5	76.5

4.4.2 Observational based results for individual IEC

The observational findings showed that each participant went through individual counselling in the consultation rooms. It was found that providers did not make reference to the syndromic flow chart for IEC requirements. The results also showed that one of the nurse providers did not treat patients respectfully and in a polite manner. It was found some nurse providers were not supplying male and female condoms and partner notification cards to patients although both were in stock. Furthermore, the IEC messages were inconsistent, sometimes the nurse provider could only write in the health passport book indicating to bring the

sexual partner but not actually providing the slip or explaining to the patient. On average individual counselling took about three minutes. Table 4 indicate achieved scores for individual IEC attributes.

Table 4: Individual IEC attributes index indicating achieved scores (1 = yes, 0 = no)

Process quality indicators for individual IEC	Total indicators observed	Total indicator score (n=3)	average percent score (%)
Provider maintains audio-visual privacy	17	0	33.3
Provider informs about STI signs/symptoms	17	0	66.7
Provider informs about STI type	17	0	33.3
Provider informs about STI transmission	17	0	33.3
Provider informs about STI dangers	17	0	33.3
Provider informs about STI prevention	17	0	66.7
Provider informs about STI and HIV link	17	0	66.7
Provider informs and refers for HTC	17	0	66.0
Provider informs about Partner Notification Tx	17	0	66.7
Provider informs about condom use	17	0	66.0
Provider demonstrates condom use	17	0	0.0
provider supply condoms	17	0	66.7
Provider supply partner notification slips	17	0	33.3
Provider advices on treatment compliance	17	0	66.0
Provider use IEC support materials	17	0	0.0
Provider informs and communicate review date	17	0	0.0
Provider demonstrates interpersonal skills	17	0	66.7
Average percent score			45.11

Basing on process quality attributes presented in table 3 and 4, the mean process quality score was 60.8% (average score of group (76.5%) and individual (45.11%) IEC), giving an overall mean performance score of 59% (average score of structure (57.3%) and process (60.8%) quality)

4.4.3 Participants exit interview results

The assumption was that the patients report will represent the providers' best possible performance on IEC delivery which may not have been affected by the hawthorns effect.

4.4.3.1 IEC provider

All the 384 participants reported that they were counselled by a nurse provider at one point and out of these 75.8% (n=291) were also counselled by a counsellor during group IEC. Table 5 shows the type of health provider providing IEC.

Table 5: Showing type of health provider providing IEC

		Responses		Cases
		N	Percent	%
$EC provider	Nurse	384	56.9	100.00%
	Counsellor	291	43.1	75.80%
	Total	675	100	175.80%

* *Multiple responses were allowed; the sums of responses are therefore greater than 100%*

4.4.3.2 Attendance of Group IEC and individual IEC

All the 384 participants who received treatment at the clinic were reviewed in the consultation room and received individual IEC. Among all respondents receiving individual counselling, 78.6% (n=302) respondents also attended group IEC while 21.4% (n=82) did not attend group counselling sessions. As regards to reasons for not attending the group counselling sessions, 33% (n=30) indicated that there was no one to provide the group IEC. Figure 3 shows

the reasons for not attending group IEC.

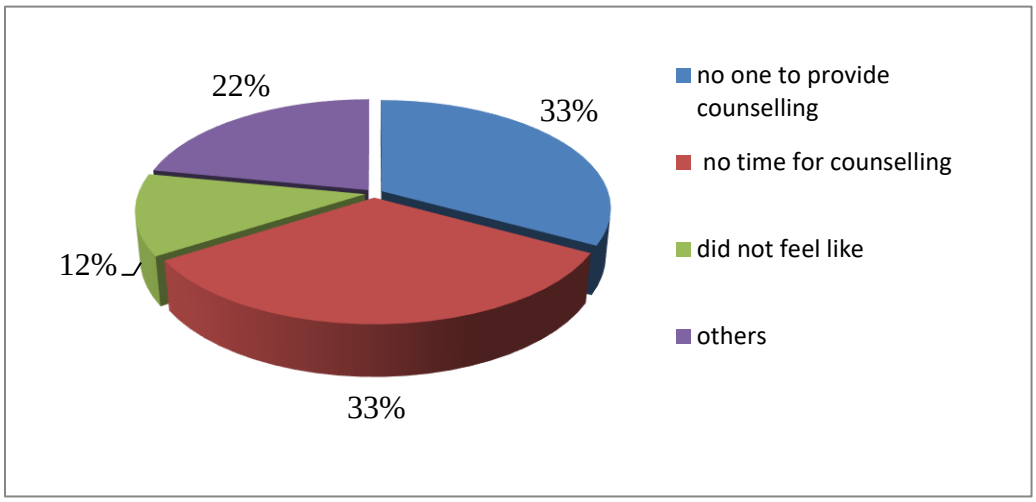


Figure 3: Reasons for not attending group IEC

4.4.3.3

Group IEC attendance by age showed that among those (n=284) who attended group IEC sessions, 73% (n= 207) were in the age category of 25-40, 17% (n=47) in 18-24 category and 10% (n=30) in 41-65 category. In relation to their proportion, 89% (n=207) were in the age category of 25-40, 73% (n=29) were in the category of 41-65 and 43% (n=47) were in the age category of 18-24.

4.4.3.4 IEC on Type/diagnosis of STI

The results show that 65.4% (n=251) of the participants reported that they were not told the type of STI they were infected with. Other respondent mentioned syphilis, 13% (n=50), trichomoniasis, 10.9% (n=42), gonorrhoea, 3.1% (n=12), genital growths, 0.8 % (n=3), lower abdominal pain, 4% (n=15) and perineal swellings, 2% (n=8).

4.4.3.5 IEC on STI transmission

Table 6 shows the proportion of respondents who recalled STI signs and symptoms. According to the respondents who got information on STI transmission the majority recalled non-use of a condom, 73.4% (n= 282). Less than a quarter (22.7%, n=87) of the respondents did not know any transmission way. However, there was significant relationship between attendance of group IEC and acquisition of knowledge on STI transmission (χ^2=273.347, df=3, p value=0.000) further between the type of provider (HIV counsellor) who provided IEC and acquisition of knowledge on STI transmission (χ^2=212.213, df=3, p value=0.000).

4.4.3.6 IEC on STI signs

Among the participants who got information on signs and symptoms of STIs a quarter (25.5%, n =98) did not recall any sign of STI. The proportion of respondents who recalled signs and symptoms of STIs are indicated in table 6.

Table 6: Displays proportion of patients who received IEC on selected areas

Knowledge category		Responses		Cases
		N	%	%
$IEC on STI transmission	Many partners	194	29.7%	50.5%
	No Condom use	282	43.2%	73.4%
	Others	90	13.8%	23.4%
	Don't Know	87	13.3%	22.7%
$IEC on STI signs and symptoms	Fever	72	5.0%	18.8%
	Genital Itching	215	14.9%	56.0%
	Smelly VD	215	14.9%	56.0%
	Urethral Pus	212	14.7%	55.2%
	Pain Urination	193	13.4%	50.3%
	Genital Sores	223	15.4%	58.1%
	Genitals Growth	135	9.3%	35.2%
	Other Signs	82	5.7%	21.4%
	Don't Know	98	6.8%	25.5%
	Total	1445	100.0%	376.3%
$IEC on STI prevention	Abstaining	201	25.2%	52.3%
	Being Faithful	210	26.3%	54.7%
	Condomising	279	34.9%	72.7%
	Other prevention	21	2.6%	5.5%
	Don't Know	88	11.0%	22.9%
	Total	799	100.0%	208.1%

** Multiple responses were allowed; the sums of responses are therefore greater than 100%*

4.4.3.7 IEC on STI prevention

Among the participants who got information on prevention of STIs, 22.9% (n =88) did not know any preventive measure. The proportion of respondents who recalled STI preventive measures are indicated in table 6. The results of the statistical test revealed that there was significant relationship between provision of group IEC and acquisition of knowledge on STI prevention (χ^2=318.635, df=4, p value=0.000) further between the type of provider (HIV counsellor) who provided IEC and acquisition of knowledge on STI prevention (χ^2=240.759, df=4, p value=0.000).

4.4.3.8 IEC on STI dangers

The results show that those who got information on dangers/complications of STIs 30.5%% (n=117) did not know any danger/complication of STI.

4.4.3.9 IEC on medication compliance Instructions

Table 7 shows the specific instructions provided to patients to comply while taking STI medications. The results showed that the majority, (100%, n=384) were asked to take medications as prescribed and 0.2% (n= 2) to abstain for seven days duration while taking medication.

Table 7: Medication compliance Instructions

		Responses		Cases
		N	Percent	%
$Drug compliance instructions	Abstinence	298	24.4%	77.6%
	Condom use	275	22.5%	71.6%
	Partner treatment	263	21.5%	68.5%
	Drug adherence	384	31.4%	100.0%
	Other	2	0.2%	0.5%
	Total	1222	100.0%	318.2%

** Multiple responses were allowed; the sums of responses are therefore greater than 100%*

4.4.3.10 Provision of medical supplies and communication

Data showed that 25.3% (n=97) did not receive any supplies at the clinic. None of the participants was offered IEC leaflets/booklets. Figure 4 shows the supplies provided to STI patients during consultation.

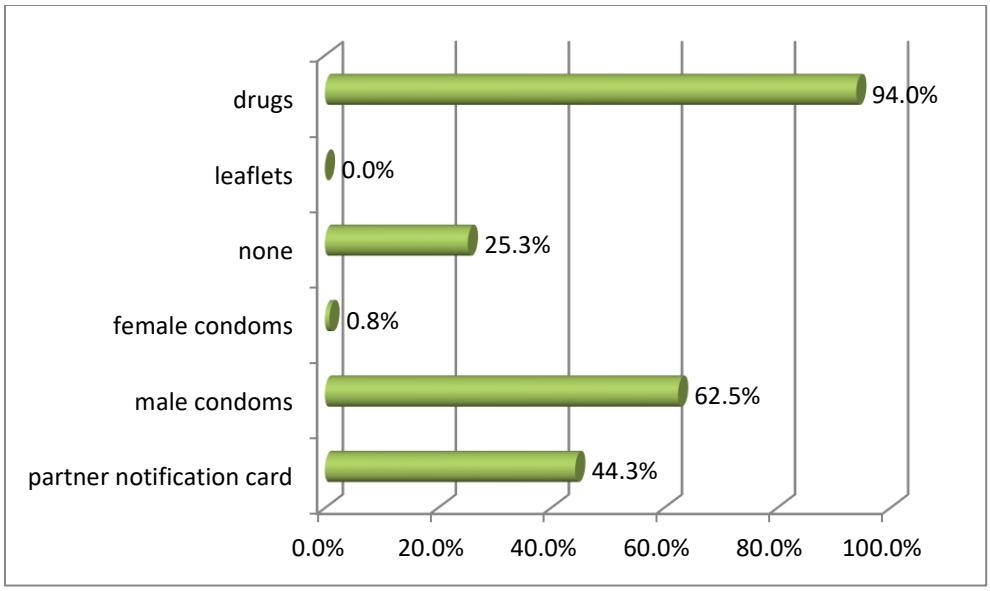


Figure 4: Medical Supplies

** Multiple responses were allowed; the sums of responses are therefore greater than 100%*

4.4.3.11 Use of IEC support materials during IEC sessions

Among the 384 participants, 75.5% (n=284) reported that a flip chart was used during group counselling sessions while 24.5% (n=100) said that no IEC support material was used during the sessions. Condom demonstration was not done during group IEC or individual IEC.

4.4.3.12 Communication of referral places

Table 8 shows different areas where patients were being referred to. The study revealed that the majority 90.1% (346) were referred for HTC and that 334 (87%) of the participants were offered HTC. .

Table 8: Referred places

		Responses		Cases
		N	%	%
$Referral places	HTC	346	84.8%	90.1%
	Laboratory	15	3.7%	3.9%
	YFHS	6	1.5%	1.6%
	Other Places	3	0.7%	0.8%
	Not Referred	38	9.3%	9.9%
	Total	408	100.0%	106.2%

** Multiple responses were allowed; the sums of responses are therefore greater than 100%*

4.4.3.13 IEC on Follow-up/Review date

Over a third of the respondents (85.7%, n=329) were not given a date for review.

4.4.3.14 Opportunities to ask care providers questions

The results show that 27.9% (n=107) were given a chance to ask a question. Out of all those who were given a chance to ask questions 40% (n= 43) were not answered properly.

4.4.3.15 Audio-visual Privacy

The majority 93% (n=357) of the patients expressed that privacy and confidentiality was maintained while 7% (n=27) expressed that it was not provided.

4.4.3.16 Rating IEC time

The results show that 78.1% (n=300) of participants spent between 26 to 30 minutes receiving IEC. Figure 5 shows time spent by participants for IEC activities at the STI clinic.

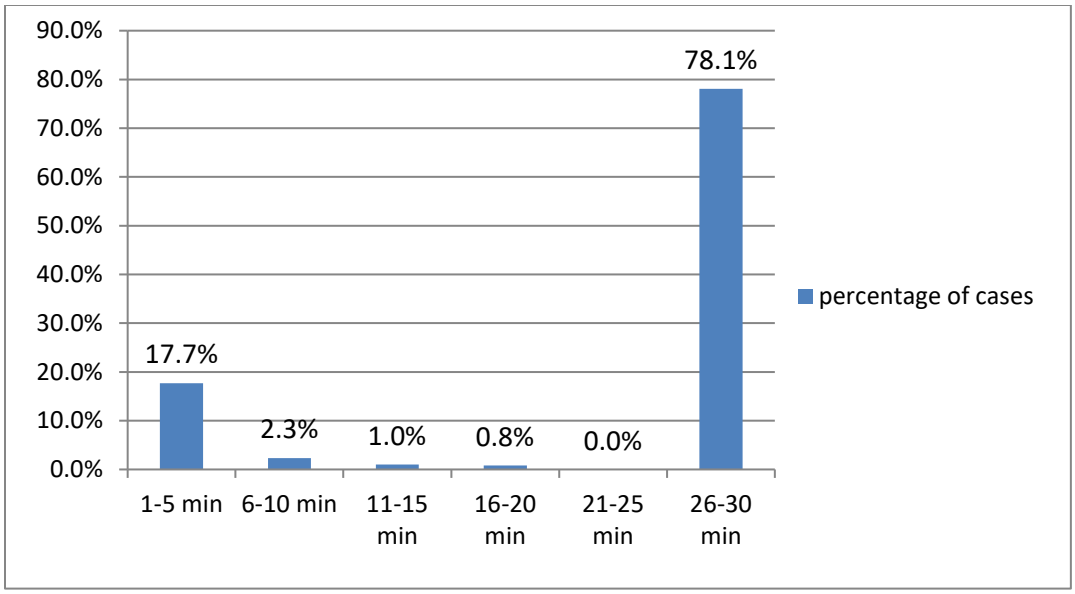


Figure 5: Time taken during counselling

4.4.3.17 Time adequacy opinion

Out of the 384 STI participants who were asked their opinion on time adequacy during IEC services at the STI clinic, 77.3% (n=297) indicated that the time spent for receiving IEC was very adequate while 22.7% (n= 87) indicated that the time spent for receiving IEC was not adequate. Furthermore, the results of the statistical test revealed that there was a significant relationship between attendance of group IEC and time adequacy opinion (χ^2=283.259, df=1, p value=0.00).

4.5 Outcome attributes of quality

4.5.1 Participants opinion on satisfaction with IEC received

Table 9 shows different satisfaction levels among STI participants after receiving IEC services on different areas at the STI clinic. The mean satisfaction score was calculated to be 54.7% and the mean for very satisfied was 20.6%.

Table 9: Satisfaction with different areas of IEC

Area	Satisfaction level	Frequency (n)	Percent (%)
IEC on STI transmission	Very satisfied	**78**	**20.3**
	Satisfied	**202**	**52.6**
	Neutral	**29**	**7.6**
	Dissatisfied	**74**	**19.3**
	Very dissatisfied	**1**	**.3**
	Total	**384**	**100.0**
IEC on STI prevention	Very satisfied	**84**	**21.9**
	Satisfied	**200**	**52.1**
	Neutral	**22**	**5.7**
	Dissatisfied	**77**	**20.1**
	Very dissatisfied	**1**	**.3**
	Total	**384**	**100.0**
IEC on STI dangers	Very satisfied	**83**	**21.6**
	Satisfied	**199**	**51.8**
	Neutral	**22**	**5.7**
	Dissatisfied	**79**	**20.6**
	Very dissatisfied	**1**	**.3**
	Total	**384**	**100.0**
IEC on STI drug instructions	Very satisfied	**83**	**21.6**
	Satisfied	**252**	**65.6**
	Neutral	**24**	**6.3**
	Dissatisfied	**24**	**6.3**
	Very dissatisfied	**1**	**.3**
	Total	**384**	**100.0**

4.6 Summary

The findings show that the majority of the respondents were satisfied with the IEC provided although there were inconsistencies in the messages delivered. Provision of group IEC and type of provider were found to have an impact on the STI messages received as well as on satisfaction by the STI participants. However, the results revealed that the providers had inappropriate practices relating to provision of STI IEC. The participants showed knowledge gaps which varied across the areas that were assessed. Time limitations and few providers were identified as the major reasons for not attending the group IEC sessions by participants. Use of IEC support materials was minimal during the IEC sessions. The study further revealed that although material supplies were adequate there was low provision of these supplies (Partner notification slips and condoms) to STI patients to compliment and/or facilitate adoption of secondary prevention practices.

The standards measured in this study were clinic readiness (structural quality) for provision of IEC activities, the provider correctly delivers group health education activities and the provider correctly delivers individual IEC activities (process quality). Using the PQI RH Standards for measuring quality of STI SMA, Bwaila STI clinic scored an average of 59% on STI IEC. The scores were based on the verification criteria used in this study to measure the standards. The clinic had to score at least 80% on each standard to be considered as providing good quality in the STI IEC service area. When a facility is below 80%, it is considered as providing poor quality services.

Chapter five

5.0 Discussion

5.1 Introduction

This chapter discusses the results presented in Chapter 4 under the structure, process and outcome attributes of quality in relation to previous research studies. It also presents implications and limitations of the study as well as recommendations for the structure, process and outcome attributes of quality. Finally, areas for further research have been presented.

5.2 Demographic characteristics

The socio demographic characteristics of STI patients are critical for designing interventions and programmes that would address the STI problem. The results show that slightly above half of the respondents were young adults (60.7%, n=233) and the mean age of the participants was 30.4 years. A study conducted in Faisalabad, Pakistan found that of the 1532 patients who took part in the study, most infections were among people aged 30 to 45 years and the mean age of the participants was 38.9 years (Maan et al., 2011). Similarly a study conducted in Cameron to determine the effect of men's sex-related behaviours and HIV knowledge on reported STIs found that the average age of men who were interviewed at the STI clinic was 30.74 years (Oyekale, 2014).

The age image in the current study and other related studies fell in the vulnerable group to STIs as evidenced by the reports by Bearinger, Sieving, Ferguson, & Sharma (2007); Baloyi (2007) who reported that the youth in this age group strive for independence during this stage of

development and have a higher probability of engaging in unprotected sex while learning to be responsible and accountable for their actions. All this shows that this age group is highly sexually active and therefore at greater risk of contracting STI/HIV. It is very difficult for the youth and/or young adults to manage their sexual behaviour with little or no information on STIs and preventive measures. Therefore, continued provision of comprehensive IEC on preventive messages is imperative to reduce risk taking behaviours and facilitate behaviour change in this age group.

Furthermore, more females (62%, n=238) were seen at the clinic than males (38%, n=146). Similar findings were noted by Urassa, Moshiro, Chalamilla, Mhalu, & Sandstrom, (2008) where the majority (157%, n=51.6%) were females. This might mean that more females are being infected with STIs. The difference in gender proportions can be attributable to biological susceptibility, gender differences in power and health seeking behaviour and other social factors. Data revealed that significant numbers of STIs occur in mid-life women who are also highly likely to go through relationship transitions (separation or divorce) and the subsequent initiation of new sexual relationships, as a result, these women are at elevated risk of STIs (Sherman, Harvey, & Noell, 2005). This shows that women remain sexually active throughout middle years and into the post-menopausal years and they are at an increased risk of contracting STIs. Therefore, there is need to promote programs that address the life concerns of women at this stage such as income generating activities so that they can be dependent even after divorce, separation or death of spouse. Most of all, they should have access to comprehensive information for prevention of STIs.

