COLLEGE OF MEDICINE

DELIVERY AND PROMOTION STRATEGIES FOR OPTIMISING UPTAKE OF CONTRACEPTIVES AMONG ADOLESCENTS AGED 15-19 YEARS IN NSANJE DISTRICT, MALAWI

BY

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CERTIFICATE OF APPROVAL

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DECLARATION OF AUTHORSHIP

I, **Andrew Kondaine Makwinja**, declare that this dissertation titled, "Delivery and promotional strategies for optimising uptake of Contraceptives among Adolescents age 15-19 years in Nsanje district, Malawi" represent my original work and has not been presented for any awards at University of Malawi or any other University. Due acknowledgements have been done where the work of other scholars has been used.

Signature : _____

Date : _____

DEDICATION

I dedicate this work to Mama my mother, Mrs Lucy Jiya, brothers and my only sister Alice. I owe you everything. I will be forever thankful for the faith and making it possible for me to take opportunities I have come across.

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ABSTRACT

Background

Despite documented benefits of contraceptives, uptake among adolescents aged 20-24 years is high compared to age group 15-19 years in Malawi. As the world's population of 15-19 year olds continues to grow the need to meet increasing demand for contraceptive services and information that address adolescent specific needs cannot be underestimated. To inform Sexual and Reproductive health services for the youth, we explored strategies that may optimize uptake of contraceptives among this age group.

Objective

The objective of this study explored strategies for optimizing uptake of contraceptives among adolescents aged 15-19 years old.

Methods

An exploratory qualitative cross-sectional study guided by Social Ecological Framework to understand strategies that may optimize uptake of contraceptives among adolescents age 15-19 years was conducted from September to October 2019 at Nsanje District Hospital and Nyamadzere Community Day Secondary School in Nsanje district, Malawi. Nsanje district was purposively selected based on the reason that it is second district in Malawi with highest rate of adolescent childbearing of girls aged 15-19 years. We conducted a Focus Group Discussion (FGD) with 9 traditional leaders, 11 Key Informant Interviews (KIIs) with health workers, 20 In-depth Interviews (IDIs) with 12 adolescents and 4 teachers and 4 parents. All data were digitally recorded, transcribed verbatim into English. The data was analyzed and managed using deductive thematic analysis guided by Social Ecological Framework.

Results

Individual, community and interpersonal level strategies with subcategories Physical spaces and Promotional strategies as well as organizational level strategies were identified. Individual level strategies: Physical spaces (local drug store, peers, and community health workers), Promotional strategies (Leaflets, flyers, Short Message Service, Placards, mass media). Community and interpersonal level strategies: Physical spaces (Youth Centred Services: youth corners, clubs and centers); Community promotion strategies (Use of community leaders, Counselling and guidance in schools and homes, Information, Education and Communication, Awareness campaigns and peer education). Organizational strategies include aspects of design and service delivery, society laws and policies (resource availability, introduction of bylaws and penalties by traditional leaders, provide adolescent health services separate from adults, mandatory teaching of contraceptive topics in schools, contraceptive health education by school health nurses in schools).

Conclusion

This study suggests that enabling environment to deliver and promote use of contraceptives among adolescents aged 15-19 years need to have various people and places as deliverers of contraceptives such as local private drug stores, adolescent centered units in hospitals, community health workers and peers enforced by policies such as mandatory teaching of contraceptives in schools by school health nurses and bylaws and penalties for teen pregnancy by traditional leaders. This provides a strong argument for collaboration and involvement of different people and institutions at community, organization and policy level to strengthen strategies for optimizing delivery and promotion of contraceptives among adolescents aged 15-19 years. Leveraging of available structures, resources and services that target adolescents within and out of school will accelerate uptake of contraceptives among adolescents.

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ABBREVIATIONS AND ACRONYMS

CoM	College of Medicine
MoH	Ministry of Health
FIGO	International Federation of Gynaecology and Obstetrics
COMREC	College of Medicine Research Ethics Committee
DHO	District Health Officer
FDG	Focus Group Discussion
WHO	World Health Organization
SBHC	School Based Health Centers
USAID	United States Agency for International Development
SRH	Sexual and Reproductive Health
SEM	Social Ecological Model
YFHS	Youth Friendly Health Services
YFFPS	Youth Friendly Family Planning Services
CSE	Comprehensive Sexuality Education
UNICEF	United Nations Childrens Fund
UNESCO	United Nations Educational Scientific and Cultural Organization
STIs	Sexually Transmitted Infections
SMS	Short Message Service
ICRW	International Center for Research on Women
FP	Family Planning

KEY CONCEPTS AND TERMS

Adolescents: According to United Nations definition these are people between 10 to 19 years of age [1].