The low attendance of men at the clinic may suggest that men are not visiting the clinic under study when infected or they visit other clinics or private clinics. Contrary to the findings, Choudhry, Ramachandran, Das, Bhattacharya, & Mogha (2010) found that the majority (64%) of the patients were male and the male-to-female ratio was 2:1. The low male attendance at the clinic prevents them from accessing the right information for prevention of STIs. This indeed is a missed opportunity for STI prevention messages which might result in an increase in numbers of STIs and re-infection among sexual partners. Therefore it is important that health care providers promote ways of motivating men to report for treatment to enable them access STI information for prevention purposes. Apart from this, all the efforts should be done to ensure that the few numbers of men that are accessing care at STI clinic are well informed, educated and counselled to prevent secondary STIs.

The majority of the participants in this study were married (75%, n=288). Similar results were reported by Maan et al. (2011) in Faisalabad, Pakistan who found that most patients (89.4%, n=1370) were married among patients attending STI clinics. These results indicate that married couples were engaging in extramarital relationships as result they contract STIs which may also be transmitted to their marriage partners. Schensul et al. (2006) in their study conducted in India found that young women believe that older men are low-risk partners because they are less likely to be promiscuous and more likely to remain faithful to younger partners and wives. The study further indicted that, men believed that young partners are innocent and sexually inexperienced. This means that usually couples underestimate their risk for infection from STIs/HIV and being married increases the acts of promiscuous and unsafe sexual

intercourse which put married individuals at risk of STIs if one of the two engages in extramarital sexual activities and so they tend to re-infect each other.

However, Chiao & Morisky (2007)found that living with a regular sex partner is an independent and protective factor against having an initial STI and subsequent re-infection. This shows the importance of being faithful to one partner and the need to avoid extramarital sexual relationships to reduce the chances of acquiring STIs. In addition, these results confirm the need to involve the married couples as a unit during STI counselling and treatment to reduce the risk of STI/HIV transmission. Hence, IEC programmes at STI clinics should be designed to improve partner notification and treatment services to prevent secondary STI infections.

Education attainment is crucial because it enhances comprehension of information and facilitates decision making after counselling. In the results, the majority had no formal education and/or had primary education while those with secondary education and tertiary education were very few. In support of this finding, Maan et al. (2011) in Faisalabad, Pakistan found that the majority of the participants never attended school. Patient with no education or low educational levels may have difficulties in comprehending the health information being communicated. On the other hand, formal education can influence STIs through safeguarding risky sexual behaviour since it is expected that educated people would have good understanding of health information concerning the nature of STIs and how to be protected from STI/HIV. Studies by Lan et al. (2009) and Lim, Hellard, Aitken & Hocking (2007) conducted in Vietnam and Australia respectively, found that highly educated people were better informed about STI/HIV than lower educated persons and higher educational level was one of the factors that influenced having a higher STI knowledge**.** This study did not find any significant relationship between education

level and knowledge on STI transmission or prevention. Therefore, delivery of IEC activities should take into account the education level of beneficiaries to promote understanding.

Furthermore, the results of the study show that a large proportion of participants were attending the clinic for the first time (74%, n= 284). Studies in support of this finding were not found. However, the results show that new cases of STIs are emerging suggesting that the individuals are not engaging in protective sexual activities and it serves as a warning to the health officials that something needs to be done. Therefore, the large proportion of visit of the newly infected participants at the clinic should serve as an opportunity for health providers to provide them with information concerning the prevention of STIs. On the other hand, it is encouraging that the majority of the clinic attendees were not regular patients as this may show that the rate of re-infection is low. However, it might also mean that those who were re-infected sought assistance somewhere else.

5.3 The structure and its verification criteria

5.3.1 Infrastructure

The study revealed that infrastructure for provision of IEC activities was inadequate. The observational data indicated that the waiting area (reception) was very small with very few chairs. The findings concur with the results from a qualitative study by Masaro et al., (2012) where limited physical space was noted by care providers. Similar findings were noted in a study conducted by Phrasisombath et al. (2012) in Laos, where infrastructural barriers to service use were noted. This implies that the venue or physical structure was generally not enough for provision of IEC at the STI clinic under study. The health providers are supposed to make sure

that the venue for providing IEC is clean, well illuminated and ventilated and has enough seats for the patients. Good physical environment contributes to the patient being psychologically at ease and ready to actively participate in the counselling process and facilitate effective communication. However, it was encouraging to note that there were enough rooms, well cleaned, ventilated and secured with proper doors and windows with curtains where both individual and group IEC took place.

As a result of limited space in the waiting area, the patients would remain standing from 9am to 12 noon after the morning group counselling session and HTC waiting for their turn to be called into the consultation room. This caused other patients to leave the facility earlier without being attended by the consulting health provider and others left the clinic without attending the IEC sessions. Therefore, it is imperative that the physical structure be suitable, spacious with enough chairs so that the patients remain at ease in readiness for IEC messages and consultation.

5.3.2 Human resources

The results revealed that there were inadequate health care providers at the clinic. The observational data showed that there were two permanent nurses only. One of them worked at the clinic most of the time and the other one was rarely at the clinic. This was similar to what was found by Buerhaus et al. (2007) and Masaro et al. (2012) who reported that there were increased communication problems due to shortage of staff. This suggests that there was shortage of staff as evidenced by one nurse provider for consulting patients in the STI clinic in more than a third of the time during data collection. This did not tally with the average number (35) of patients seen at the clinic per day. Shortage of staff prevents the providers to spend more

time with patients and building rapport for open communication. Subsequently this may result in the inadequate communication of heath information.

In addition, lack of adequate staff made most patients wait for STI services for a long period of time such that others were told to come back the next day while others absconded. Mostly, this happened when there was one consulting provider against so many patients to be reviewed, forcing patients to wait for a long period to be assisted and when it's time to knock off the consulting provider would send back the remaining patients. Others afraid of the long waiting time preferred to go for HTC in private clinics where comprehensive IEC for STI mostly is not done and only reported back for STI treatment but missing one of the important part of STI management which is health education and counselling. The findings suggest that shortage of staff negatively affect the IEC provided.

5.3.3 Equipment and supplies

The current study found that equipment and supplies for IEC activities were insufficient. The results are consistent with the findings by Kazembe (2014) in Malawi which established that the two health centres under study had no IEC materials. Similarly, Metcalfe (2007) in the study conducted in Malawi, found inconstant supply of condoms. A first prerequisite in providing IEC is the availability of the necessary material resources. Equipment and supplies are required in the implementation of day to day IEC activities. In the current study, lack of condom models could also be a reason why providers did not perform condom demonstrations and unavailability of IEC materials could be the reason why they were not distributed to patients.

Availability of IEC materials (leaflets) is very important as the patients can also take this home and read the materials to enforce their knowledge on STIs. However, without the use of IEC support materials which are in local language, patients usually forget and will continue to have limited knowledge on STI/HIV messages that the IEC materials might have carried, therefore, the patient/clients may continue the transmission of STIs/HIV and rates of re-infection will remain high. Hence, essential material resources required for provision of IEC should be made available at STI clinics as this will ensure proper provision of IEC in order to improve the service delivery. However, it is encouraging noting that the clinic had enough stocks of male, female condoms and partner notification slips. Availability and constant supply of condoms may have a positive role in the reduction of STIs.

Very crucial is the finding that there were frequent stock outs of essential drugs in the treatment of STIs such as Gentamycin and Erythromycin. Pelesa (2007),in a study on assessment of the quality of STI services in Johannesburg, South Africa, found that the majority of clinics had frequent stock outs of Ciprofloxacin, Erythromycin, Doxycycline and Benzathine penicillin. Lack of essential drugs places clients at risk of increased infection and complications and this alone may affect all the efforts in the control and prevention of STIs since the index patients may not be treated of the infection and treatment is delayed for those who are not able to purchase the required drug/s.

5.3.4 Availability of STI guidelines

The findings showed that the STI clinic had inadequate SMA guidelines or flowcharts and there were no STI and IEC standards. The syndromic flow chart was seen in one

consultation room and was missing in all other points where IEC was being provided. Sibanda, et al. (2012) in Zimbabwe also found lack of operational guidelines in facilities which offered HTC. Following guidelines can only be possible if the guidelines are available through the results in this study indicate that the providers made no reference to the available guidelines in the consultation room and this could have a negative implication to achieve standardization in provision of IEC. This could also be one of the reasons why some information were missed or not communicated to patients in other counselling sessions.

The Malawi national RH guidelines (2006) recommend that all health care providers should be familiar with standards, guidelines and protocols for care provision. The guidelines including syndromic flow charts act as a reference material and serve as a reminder of what providers are supposed to communicate to patients. Its availability in all rooms could have assisted care providers to deliver consistent and standardised IEC services at the STI clinic since they contain some of the critical areas for counselling. In addition they act as a yard stick on which to measure performance by supervisors. Therefore, the clinic in charge should make sure that the standards, guidelines and protocols for STI provision and IEC subject areas are made available at the clinic.

5.4 The process and its verification criteria

5.4.1 Group IEC

The findings showed that health providers were conducting group IEC at the STI clinic every day. These sessions were carried out by the HIV counsellor. Furthermore, the study has shown that the majority of the participants (78.6%, n=302) were in attendance of the group IEC

sessions. A review of literature in USA found that group behavioural interventions have been effective in reducing sexual risks among STI patients (Scott-Sheldon et al., 2010). Group IEC sessions provide a forum on which all these relevant messages are discussed in-depth to a large group of patients/client within a short time. This ensures that more patients have access to STI related information before they leave the clinic and could help to reduce sexual risk behaviour among clients. In addition, group members have a chance to learn from each other's experiences and any misconceptions are dispelled by the health provider. This was a good development at the clinic since the IEC standards stipulates that health care providers should conduct group health education at areas where patients with similar problems gather in hospitals.

The results showed that the information or STI messages provided during group sessions were not enough to tackle all the important areas comprehensively. The care providers were supposed to conduct group health education on STI and HIV/AIDS and HTC. The following information was supposed to be communicated during group IEC; meaning and differences between HIV and AIDS, transmission of STI/HIV, STI relationship with HIV, STI/HIV prevention, condom demonstration using models/instructions on using a condom, detection and treatment of STI/HIV, PEP, meaning, advantages of HTC, how testing is done, meaning of positive or negative results, window period, partner notification with treatment services and health living, common misconceptions about STI/HIV/AIDS, issues of fear, stigma and discrimination. All these messages are important to patients reporting at STI clinics because they allow them to have adequate knowledge which will facilitate their informed decision making. Group IEC provides the necessary knowledge, attitudes and awareness of STI/HIV consequently promoting behaviour change among sexually active individuals and it has the potential to reduce risk behaviours and so STI/HIV infections.

However, the results showed that the provision of group IEC proved difficult to implement with all patients at the clinic. There was a higher group IEC attendance among the patients of age categories of 25-40 (89%, n=207) and 41-65 (73%, n=29) in relation to their proportion than the age category of 18-24 (43%, n=47) in relation to its proportion. The low attendance of group IEC sessions is a missed opportunity for young people who are sexually active and are more concerned with their social behaviours. Comprehensive information for prevention of STI/HIV while building skills for negotiating safe sex is very crucial in this age category, and in the hospital setting this knowledge can be acquired through attendance of IEC sessions. Bearinger et al., 2007 & Baloyi, 2006 noted that with little knowledge on STIs and preventive practices, young people often face challenges when managing their lifestyles and sexual behaviour hence they should be the focus of IEC programs. The study participants reported that non-attendance was due to; unavailability of staff, inadequate time, reporting rate at the clinic, not interested to attend the IEC sessions and others were already tested in other departments. Those who were referred from other departments to receive STI treatment mostly could not attend group IEC sessions because they usually found that the session was over. Major barriers that adolescents and young people say they face are fear that others might get to know of their visit, shame about their needs, negative attitudes of providers, lack of privacy and confidentiality and age restrictions (Wood & Jewkes, 2006; Warenius et al., 2006). These challenges may lead to decreased utilization of STI services. Hence, there is need to ensure that all patients are motivated to attend group IEC sessions and health providers should improve delivery of group IEC activities.

Further results indicated that attendance of group IEC was significantly associated with acquisition of information on STI transmission (χ^2=273.347, df =3, p value = 0.000), STI

prevention (χ^2=318.635, df = 4, p value = 0.000), information adequacy opinion (χ^2=283.259, df=2, p value=0.000) and time adequacy opinion (χ^2=283.259, df=, p value=0.00). This was similar to what Neumann et al. (2011) and Luchters et al. (2008)found in their studies in conducted in New York and Kenya respectively, that those who attended group discussion sessions scored higher on scales of STI related knowledge. Those participants who attended group IEC sessions (conducted by HIV counsellors) acquired information relating to STI transmission and prevention measures. During observation the researcher noted that during individual IEC the messages communicated concentrated more on treatment compliance while during group IEC the HIV counsellor highlighted more on risk reduction counselling messages. It is possible that participants who attended group IEC sessions were exposed to the STI messages and therefore, could easily recall what was said, consequently, they could be more motivated to change their sexual behaviour.

5.4.2 Individual IEC

The current study revealed that health providers conducted individual counselling with all study respondents (100%, n=384). Individual IEC sessions provide a forum on which all relevant massages are discussed in-depth with an individual patient. Comprehensive messages are important to patient/clients reporting at STI clinics because they allow them to improve their knowledge, attitudes and awareness of STI/HIV before they leave the clinic which will facilitate their informed decision making and behaviour change.

In this study, during individual IEC, the STI messages were partial and not enough to tackle all these important areas hence a lot of important information on risk reduction was missed out. The care providers were supposed to provide individual IEC to patients on

assessment findings, diagnosis of STI, signs and symptoms of STIs, nature, transmission modes and risk behaviours, risk level, STI complications, STI prevention ways, increased risks of HIV, HTC, treatment compliance, partner notification and treatment, supply partner slips, review date and provide condom use instructions, carry out condom demonstration, allow return demonstrations and supply condoms and partner slips. Thus, the results raise a question of quality of individual IEC since providing inadequate information is a missed opportunity to both the patients and health providers.

Literature supports the use of individual or client-centred counselling to reduce recipients' risk of acquiring STI/HIV infection. For instance, the STI standards in Malawi indicate that all providers should routinely provide individual client counselling according to risk assessment findings (Malawi STI standards, 2010). Using a condom may not be “practical” for every individual but there are other strategies that can be effective such as simply helping a client build confidence or skills to negotiate with the partner either to abstain or being faithful can be a successful intervention. This suggest that providers should weigh the individual patient sexual history when determining the best counselling message and prevention approach for an individual patient because not everyone will benefit from the same intervention since each client is unique. In addition, the individual patient should be given more optional messages from where one can choose the most suitable to the underlying circumstances. In other words, counselling should be patient centred and according to individual’s needs but other IEC messages should not be disregarded.

Furthermore, the client-centred counselling techniques reported by Rietmeije (2007) may improve the patients self-perception of risk such that health provider can help them negotiate a

workable risk reduction plan. Thus the provision of individual prevention counselling and/or risk reduction counselling should be an interactive process in order to produce best results. Conducting individual IEC to attending STI patients has the potential to reduce STI/HIV infections, hence there is need to ensure that health providers provide comprehensive and clear information to individual patients and make best use of the time available.

5. 4.3 Person providing IEC

The results show that nurses and HIV counsellors were providers of IEC activities at the STI clinic. The findings concur with findings by Phrasisombath et al. (2012) in their study conducted in Laos, where it was found that 26% had received information from a health care provider during the visit. When patients visit the hospital they expect to receive health information from health care providers in such a way they are swayed to take advice. Consequently they are motivated to make follow up visits to the hospital when they face a health problem. Therefore, the health providers need to be at the fore front providing IEC to the clinic attendees.

In the current study, it was found that there was a significant association between type of provider providing IEC massages and acquisition of information on STI transmission (χ^2=212.213, df = 3, p value = 0.000), STI prevention (χ^2=240.759, df = 4, p value = 0.000), information adequacy opinion (χ^2=211.418, df=2, p value=0.000) and time adequacy opinion (χ^2=210.031, df=1, p value=0.000). Furthermore, observation finding revealed that more messages were communicated by HIV counsellors during group IEC (scored 76.5%) while nurses (scored 45%) during individual IEC. This finding is similar to what Phrasisombath et al.

(2012) found in Lagos that a few participants received health information from health care providers (26%). During the interview most of the participants who were counselled by the HIV counsellors were able to mention ways of STI transmission, STI signs or STI prevention ways. Although nurses were seen as basic sources of information, it shows that the health providers were just partly involved in provision of IEC while they were supposed to take full control and provide all the necessary information to all patients. This is a sad development by the health providers at STI clinics because people regard health care providers especially nurses as custodians of health information.

The Malawi EmONC (2010) reported that the health providers tend to relax and regard IEC activities as unimportant contrary to the requirements and guidelines for the STI service provision. Therefore, the nurse providers need to be reminded that they are supposed to communicate complete STI information. Most of all the providers should change their mind set and regard IEC activities as an important part of STI management. This will in turn prevent problems that arose from poor counselling and help providers to develop a positive attitude towards providing individual IEC.

5.4.4 IEC on diagnosis/type of STIs

The observational data showed that provider communication on the type of STI the patient had presented with varied among patients with nurses communicating to few patients (34.6%, n= 133). The majority (65.4%, n=251) of the participants indicated that they were not informed about the type of STI diagnosis. The results concurs with findings from a study in Brazil, where it was found that many of the participants interviewed reported not being

counselled that they had an STI nor the type of STI (Malta et al., 2007). This implies that mostly providers do not communicate clearly the diagnosis to patients at the STI clinic hence some participants received little or no information of what was affecting them. Patients need to know what is affecting them as this may increase trust, acceptability of the condition and maintains hope even if the news is upsetting, consequently promoting compliance to treatment and reduce acts of unprotected sex and multiple sexual relations.

In this study, reasons for not informing patients of their diagnosis may include; health providers not referring to the national syndromic management flowchart such that they do not remember what STI diagnosis the syndrome presented by the patient mean or pressure of work which may contribute to STI provider forgetting to communicate the diagnosis of the patient and perhaps providers were afraid of offending patients by informing them of their diagnosis.

5.4.5 IEC on transmission of STIs

With regard to IEC on STI transmission, the health care providers provided little (scored 33.3%) and sometimes no information on STI transmission and about half of the participants got away with limited or no knowledge on STI transmission. The same was noted in a studies by Malta et al. (2007) and Maan, Hussain, Iqbal, Akhtar (2011) in Brazil and Pakistan respectively, that some participants left their consultation rooms without receiving any information regarding how STIs were transmitted and that very few were aware of the modes of transmission of STIs. This implies that mostly providers do not communicate adequate information on ways of transmitting STIs hence some participants received little or no information on this subject. Knowledge on STI transmission and their risk level to patient reporting at STI clinic is very

crucial because it allows patients to perceive the risk behaviours/practices that would facilitate the spread or acquisition of the infection and avoid them. In so doing there is a potential to reduce spread of STIs.

The care providers were expected to inform patients about their risk level and to avoid sexual intercourse with many partners, without using a condom and other risk behaviours (cultural beliefs and practices) that put individuals at risk of acquiring or spreading STIs. Among the transmission ways, not using a condom was recalled more frequently by the respondents (73.4%, n= 282) as having been mentioned by providers than having many sexual partners (50.5%, n= 194). Inadequate knowledge on STI transmission exposes patients to recurrent STI infections and continued spread of the infection. Hence, there is need to ensure that patients and clients at STI clinic are provided with comprehensive messages on STI transmission ways.

Kalichman et al. (2011) in South African noted that brief single-session counselling is important in increasing knowledge about HIV transmission and results in significant reductions in unprotected sexual intercourse among participants who received risk reduction counselling. Hence, IEC on STI/HIV transmission delivered to patients attending STI clinic has the potential to reduce STI/HIV infections, such that health providers should enhance communication on ways of preventing the spread STIs.

However, the fact that some participants (26%, n= 100) previously infected with STIs in the current study were reporting back for treatment might indicate that even if individuals sought care way back, if they were counselled then their knowledge was not translated into appropriate behaviour and so got re-infected. A study conducted by Das, Anjana et al. (2013) among FSWs

at known high STI prevalence sites to determine the effectiveness of the STI service package in India found that high rates of STIs persisted despite the interventions due to poor condom use and minimal partner treatment. The re-infection suggest that the individuals were not engaging in protective sexual activities or were not complying to treatment prescriptions and it serves as a warning to the health officials and an opportunity for health providers to provide them with information concerning the prevention and transmission of STIs. On the other hand, it is encouraging that the majority of the clinic attendees in the current study were not regular patients as this may show that the rate of re-infection was low.