Contraceptives: any device or act whose purpose is to prevent a woman from becoming pregnant can be considered as a contraceptive [2].

Sexual health: describes the absence of illness and injury associated with sexual behavior and a sense of sexual well-being [3] .

Reproductive health: According to WHO reproductive health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes [3] .

Sexual and Reproductive Health and Rights (SRHR): entails the rights of all individuals to make decisions concering their sexual activity and reproduction free from discrimination, coercion and violence. On issues of access to SRHR, therefore, individuals are able to choose whether when, and with whom to engage with in sexual activity, to choose whether and when to have children, and to access the information and meand to make the choices [3].

Youth Friendly Health Services (YFHS): Youth-friendly health services are high-quality services that are relevant, accessible, attractive, affordable, appropriate, and acceptable to young people [4].

CHAPTER ONE: BACKGROUND AND INTRODUCTION

1.1 Introduction

Approximately 16 million adolescents aged 15-19 years' experience the negative health consequences of early unprotected sexual activity which may result into unintended pregnancy, unsafe abortions, pregnancy related mortality and morbidity and its social and economic costs [5]. Access to contraception reduces maternal deaths by preventing or delaying pregnancy in women who do not intend to be pregnant or those at higher risk of complications [6]. It is estimated that adolescents aged 15-19 years contribute 23% of global maternal deaths annually [7]. Hence, World Health Organization recognizes the link between adolescent pregnancies and poor maternal and child health outcomes [8]. In addition, as the world's population of 15-19 year olds continue to grow beyond 600 million, countries need to meet increasing demand for contraceptive services and information that address adolescents specific needs [9]. Consequently, providing a call for global, regional and national initiatives to address the problem [10].

Despite documented benefits of contraception, World Health Organization in 2015 estimated that the global unmet need for contraception among adolescents aged 15-19 years is 23 million such that 50% of pregnancies are unintended [11]. According to International Federation of Gynecology and Obstetrics, there was high unmet need in Sub-Saharan Africa and Southern Asia both accounting for 57% in 2016 [12]. Globally, an estimated 16 million adolescents aged 15–19 give birth each year [13]. About 95% of adolescent births occur in low and middle income countries where high maternal mortality occur [10]. According to WHO, the need for contraception among adolescent girls, aged 15–19 years, is greater than among 20–24 year-old women in low and middle-income countries and the majority of them are unmarried [10]. In sub-Saharan Africa contraceptive use among adolescents aged 15-19 years in 2014 ranged 21-42% with unmet need

of 53-64% among unmarried and 8-36% contraceptive use with unmet need of 16-62% among married women [13]. Similarly, analysis of Malawi Demographic and Health Survey of 2015-16 data show that 74.8% of women in age 20-24 years were contraceptive users compared to 25.2% of women in age group 15-19 years [14].

Literature show that unmet contraceptive uptake contribute to risk of maternal death in the age range of 15 -19 years old such that it is twice higher than in age 20-24 years [15, 16]. Pregnancy and childbirth complications are the leading causes of death among 15 to 19 year-old girls globally, with low and middle-income countries accounting for 99% of global maternal deaths of women aged 15 to 49 [17]. In countries such as Malawi where access to abortion is legally and logistically restricted, teenagers have resorted to unsafe abortion [16]. Worldwide, adolescents aged 15–19 contributed an estimated 3.2 million (14%) unsafe abortions [10]. In Malawi it is estimated that abortion rate is at 38 abortions per 1000 women aged 15-49 of which majority of abortions occur among adolescents [18].

Although adolescents aged 15-19 years old contribute 23% of global maternal mortality especially in low and middle income countries, efforts to prevent occurrence of teenage pregnancies have been suboptimal and otherwise neglected [10]. Hence, adolescents have been identified as a priority group for preventing maternal deaths globally [15]. Evidence show that closing the unmet need for modern contraception of women aged 15–19 old would reduce unintended pregnancies among this age-group by 6.0 million annually [19]. The closure will avert 2.1 million unplanned births, 3.2 million abortions and 5,600 maternal deaths [19]. Therefore, increasing the use of contraception among adolescents aged 15-19 years remain an important factor to the achievement

of universal access to sexual and reproductive health services and rights by 2030, including family planning as laid out in Sustainable Development Goal 3 [10].

Despite documented benefits of contraceptive use in preventing adolescent pregnancies barriers such as society attitude that contraceptives are for married women, cost, stigma, marital status, unfriendly health personnel and unavailability of contraceptives in hospitals continue to interrupt contraceptive access [19–22]. Specifically for Malawi, it was found that waiting time, health workers negative attitude towards adolescents and stock-outs of contraceptives at health facility affected uptake of contraceptives among adolescents [20, 21]. In Kenya, school teachers and parents lacked adequate knowledge and skills to communicate sexual and reproductive health issues such that this reduced the capacity of teachers and parents to handle adolescent sexuality issues and pregnancy prevention to reduce negative perceptions on contraceptive use [22]. Therefore, investigating strategies that may improve uptake of contraceptives where there is unmet need to delay pregnancy is paramount to the reduction of maternal mortality.

1.1 Problem Statement

Despite Malawi's investments in Youth Friendly Family Planning Services (YFFPS), studies show that disparities exist in the uptake of contraception among young women. Women in the age bracket of 20–24 years were 93% more likely to use contraceptives than their counterparts aged 15–19 years. Consequently, the rise in Malawi's teenage childbearing from 26% to 29% between 2010 and 2016 has been reported, indicating underutilization of contraceptives among young women. Although the current YFFPS support uptake of contraceptives in women age group 15-24 years the strategies to promote contraceptive use among adolescents have not been explicitly stated. As Malawi aims at reducing Maternal Mortality Rate from 439 deaths per 100, 000 live

births to meet Sustainable Development Goal target 3, exploring strategies that may optimize contraceptive uptake among adolescents aged 15 – 19 years was essential. The purpose of this study was to explore strategies that may optimize uptake of contraceptives among adolescents aged 15-19 years in Malawi.

1.2 Significance of the Study

Access to contraception reduces maternal deaths by preventing or delaying pregnancy in women who do not intend to be pregnant or those at higher risk of complications [6]. Therefore, the study explored strategies that may optimize contraceptive uptake among adolescents aged 15-19. An increase in uptake of contraceptives among adolescents aged 15-19 will lead to reduction of unintended pregnancies and improved maternal health outcomes. The results may inform policy and development of differentiated services in the implementation of Youth Friendly Family Planning Services which may optimize uptake of contraceptives among adolescents aged 15-19.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section provided literature on uptake of contraceptive among adolescents. It provided literature from selected parts of the world including Malawi. It highlighted uptake of contraceptive among adolescents under sections; global burden of low uptake of contraception among adolescents, barriers to adolescent contraceptive uptake and strategies that have been and being used to provide contraceptives. The aim of the literature review was to highlight and discuss what was already known on uptake of contraceptive and to expose gaps in knowledge on uptake of contraceptives among adolescents.

2.2 Global Burden of Low Contraceptive Uptake among Adolescents

Disparities of contraceptive use exist by age, marital status, education, religion and socioeconomic status [26]. Most women around the world begin sexual relationships between the ages of 15 and 19 years and face significant challenges in obtaining services and information to protect themselves from unwanted pregnancy [9]. Despite worldwide efforts to end child marriage, 28% of young women in developing regions marry before age 18, the internationally recognized age of adulthood [19]. Complications from pregnancy and childbirth are the leading causes of death in girls aged 15-19 years in low and middle income countries where almost all of the estimated 3 million unsafe abortions occur [27]. Studies show that perinatal deaths are significantly higher in babies born to adolescent mothers than in those born to mothers aged 20–29 years, as are other problems such as low birth weight [27]. Youth aged 15–24 years account for one-fifth of the population of Sub-Saharan Africa, and their state of health has significant implications for the future of individual countries and for the region as a whole [28]. Unsafe abortions continue to occur partly due to failure to prevent pregnancies, with Sub-Saharan Africa contributing the most

significant burden of all unsafe abortions among young people globally, of which a quarter occurs in those aged 15–19 years [29]. Hence, universal access to sexual and reproductive health services and rights by 2030, including family planning, is a priority in the global Agenda for Sustainable Development, as laid out in Goal 3 [30].