5.4.6 IEC on signs/symptoms of STIs

The results further indicated that during the IEC sessions the health providers were not communicating information on signs and symptoms of STIs and sometimes the information given was partial (scored 66.7%). The results further show that a quarter (25.5%, n =98) of the respondents did not know any STI sign/symptom. The results are consistent with the findings reported by Lan et al. (2009) in Vietnam where low levels of STI knowledge regarding symptoms of STIs were noted among women of reproductive age. This implies that mostly providers do not communicate adequate information on signs and symptoms of STIs at the STI clinic as a result patients acquire inadequate information. Knowledge on STI signs and symptoms to patient/clients reporting at STI clinic is very crucial because it allows patients to identify them in future occurrences and seek care to treat the STI infection quickly without further delays, thus promoting health seeking behaviour that would reduce the spread of STI/HIV infections.

The health providers are expected to communicate the following signs and symptoms of STIs during group IEC; Increased or fowl smelling vaginal discharge, discharge or pus from the urethra, burning or pain on urination, painful/painless blisters or sores on sexually-exposed areas of the body, growth in the vagina or vulva or penis. However, in the current study, the participants could recall an average of three STI signs and symptoms. Among the STI sign/symptom, abnormal smelly vaginal discharge, genital itching and genital sores were recalled more frequently by the respondents as having been mentioned by providers than others while fever was the least known by participants. This means that the majority of the respondents got away with inadequate knowledge on STI signs/symptoms. Inadequate knowledge on STI signs and symptoms delays in seeking treatment exposes patients to STI complications and allows for continued spread of the infection. Hence, there is need to ensure that patients and clients at STI clinic are provided with comprehensive messages on STI transmission ways.

Dalal, et al. (2014)reported that women with knowledge about STIs, HIV/AIDS, were more likely to receive treatment than those with less information. Therefore, communication of signs and symptoms of STIs should be promoted since having limited knowledge of STI signs/symptoms might contribute to delays in seeking treatment, result in increased infection and further complications. This reflects an obvious need to provide patients with accurate and adequate information on signs and symptoms of STIs.

5.4.7 IEC on complications of STIs

With regard to IEC on STI dangers/complications the health providers provided little (scored 33.3%) and sometimes no information on the dangers of untreated STIs during IEC

sessions. The results further show that slightly above a quarter (30.5%%, n=117) of the respondents did not know any complication of STIs. The majority got this information from the HIV counsellor. This finding is consistent with what Maan et al. (2011) and Lan et al. (2009) found that few participants were aware of the STI associated complications. This implies that mostly providers do not communicate adequate information on dangers of STIs at the clinic hence some participants received little or no information on this subject. Knowledge on complications of untreated STIs to patient/clients reporting at STI clinic is very crucial because it persuades patients to seek care upon noticing the presence of unusual signs and allows one to get treated in fear of the consequences.

The care providers were expected to inform patients about the following complications of STIs; Increased transmission and acquiring HIV, risk of ectopic pregnancy, increase risk of abortion, make a person less fertile, lead to infant abnormalities and even premature death of neonates. However, in the current study, the results show that each participant could recall an average of two STI complications. Among the dangers of STIs, neonatal disorders (48.2%, n=185) and infertility (47.9%, n=184) were recalled more frequently by the respondents as having been mentioned by providers than others while abortion (34.6%, n=133) and HIV increased risk (30.5%, n= 117) were the least known by participants. This showed that the information on STI complications was insufficient among participants. Lack of awareness of STI consequences among the respondents can hinder patients from taking a positive action, a situation which can lead to treatment delays and long lasting complications. Hence, IEC on STI complications delivered to patients attending STI clinic has the potential to empower them to

timely seek health care, so health providers should intensify communication on complications of STIs.

5.4.8 IEC on prevention of STIs

Data from the current study indicates that advice on STI prevention was not adequate. The health providers provided little (scored 66.7%) and sometimes no information on STI prevention, such that slightly below a quarter (22.9%, n =88) of the respondents did not know any way of preventing STIs. Similar results were reported by Lan et al. (2009) & Maan et al. (2011) in their studies in Vietnam and Pakistan respectively where it was found that few participants had knowledge on STI prevention and safe sex. The findings suggest that the providers do not communicate adequate information on prevention of STIs at the clinic hence some participants received little or no information on this subject. Therefore, knowledge on several ways for STI prevention to patient/clients reporting at STI clinic is very crucial because it allows them to have wider choices in avoiding the risk behaviours/practices that would facilitate the acquisition of STIs.

The care providers were expected to inform patients about the following STI prevention ways; abstinence, being faithful to one sexual partner, condom use in all sexual encounters, partner notification and treatment of STI and treatment compliance. In the current study, each respondent recalled an average of two STI prevention ways and more than half of the respondents got information on at least two ways of preventing STIs. This means that some of the respondents got away with limited or no knowledge on STI prevention ways. Among the prevention ways of STIs, using a condom (72.7%, n=279) was recalled more frequently by the

respondents as having been mentioned by providers than being faithful to one partner (52.3%, n=201) and abstinence 52.3%, n=201. Lack of awareness of STI prevention ways can hinder patients from taking a positive action, a situation which can delay treatment of the infection and promote the spread of the STIs.

Literature indicates that abstinence-based interventions combined with safer-sex strategies such as condom use may reduce self-reported behaviours and may be an efficacious way to reduce incidence of STIs and related risk taking behaviours and further sexual acts (Underhill, Operario & Montgomery, 2008; Crosby et al., 2009). Abstinence is an important measure in STI prevention although it cannot be maintained throughout a lifetime, but it is a reliable way to avoid contracting most STI/HIV. This implies that IEC on secondary abstinence has an effect on STI/HIV prevention among patients infected with STIs. The assumption is that if an STI infected person abstains, he/she is less likely to have multiple sexual partners which are a risk factor in the spread of STI/HIV. On the other hand, knowledge on condom use for safe sex is an important tool in case sex was to occur. Thus, IEC on STI prevention measures has the potential to reduce STI/HIV infections and health providers should intensify its delivery to make the patients understand the need to abstain, use condoms and stick to one partner to promote the behaviour change.

5.4.9 IEC on condom use

Data in the current study indicates that advice by the health care providers on condom use was not adequate (scored 66.7%). The interview results showed that the majority of participants (71.6, n= 275) reported receiving information on condom use while others did not receive the

advice (28.4%, n=109). The results were similar to what Malta et al. (2007) found, that very few MSM reported having discussions regarding condom use or partner notification with their attending STI care provider. This implies that IEC on condom use was inadequate to promote condom use among STI patients. Knowledge on condom use among patient/clients reporting at STI clinic is very crucial since it ensures possession of necessary knowledge, skills and attitudes that persuade already infected individuals to protect themselves and/or their partners. In the long run it promotes adoption of good sexual and safe sex practices favourable for prevention of STIs.

The care providers were expected to advice all STI patients about using a condom in all sexual encounters for the prevention of STI/HIV infections, give instructions on how to use a condom, carry out condom demonstrations and return demonstrations and supply condoms to index patients but instruction on condom use were not provided and condom demonstrations were not done by any provider. This implies that advise on condom use varied between patients since others receiving the information on this subject while others not. Inability to provide advice on condom use among patients with STIs promotes acts of unsafe sexual practices which exposes them to re-infections and delayed treatment. Evidence from a study in Burkina Faso, Ghana, Malawi, and Uganda among adolescents shows that many young men do not know how to use condoms correctly and many of them do not use it consistently (Bankole, Ahmed, Neema, Ouedraogo, & Konyani, 2007).

Literature has supported the use of condoms in prevention of STIs. Crosby et al. (2014) in their study conducted in four cities in USA indicated that a brief, clinic-based intervention delivered with greater emphasis on negotiating condom use with Black youths was efficacious in increasing the use of male condoms. This shows that intensifying IEC on condom use and how to

negotiate for its usage and distributing condoms to STI patients, increases the adoption of safer sex practices and could help alleviate the STI/HIV burden.

Vijayakumar, Mabude, Smit, Beksinska, & Lurie (2006) and Minnis & Padian, (2005) in their systematic reviews concluded that the female condom is effective in increasing protected sex, decreasing STI incidence among women and confer as much protection from STIs as male condoms. A female condom provides a mechanical barrier to STI pathogens, viruses and semen. Female condom protection is needed very much since STIs highly affect women; in particular, adolescent girls and young women are at increased risk, because of ignorance of appropriate preventive measures, and unplanned or forced sexual intercourse where it may be difficult or impractical to negotiate safer sex. Therefore counselling on female condoms will motivate more females to adopt safer sex practices such that if used consistently and correctly, the female condom might substantially reduce the risk for STI.

Therefore, IEC on condom use to patient/clients reporting at STI clinic is very crucial since it ensures possession of necessary knowledge, skills and attitudes that persuade already infected individuals to protect them and/or their partners. However, literature shows that counselling on importance of condom use has achieved little success in married couples putting individuals at risk of contracting STIs as identified by Chimbiri (2007) in Malawi. The current study also noted that there were more married participants who reported at the STI clinic under study, therefore, married couples need to be counselled properly on condom use and given instructions on its use. They need to be motivated to use condoms with their wives or husbands. If married couples with STIs are not properly counselled to use condoms, the likelihood is that they may not use condoms for secondary prevention and continue re-infecting each other. In the

current study those that did not access information on use of condoms were at an increased risk of transmitting the STIs and being re-infected. Therefore provision of IEC messages on condom use should be encouraged among health providers.

5.4.10 Condom demonstration and distribution

The results showed that health providers did not conduct condom demonstrations or provide instructions for condom use to STI patients at the clinic. Studies in support of this finding were not found. However, the results suggest that the promotion of condom use was insufficient at the clinic considering that condom demonstrations were not done. Knowledge on how to use the condom and acquiring condom application skills enables the patients to possess necessary skills in using condoms subsequently improving positive attitudes towards condom use that would facilitate behaviour change. Although it was partly due to unavailability of condom models, efforts could have been made to improvise with other items such as a banana or just providing proper instructions on condom use or providing leaflets.

The health providers were expected to give instructions on condom use, do condom demonstrations and allow patients to do return demonstrations yet none of these happened. Inability to conduct condom demonstration deprives the patients at the STI clinic of the condom application skills which enable the patients to possess correct skills in using condoms and promote safe sex. Literature also supports that condom demonstration allows acquisition of right skills in condom use (Shaw et al., 2011). A condom, like any other prevention tool, is effective only when used properly. In the current study an opportunity to promote correct and consistent use of condoms was missed since condom demonstrations were not done. Therefore, more

efforts should be made to ensure that condom demonstrations and giving of instructions to patients attending STI clinic are done at the STI clinic since it has the potential to reduce STI/HIV infections.

Furthermore, the results showed that the health providers did not distribute condoms adequately (scored 66.7%). The results indicate that the majority (62.5%, n=240) received male condoms and very few (0.8%, n= 3) participants received female condoms. The finding are similar to what Phiri (2010) found that only 7 (30%) clients from Mangochi, 4 (16%) clients from Balaka and 4 (15%) clients from Machinga were given condoms for secondary prevention. This entails that the protocol of distributing condoms was not adequately done. Distribution of condoms among STI patients may promote compliance and its utilization. Possession of condoms among patients attending STI clinic provides an item on which the individual can practice the learnt behaviour and in so doing promote compliance.

Studies have shown that distribution of condoms to STI patients increases and promotes compliance to condom use (Sandøy, Zyaambo, Michelo, & Fylkesnes, 2012; Metcalfe, 2007). This implies that supply of condoms may have a positive role in the reduction of STIs and so its correct and consistent condom use. Thus, just providing information on condom use is not enough but it needs to be backed up with a supply of condoms promotes compliance on the part of the patient/client during management of the STI. In the current study, though information on condom use was provided to some patients, for the few individuals who did not access condoms suggest an opportunity was missed to promote condom use which can contribute significantly to the continued spread of the STI/HIV since individuals may not be protected. Therefore, the protocol of distributing condoms should be intensified by the health care providers at the clinic.

5.4.11 IEC on HTC and referral for testing

The findings reveal that IEC on HIV/AIDS and HIV testing procedure prior to HIV testing was insufficient (scored 0%), however, referral for HIV testing was adequately (90.1%, n=346) done. The results show that the majority (87%, n=334) accessed testing services at the STI clinic. Similarly, results from a Malawi study by Phiri (2010) revealed that few clients from three districts were counselled on HIV/AIDS prior to testing. The results in the current study suggest that the providers at the clinic provided HIV testing services without properly informing the patient, hence, the majority of the participants were not able to access comprehensive HIV testing information. Information on HIV and testing procedure prepares the patients psychologically for the test.

Prior to providing HIV test, the health providers were expected to communicate about; meaning and differences between HIV and AIDS and relationship between STIs and HIV, meaning and advantages of HTC, Post Exposure Prophylaxis (PEP), how testing is done, meaning of positive or negative results, window period and health living. Inability to inform the patient/clients about HIV testing procedures might increase the number of cases denying HIV testing. This is a lost opportunity since HIV and STIs co-exist and the patients with STIs need to know about HIV/AIDS and testing processes thoroughly.

Literature further supports the link between STIs and HIV (Ethiopian CDC STI surveillance report, 2015). The presence of ulcerative and non-ulcerative STI increases susceptibility of exposed individuals to HIV infection. Furthermore, a study was conducted in Kisumu, Kenya, where the nature of the epidemiologic synergy (relationship) was explored

qualitatively and quantitatively and compared to other sexually transmitted infections (STIs) and its role in HIV transmission. The results suggest a more substantial role for HSV-2 (genital herpes) in fuelling HIV spread in sub-Saharan Africa than other STIs (Abu-Raddad et al., 2008). The genital ulcer and inflammation may result in damage of genital epithelial tissues affording HIV a portal of entry hence increasing the chance of HIV to enter into the bloodstream more easily. Given the strong association between STI and HIV infection as a result of these factors, people who contract STIs are among the highest-risk populations for HIV infection in the world. Therefore the implementation of effective STI management may do much to slow the spread of HIV.

In view of this, the STI standards recommend provision of HTC to all STI patients in improving knowledge, attitude and behaviour. Similarly, Kharsany, et al. (2010) and Carey, et al. (2008) noted that group information and education on HIV and STDs in the STI clinics increases HIV testing acceptance, uptake, attitudes and knowledge about testing. Knowledge of the importance of HCT among STI patients reporting at STI clinic is very crucial. It persuades and motivates patients to get tested, know their HIV status, know how they can live a health life and access timely HIV treatment if found positive. On the other hand it promotes acquisition of HIV related knowledge on transmission and prevention. Hence a conclusion can be drawn that HTC delivered to patients attending STI clinic has the potential to reduce STI/HIV infections since the STI clinic attendees represent a major risk group for HIV acquisition and transmission. However, in most cases patient/clients do not present themselves for HTC so this opportunity should not be lost to motivate them. On the other hand, lack of provision of HTC or failure to implement PITC prevents recruitment of potential individuals at STI clinics who might benefit

from early diagnosis, referral and treatment of HIV infection hence health providers should intensify provision and communication on the importance of HTC to prevent and control HIV.

5.4.12 IEC on partner notification and treatment and distribution of slips

The health providers provided little (scored 66.7%) and sometimes no information concerning Partner Notification and Treatment (PNT). Close to a third of the participants (68.5, n=263) reported having been told to inform their partners and in other cases, the information concerning PNT was just written in health passport book but not verbally communicated to the patient/client. In support of the findings were Lan et al. (2009) who investigated knowledge of STIs among women aged 15 to 49 years in Bavi, Vietnam and found that only half of the married and unmarried women knew about partner treatment as important in prevention of STIs. The study results imply that provision of information related to PNT was compromised at the clinic hence some participants received little or no information on this subject. Sexual partners of patients with STIs are likely to be infected and they should be treated for their own benefit, to prevent re- infection of the symptomatic patient and transmission of the STI to others. Knowledge on PNT helps patients to realise that their sexual contacts are equally exposed to the STI. It will also help them realise that it is of benefit to inform all sexual contacts to facilitate the process of referring their partners to interrupt the transmission of the infection, prevent potential re-infection and prevent complications by treating the partner. This could be one of the reasons why literature shows low attendance of STI contacts to STI clinics (Phiri, 2010).

The care providers were expected to inform patients of their sexual partners' exposure, the importance of partner notification, ask index patients to refer their partners for treatment and provide partner notification slips. This shows that suggest that the promotion of PNT was

insufficient at the clinic. Lack of knowledge on importance of partner notification and treatment is a draw back since one cannot take an effort in informing the partner if he/she does not understand its importance. Consequently, preventing identification and treatment of those who might be infected and are not aware of their need to seek medical attention hence resulting in further spread of the STIs and re-infections among sexual partners since the transmission cycle is continued.

A study conducted in 2 STI clinics in Brooklyn, New York City, found that, participants from a group that was counselled at the time of diagnosis were more likely to have notified at least 1 sexual partner of possible STI exposure at the 1-month interview or were less likely to have reported 1 or more acts of unprotected vaginal or anal intercourse at the 6-month interview as compared to those assigned to a standard-of-care group (Wilson, et al., 2009). This shows that counselling had an effect in increasing partner referral and treatment for STIs. PNT as an important step in STI management helps to interrupt transmission of infections, prevent potential re-infection, and prevent complications by treating the partner.

To achieve all this, the key players are patients presenting for care at STI clinics. However, the literature shows that partner notification is complicated by women's concerns about or experiences with negative reactions from their partners, including fears of physical violence. For instance, Wilson et al (2009) in their study in USA found that among those who reported having engaged in sexual partner notification, 33% (n = 167) reported having an argument, and 4% (n = 21) reported physical violence after engaging in notification. Poor counselling and patient barriers may contribute to low turn up of contacts for STI treatment and therefore relevant information may not reach the STI contacts. Therefore, IEC on partner

notification should assist STI patients to identify partner notification barriers and the provider should assist individual patients on how best they can communicate to their partners to ensure that they get treatment to facilitate the process of referring their partners. Therefore, it is important that health providers provide clear and adequate information relating to PNT to promote identification, diagnosis and treatment of sexual partners.

Furthermore, the results showed that the health providers did not distribute partner notification slips adequately (scored 33.3%). Less than a half (44.3%, n= 170) of the participants got partner notification slips and in other cases a partner notification slip was given without any explanation. This finding was supported by the results from a study conducted by Phiri (2010) who noted that there was no clear documentation whether STI index clients were being issued with contact slips or whether the information in the contact slips was understood by the index clients. The results suggest that the promotion of PNT was insufficient at the clinic considering that few individuals were provided with the PNT information and distribution of contact slips was low. A PNT slip makes it easier for STI index patients to refer their partner/s and encourages individuals who may not be aware that they have been exposed to STI to be assessed and treated.

Literature recommends distribution of partner notification slips to index patients as an important practice during counselling to promote compliance on the part of the patient/client. The Malawi reproductive health guiding principles on STI explain that partner notification slips should be given to all index clients for their contacts to access treatment (RHU STI guidelines, 2007). According to this guideline, all index clients should be given at least one notification slip but since many clients have more than one sexual partner, some index clients may need to be given more than one partner notification slip. This implies that just providing information on

sexual contact notification and treatment to STI index patients as per finding in the current study is not enough but it needs to be backed up with provision of PNT cards or slips which may make it easier for STI index patients to refer their partner/s. In cases where the index patients find it difficult to communicate to their sexual partners to access treatment at the clinic, the index patient can hand over these notification slips, which ask the partner to come to the clinic, if necessary without discussing STIs with their partner in fear of their partner's reaction.

In the current study an opportunity to trace, treat asymptomatic individuals and promote PNT was missed and could result in low turn up of contacts for STI treatment since relevant information may not reach the sexual partners. This may also result in an increase in the cases of STIs because the transmission cycle is continued. Therefore, the protocol of distributing partner notification slips should be promoted by the health care providers at the clinic

5.4.13 IEC on follow up visit

The results indicate that IEC on follow up visits was not adequate. The results revealed that the majority (85.7%, n=329) of the respondents were not given appointment dates for review while a few (14.3%, n=55) were given appointment dates. The findings concur with what Phiri (2010) found in Malawi, that the majority of clients were not informed to report for check-up. This implies that mostly providers do not communicate review dates to STI index patients at the clinic under study hence some participants received no information on this subject. Knowledge on follow up dates promotes proper health seeking behaviour to allow the health providers determine patient response to treatment, which is crucial in ensuring that proportion of patient's eventually cured remains high.

The care providers were expected to inform patients about the circumstances and date when to report back at the clinic to review if symptoms have been relieved after the initial treatment. In addition, STI patients should be informed to come back to receive alternative treatment if the signs and symptoms persists. However, to repeat HTC after three months was mostly communicated to the participants. Lack of knowledge about dates for review among patients with STI prevents them from seeking medical assistance determines individual response to treatment. The Malawi STI guidelines (2007) states that clients should return for a follow up visit according to protocols. Thus, follow up appointments dates should be properly communicated to ensure that the infected person reports for review on time to ensure that the person is fully cured. IEC on importance of follow up visit and dates should be intensified to improve the efforts in the prevention and control of STI/HIV.

However, structural barriers have been noted in other studies (Phrasisombath et al., 2012). Furthermore, a qualitative study in Rio de Janeiro public clinics, Brazil, observed that female participants appeared to possess greater levels of perceived STI-related stigma than male participants, resulting in additional confusion and anxiety regarding whether to seek care (Malta et al., 2007). This means that hospitals should take responsibility and focus on minimizing the potential barriers including continuous guidance for STI service providers focusing on providers' attitude, counselling skills and reminding the health providers that they are supposed to communicate follow up dates. Where there is no barrier to honour review dates by patients attending STI clinic, there is a potential to improve health seeking behaviour and reduce STI/HIV infections. In such a way follow up appointments given to patients would be honoured to ascertain that the index patient is completely treated.

5.4.14 Use of IEC support materials and distribution

The study findings revealed that a single table top flip chart was the only IEC support material used for group IEC sessions. The results concur with findings from the study conducted by Phiri (2010) in Malawi where IEC materials were not used during counselling in the three districts STI clinics studied. This implies that the protocol of using IEC support materials was not fully applied during IEC activities at the STI clinic. The use of IEC materials simplifies the communicated messages and promotes comprehension of the messages and access to information by patients.

The care providers were expected to use IEC materials during the counselling processes. Carey et al, (2008) and Wahl, Banerjee, Manikam, Parylo & Lakhanpaul, (2011) noted that provision of information and use of non-written audio-visual media (video) could benefit illiterate individuals. Furthermore, the use of books, leaflets, posters and other printing materials are said to improve comprehension of knowledge and access to information. This show that uneducated or individuals with low education levels might have difficulties to comprehend information. As noted earlier in the current study that a lot of participants had low education levels (5.7%, n=22 had no formal education and 51%, n=196 had primary education), efforts should be made to improve the comprehension of information since low education levels are associated with difficulties in understanding health information. Therefore, if provision of information is supplemented by other audio-visual aids (such as a DVD) the information is simplified and becomes easy to understand. Hence, the use of IEC materials promotes comprehension of the messages and access to information by patients.

On the other hand without the use of IEC support materials acquisition of information by the patients could be low since other information may be difficult to communicate verbally. Therefore, the availability and use of these IEC support materials when communicating health information, educating and counselling STI patients is crucial in promoting understanding of STI related information hence it should be promoted.

Furthermore, the results showed that the health providers did not distribute IEC materials to clinic attendees. This shows that the protocol of distributing IEC materials was not followed. Similar findings were reported by Phiri (2010) in Malawi who found that very few participants were offered IEC materials from the three districts studied. Possession of IEC materials by STI patients provide relevant reference documents on which someone can refer to while at home and in so doing gain more STI related knowledge. This implies that just providing information on STIs is not enough but it needs to be backed up with a supply of IEC materials such as leaflets.

The health providers were expected to distribute IEC materials containing STI messages such as leaflets or fliers. The Malawi IEC standards (2010) indicate that the IEC materials should be available for distribution to clients. Inability to provide the IEC materials denies the patients of the vital knowledge provided by the IEC materials, the message of which could also influence PNT as partners could also read, learn and share information. In the current study, though some information on STIs was given inability to provide IEC materials suggest an opportunity was being missed to promote comprehension of knowledge. Therefore, the clinic in charge in liaison with the IEC department should develop more IEC materials and make them available for distribution to patients so that the protocol of distributing IEC materials is accomplished by the health care providers at the clinic.

5.4.3.15 IEC on treatment compliance instructions and drug distribution

Furthermore, the results revealed that the majority got incomplete compliance instructions. Studies in support of this finding were not found. However, the results showed that health care providers provided inadequate instructions on compliance with treatment protocols on various aspects of STI management. Knowledge of the treatment compliance protocols among STI patients reporting at STI clinic is very crucial because it allows patients to take responsibility to follow the instructions and avoid the risk behaviours that would facilitate treatment failure.

The health providers were expected to inform patients about the following treatment compliance protocols; abstinence, condom use in all sexual encounters, partner notification and drug adherence. However, in the current study, each participant recalled an average of three compliance instructions and over a third of the respondents got information on at least three instructions to follow while taking medication. Among the compliance instructions, drug adherence, abstinence (77.6%, n=296) and use of condom (71.6%, n=275) were recalled more frequently to have been mentioned by the care provider and partner notification (68.5%, n= 263) was the least known by the participants. This implies that mostly health providers do not provide adequate instructions on compliance with treatment protocols to individual patients hence some participants received little or no information on this subject. Lack of knowledge on compliance instructions promotes risky practices that delay treatment of the infection.

Khosropour et al. (2007) in their study in USA found that non-compliance with treatment protocols was one of the factors that resulted in treatment failure to STI infection with

chlamydia. Hence, compliance to treatment by patients attending STI clinic has the potential to prevent, control and reduce STI/HIV infections, therefore, health providers should enhance provision of clear and adequate compliance information according to protocols

The results further showed that there was inadequate distribution of drugs by the health care providers. The researcher noted that there were frequent stock outs of essential drugs such as Gentamycin and Erythromycin and this affected drug distribution and provision of treatment compliance instructions since some patients were asked to purchase the recommended drug. However, other patients were unable to purchase the recommended drug and could not report back for the treatment to be administered. This implies that the emphasis on drug compliance was to some extent compromised although the available drugs were given with proper instructions. The importance of drug distribution in the prevention and control of STI infection is so huge because the prescribed treatment ensures that the STI is cured. Therefore to be fully cured, patients must comply with the prescribed medication and report back to receive alternative treatment if the problem persists. In so doing the proportion of patients eventually cured of STI will be high.

The health care providers were expected to distribute drugs according the presented STI syndrome. Inability to supply drugs to STI patients can contribute to treatment failure and the continued spread of the STI/HIV since individuals may not be cured. This also means that just providing drugs is not enough but it needs to be backed up with proper instructions on how to take them at home.

5.4.16 Provision of privacy/Confidentiality

The results showed that the health providers were not providing adequate privacy (scored 33.3%) during counselling. It showed that privacy was mainly compromised when some providers allowed fellow staff from other departments in the consultation rooms while counselling was in progress and sometimes two or three patients were allowed in the consultation room at the same time. Similar results were noted by Phiri (2010) in Malawi. This implies that mostly providers did not maintain privacy of the patients and the process of maintaining privacy was compromised at the STI clinic although structural attributes (rooms with existing doors and windows with curtains) for maintaining privacy were present. Some patients may find it embarrassing to express their STI problem to the consulting health provider, therefore, maintaining privacy during counselling may enable patients to be open and share important information that would assist in the provision of appropriate IEC.

The health providers were expected to maintain privacy by ensuring that the door is kept closed and the curtains are properly drawn to ensure audio-visual privacy and only staff authorized by client can stay in the consultation room. In addition, literature indicated that enhancing privacy and confidentiality is paramount to respect of patient/client dignity, autonomy and decision making (UNAIDS & WHO, 2007; Malawi guidelines, 2007). This suggests that there is need to choose the right place which is quiet and has a door that can be shut to convey health information to patients. Due to the sensitive nature of STIs, ensuring privacy and confidentiality may be one way of increasing confidence in the STI services and increase its utilization, especially by young people.

Lack of privacy during counselling may prevent patients from sharing important information that would assist in the provision of appropriate counselling and may deter them from seeking subsequent care. On the other hand it could make health providers to communicate inadequate health information because some relevant information needs privacy and confidentiality. Therefore, it is imperative that health care providers should always put in practice measures that ensure privacy and confidentiality during counselling such as allowing in one patient at a time, closing the doors and preventing entry of other fellow staff during counselling.

5.4.17 Interpersonal communication skills

The health providers lacked proper interpersonal communication skills (scored 66.7%) in providing IEC. The results indicated that the majority (72.1%, n=277) of the participants were not given a chance to ask questions and out of those (27.9%, n=107) who were given a chance to ask a question, (40%, n= 43) reported that no proper explanations or answers were provided. In addition, all providers did not introduce themselves in all cases. Consistent with the findings, a study by Ismail & Ali (2011) conducted in Ethiopia reported that greeting the client and introducing self were observed in only 45% of the counselling sessions. This implies that providers did not have adequate skills for providing proper IEC activities. Greeting the patient is the basis of creating a rapport, it makes the patient/client to open up in communicating their feelings and comprehend more information that is being shared.

The health providers were expected to greet the patients, introduce themselves, allow questions and active participation of patients and use clear language. Lack of greeting the

patient/clients creates uncondusive environment for counselling since the individual does not feel relaxed, free and welcome. Hence, health provider's inability to introduce self or greet the participants cannot promote interaction which is a requirement in a counselling relationship. In addition, the inability to allow patients to ask questions, seek clarification or not answering questions properly on the subject being discussed creates room for misunderstandings and patient/clients may leave the clinic with unclear information or wrong information. Reports by Davidson et al. (2007) & Cutilli, (2007) alluded that nurses do not adequately communicate health information because they do not have enough information to answer questions from patients. Therefore, care providers should be well equipped with STI information to improve communication between them and the patients.

However, it was encouraging to note that the health providers used simple, clear and local language during provision of IEC. This implies that the most spoken local language (Chichewa) in Malawi was used during the IEC sessions and this may have allowed proper understanding of the communicated massages. The use of everyday language which is clear and simple when communicating health information promotes understanding among patients and acquisition of information and avoid misunderstandings unlike when difficult words or medical terms are used. In addition the main IEC support material used (flip chart) during group IEC was written in local language. IEC materials which are in local language allow the session participants to read through the teaching aid and improve their understanding.

Furthermore, poor client-provider relationship was noted in some cases. Some respondents in the current study provided spontaneous comments (when asked would you recommend the provider?) indicating that it was difficult to interact with the provider, such as,

the provider did not give proper direction where to get medication, shouted and presented an unwilling attitude. In support of the findings are Phrasisombath et.al. (2012) and Phiri (2010) in their studies in Laos and Malawi respectively where it was found that many providers had negative attitudes towards patient/clients with STI symptoms. The results indicates that provider-patient interaction was not pleasing in the current study mainly during individual counselling and this showed that there was poor staff attitude at the clinic.

The health providers are supposed to create a good rapport with the patients. Sihavong et al. (2011) in their study in Laos recommended that there is an urgent need to improve communication between patients seeking for STI treatment and clinicians. In addition, Rietmeije (2007) indicated about the importance of the counsellor–client interaction. This means that provision of prevention counselling and/or risk reduction counselling should be an interactive process in order to produce best results.

Use of proper interpersonal communication skills in providing IEC activities promotes delivery of information. In addition, good staff attitude promotes openness of the patients and promotes interaction in a counselling relationship. On the other hand poor service provider-client relationship and poor staff attitude create uncondusive environment for interacting with the patient/clients since the individual does not feel relaxed, free and welcome and may hide relevant information that might be useful during counselling and management of STIs. As a result clients may not be satisfied with the services and may continue to practice risky behaviours due to loss of trust to the service providers. Therefore, health care providers should try to adopt a neutral stance and non-judgmental attitude to facilitate communication on delicate issues. In addition,

health providers should be properly trained to improve their interpersonal communication skills and address their attitude.

A study conducted in United States of America by Buerhaus et al. (2007) reported that there were increased communication problems due to shortage of nursing staff. Shortage of staff prevents providers to spend more time with patients and build a good rapport for open communication. Subsequently, this may result in inadequate communication of heath information.

5.4.18 Time adequacy

Analysis of data shows that adequacy of time for IEC was rated high by the participants. However, the observational data reveals that time especially for individual counselling was not adequate. This was evidenced where participants spent an average of 3 minutes in the consultation rooms where they got individual counselling in addition to assessment and treatment for STIs. The results concurs with what Phiri (2010) found in his study, showing that counselling time for all the three STI clinics studied was not adequate and was found to be below the WHO recommendations of 15-20 minutes per individual counselling session. Similarly, Ismail & Ali (2011) in their study in Addis Ababa, which aimed at determining the pregnant women's satisfaction and comprehension level of the information given during pre- and post- HIV counselling and testing for PMTCT reported that slightly above half of the clients spent 5 to 15 minutes with the counsellors both on pre and post-test discussions. The mean duration of counselling was 14 minutes for both the pre and post-test sessions. This shows that time

allocated for counselling at the STI clinic was not enough to deal with all the issues requiring IEC.

The health providers are supposed to make sure that counselling sessions starts on time and ends on time. However, the observational findings revealed that the health providers were reporting late for duties as such the morning counselling session usually started very late (around 9 am). Consequently the patients would wait for a very long time before the individual consultations started, eventually leaving the nurses in the consultation rooms with very little time to assess, counsel and treat the patients. Similar findings were reported by Phiri (2010) indicating that the service providers from two of the three facilities were coming late for duties and the service providers spent very little time with the clients. This shows that the provider remained with inadequate time for implementation of counselling activities.

The difference between interview and observation findings related to time adequacy in the current study could be attributed to that the participants did not know the length of time they needed to spent during counselling at the clinic. It is recommended that effective counselling time should be within the range of 15-20 minutes per client because just providing information is usually not sufficient to allow patients to accurately assess their own level of exposure to infection or to deal with the psychological challenges of informing partners for preventing future infections.

Rietmeijer (2007) reported that brief, individual-level interventions, cannot address the full range of clients' needs due to time constraints. The process of counselling is very crucial and it requires a lot of time to assess and identify behaviours or beliefs that may increase a patient's risk for STI/HIV in order to improve their perception of risk. Therefore, spending enough time

with the STI patients provides room for creating a good rapport, so that the two parties can reach a favourable conclusion. In addition, prevention IEC should be given an equal priority to STI diagnosis and STI treatment during STI management. In the current study, the results of the statistical test revealed that there was a significant relationship between attendance of group IEC and time adequacy opinion (χ^2=271.806, df = 1, p value = 0.000). This implies that those who attended group IEC (average of 30 minutes) were able to express that time spent during IEC was enough while those who were provided with individual counselling during consultation indicated that they spent only few minutes (average of 3minutes). However, from the observational results it can be concluded that time constraints negatively affected the IEC provision and may have resulted in an inadequate communication of IEC messages especially for individual counselling. Hence, there is need to allocate more time for IEC activities at the clinic to allow service provider and patient to make successful negotiations for behaviour change. In addition the amount of information provided to the patients will be adequate and comprehensive hence improving the quality of IEC.

5.4.19 Reproductive health standards scoring

Using the reproductive health standards, scoring the results show that IEC at Bwaila STI clinic was below standard and lacked quality. The clinic had an overall mean performance score of 59%, thus, it did not achieve 80% or more of the verification criteria in all the 3 standards related to STI/IEC. This concurs with a study conducted in Southern Ethiopia in the STI public health facility in Gamo Gofa Zone where knowledge and practice of clinicians regarding syndromic management was assessed, and it was found that guidelines were followed in only in 8.3% of cards of STI patients and 19.23% of mystery clients (Alemayehu & Godana, 2015).

Furthermore, Dalal et al. (2014) in their study conducted in India reported that even after receiving STI treatment respondents reported not having enough information about STIs/ HIV/AIDS. The results showed that IEC provision at the STI clinic was not in line with the stipulated standards, guidelines and protocols.

The clinic had to score at least 80% on each standard to be considered as providing good quality in the STI IEC service area. When a facility scores below 80%, it is considered as providing poor quality services. Poor quality IEC services in the current study resulted from poor performance of the IEC standards by the health providers. Poor structure was attributed to poor clinic readiness (standard) related to inadequacy of human and material resources, inadequate guidelines for reference, lack of display of IEC materials or IEC protocols and inadequate time allocated for IEC activities. Poor provision of group IEC (standard) was attributed to poor interpersonal skills, inadequate provision of information concerning HIV/AIDS and STI signs, transmission, dangers, prevention and PNT, lack of condom demonstration. Furthermore, poor performance in individual IEC (standard) was attributed to inability to provide enough information on STI diagnosis, signs/symptoms, STI transmission, STI dangers, STI prevention, condom use, PNT and the need for review dates, inability of the providers to maintain audio-visual privacy, poor interpersonal communication skills, lack of condom demonstration, inadequate distribution of condoms and partner notification slips.

Clinical practice should be based on the set standards, guidelines or protocols to ensure standardised services. The Malawi national RH guidelines (2006) recommend that all health care providers should be familiar with standards, guidelines and protocols for care provision. The IEC and STI standards and the syndromic flow charts contain some of the critical areas for

counselling hence its usage could have assisted care providers to deliver standardised IEC services because they would have something to serve as a reminder of what they are supposed to do and communicate adequate information to patients. From the results it can be concluded that inadequate time, equipment's and staff may have interfered with implementation of recommended IEC practices. The results further suggest that availability of guidelines had very little meaning to the service providers in the STI clinic and this could have a negative implication to achieve standardization in provision of IEC. This could also be one of the reasons why some information was missed or not communicated in other counselling sessions.

5. 5 The outcome and its verification criteria

5.5.1 Participants opinion on satisfaction with IEC messages

With regard to participants satisfaction with IEC on STIs the results show that about a third of the participants were either satisfied or very satisfied. Similar findings were noted by Carey et al. (2008) in their study conducted in an STI public clinic in New York indicating that participants were very satisfied with the counselling. The implication is that satisfaction with care promotes patients willingness to comply and continue taking prevention measures against STIs. In contrast if patient/clients are dissatisfied they may not comply with prevention instructions and may be prevented from visiting the clinic for subsequent care thereby increasing the risk of repeated STIs and associated complications such as infertility. In the current study, the majority of patients were satisfied with the IEC though they lacked STI knowledge in several areas. This might not really mean actual satisfaction. It could be due to the fact that many of

them did not know what information they were supposed to receive at the clinic and regarded whatever information they received as a whole.

The health care providers should be advised to provide satisfactory IEC services and patients should be encouraged to attend the group counselling sessions as this could promote the patients to comply with treatment and continue to make use of the information accessed from the clinic. Consequently taking proper preventive actions to avoid subsequent STI infections and decreasing the risk of spreading the infection.

5.6 Summary

The purpose of this study was to explore the quality of IEC services provided to STI patients aged 18 years and above at Bwaila hospital in Lilongwe District. The findings of the study showed poor and inadequate clinical practices regarding provision of IEC at STI clinic, poor structures for provision of IEC activities and poor outcome of IEC activities. Furthermore, STI patients acquired limited knowledge related to type of STI infected with, STI signs and symptoms, transmission, complications and prevention measures which can affect behaviour change and health care seeking behaviours. However, acquisition of information on STI signs and symptoms, transmission and prevention was significantly related to attendance of group IEC sessions and being counselled by HIV counsellors. Poor clinic structure for provision of IEC and poor processes for providing IEC which were not consistent with the standards and guidelines attributed to poor performance of IEC standards at the clinic. This also resulted to poor outcome of the IEC services. Such a lack of quality IEC represents an important missed opportunity for reducing the spread of STI/HIV.

Therefore, the clinics which provide the context for IEC need to have proper structures and ensure good processes for a better outcome. All providers working at STI clinics should understand the need for providing clear and adequate IEC messages and how it affects adoption of behaviours that will facilitate secondary prevention of STIs among STI patients.

5.7 Study limitations

The study results cannot be generalized to all STI clinics in Malawi since the study was conducted in one health facility rather than two or more clinics. In addition, no qualitative data was corrected so it is a limitation. Furthermore, the study used systematic random sampling to select cases to be part of the study which could also limit generalization of findings, since vital information may have been missed from STI patients who did not meet the criteria to participate in the study. Larger sample is needed in future research as the sample used in the study may not truly be representative of the general population to gain a more comprehensive picture of the quality of health education within the STI clinics.