Globally, studies on adolescent sexual behavior show that premarital and sexual encounters are generally unplanned, infrequent and sporadic [31]. It is this situation that make adolescents encounter high unmet need for contraception predisposing them to unplanned pregnancies and risk of unsafe abortion [32]. Unplanned adolescent pregnancy is associated with unsafe abortion, a cause of 13% of global maternal mortality [33] . Despite this burden studies show that there is global unmet need for contraception among adolescents aged 15-19 years [10]. In a study done in Brazil 57% of girls aged 15-19 who did not want the pregnancy reported that they did not use any contraceptive method right before pregnancy [34]. In a review done in India on contraceptive use among adolescents in Asia studies show that the unmet need remains high ranging from 9% in Indonesia and 41% in Nepal [35, 36]. According to a study of nearly 34,000 15-year-old male and female students in 23 European countries and Canada, 14–38% were sexually experienced, 82% of sexually active students reported using condoms or pills at last intercourse [37]. A study in kenya shows that contraceptive use among adolescents has remained below 10 percent while child bearing has increased from 2 percent at age 15 to 36 percent at age 19 [22]. In Tanzania a study showed that 23% of women aged 15-19 have started childbearing and approximately 45% of all 19 year old Tanzanian women are either pregnant or already have a child [38]. According to Malawi Demographic and Health Survey 2015-16, 29% of adolescent women age 15-19 are already mothers or pregnant with their first child [39]. Teenage fertility is higher in rural areas (31%) than urban areas (21%). Adolescent women in the poorest households are nearly three times

as likely as those in the wealthiest households to have begun childbearing [39]. Child marriage has been underscored by research as one of the factors contributing to teen pregnancy in Malawi [14]. UNICEF in 2017 report shows that child marriage remains high with 46.7 per cent of girls married before the age of 18 and Malawi's pre-term birth rate is the highest in the world at 13 per cent [40]. In Malawi half of all young people aged 10-24 who reported knowing about sex had sex, with the likelihood of reporting to have had sex increasing with age [41]. Over 12 percent of those ages 10–14 years, and almost 52 percent of those ages 15–19 reported to have had sex [41]. It is also reported in a study that analysed data from Malawi Demographic Health Survey 2015-16 that adolescents aged 20-24 years were 93% more likely to use contraceptive than in those aged 15-19 years [14].

2.3 Barriers to Adolescent Contraceptive Uptake

Literature has categorized barriers to adolescent contraceptive use into: policy, institutional, community, interpersonal and individual levels [28, 42].

2.4 Policy Level Barriers

olicies on Sexual and Reproductive Health rights of people under age 18 determine whether adolescents have the agency to make their own decisions regarding sexual and reproductive health or whether they need parental or spousal consent [42]. Malawi like other Sub-Saharan African countries has National Population Policy, National Sexual and Reproductive Health Rights Policy, National Youth-friendly Health Services Strategy and National Reproductive Health Service Delivery Guidelines as key strategies for improving access to Family Planning services among adolescents [43]. In Malawi Education Policy prohibits the provision of contraceptives on school premises (except tertiary establishments), although access to these services is permitted 100 meters

or further from the institutions [44] . This may explain an increased child bearing and adolescent fertility rate of 136 births per 1000 as indicated in Malawi Demographic Health Survey 2015-16 showing unmet contraceptive need [39] . Therefore, this underscored the need for policies that fully expose adolescents to contraceptives other than health facilities and outreach clinics.

Research has observed that limited political support and unavailability of public funding policies to expand access to contraceptives despite interrelationship between poor reproductive health and socioeconomic status is another barrier. A study conducted in Philippines showed that the government department of health did not fund family planning and that in some municipals modern contraceptive use was banned despite 66% unmet need and the need to avert 1.6 million pregnancies, drop unintended birth by 800,000, abortions by 500, 000, miscarriages by 200, 000 [45]. Similarly, in Malawi and some Sub-Saharan African countries lack of funding policies and loosely supported family planning policy which are easily violated by religious, cultural and societal norms lead to nonuse of contraceptive among adolescents [46].