The providers at the clinic may have been influenced by the Hawthorne effect, therefore, the observed quality of IEC may have been compromised. However, the findings are significant and provide the whole valuable insight into issues affecting provision of IEC at STI clinics. Although participants' knowledge regarding STIs messages was assessed, the study did not determine whether the accessed knowledge translated into behaviour change for prevention of secondary STI among participants.

5.8 Conclusion

The results demonstrate that the quality of IEC services was poor. The structure for IEC was poor and so were the health provider practices during IEC. Counselling of critical STI messages was poor at the STI clinic because health providers imparted partial information during IEC sessions on various aspects of STIs. As a result there was a missed opportunity during group and individual IEC sessions to comprehensively inform the STI patients regarding issues of STIs/HIV which will enable them to avoid secondary STI infections. However, the majority of the participants expressed satisfaction with the IEC messages. This could be due to the fact that many of them did not know what information they were supposed to receive at the clinic and regarded whatever information they received as a whole. Comprehensive IEC messages are required to ensure that the STI patients comprehend more information necessary for making an informed decision in the prevention of secondary STIs/HIV and avoid long-term complications. The team spirit approach is required to promote provision of clinical IEC practices among health care providers. Improved IEC delivery at STI clinics is very important in prevention of secondary STIs and promotion of sexual health amongst patients/client, their partners and the community at large and will assist in realisation of quality IEC programs.

5.9 Recommendations

5.9.1 The structure

- Findings in the study showed that the waiting area was small and usually congested with patients, therefore, there is need to for the hospital management to invest in renovating the infrastructure and make extensions to create more space at the waiting /reception area for STI patients.
- Findings in the study showed that there was shortage of staff, therefore, to improve IEC delivery, the clinic can utilize other personnel's such as nurse auxiliaries or patient attendants working at the hospital and train them to assist in counselling in order to improve on shortage of staff for providing IEC activities.
- Management at Bwaila should temporarily identify nurses from other hospital or within the hospital who are willing to work on part time (locum) and allocate them to the STI clinic, so that the caseload per provider is lowered and more time is available for counselling activities per patient. In the long run the MoH should increase in-take of students in nursing schools to educate more nurses in order to increase number of qualified nurses who can be employed and reduce the workload.

- The findings showed that the clinic had no IEC materials, the DHO through the IEC department in liaison with the STI coordinator at Bwaila hospital should develop more IEC materials so that they can be available for distribution to the STI patients, to enable them makes a reference when managing their behaviours at home. The clinic in-charge

should ensure that IEC materials are properly displayed in the clinic area. IEC support materials will also help the provider to provide summarized information.

- Findings in this study showed that STI guidelines were not present in all the consultation rooms, hence, there is need for the District Health Office (DHO) through the STI coordinator to print out more guidelines/syndromic flow charts and place them in the other rooms where there were no STI or IEC guidelines or protocols.

5.9.2 The process

- The study findings showed that some of the nurses were not making reference to the existing guidelines and missed some important messages, hence, the unit matron and the STI clinic in-charge should carry out supervision of providers on guideline use more frequently to determine the degree to which STI policies are being implemented.
- Findings in the study showed that the care providers provided incomplete IEC messages, therefore, the STI coordinator and the clinic in-charge should develop IEC massages checklist on which providers have to tick all aspects covered during IEC sessions. This will serve as a reminder and also ensure comprehensiveness of the information provided to patients and ensures that the provider do not miss out or forget to communicate necessary massages during provision of IEC.
- The findings showed that the care providers were not providing some of the essential supplies, such as condoms and partner notification slips to patients, therefore, the distribution of material supplies to patients can be promoted through introduction of pre-packaged STI kits that contain condoms, a condom instruction leaflet, a partner

notification card and a leaflet with general health education on STIs and HIV to be distributed to patients.

- The findings of the study showed that the care providers lacked interpersonal communication skills, therefore, the DHO and the STI coordinator at the hospital should arrange for short course trainings on IEC and skills as part of Continuous Professional Development (CPD) to address negative staff attitudes and promote interpersonal relationships with patients. All providers caring for patients with STIs should be made to understand the need for proper implementation of IEC programs and how IEC affect the behaviour of the STI patients and management of STIs.

5.9.3 The outcome

- There is need to inform STI patients about their right to information on STI/HIV issues and what they should expect in order to promote information seeking at the clinic. Hence, display the list of IEC areas in the waiting area, group session room, consultation rooms and ask patients to request for the stated information before leaving the hospital.

5.10 Areas for further study

The gaps identified in the study need to be addressed through further studies as follows:

a) There is need for more research with a larger sample and more health facilities to examine the quality of IEC activities through qualitative research
b) Findings in the study showed that there was an increased risk of transmitting the STI infection and re-infection as evidenced by insufficient STI messages at the clinic, therefore a study is needed to Evaluating Knowledge, Attitude and Practices (KAP) of STI patient and determine whether the accessed knowledge is translated into behaviour change for prevention of secondary STIs among previously treated patients.
c) Findings in the study showed that individual IEC standard during consultation scored the lowest, hence, a cross sectional study is needed to identify the barriers to individual counselling at the clinic level and institute appropriate interventions to ensure that the peculiar circumstance of each patient is dealt with.

6.0 References

Abu-Raddad, L. J., Magaret, A. S., Celum, C., Wald, A., Longini Jr, I. M., Self, S. G., & Corey, L. (2008). Genital herpes has played a more important role than any other sexually transmitted infection in driving HIV prevalence in Africa. PloS One, 3(5), e2230.

Alam, N., Streatfield, P. K., Shahidullah, M., Mitra, D., Vermund, S. H., & Kristensen, S. (2011). Effect of single session counselling on partner referral for sexually transmitted infections management in Bangladesh. *Sexually Transmitted Infections*, *87*(1), 46–51.

Alam, N., Chamot, E., Vermund, S. H., Streatfield, K., & Kristensen, S. (2010). Partner notification for sexually transmitted infections in developing countries: a systematic review. *BMC Public Health*, *10*(1), 1.

Alemayehu, A., & Godana, W. (2015). Knowledge and Practice of Clinicians regarding Syndromic Management of Sexually Transmitted Infections in Public Health Facilities of Gamo Gofa Zone, South Ethiopia. *Journal of Sexually Transmitted Diseases, 2015*. Retrieved from http://www.hindawi.com/journals/jstd/2015/310409/abs/

Anderson, C., Gallo, M. F., Hylton-Kong, T., Steiner, M. J., Hobbs, M. M., Macaluso, M., … others. (2013). Randomized controlled trial on the effectiveness of counselling messages for avoiding unprotected sexual intercourse during sexually transmitted infection and reproductive tract infection treatment among female sexually transmitted infection clinic patients. *Sexually Transmitted Diseases*, *40*(2). Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3811001/

Baloyi, G. O. (2007). The evaluation of the national adolescent-friendly clinic initiative (NAFCI) programme in Greater Tzaneen sub-district. *Limpopo Province, South Africa*.

Bankole, A., Ahmed, F. H., Neema, S., Ouedraogo, C., & Konyani, S. (2007). Knowledge of correct condom use and consistency of use among adolescents in four countries in Sub-Saharan Africa. *African Journal of Reproductive Health*, *11*(3), 197.

Bearinger, L. H., Sieving, R. E., Ferguson, J., & Sharma, V. (2007). Global perspectives on the sexual and reproductive health of adolescents: patterns, prevention, and potential. *The Lancet*, *369*(9568), 1220–1231.

Banerjee, S., & Sharma, U. (2007). Gender sexuality rights and HIV: an overview for community sector organizations. Retrieved from http://www.popline.org/node/197124

Biddlecom, A. E., Munthali, A., Singh, S., & Woog, V. (2007). Adolescents' views of and preferences for sexual and reproductive health services in Burkina Faso, Ghana, Malawi and Uganda. *African Journal of Reproductive Health*, *11*(3), 99–100.

Booth, B., Portelli, R., & Snowdon, T. (2005). A quality framework for Australian general practice. Melbourne: The Royal Australian College of General Practitioners. *Retrieved December, 20*, 2007.

Bowie, C., Muula, A., & Geubbels, E., (2006). *Epidemiology of reproductive tract infections (RTIs) in Malawi.* Accessed on 25 June, 2014 from *http://www.medcol.mw/commhealth/publications/epi%20book/STIs%20in%20adults%202nd%20ed%205.pdf*

Boyce ,C., Palen, N., & Palmer, A., (2006). *A guide to using mystery clients for evaluation input,* Watertown: USA.

Bradley, S., & McAuliffe, E. (2009). Mid-level providers in emergency obstetric and newborn health care: factors affecting their performance and retention within the Malawian health system. *Human Resources for Health*, *7*(1), 14.

Buerhaus, P. I., Donelan, K., Ulrich, B. T., Norman, L., DesRoches, C., & Dittus, R. (2007). Impact of the nurse shortage on hospital patient care: comparative perspectives. *Health Affairs*, *26*(3), 853–862.

Burns, N., & Grove, S.K., (2009). *The Practice of Nursing Research: Conduct critique and Utilization,* (7th ed). Philadelphia: W.B Saunders Company.

Carey, M. P., Vanable, P. A., Senn, T. E., Coury-Doniger, P., & Urban, M. A., (2008). Evaluating a Two-Step Approach to Sexual Risk Reduction in a Publicly-Funded STI Clinic. *Contemp Clin Trials.* 29(4): 569–586. doi: 10.1016/j.cct.2008.02.001

Carey, M. P., Coury-Doniger, P., Senn, T. E., Vanable, P. A., & Urban, M. A. (2008). Improving HIV rapid testing rates among STD clinic patients: a randomized controlled trial. *Health Psychology*, *27*(6), 833.

Cegala, D. J., & Post, D. M. (2009). The impact of patients' participation on physicians' patient-centered communication. *Patient Education and Counselling*, *77*(2), 202–208.

Centre for Disease Control and Prevention, (2012). *CDC's annual report, Sexually Transmitted Disease Surveillance, 2012.* Accessed on 25 June, 2014 from http:www.cdc.gov/std/stats.

Centers for Disease Control and Prevention Sexually transmitted diseases treatment guidelines, 2010. MMWR Morb Mortal Wkly Rep. 2010;59:RR-120.

Centers for Disease Control and Prevention. Sexually transmitted disease treatment guidelines, 2006. MMWR Recomm Rep. 2006;51:1–94..

Centers for Disease Control and Prevention; Health Resources and Services Administration; National Institutes of Health; HIV Medicine Association of the Infectious Diseases Society of America; HIV Prevention in Clinical Care Working Group. Recommendations for incorporating human immunodeficiency virus (HIV) prevention into the medical care of persons living with HIV. Clin Infect Dis. 2004;38:104–21. [PubMed]

Chen, X., Lunn, S., Harris, C., Li, X., Deveaux, L., Marshall, S., … Stanton, B. (2010). Modelling early sexual initiation among young adolescents using quantum and continuous behaviour change methods: implications for HIV prevention. *Nonlinear Dynamics, Psychology, and Life Sciences*, *14*(4), 491.

Chimtembo, L. K., Maluwa, A., Chimwaza, A., Chirwa, E., & Pindani, M. (2013). Assessment of quality of postnatal care services offered to mothers in Dedza district, Malawi. *Open Journal of Nursing, 2013*. Retrieved from http://file.scirp.org/Html/1-1440150_35244.htm

Chiao, C., & Morisky, D. E. (2007). The role of a regular sex partner in sexually transmitted infections and reinfections: Results from the study of female entertainment establishment workers in the Philippines. *Sexually Transmitted Diseases*, *34*(8), 534.

Chin, H. B., Sipe, T. A., Elder, R., Mercer, S. L., Chattopadhyay, S. K., Jacob, V., … others. (2012). The effectiveness of group-based comprehensive risk-reduction and abstinence education interventions to prevent or reduce the risk of adolescent pregnancy, human immunodeficiency virus, and sexually transmitted infections: two systematic reviews for the Guide to Community Preventive Services. *American Journal of Preventive Medicine*, *42*(3), 272–294.

Chimbiri, A. M. (2007). The condom is an "intruder "in marriage: evidence from rural Malawi. *Social Science & Medicine*, *64*(5), 1102–1115.

Choudhry, S., Ramachandran, V. G., Das, S., Bhattacharya, S. N., & Mogha, N. S. (2010). Pattern of sexually transmitted infections and performance of syndromic management against etiological diagnosis in patients attending the sexually transmitted infection clinic of a tertiary care hospital. *Indian Journal of Sexually Transmitted Diseases and AIDS*, *31*(2), 104.

Clark, J. L., Long, C. M., Giron, J. M., Cuadros, J. A., Caceres, C. F., Coates, T. J., & Klausner, J. D. (2007). Collaborative HIV/STD Prevention Trial. Partner notification for sexually transmitted diseases in Peru: knowledge, attitudes, and practices in a high-risk community. *Sex Transm Dis*, *34*, 309–13.

Crosby, R. A., Charnigo, R. J., Salazar, L. F., Pasternak, R., Terrell, I. W., Ricks, J., … Taylor, S. N. (2014). Enhancing condom use among Black male youths: A randomized controlled trial. *American Journal of Public Health*, *104*(11), 2219–2225.

Crosby, R., DiClemente, R. J., Charnigo, R., Snow, G., & Troutman, A. (2009). A brief, clinic-based, safer sex intervention for heterosexual African American men newly diagnosed with an STD: a randomized controlled trial. *American Journal of Public Health*, *99*(S1), S96–S103.

Cutilli, C. C. (2007). Health literacy in geriatric patients: An integrative review of the literature. *Orthopaedic Nursing*, *26*(1), 43–48.

Dalal, K., Jahan, S., & Wang, S.-M. (2014). Knowledge and perception of sexual health education and condom use among STI patients in India. *International STD Research & Reviews*, *2*(2), 74–87.

Das, Anjana, Pathni, A. K., Narayanan, P., George, B., Morineau, G., Saidel, T., … others. (2013). High rates of reinfection and incidence of bacterial sexually transmitted infections in a cohort of female sex workers from two Indian cities: need for different STI control strategies? *Sexually Transmitted Infections*, *89*(1), 5–10.

Dave, S. S., Stephenson, J., Mercey, D. E., Panahmand, N., & Jungmann, E. (2006). Sexual behaviour, condom use, and disclosure of HIV status in HIV infected heterosexual individuals attending an inner London HIV clinic. *Sexually Transmitted Infections*, *82*(2), 117–120. http://doi.org/10.1136/sti.2005.015396

Davidson, J. E., Powers, K., Hedayat, K. M., Tieszen, M., Kon, A. A., Shepard, E., … others. (2007). Clinical practice guidelines for support of the family in the patient-centered intensive care unit: American College of Critical Care Medicine Task Force 2004–2005. *Critical Care Medicine*, *35*(2), 605–622.

Decker, M. R., Miller, E., McCauley, H. L., Tancredi, D. J., Anderson, H., Levenson, R. R., & Silverman, J. G. (2013). Recent partner violence and sexual and drug-related STI/HIV risk among adolescent and young adult women attending family planning clinics. *Sexually Transmitted Infections*, sextrans–2013.

Denscombe, M., (2010). *The good research guide for small-scale social research*

projects. (4th ed.). Berkshire: Open University Press.

Donabedian, A., (2003). *Anintroduction to Quality Assurance in Health Care.*

Oxford:University Press.

Donabedian, A., (2003). *An introduction to quality assurance in health care*. Oxford:

University Press

Ethiopian Public Health Institute Federal Ministry of Health, (CDC), (2015). Report onthe

sentinel surveillance of Sexually Transmitted Infections based on syndromic case reporting. Addis Ababa. July 2014 — June 2015

Ferlie, E. B., & Shortell, S. M., (2001). Improving the quality of health care in the United Kingdom and the United States: a framework for change. *Milbank Quarterly*, *79*(2), 281-315.

Force, U. P. S. T., & others. (2008). Behavioral counselling to prevent sexually transmitted infections: US Preventive Services Task Force recommendation statement. *Annals of Internal Medicine*, *149*(7), 491.

Genuis, S. J., (2008). Are condoms the answer to rising rates of non-HIV sexually transmitted infection? No. *BMJ: British Medical Journal*, *336*(7637), 185.

Golden, M. R., & Manhart, L. E., (2005). Innovative approaches to the prevention and control of bacterial sexually transmitted infections. *Infectious Disease Clinics of North America*, *19*(2), 513–540.

Graneheim, U.H., & Lundman, B., (2004). Qualitative content analysis in nursing

research: concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*, 24, 105-112. Garr, M.E.G., (1994), questionnaire for patient's satisfaction with obstetric care at Walter Reed Army Medical care

Hutchinson, K. B., Kip, K.E., & Ness, R. B., (2007). "Condom use and its association with bacterial vaginosis and bacterial vaginosis-associated vaginal microflora." *Epidemiology* 18(6), 702-708.

Health, U. D. of, Services, H., & others. (2007). Health resources and services administration. *Critical Care Workforce Report. Requested by Senate Report*, 108–91.

Hocking, J., & Fairley, C. K. (2006). Associations between condom use and rectal or urethral chlamydia infection in men. *Sexually Transmitted Diseases*, *33*(4), 256–258.

Ismail, H., & Ali, A. (2011). Pregnant women's satisfaction and comprehension level of information given during HIV Counselling and Testing for PMTCT in public health facilities in Addis Ababa. *Ethiopian Journal of Health Development, 25*(2), 126–134.

Jackson, E., Johnson, B. R., Gebreselassie, H., Kangaude, G. D., & Mhango, C. (2011). A strategic assessment of unsafe abortion in Malawi. Reproductive health matters, *19*(37), 133–143.

Kalichman, S. C., Cain, D., Eaton, L., Jooste, S., & Simbayi, L. C. (2011). Randomized clinical trial of brief risk reduction counselling for sexually transmitted infection clinic patients in Cape Town, South Africa. *American Journal of Public Health, 101*(9), e9–e17.

Kazembe, G.T., (2014) Quality of pre and post Human Immune Deficiency Virus test and

counselling provided to antenatal women during initial visit to the Antenatal clinic at Ndirande and Limbe Health Center), 2014, university of Malawi, Kamuzu College of Nursing. Thesis.

Kharsany, A. B., Karim, Q. A., & Abdool Karim, S. S. (2010). Uptake of provider-initiated HIV testing and counselling among women attending an urban sexually transmitted disease clinic in South Africa–missed opportunities for early diagnosis of HIV infection. *AIDS Care*, *22*(5), 533–537.

Khosropour, C.M., Manhart, L.E., Colombara, D.V., Gillespie, C.W., Lowens, M.S., Totten, P.A., Golden, M.R., & Simoni, J., (2014). Suboptimal adherence to doxycycline and treatment outcomes among men with non-gonococcal urethritis: a prospective cohort study*Sex Transm Infect, 90:3-7 doi:10.1136/sextrans-2013-051174*

Kohler, P. K., Manhart, L. E., & Lafferty, W. E. (2008). Abstinence-only and comprehensive sex education and the initiation of sexual activity and teen pregnancy. *Journal of Adolescent Health*, *42*(4), 344–351.

Kretzschmar, M., Satterwhite, C., Leichliter, J., & Berman, S. (2012). Effects of screening and partner notification on Chlamydia positivity in the United States: a modelling study. *Sexually Transmitted Diseases, 39*(5), 325–331.

Lan, P., Lundborg, C., Mogren, I., Phuc, H., & Chuc, N. (2009). Lack of knowledge about sexually transmitted infections among women in North rural Vietnam. *BMC Infectious Diseases, 9*(1), 1.

Langley, G. J., Moen, R., Nolan, K. M., Nolan, T. W., Norman, C. L., & Provost, L. P. (2009). *The improvement guide: a practical approach to enhancing organizational performance*. John Wiley & Sons.

Lemeshow, S., Hosmer, D.W., Klar. J. & Lwanga, S., K. (1990). *Adequacy of SampleSize in Health Studies*. Chichester: John Wiley & Sons Ltd.

Lim, M. S., Hellard, M. E., Aitken, C. K., & Hocking, J. S. (2007). Sexual-risk behaviour, self-perceived risk and knowledge of sexually transmissible infections among young Australians attending a music festival. *Sexual Health*, *4*(1), 51–56.

Lin, J. S., Whitlock, E., O'Connor, E., & Bauer, V. (2008). Behavioral counselling to prevent sexually transmitted infections: a systematic review for the US Preventive Services Task Force. *Annals of Internal Medicine*, *149*(7), 497–508.

Iipinge, S. N., & Pretorius, L. (2012). The delivery and quality of sexually transmitted infections treatment by private general practitioners in Windhoek Namibia. *Global Journal of Health Science*, *4*(5), 156.

Luchters, S., Chersich, M. F., Rinyiru, A., Barasa, M.-S., King'ola, N., Mandaliya, K., … Temmerman, M. (2008). Impact of five years of peer-mediated interventions on sexual behavior and sexually transmitted infections among female sex workers in Mombasa, Kenya. *BMC Public Health*, *8*(1), 1.

Maan, M., Hussain, F., Iqbal, J., & Akhtar, S. (2011). Sexually transmitted infections in Pakistan. *Annals of Saudi Medicine*, *31*(3), 263.

Mabey, D., Ndowa F., & Ahmed, L., (2010). What have we learned from sexually transmitted infection research in Sub-Saharan Africa? *Sex Transm Infect*, *86*: 488-492.

Malta, M., Bastos, F. I., Strathdee, S. A., Cunnigham, S. D., Pilotto, J. H., & Kerrigan, D. (2007). Knowledge, perceived stigma, and care-seeking experiences for sexually transmitted infections: a qualitative study from the perspective of public clinic attendees in Rio de Janeiro, Brazil. *BMC Public Health*, *7*(1), 1.

Masaro, C. L., Johnson, J., Chabot, C., & Shoveller, J. (2012). STI service delivery in British Columbia, Canada; providers' views of their services to youth. *BMC Health Services Research*, *12*(1), 240.

McClelland, R. S., & Baeten, J. M. (2006). Reducing HIV-1 transmission through prevention strategies targeting HIV-1-seropositive individuals. *Journal of Antimicrobial Chemotherapy*, *57*(2), 163–166.

Mayaud, P., & Mabey, D. (2004). Approaches to the control of sexually transmitted infections in developing countries: old problems and modern challenges. *Sexually Transmitted Infections*, *80*(3), 174–182.

Metcalfe, D. (2007). A negative association between condom availability and incidence of urethral discharge in a closed Malawian community. *International Journal of STD & AIDS*, *18*(8), 559–562.

Ministry of Health. (2008). *Malawi National Reproductive Health Service Guidelines*

JHPIEGO/USAID.

Ministry of Health. (2007). *National Sexual and Reproductive Health guidelines andstandards.* Lilongwe.

Ministry of Health; Reproductive Health Unit, (2007). *Management of sexually transmitted infections using syndromic management approach - Guidelines for Service Providers.* Lilongwe, Malawi.

Ministry of Health (2010) National EmONC assessment. Ministry of Health, Lilongwe,

Malawi. http://www.afro.who.int/index.php?option=com_docman&task=doc_download&gid=6043

Ministry of Health, (2006). Malawi national reproductive health service guidelines.

JHPIEGO/USAID, Baltimore.

Ministry of health & National AIDS Commission, (2003). *Voluntary counselling and testing*

guidelines for Malawi, Lilongwe

Minnis, A. M., & Padian, N. S. (2005). Effectiveness of female controlled barrier methods in preventing sexually transmitted infections and HIV: current evidence and future research directions. *Sexually Transmitted Infections*, *81*(3), 193–200.

Moore, J., Palmer, P., Anderson-Allen, M., Billings, C., & McDonald-Kerr, C. (2008). Challenges and successes of HIV voluntary counselling and testing programme in antenatal clinics in Greater Kingston, Jamaica. *West Indian Medical Journal*, *57*(3), 269–273.

Munhall, P.L., (2007). *Nursing research: A qualitative perspective*. (4thed). Boston: Jones & Bartlett Publishers.

Munthali, W. K. (2011). *Evaluation of youth friendly reproductive health services for adolescents aged 14–19 years in Lunzu–TA Kapeni*. University of Malawi.

Muual, D., & Geubbels, E. (2007). Epidemiology of reproductive tract infections (RTIs) in Malawi. *Malawi Medical Journal, 18*(4), 176–190.

Muzombwe. M., (2015). Nurses communication of health information to care givers of children hospitalised at QECH thesis. MSc child health nursing

Necochea, E., Bossemeyer, D., (2005). Standards-Based Management and Recognition (SBM-R), A Field Guide: A Practical Approach for Improving the Performance and Quality of Health Services. JHPIEGO, Baltimore.

Neumann, M. S., O'Donnell, L., Doval, A. S., Schillinger, J., Blank, S., Ortiz-Rios, E., … O'Donnell, C. R. (2011). Effectiveness of the VOICES/VOCES Sexually Transmitted Disease/Human Immunodeficiency Virus Prevention Intervention When Administered by Health Department Staff: Does It Work in the "Real World"?: *Sexually Transmitted Diseases, 38*(2), 133–139. http://doi.org/10.1097/OLQ.0b013e3181f0c051

Ngo, A. D., Ratliff, E. A., McCurdy, S. A., Ross, M. W., Markham, C., & Pham, H. T. B. (2007). Health-seeking behaviour for sexually transmitted infections and HIV testing among female sex workers in Vietnam. *AIDS Care, 19*(7), 878–887.

Nguyen, T. A., Oosterhoff, P., Pham, Y. N., Hardon, A., & Wright, P. (2009). Health workers' views on quality of prevention of mother-to-child transmission and postnatal care for HIV-infected women and their children. *Human Resources for Health, 7*(1), 39.

Nuwagaba-Biribonwoha, H., Mayon-White, R. T., Okong, P., & Carpenter, L. M. (2007). Challenges faced by health workers in implementing the prevention of mother-to-child HIV transmission (PMTCT) programme in Uganda. *Journal of Public Health, 29*(3), 269–274.

Paz-Bailey, G., Koumans, E. H., Sternberg, M., Pierce, A., Papp, J., Unger, E. R., … Markowitz, L. E. (2005). The effect of correct and consistent condom use on chlamydial and gonococcal infection among urban adolescents. *Archives of Pediatrics & Adolescent Medicine, 159*(6), 536–542.

Pelesa, M. (2007). *Assessment of the quality of STI services in Johannesburg Metro: Resource availability*. School of Public Health, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg. Retrieved from http://146.141.12.21/handle/10539/5078

Phiri, L.J., (2010). *An Assessment of Quality of Care for Sexually Transmitted Infections (STI) Syndromic Case Management at Mangochi, Machinga and Balaka Stand Alone STI clinics.A Cross-Sectional Study in the Southern Region of Malawi.* University of Malawi College Of Medicine. Retrieved November, 2013 from

http://www.medcol.mw/commhealth/mph/dissertations/Levson%20Phiri%20Final%20submission%20ed%20pm.pdf

Phrasisombath, K., Thomsen, S., Sychareun, V., & Faxelid, E. (2012a). Care seeking behaviour and barriers to accessing services for sexually transmitted infections among female sex workers in Laos: a cross-sectional study. *BMC Health Services Research, 12*(1), 1.

Phrasisombath, K., Thomsen, S., Hagberg, J., Sychareun, V., & Faxelid, E., (2012). Knowledge about sexually transmitted infections (STIs) and attitudes toward female sex workers with STI symptoms among health care providers in Laos. *Asia-Pacific Journal of Public Health*, *24*(6), 940-952.

Polit, D., & Beck, C.T., (2010). *Essentials of nursing research: appraisal evidence for nursing practice* (7th ed.). Philadelphia: Lippincott Williams & Wilkins.

Progress report, (2010). *Reproductive health strategy to accelerate progress towards the attainment of international development goals and targets*. Geneva, WHO. Accessed on 17 December, 2013 from http://whqlibdoc.who.int/hq/2010/WHO_RHR_10.14_eng.pdf .

Reed, E., Miller, E., Raj, A., Decker, M. R., & Silverman, J. G. (2014). Teen dating violence perpetration and relation to STI and sexual risk behaviours among adolescent males. *Sexually Transmitted Infections*, sextrans–2013.

Rietmeijer, C. A. (2007). Risk reduction counselling for prevention of sexually transmitted infections: how it works and how to make it work. *Sexually Transmitted Infections*, *83*(1), 2–9.

Riedner, G., Hoffmann, O., Rusizoka, M., Mmbando, D., Maboko, L., Grosskurth, H., ... & Hoelscher, M. (2006). Decline in sexually transmitted infection prevalence and HIV incidence in female barworkers attending prevention and care services in Mbeya Region, Tanzania. *Aids*, *20*(4), 609-615.

Ringnér, A., Jansson, L., & Graneheim, U. H. (2011). Professional caregivers' perceptions of providing information to parents of children with cancer. *Journal of Pediatric Oncology Nursing*, *28*(1), 34–42.

Rogers, A., Meundi, A., Amma, A., Rao, A., Shetty, P., Antony, J., … Shetty, A. K. (2006). HIV-related knowledge, attitudes, perceived benefits, and risks of HIV testing among pregnant women in rural Southern India. *AIDS Patient Care & STDs*, *20*(11), 803–811.

Rosenberg, N. E., Kamanga, G., Pettifor, A. E., Bonongwe, N., Mapanje, C., Rutstein, S. E., … Miller, W. C. (2014). STI patients are effective recruiters of undiagnosed cases of HIV:

results of a social contact recruitment study in Malawi. *Journal of Acquired Immune Deficiency Syndromes (1999)*, *65*(5), e162.

Sandøy, I. F., Zyaambo, C., Michelo, C., & Fylkesnes, K. (2012). Targeting condom distribution at high risk places increases condom utilization-evidence from an intervention study in Livingstone, Zambia. *BMC Public Health*, *12*(1), 1.

Sexually Transmitted Infections: What Women Need to Know. [(accessed on 5

August 2015)]; Available online https://www.womenshealth.gov/blog/sexually-transmitted-infections**.**

Schensul, S. L., Mekki-Berrada, A., Nastasi, B. K., Singh, R., Burleson, J. A., & Bojko, M. (2006). Men's extramarital sex, marital relationships and sexual risk in urban poor communities in India. *Journal of Urban Health*, *83*(4), 614–624.

Scott-Sheldon, L. A., Fielder, R. L., & Carey, M. P. (2010). Sexual risk reduction interventions for patients attending sexually transmitted disease clinics in the United States: a meta-analytic review, 1986 to early 2009. *Annals of Behavioral Medicine*, *40*(2), 191–204.

Shaw, S. Y., Deering, K. N., Reza-Paul, S., Isac, S., Ramesh, B. M., Washington, R., … Blanchard, J. F. (2011). Prevalence of HIV and sexually transmitted infections among clients of female sex workers in Karnataka, India: a cross-sectional study. *BMC Public Health*, *11*(6), 1.

Shenton, A.K., (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22, 63–75.

Sherman, C. A., Harvey, S. M., & Noell, J. (2005). "Are they still having sex?" STIs and unintended pregnancy among mid-life women. *Journal of Women & Aging*, *17*(3), 41–55.

Sibanda, E. L., Hatzold, K., Mugurungi, O., Ncube, G., Dupwa, B., Siraha, P., … Cowan, F. M. (2012). An assessment of the Zimbabwe ministry of health and child welfare provider initiated HIV testing and counselling programme. *BMC Health Services Research*, *12*(1), 1.

Sihavong, A., Lundborg, C. S., Syhakhang, L., Kounnavong, S., Wahlström, R., & Freudenthal, S. (2011). Community perceptions and treatment-seeking behaviour regarding reproductive tract infections including sexually transmitted infections in Lao PDR: a qualitative study. *Journal of Biosocial Science*, *43*(03), 285–303. http://doi.org/10.1017/S002193201000074X

South African Government Information, (2009). Mpumalanga awareness campaign on Sexually Transmitted Infection, South African Government. 12 Feb.2009.

Trelle, S., Shang, A., Nartey, L., Cassell, J. A., & Low, N. (2007). Improved effectiveness of partner notification for patients with sexually transmitted infections: systematic review. *Bmj*, *334*(7589), 354.

UNAIDS, (2012). 'Global Report: UNAIDS Report on the Global AIDS Epidemic 2012.

Underhill, K., Montgomery, P., Operario, D., (2008). Abstinence-plus programs for HIV infection prevention in high-income countries. Cochrane Database Syst Rev.;1:CD007006. [PubMed]

Underhill, K., Operario, D., & Montgomery, P., (2007). Systematic review of abstinence-plus HIV prevention programs in high-income countries. *PLoS Med*, *4*(9), e275.

Urassa, W., Moshiro, C., Chalamilla, G., Mhalu, F., & Sandstrom, E. (2008). Risky sexual practices among youth attending a sexually transmitted infection clinic in Dar es Salaam, Tanzania. *BMC infectious diseases*, *8*(1), 1.

Vijayakumar, G., Mabude, Z., Smit, J., Beksinska, M., & Lurie, M. (2006). A review of female-condom effectiveness: patterns of use and impact on protected sex acts and STI incidence. *International Journal of STD & AIDS*, *17*(10), 652–659.

Wahl, H., Banerjee, J., Manikam, L., Parylo, C., & Lakhanpaul, M. (2011). Health information needs of families attending the paediatric emergency department. *Archives of Disease in Childhood*, archdischild177527.

Walse, M., & Wigens. L., (2003). Introduction to Research: Foundations in Nursing and*Health Care.* Cheltenham: Nelson Thorns LTD.

Walter, M., (E.d), (2010). *Social Research Methods.* (2nd ed). Australia: OxfordUniversity Press.

Wang, A. L., Peng, R.-R., Tucker, J. D., Cohen, M. S., & Chen, X.-S. (2012). Partner notification uptake for sexually transmitted infections in China: a systematic literature review. *Sexually Transmitted Infections*, sextrans–2011.

Wang, B. O., Li, X., Stanton, B., Fang, X., Liang, G., Liu, H., … Yang, H. (2007). Gender differences in HIV-related perceptions, sexual risk behaviours, and history of sexually transmitted diseases among Chinese migrants visiting public sexually transmitted disease clinics. *AIDS Patient Care and STDs*, *21*(1), 57–68.

Ward, H., & Rönn, M. (2010). The contribution of STIs to the sexual transmission of HIV. *Current Opinion in HIV and AIDS*, *5*(4), 305.

Ward, D. J., Rowe, B., Pattison, H., Taylor, R. S., & Radcliffe, K. W. (2005). Reducing the risk of sexually transmitted infections in genitourinary medicine clinic patients: a systematic review and meta-analysis of behavioural interventions. *Sexually Transmitted Infections, 81*(5), 386–393.

Warenius, L. U., Faxelid, E. A., Chishimba, P. N., Musandu, J. O., Ong'any, A. A., & Nissen, E. B. (2006). Nurse-midwives' attitudes towards adolescent sexual and reproductive health needs in Kenya and Zambia. *Reproductive health matters*, *14*(27), 119-128.

Weaver, M. R., Myaya, M., Disasi, K., Regoeng, M., Matumo, H. N., Madisa, M., … Marrazzo, J. M. (2008). Routine HIV testing in the context of syndromic management of sexually transmitted infections: outcomes of the first phase of a training programme in Botswana. *Sexually Transmitted Infections*, *84*(4), 259–264.

Wetmore, C. M., Manhart, L. E., & Wasserheit, J. N. (2010). Randomized controlled trials of interventions to prevent sexually transmitted infections: learning from the past to plan for the future. *Epidemiologic Reviews*, mxq010.

WHO, (2013). Baseline report on global sexually transmitted infection surveillance

2012. WHO. Accessed on 25 June, 2014 from http://www.who.int/reproductivehealth/publications/rtis/9789241505895/en/.

WHO (2012). *Global incidence and prevalence of selected curable sexually transmitted*

*Infections.*Geneva, WHO. Accessed on 17, December, 2013 from http://www.who.int/reproductivehealth/publications/rtis/stisestimates/en/index.html.

WHO, (2012). *Baseline report on global STI surveillance*, Library Cataloguing-in-Publication

Data, WHO.

WHO. Dept. of Reproductive Health and Research, (2010). *Guidelines for the Management of*

Sexually Transmitted Infections. Geneva, WHO.

WHO, (2008). *Educationfor Health. A manual on Health Education in Primary Health*

World Health Organisation(2007). World Health Organization Global strategy for the

prevention and control of sexually transmitted infections: 2006–2015. Retrieved from http://apps.who.int/iris/bitstream/10665/43853/1/9789241563475_eng.pdf, Geneva: WHO Office.

WHO AND UNAIDS, (2007). Guidance on provider-initiated HIV testing and counselling in health facilities. Retrieved from http://apps.who.int/iris/handle/10665/43688 *Care*, Geneva: WHO Office.

Wilson, T. E., Hogben, M., Malka, E. S., Liddon, N., McCormack, W. M., Rubin, S. R., & Augenbraun, M. A. (2009). A randomized controlled trial for reducing risks for sexually transmitted infections through enhanced patient-based partner notification. *American Journal of Public Health, 99*(S1), S104–S110.

Wood, K., & Jewkes, R. (2006). Blood blockages and scolding nurses: barriers to adolescent contraceptive use in South Africa. *Reproductive health matters, 14*(27), 109-118.

Young, T., de Kock, A., Jones, H., Altini, L., Ferguson, T., & van de Wijgert, J. (2007). A comparison of two methods of partner notification for sexually transmitted infections in South Africa: patient-delivered partner medication and patient-based partner referral. *International Journal of STD & AIDS, 18*(5), 338–340.

7.0 Appendices

APPENDIX A: PARTICIPANTS INFORMATION LETTER ON QUALITY OF HEALTH EDUCATION AND COUNSELLING SERVICES PROVIDED TO STI PATIENTS AT BWAILA STI CLINIC

Please read the information below and sign the form next page if you are taking part in this study

My name is Salome Njinga and I am currently registered as a student at the University of Malawi, Kamuzu College of Nursing pursuing a Masters Degree in Reproductive Health. I am conducting a research project on quality of health education and counselling services at Sexually Transmitted Infection (STI) clinic at Bwaila Hospital in Lilongwe and **I write this letter to ask you to participate in the study mentioned above.**

What is the purpose of the study?

The aim of the study is to explore the quality of health education and counselling services provided to STI patients aged 18 years and above at Bwaila STI clinic in Lilongwe District. The study hopes to explore the level of knowledge among STI patients regarding signs, symptoms, prevention and complications of STIs and the common practices of health care providers during health education and counselling sessions. It will help to find ways of improving the care.

Do I have to take part?

Participation in the study is entirely voluntary. You are free to take part in the study or withdraw at any time you feel like. Your refusal to take part in the study will not affect you in any way and you will still access the service.

What is involved in the study?

The study will require participants to respond to questions on the questionnaire and the researcher will be required to observe individuals as well as group counselling sessions. The study will not identify you in any way and names will not appear on the questionnaire. Information about you will be confidential and no one will identify who answered which question as no names will be written on the questionnaires. Code numbers will be used instead. The questionnaire and responses will be destroyed at the end of the study. The interview will be conducted at a time that is most suitable and quiet environment to avoid any disturbances and keep privacy.

If I take part what will happen to me?

You will be asked some questions about STIs. You will be required to answer the questions truthfully and the interview will take about 20-30 minutes.

What are the possible risks for taking part?

There will be no foreseeable physical harm (risks) to the respondents.

What are the possible benefits of taking part?

There will be no benefits from participating in the study, however, it is hoped that the findings of the study will assist in identifying strategies to promote provision of health education and counselling services hence preventing STI re-infections and subsequent complications. In addition, the study findings will assist care providers to know required standards when providing health education and counselling to STI patients and improve the service delivery.

If something goes wrong, what will happen?

The study and its procedures have been approved by College of Medicine Research Ethics Committee (COMREC). Bwaila being the area of study will only provide local permission to conduct the study. Therefore, all complaints concerning violation of rights or how you have been treated during the course of the study can be forwarded to the Secretariat, College of Medicine Research Ethics Committee, Private bag 360, Blantyre, Malawi. Telephone number 0111 871911

Contact for further information

However, for anything related to the scientific conduct/implementation of the study, feel free to contact the researcher at the following:

Mrs Salome Kanyama Njinga, Kamuzu College of Nursing, P.O. Box 415, Blantyre. Cel: 0888307823/0992807236. E-mail:sdnjinga@gmail.com

THANK YOU FOR READING THIS INFORMATION SHEET

APPENDIX B: Participant's consent form

Make sure you have read the above information before signing below if you are taking part in this study

1. I have read and (or have had another person read to me) the attached information sheet for this study and have understood the purpose of the study and the problems involved.
2. I agree to voluntarily participate in the study, be questioned and provide answers to the best of my knowledge. I understand I am free to withdraw from the study any time and this will not influence anything.
3. I know that that I will not suffer any injury or harm during the research process. The information that I will give to the researcher should not be used against me in future.
4. I understand that the information provided will be kept confidentially and will only be accessed by the researcher or those people directly concerned with this study.
5. I understand that I will not benefit financially.
6. I know how to contact the researcher if I need to.