On the other hand, research has observed that policies establish platforms through which family planning programs are designed and implemented to maximize contraceptive uptake. In Guatemala India, policy led to the passing of a law that required 30% of the taxes collected on alcoholic beverages be used for purchase of contraceptive commodities such that women are more likely to find the method they want at the facility [47]. This entails that research to find out policy related strategies that may improve up take of contraceptives among adolescents in Malawi is necessary.

2.5 Institutional Level Barriers

Common barriers to access at the institutional level include negative provider attitudes, limited availability of products, and high costs [42]. This was subdivided into health care worker attitude, service delivery and accessibility.

2.5.1 Health Care Worker Attitude

In Nigeria, waiting time, poor or unfriendly health providers' attitudes such as keeping adolescent waiting, spending little time with them during consultations, judgmental attitude of providers and lack of confidentiality in service provision are associated with low adolescents' access and use of reproductive health services [48]. Similarly, International Center for Research on Women (ICRW) found that most providers are unwilling or unsure of how to offer services tailored to youth. Unfavorable attitudes toward sex outside marriage and contraceptive use among adolescents and youth, particularly if unmarried, leave many providers negligent toward their young clients' needs [49].

2.5.2 Accessibility

A distant health facility is another factor preventing adolescents from accessing contraceptives. A study in Kenya showed that location of health services far from where youth live, works, or attends school, and limited access to transportation prevent young people from accessing Sexual and Reproductive Health services [50]. A study conducted in Malawi on Adolescents reproductive health preferences and barriers showed that contraceptive cost is an access barrier preventing youth from accessing Family Planning [51]. An evaluation conducted by USAID in Malawi in 2014 reported that long commutes and inadequate transport to facilities offering YFHS are some barriers to use of YFHS [41].

2.5.3 Service Delivery

Research show that barriers encountered during the process of seeking services affect contraceptive use and the experiences adolescents obtained in the external environment during the period of seeking services influence perceptions on use [22]. A study conducted in United States of America found lack of privacy in places where services were being delivered as an obstacle to adolescents contraceptive use [52]. Similarly, a review conducted in Africa on Adolescents' views of and preferences for sexual and reproductive health services in Burkina Faso, Ghana, Malawi and Uganda found that confidentiality was a concern for adolescents seeking family planning services [21]. Further, adolescents felt unfriendly environment where providers were adults [21]. A study conducted in three of the 28 districts of Malawi, Dowa, Machinga, and Phalombe in 2016 reported that lack of privacy and fear of being exposed for using FP as barriers preventing youth from accessing Family Planning [51].

Another factor is unavailability of spaces only meant to provide services to adolescents in health facilities such as youth corners, impede adolescents from accessing contraceptives as they are shy [21].

2.5.4 Community Level Barriers

A study conducted in Malawi, Burkina Faso and Ghana documented that merely making contraceptives accessible does not guarantee that women will use them as social norms are determinants for adolescent contraceptive use [21]. Cultural, socioeconomic, and physical norms are identified prominent obstacles of young people for utilizing sexual and reproductive health services [36]. An evaluation conducted by USAID in Malawi reported that weak parental and community support for young people seeking SRH services and contradictory religious beliefs

impede the use of YFHS [41]. Studies done in Africa and Asia indicate that efforts to increase uptake of contraceptive among adolescents have been challenged by several factors such as religious, cultural, and social reasons [53]. A study in Nepal showed that sexuality related topics are reserved for married people and have greatly remained as a taboo and restrict unmarried people majority which adolescents from using contraceptives [54]. Similarly, studies show that adolescent girls in relationships, particularly those who are younger, recently married, or are in polygamous relationships, the partner and family often exert authority over Family Planning use [36]. In addition, gender norms and discomfort discussing the topic affect how young partners discuss contraceptive use together. Girls may be unable to negotiate family planning with their male partners, especially if the man is much older. Some men and boys, however, particularly those with low levels of knowledge about FP, may see contraceptive use as the girl's responsibility [42].

Research showed that differences in the unmet need can also be seen according to marital status [16]. In Africa, married adolescents who want to avoid pregnancy have greater unmet need than do unmarried women. This is because unmarried, sexually active adolescent women in Africa are more likely to use modern contraceptives than their married peers. In Asia, unmet need was higher among unmarried women than among those who are married. This likely reflects social stigma against unmarried sexual activity, which creates barriers to them obtaining contraceptive services. In Latin America and the Caribbean, unmet need was similar among married and unmarried women wanting to avoid pregnancy [19].