Dear Researcher

I therefore consent to participate in the study having understood on the aim of the study, benefits, harm, confidentiality, anonymity, freedom to choose participation and withdrawal and that refusal or withdrawal shall not affect my treatment.

Respondent's name Signature/finger print Date

.....

Researcher's name Signature/finger print Date

.....

THANK YOU FOR PARTICIPATING IN THE STUDY

APPENDIX C: Kalata yolongosola za kafukufuku ofuna kudziwa uphungu omwe odwala matenda opatsirana pogonana amalandira zokhuza matendawa pamene akulandira chithandizo ku chipatala cha bwaila.

Chonde werengani kalatayi ndi kusayinira pa tsamba lakuseli ngati mukulowa nawo mukafukufuku amenity.

Ndine Salome Njinga, wophunzirakusukuluyaukachenjede ya Anamwino ku Kamuzu Koleji, ndipondikupanga za ukadaulookhuzazauchembere.Ndikupanga kafukufuku wofufuza uphungu omwe odwala matenda opatsirana pogonana amalandira zokhuza matendawa pamene akulandira chithandizo ku chipatala cha Bwaila ku Lilongwe, **ndiyendalembachikalatachi ndi cholinga chofuna kukupempheni kuti mutengepo mbali polowa nawo mukafukufukuyu.**

Kodi cholinga cha kafukufukuyu nchiani?

Cholinga cha kafukufuyu ndi kufufuza mulingo wauphungu omwe umaperekedwa kwa anthu amene akudwala matenda opatsirana pogonana kuyambira zaka 18 kupita kutsogolo pa chipatala cha Bwaila m’boma la Lilongwe. Kafufukuyu akuyembekezera ku kufukula mulingo wa zomwe anthu odwala matenda opatsirana pogonana amadziwa zokhudza matendawa kumbali ya zizindikiro, kapewedwe ndi zoopsa zomwe zingabwere chifukwa cha matendawa. Kuonjezera apo, kufufuza momwe ogwira ntchito ku chipatalachi akuuza odwalawa zoyenera, moyenera ndi mokwanira zamatendawa akapita kuchipatala popereka uphungu.Izi zithathiza kupeza njira yolimbikitsira kaperekedwe ka uphungu.

Kodi ndingatenge nawo mbali pakafukufuku uyu?

Dziwani kuti simukukakamizidwa kutengapo mbali.Ndikufuna kwanu kusankha kutenga nawo mbali mukafukufuyukapenaayi.Muli ndi ufulukufunakusiyanthawiimenemukufunandipoizisizizaletsainekulandirathandizolomwemwabwelera.

Kodi kafukufukuyu apangidwamotani?

Wotenga nawo mbali afunika kuti ayankhemafunsoamukafukufukuyundipowofufuzaawonererandondomekozopereka uphungu kwagulukomanso kwa m'modzim'modzi.Mayankhoanuazasungidwamwachimsinsindipodzinalanusilizalembedwapenapaliponse chifukwa tizagwiritsa ntchito ma nambala.Mapepalaonseazaotchedwapomaliza pakafukufuku ameneyu.Mafunsowaazafunsidwa mu chipindakupewachisokonesokomanso kuti tisungechisinsi.

Kodi chidzachitike ndi chiyani ngati nditenge nawo mbali?

Mukavomerezakutenga nawo mbali mukafukufukuyu mudzafunsidwamafunsookhuzana ndi matenda opatsirana pogonana.Kufunsamafunsokukudzathapafupifupimphindimakumiawirikapenaatatu.

Kodi kuopsakutenga nawo mbali ndi kotani?

Dziwaninso kuti palibechiopsezo china chili chonsechokhudzana ndi thupi la muthumukatenga nawo mbali mukafukufukuyu.

Kodi Phindulotenga nawo mbali ndi lotani?

Dziwaninso kuti palibecholowakapenaphindulapaderamotenganawo mbali pa kafukufukuyu ngati ndalama, komazotsatirazidzathandiza kupezanjirzambinozoperekera uphungu kuti kutenga matendawa kuchepekomansokupewazovuta zomwe zimabwera ndi matendawa. Kuonjezera apo, zidzathandizaonseopereka chithandizo kuchipatala cha matenda opatsirana pogonana kudziwa zoyenera kuchita ndi kutsata popereka uphungu kwa odwala matendawa.

Patapezekazovutazokhudzana ndi kafukufukuyu chingachitike ndi chiyani?

Kafukufukuyu wavomerezedwa ndi ku likululoona za kafukufuku kusukulu ya ma Dokotala**.** Chipatala cha Bwaila changoperekachilolezo cha maloochitira kafukufukuyu.Choncho, ngati pangapezekezovutakapenankhawainailiyonseyokhuzana ndi kafukufukuyu, khalaniomasuka popereka madandauloanu kwa Sekilitelieti, College of Medicine Research Ethics Committee,Private bag 360, Blantyre, Malawi. Nambala ya lamya: 0111 871911

Kuti mudziwezambiri

Ngati mukufuna kudziwa zambiri za kafukufukuyu, chondelumikizanani ndi Mai Salome Kanyama Njinga, Kamuzu College of Nursing, P.O. Box 415, Blantyre.

Pa nambalaizi: 0888307823/0992807236. E-mail: sdmnjinga@gmail.com

ZIKOMO KWAMBIRI CHIFUKWA CHOWERENGA KALATAYI.

APPENDIX D: Kalata ya chivomerezoyolowela mu kafukufuku ofuna kudziwa uphungu omwe odwala matenda opatsirana pogona amalandira zokhuza matendawa pamene akulandira chithandizo ku chipatala cha Bwaila.

Onetsetsani kuti mwawerenga ndi kumvetsetsazakafukufukuameneyumusanasayinire

1. Ndawerenga (kapenawinawandiwerengera) kalata yolongosola za kafukufuku alipamwambayundipondamvetsa cholinga cha kafukufukuyu ndizovutazake.
2. Ndavomereza kutengapo mbali pa kafukufukuyu mosaumirizidwa ndi kufunsidwamafunsookhudzanandimatenda opatsirana pogonana. Ndamvetsa kuti ndili ndi ufulukusiyanthawiinailiyonse.
3. Ndikumvetsa kuti zonse zomwe ndiyankhulekapenakupereka mukafukufukuyu zidzasungidwamwachimsinsindikugwiritsidwa ntchito ndiopangakafukufukuyikapenaokhuzidwamwachindunji ndi kafukufukuyi.
4. Ndamvetsetsa kuti palibepophindu la ndalamapotenga nawo mbali mukafukufuku ameneyu.
5. Ndamvetsa kuti palibephindulililonse pa kafukufukuyu
6. Ndikudziwammenendikapezereopanga kafukufukuyu ngati ndikofunikakutero

Kwa Wofufuza,

IneNdikuvomerezakutenga nawo mbali mu kafukufukuyu nditamvetsa za cholinga chake, ubwino wake, kuvutakwake, ufuluwangawotenga nawo mbali komansokusakhudzanakwa kafukufukuyu ndi chithandizo chomwendikulandira.

Dzina la Wotenga mbali Saini/chidindo cha chalaTsiku

.....

Dzina la Wofufuza Saini/chidindo cha chalaTsiku

.....

ZIKOMO KWAMBIRI POTENGA NAWO MBALI MU KAFUKUFUKUYU

APPENDIX E: OBSERVATIONAL CHECKLIST 1 FOR STRUCTURE QUALITY AT STI CLINIC

AREA OF ASSESSMENT	YES	NO	COMMENT
1. Availability of venue for delivering group health education. Consultation room Waiting area Others, specify..... **2. Venue clean, illuminated, ventilated, spacious, adequate chairs ?** Consultation room Waiting area Others, specify..... **3. Venue or rooms with structures for maintaining privacy (doors, windows, curtains)?** Consultation room Waiting area Others, specify..... **4. How many health providers are present?** **5. Who are the health providers involved in IEC.** nurses clinicians Others, specify..... **6. Are the following equipments, supplies and IEC support materials available at the clinic?** Guidelines/standards Partner notification cards Male condoms Female condoms Condom models Posters Drawings Leaflets Charts Others, specify..... 7. **The STI guidelines/standards displayed in the following areas** Consultation room Waiting area 8. **Are the IEC support materials available at the clinic?** Consultation room Waiting area Others, specify.....			

APPENDIX F: OBSERVATIONAL CHECKLIST 2 FOR PROCESS QUALITY (PROVIDER PRACTICES) IN PROVISION OF IEC AT STI CLINIC

AREA OF ASSESSMENT	YES	NO	COMMENT
Group IEC **1.** Explains about meaning of HIV and AIDS. **2.** Explains about transmission of STI/HIV. **3.** Explains STI relationship with HIV. **4.** Explains about STI/HIV prevention. **5.** Carry out condom demonstration using models/instructions on using a condom.. **6.** Explains about PEP. **7.** Explains about meaning, advantages of HTC. **8.** Explains how HIV testing is done. **9.** Explains about meaning of positive or negative results. **10.** Explains about window period. **11.** Explain about partner notification/treatment services. **12.** Explains about misconceptions about STI/HIV/AIDS. **13.** Explains about treatment options for STI/HIV **14.** Explains about health living **15.** Explains about issues of fear, stigma and discrimination in relation to STI management. **16.** provider uses the following IEC support materials. **17.** Demonstrates proper interpersonal communication skills **18.** How long did the IEC last? **Individual IEC** **19.** Explain about findings of diagnosis. **20.** Explain about signs and symptoms of STIs. **21.** Explain about STI transmission/risk behaviours **22.** Explain about STI complications. **23.** Explain about STI prevention ways. **24.** Explain about increased risks of HIV. **25.** Explain about importance of HTC and refer high risk patient for HTC/other services. **26.** Carry out condom demonstration and return demonstrations/provide condom use instructions. **27.** Supply condoms. **28.** Advice on partner notification and treatment. **29.** Supply partner slips. **30.** Administer/Supply drugs **31.** Advices on treatment compliance. **32.** Explains about follow up care/review dates. **33.** Does provider use the following IEC support materials			

34. Supply IEC materials (leaflets) **35.** Demonstrates proper interpersonal communication skills **36.** Provider maintains audio-visual privacy **37.** How long did the individual counselling last?			

APPENDIX G: QUESTIONNAIRE FOR STI PATIENTS ON EVALUATION OF HEALTH EDUCATION AND COUNSELLING SERVICES GIVEN TO STI PATIENTS DURING CONSULTATION AT STI CLINIC

Participants code number……..

Date of interview……..

Facility: Bwaila Hospital

Place of interview: Bwaila STI clinic

Tick the correct answer

SECTION A: Demographic Data

1) What is your gender/sex?

Male [ ] 1 Female [ ] 2

2) How old are you?

i. 18-24 [ ] 1
ii. 24-40 [ ] 2
iii. 40-65 [ ] 3
iv. Others [ ] 4

3) What is your marital status?

i. Married[ ] 1
ii. Single [ ] 2
iii. Divorced[ ] 3
iv. Widow [ ] 4
v. widower[ ] 5

4) What is your religion?

i. Christian [ ] 1
ii. Moslem [ ] 2
iii. Other (Specify)……3

5) What is your highest education level?

i. Primary [ ] 1
ii. Secondary [ ] 2
iii. Tertiary [ ] 3
iv. Others (specify)……..4

6) What is your occupation?

i. Business [ ]1
ii. Working [ ] 2
iii. Farmer [ ] 3
iv. None [ ] 4

SECTION B: To assess behaviour and practices of health providers during health education and counselling sessions.

7) Is this your first visit to this facility?

Yes[ ] 1 No[ ] 2

If **no**, how many times have you visited this facility in the past 12 months?

i. Once [ ] 1
ii. Twice [ ] 2
iii. Thrice [ ] 3
iv. More than three times[ ] 4

8) What type of STI infection are you suffering?

i. HIV [ ] 1
ii. Gonorrhoea [ ] 2
iii. Syphilis [ ] 3
iv. Trichomoniasis [ ] 4
v. genital warts [ ] 5
vi. I don't know [ ] 6
vii.Others, specify.....7

The investigator should compare the diagnosis mentioned by the patient with the one recorded in the patient file.

9) Were you present at the group health education and counselling session today?

Yes[ ] 1 No[ ] 2

If no or little time give reasons

i. There was no counselling [ ] 1
ii. There was no one to provide counselling [ ] 2
iii. There was no time [ ] 3
iv. Others specify.....4

10) Were you given any individual counselling during consultation today concerning your illness?

Yes[ ] 1 No[ ] 2

11) Who provided health education and counselling services today?

i. Nurse [ ] 1
ii. Doctor [ ] 2
iii. Others, specify 3

12) Mention various ways discussed during health education and counselling sessions about the transmission/spread of STIs?

i. Sexual intercourse with anyone /having many sexual partners [ ] 1
ii. Sexual intercourse without condom infected person [ ] 2
iii. No, i do not know [ ] 3
iv. Others, specify 4

13) Mention the signs and symptoms of STIs discussed during health education and counselling sessions?

i. Fever [ ] 1
ii. Genital itching or burning [ ] 2
iii. Increased or fowl smelling vaginal discharge [ ] 3
iv. Discharge or pus from the urethra [ ] 4

v. Burning or pain on urination [ ] 5
vi. Painful/painless blisters or sores on sexually-exposed areas of the body [ ] 6
vii. Growth in the vagina or vulva or penis [ ] 7
viii. No, i do not know [ ] 8
ix. Others, specify.....9

14) Mention various ways discussed during health education and counselling sessions how STI s can be prevented?

i. Abstinence [ ] 1
ii. Be faithful to one sexual partner [ ] 2
iii. Condom use with sexual partners [ ] 3
iv. No, not counselled [ ] 4
v. Others, specify 5

15) Mention the possible dangers/complications of STIs discussed during health education and counselling sessions if treatment is not received?

i. Increase transmission and acquiring HIV [ ] 1
ii. Increase risk of abortion [ ] 2
iii. Make a person less fertile [ ] 3
iv. Lead to infant abnormalities [ ] 4
v. No, i do not know [ ] 5
vi. Others, Specify…….....6

16) Apart from the health education and counselling what other forms of treatment and/or services did you receive?

i. Oral drugs [ ] 1
ii. Injectables [ ] 2
iii. HIV Testing Counselling [ ] 3
iv. I do not know [ ] 4
v. Others: Specify…….....5

17) Mention the instructions to be followed while taking medication to maximise effectiveness of treatment you got?

Yes[ ] 1 No

If **yes**, state below

i. Abstinence [ ] 1
ii. Condom use [ ] 2
iii. Partner(s) treatment [ ] 3
iv. Drug adherence [ ] 4
v. No, none [ ] 5
vi. Others, specify.....6

18) Apart from the counselling and drug treatment accessed today, mention other items provided to you?

i. Male Condoms [ ] 1
ii. Female condoms [ ] 2
iii. Partner notification card [ ] 3
iv. Booklets [ ] 4

v. None [ ] 5
vi. Others, specify.....6

19) Did the provider demonstrate how to use the condom?

Yes[ ] 1 No[ ] 2

20) Which of the following materials were used during the education and counselling sessions?

i. Booklets [ ] 1
ii. Posters [ ] 2
iii. Drawings [ ] 3
iv. Condom models[ ] 4
v. Video [ ] 5
vi. None [ ] 6
vii. Others, specify.....7

21) Were the educational materials written in local language?

Yes[ ] 1 No[ ] 2there was none [ ] 3

22) Apart from the treatment accessed today have you been reffered anywhere to get other treatments options?

i. HTC [ ] 1
ii. Laboratory [ ] 2
iii. Youth friendly health service clinic[ ] 3
iv. None [ ] 4
v. Others, specify.....5

23) Mention the time that you have been asked to return for another visit?

i. Persistent symptoms [ ] 1
ii. Symptoms reappear [ ] 2
iii. Others, specify 3
iv. None [ ] 4

24) Could anyone overhear the conversation you had with the provider during consultation?

Yes[ ] 1 No[ ] 2

25) Did the provider give you a chance to ask if you had any questions about what you had discussed?

Yes[ ] 1 No[ ] 2

If yes, were you satisfied with the answers to your questions?

Yes[ ] 1 No [ ] 2

26) How long did the health education/counselling session last?

i. 1-5 minutes [ ] 1
ii. 5-10minutes[ ] 2
iii. 10-15minutes[ ] 3
iv. 15-20 minutes[ ] 4
v. 20-25 minutes[ ] 5
vi. Others, specify 6

SECTION C: Assessing STI patients' opinion/judgement on satisfaction with health education and counselling services?

27) How adequate was the time for health education and counselling sessions?

i. Very adequate [ ] 1
ii. Adequate [ ] 2
iii. Not adequate [ ] 3

28) Mention the importance of health education and counselling during STI consultation?

.....
.....

29) Do you feel you were given adequate information?

i. Very adequate [ ] 1
ii. Adequate [ ] 2
iii. Not adequate [ ] 3

30) How satisfied are you with the health education and counselling services during the STI consultation in the following areas?

Education on Transmission of STIs?

i. Very satisfied [ ] 1
ii. Satisfied [ ] 2
iii. Neutral [ ] 3
iv. Dissatisfied [ ] 4
v. Very dissatisfied [ ] 5

Education on Signs and symptoms of STIs?

i. Very satisfied [ ] 1
ii. Satisfied [ ] 2
iii. Neutral [ ] 3
iv. Dissatisfied [ ] 4
v. Very dissatisfied [ ] 5

Education on Prevention measures of STIs

i. Very satisfied[ ] 1
ii. Satisfied [ ] 2
iii. Neutral [ ] 3
iv. Dissatisfied [ ] 4
v. Very dissatisfied [ ] 5

Education on Dangers of STIs and what action to take

i. Very satisfied[ ] 1
ii. Satisfied [ ] 2

iii. Neutral [ ] 3

iv. Dissatisfied [ ] 4

v. Very dissatisfied [ ] 5

Counselling on instructions to maximise treatment effectiveness

i. Very satisfied[ ] 1
ii. Satisfied [ ] 2
iii. Neutral [ ] 3
iv. Dissatisfied [ ] 4
v. Very dissatisfied [ ] 5

31) Would you recommend this provider to a friend?
Yes[ ] 1 No[ ] 2
If **yes**, Give reasons?
……
……
If **no**, Give reasons?

……

THANK YOU FOR YOUR PARTICIPATION

APPENDIX H: MAFUNSO A MUKAFUKUFUKU OFUNA KUDZIWA UPHUNGU OMWE ODWALA MATENDA OPATSIRANA POGONANA AMALANDIRA ZOKHUDZA MATENDAWA PAMENE AKULANDIRA CHITHANDIZO KU CHIPATALA CHA BWAILA

Nambala ya wotenga nawo mbali mukafukufuku: .....

Tsiku: ……..……

Chipatala: Bwaila

Malo a kafukufuku: Chipatala cha matenda opatsirana pogonana ku Bwaila

Chonganiyankholoyenera.

GAWO LOYAMBA: Chidziwitso Cha Munthu

1) Kodi ndinumwamunakapenamkazi?
Mwamuna[ ] 1 Mkazi [ ] 2

2) Kodi Muli ndi zaka zingati?
18-24 [ ] 1
24-40 [ ] 2
40-65 [ ] 3
Zina, Tchulani; 4

3) Kodi Muli pa banja?
i. Ndili pa banja [ ] 1
ii. Ndinewosakwatiwa [ ] 2
iii. Banja linatha [ ] 3
iv. Mkazianamwalira [ ] 4
v. Mwamunaanamwalira [ ] 5

4) Kodi ndi inuwachipembedzochiti?
i. Chi khirisitu [ ] 1
ii. Chi silamu [ ] 2
iii. Zina (Tchulani): ……..3

5) Kodi maphunziromunalekezerapati?
i. Pulayimale [ ] 1
ii. Sekondale [ ] 2
iii. Sukulu ya ukachenjede [ ] 3
iv. Zina (Tchulani): 4

6) Kodi mumagwira ntchito yanji?
i. Business [ ]1
ii. Kugwira ntchito [ ]2
iii. Mlimi [ ]3
iv. Palibe [ ]4

GAWO LACHIWIRI: kufufuza machitidwe a ma Dokotala ogwira ku chipatala cha matenda opatsirana pogonana popereka uphungu (Kumbali ya katsatidwe ka ndondomekoyoperekera uphungu kwa odwala matenda opatsirana pogonana, uphungu omwe umaperekedwa,

zipangizozothandizirakupereka uphungu, uphungu woyesetsamagazi a kachirombo ka HIV, zidazothandizirakuphunzitsakavalidwe ka ma kondomu, uphungu komansokugawa ma kondomu).

7) Kodi kubweraukundikachingati kuchipatala chino cha matenda opatsirana pogonana pa miyezi 12 yapitayi?

i. Kamodzi [ ]1
ii. Kawiri [ ]2
iii. Katatu [ ]3
iv. Kopitiriratatatu [ ]4

8) Tchulanidzina la matenda opatsirana omwe mukudwala ndi chani?

i. HIV [ ]1
ii. Mabomu [ ]2
iii. Chizonono [ ]3
iv. Mauka [ ]4
v. Njerewere za kumaliseche [ ]5
vi. Sindikudziwa [ ]6
vii. Zina, Tchulani: 7

Ofufuzaafananize matenda otchulidwa ndi ndi zomwe zalembedwa mu buku la wodwalayo la chipatala

9) Kodi lerommeneamapereka uphungu wapagulumunalipo?

Eya [ ]1 Ayi [ ]2 Nthawiyochepa [ ] 3

Ngati ndi ayikapenanthawiyochepa, chifukwa chiyani?

i. Kunalibe uphungu [ ]1
ii. Kunalibeotiuzauphunguwu [ ]2
iii. Panalibenthawi [ ]3
iv. Zina (Tchulani).....4

10) Kodi munapatsidwa uphungu wapaderaderapanokhanthawiyomwemumalandira chithandizo wokhudzana ndi matenda mukudwalawa?

Eya [ ]1 Ayi [ ]2

11) Tchulani anthu omwe anakupatsani uphungu lero?

i. Namwino[ ]1
ii. Dokotala[ ]2
iii. Ena, tchulani.....3

12) Tchulani uphungu omwe mwapatsidwawokamba za kafalidwe/khalidwelomwelimaikamunthu pa chiopsezochotenga matenda opatsirana pogonana?

i. Kugonana ndi aliyense/ndi anthu ambiri [ ]1
ii. Kugonanamosadziteteza ndi munthu amene ali ndi matendawa [ ]2
iii. Ayi, sindikudziwa [ ]3
iv. Zina, tchulani. 4

13) Tchulani uphungu omwe mwapatsidwawokamba za zizindikiro za matenda opatsirana pogonana?

i. Kutenthathupi [ ]1
ii. Kuyabwakapenakuwotcha ku maliseche [ ]2
iii. kutulutsachikazichonunkhakapenachambiri [ ]3
iv. kutulutsamadzi/mafinyakuchoka mu njira ya chida cha a bambo[ ]4

v. kuwawakapenakumvakuwotchapokodza [ ]5
vi. kutulukazilondazowawa/zosawawaku maliseche [ ]6
vii. njerewere za ku maliseche [ ]7
viii. Ayi, sindikudziwa ..... [ ]8
ix. zina, tchulani; .....[ ]9

14) Tchulani uphungu omwe mwapatsidwawokamba za kapewedwe ka matenda opatsirana pogonana?

i. Kudziretsakupangazogonana [ ]1
ii. Kukhalawokhulupirika kwa munthummodziwogonananaye [ ]2
iii. Ku gwiritsa ntchito chitetezo pogonana partners [ ]3
iv. Ayi, sindikudziwa [ ]4
v. Zina, tchulani ; .....[ ]5

15) Tchulani uphungu omwe mwapatsidwawokamba za kuopsakapena zomwe zingathekubwera chifukwa cha matenda opatsirana pogonana ngati siunalandiremankhwala?

i. Amachulutsamwayiwotenga/kufalitsakachirombokoyambitsa matenda a EDZI[ ]1
ii. Amaikanzimayi pa chiopsezochotayamimba [ ]2
iii. Amachepetsamwayiwokhalawobereka [ ]3
iv. Akhozakupangitsachilema kwa mwanawobadwayo [ ]4
v. Ayi, sindikudziwa [ ]5
vi. Zina, tchulani 6

16) Kupatula uphungu, kodimwapatsidwamankkhwalakapena chithandizo china chotani ku chipatala kuno?

i. Mankhwalaakumwa [ ]1
ii. Mankhwalaobaya [ ]2
iii. Kuyesetsamagazi a HIV [ ]3
iv. Ayi, palibe [ ]4
v. Zina, tchulani 5

17) Tchulanimalangizo amene mwauzidwaofunikakuonetsetsa/kutsatirapanthawiyomwemukulandira chithandizo chamakhwalachi?

i. Kudziretsakupangazogonana pa nthawiyi [ ]1
ii. Kugwiritsanchito ma kondomu [ ]2
iii. Onseogonana nawo akufunikakulandira chithandizo [ ]3
iv. Kutsatiramalangizo ndi ndondomeko ya kamwedwe ka mankhwala [ ]4
v. Ayi, Palibe [ ]5
vi. Ena, tchulani 6

18) Kupatula uphungu ndi chithandizo cha mankhwalachomwemwapatsidwalero, tchulanizinthuzina zomwe mwapatsidwanso?

i. Ma kondomu a chimuna [ ]1
ii. Ma kondomu a chikazi [ ]2
iii. Khadi lachidziwitso kwa ogonana nawo [ ]3
iv. Ma buku a ma tsamba ang'onoang'ono [ ]4
v. Palibe [ ]5
vi. Zina, tchulani 6

19) Kodi munaonetsedwa `za ka validwe ka kondomu?

Eya [ ]1 Ayi [ ]2

20) Ndi ziti mwazipangizoizi zomwe zinagwiritsidwa ntchito pokupatsani uphungu?

i. Ma buku a ma tsamba ang'onoang'ono [ ]1
ii. Zopachika pa khoma [ ]2
iii. Zithunzizojambula [ ]3
iv. Zifanizo cha chida cha a bambo [ ]4
v. Video [ ]5
vi. Palibe [ ]6
vii. Zina, tchulani 7

21) Kodi zipangizozophunzitsirazozinalembedwa mu chiyankhulo cha chichewa?

i. Eya [ ]1
ii. Ayi [ ]2
iii. Panalibe [ ]3

22) Kupatula chithandizo chomwemwalandiraleromwatumizidwakwinakulikonsekomwemukalandire chithandizo china kapenakupitirizachithandizochi?

i. Kukalandira uphungu ndi kokayezetsamagazi [ ]1
ii. Ku chipindachofufuza matenda [ ]2
iii. Ku chipatala cha a chinyamata [ ]3
iv. Palibe [ ]4
v. Zina, tchulani.....5

23) Tchulaninthawiyomwemwauzidwa kuti mukabwerenso?

i. Zizindikiro zikapitilira [ ]1
ii. Zizindikiro zikayambiranso [ ]2
iii. Zina, tchulani.....3
iv. Palibe [ ]4

24) Kodi panali amene amamvera zomwe mumakambiranapanthawiyomwemumalandira uphungu kapena chithandizo?

Eya[ ]1 Ayi [ ]2

25) Kodi munapatsidwamwayiofunsa ngati muli ndi funso pa zonse zomwe munakambirana?

Eya [ ]1 Ayi [ ]2

Ngati ndi **eya**, munayankhidwamomvekabwino pa mafunsoonse omwe munafunsa?

Eya [ ]1 Ayi [ ]2

26) Kodi munatenganthawiyayitalibwanjimukulandira uphungu umenewu?

i. 1-5 mimutes [ ]1
ii. 5-10minutes [ ]2
iii. 10-15minutes [ ]3
iv. 15-20 minutes [ ]4
v. 20-25 minutes [ ]5
vi. Zina (Tchulani).....6

GAWO LACHITATU: Kufufuza ganizo la anthu odwala matenda opatsirana pogonana za kukhutitsidwakwawo ndi uphunguwoperekedwawo.

27) Kodi nthawiyomwemunalimukulandira uphungu inakukwaniranibwanjilero?

i. yokwanirakwambiri [ ]1
ii. yokwanira [ ]2
iii. yosakwanira [ ]3

28) Tchulaniubwinowolandira uphungu pa nthawiyomwemukulandira chithandizo cha matenga opatsirana pogonana?

.....
.....

29) Kodi uphungu mwalandiramwauona kuti ndi okwanirabwanji?

i. Okwanirakwambiri [ ]1
ii. Okwanira [ ]2
iii. Osakwanira [ ]3

30) Kodi ndinuokhutitsidwabwanji ndi uphungu womwemwalandiralerom'maderaawa?

Uphungu okhudzana ndi kafalidwe ka matenda opatsirana pogonana?

i. okhutitsidwakwambiri [ ]1
ii. okhutitsidwa [ ]2
iii. pakatikati [ ]3
iv. osakhutitsidwa [ ]4
v. osakhutitsidwakwambiri [ ]5

Uphungu okhuzana ndi zizindikiro za matenda opatsirana pogonana?

i. okhutitsidwakwambiri [ ]1
ii. okhutitsidwa [ ]2
iii. pakatikati [ ]3
iv. osakhutitsidwa [ ]4
v. osakhutitsidwakwambiri [ ]5

Uphungu okhuzana ndi kapewedwe ka matenda opatsirana pogonana?

i. okhutitsidwakwambiri [ ]1
ii. okhutitsidwa [ ]2
iii. pakatikati [ ]3
iv. osakhutitsidwa [ ]4
v. osakhutitsidwakwambiri [ ]5

Uphungu okhuzana ndi zizindikiro zoopsya za matenda opatsirana pogonana ndi zomwe mukuyenerakuchita?

i. okhutitsidwakwambiri [ ]1
ii. okhutitsidwa [ ]2

iii. pakatikati [ ]3
iv. osakhutitsidwa [ ]4
v. osakhutitsidwakwambiri [ ]5

Uphungu okhuzana ndi zofunikakutsatira kuti mankhwalaagwirebwino ntchito?

i. okhutitsidwakwambiri [ ]1
ii. okhutitsidwa [ ]2
iii. pakatikati [ ]3
iv. osakhutitsidwa [ ]4
v. osakhutitsidwakwambiri [ ]5

31) Mungakondwe kuti munthu amene wakupatsani uphungu leroapatsenso anthu ena?

Eya [ ]1Ayi [ ]2

Ngati ndi **eya**, perekanizifukwa?

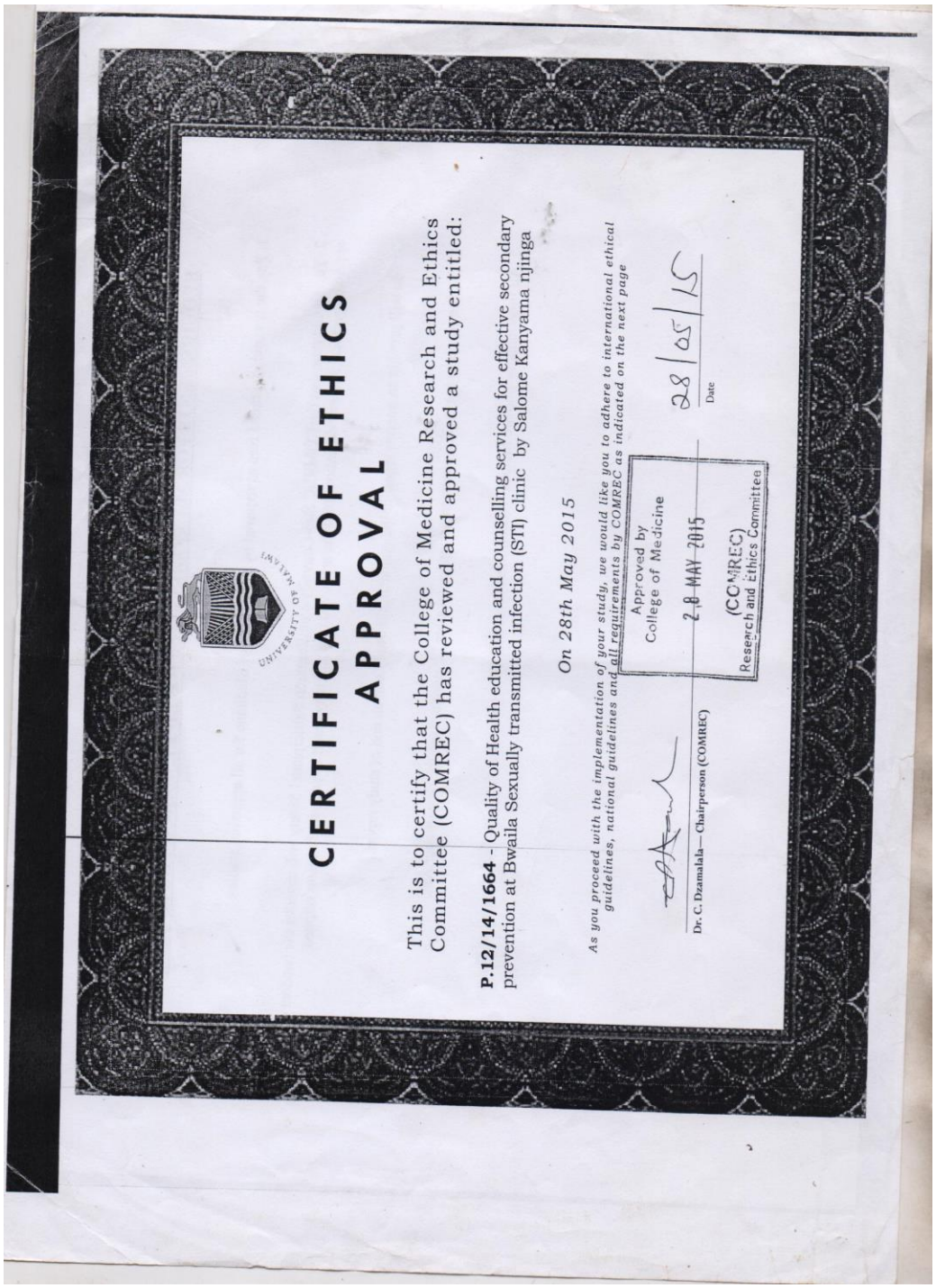
……
.....

Ngati ndi **ayi**, perekanizifukwa?

……
.....

ZIKOMO KWAMBIRI POTENGAPO MBARI PAKAFUKUFUKUYU!

APPENDIX I: CERTIFICATE OF APPROVAL FROM COMREC



CERTIFICATE OF ETHICS APPROVAL

This is to certify that the College of Medicine Research and Ethics Committee (COMREC) has reviewed and approved a study entitled:

P.12/14/1664 - Quality of Health education and counselling services for effective secondary prevention at Bwaila Sexually transmitted infection (STI) clinic by Salome Kanyama njinga

On 28th May 2015

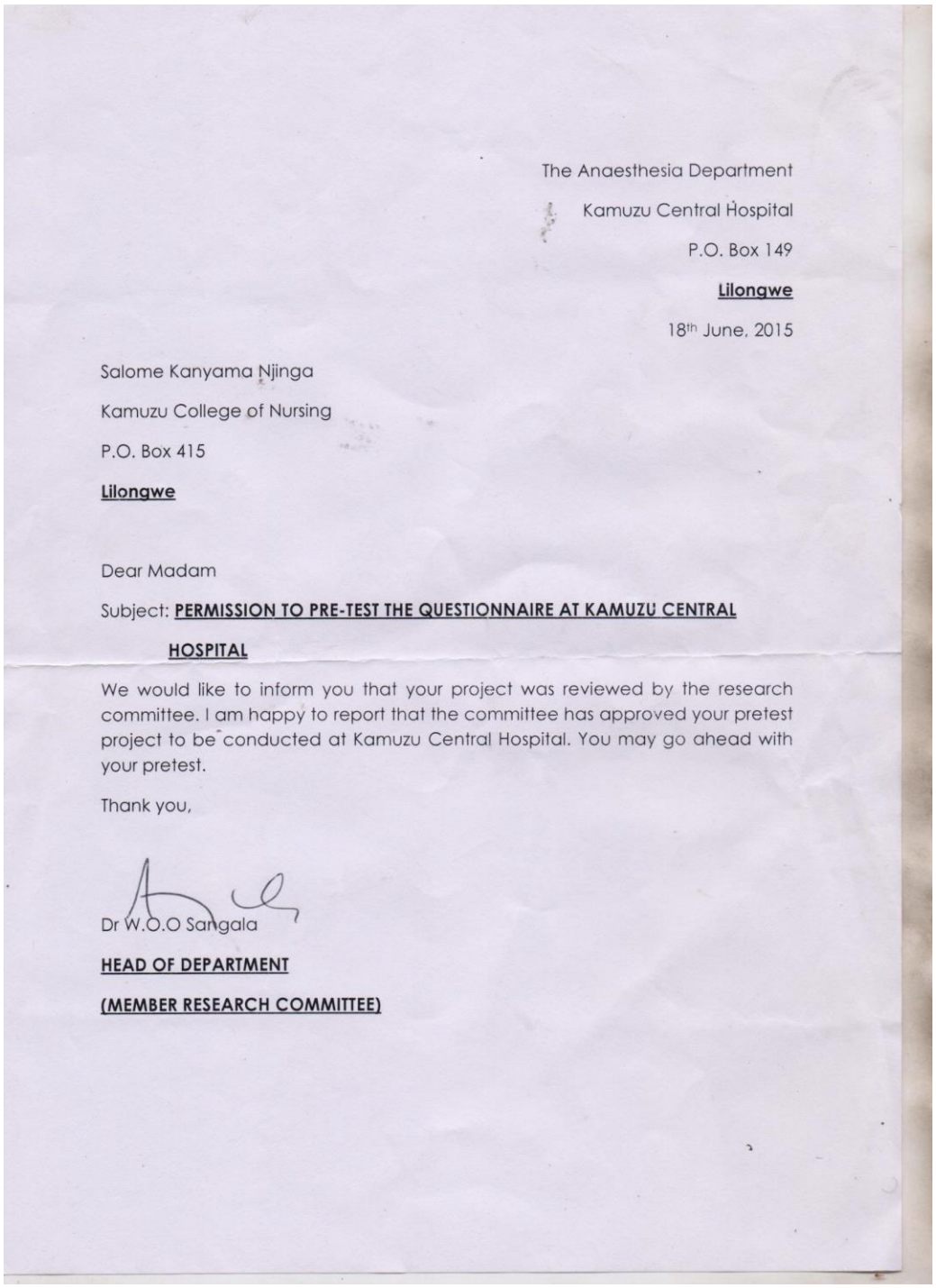
As you proceed with the implementation of your study, we would like you to adhere to international ethical guidelines, national guidelines and all requirements by COMREC as indicated on the next page

Approved by
College of Medicine
28 MAY 2015
(COMREC)
Research and Ethics Committee

Dr. C. Dzamalala—Chairperson (COMREC)

28/05/15
Date

APPENDIX J: PERMISSION LETTER FOR PRE TESTING AT KAMUZU CENTRAL



The Anaesthesia Department

Kamuzu Central Hospital

P.O. Box 149

Lilongwe

18th June, 2015

Salome Kanyama Njinga

Kamuzu College of Nursing

P.O. Box 415

Lilongwe

Dear Madam

Subject: **PERMISSION TO PRE-TEST THE QUESTIONNAIRE AT KAMUZU CENTRAL HOSPITAL**

We would like to inform you that your project was reviewed by the research committee. I am happy to report that the committee has approved your pretest project to be conducted at Kamuzu Central Hospital. You may go ahead with your pretest.

Thank you,

Dr W.O.O Sangala

HEAD OF DEPARTMENT

(MEMBER RESEARCH COMMITTEE)

APPENDIX K: LETTER OF PERMISSION TO CONDUCT THE STUDY AT LILONGWE DHO

Ref. No.:
Telephone No.: 265 726 466/464
Telefax No.: 265 727817
Telex No.:
E-Mail. lilongwedho@malawi.

COMMUNICATIONS TO BE ADDRESSED TO:

In reply please quote NO DZH/MALAWI,
Lilongwe District Health Office
P.O. Box 1274
Lilongwe
Malawi

1st December, 2014

TO : The In-Charge, Bwaila Hospital

Dear Sir/Madam

PERMISSION TO *CONDUCT A RESEARCH STUDY*

Permission has been granted to the bearer of this letter

Salome Kanyama Njinga

To conduct a research study "**Explore the quality of health education and counseling services provided to STI patients at Bwaila STI clinic**".

Any assistance rendered would be appreciated.

LILONGWE DISTRICT HEALTH OFFICE
01 DEC 201..
DISTRICT HEALTH OFFICER
P.O. BOX 1274, LILONGWE

Dr. M. Mwale
DISTRICT HEALTH OFFICER