Studies have pointed marital status as an important factor that determine access to contraceptives among adolescents. A study in Brazil identified parity as another determinant of contraceptive use

among adolescents aged 15-19 years [30]. While unmarried adolescents have a higher unmet need for contraceptives than married women of their same age many of them do not make use of contraceptive methods due to lack of access [55]. Adolescents who are not married can face several barriers to access and contraceptives use because sexual activity is only considered acceptable within marriage in many settings. Married adolescents, on the other hand, are often under pressure to have a child soon after marriage and end up pregnant at early ages [5].

2.5.5 Interpersonal or Relationship Level

In Kenya a study on Perceptions and barriers to contraceptive use among adolescents aged 15-19 found that negative perceptions about contraceptive use are influenced by information adolescents receive from the family, school teachers and peers [22]. Similarly, a study done in Nigeria underscored that adolescents were misinformed on contraceptive use by family members and fellow adolescents [56]. Therefore, positive perceptions regarding contraceptives by people adolescents interact with is crucial for adolescent contraceptive use.

2.5.6 Individual Level

Evidence from the literature show that low levels of knowledge of contraceptives, fear of side effects and the experience of side effects of contraceptive methods are the most common reasons for non-use or discontinuation of contraceptives. While access is an issue, a review by Najafi et al on use of modern contraceptives in Asia highlighted that reasons for women not using contraceptives include lack of knowledge, personal cultural and religious affiliations, health concerns, and fear of side effects [36]. In Ghana, a study reported that the main reasons for non-use were low levels of knowledge on contraceptives and fear of side effects [57]. Similary, in Malawi, health risks and side effects of contraception such as missed periods and intermenstrual

spotting, negative attitudes towards FP were reported as barriers to contraceptive access [51]. In addition, an evaluation conducted by USAID in Malawi reported that lack of knowledge, low self-confidence among clients and the tendency to be 'shy,' particularly with girls impede the use of YFHS where contraceptives are provided [41]. It is also reported that discontinuation of family planning methods is due to inconsistent access and lower tolerance for side effects [58]. Cost of contraceptives is another individual barrier to contraceptive use. A study in Kenya identified financial constraints as an obstacle for adolescents to access contraceptives as the sources of money to buy contraceptives lies in the hands of parents and guardians [50].

2.6 Benefits of Contraceptive Access among Adolescents

2.6.1 Promotion of Good Health and Socioeconomic Status

Unprotected sexual intercourse makes adolescent females susceptible to unwanted pregnancies, which may lead to abortion, abortion-related complications, and other health and social problems such as infertility and dropping out from school [6]. A review by Coll et al in 2019 show that adolescent exposure to contraceptives is important factor in improved perinatal and maternal health outcomes [30]. Studies also have documented that contraceptive use reduces risk of teen pregnancy in adolescents such that pregnancy occur at an age where risks for maternal mortality and morbidity are minimal [6, 10, 34, 50, 59]. In addition, to this overall, the provision of contraception and safe abortion is important not just to prevent maternal deaths but as a measure of ability to respect women's decisions and ensure that they have access to timely, evidence-based care that protects their health and human rights [6]. Therefore, optimising uptake of contraceptives among adolescents is one important factor in the improvement of socioeconomic status of global population of which majority are young people. More importantly, optimal uptake of contraceptives among adolescents is a vehicle to universal access to sexual and reproductive health

services and rights by 2030, including family planning, is a priority in the global Agenda for Sustainable Development, as laid out in Goals 3 and 5 [30].

2.6.2 Reduction of School Dropouts among Adolescents

Provision of access to contraceptives among adolescents has led to reduction in school dropouts. A study conducted in Kenya indicated that expanding contraception use among adolescents to prevent and delay pregnancy in school going adolescent population reduces school dropout [50]. This was also shared by a study conducted in South Africa which underscored that access to contraceptive use prevent teen pregnancy which result in school dropouts [60].

2.6.3 Reduction of Health Care Costs

Studies show that health care in low and middle income countries is suboptimal because of poor financial capacity of governments to fund them adequately. Therefore, preventing the occurrence of unplanned pregnancies reduces health care costs and prevent occurrence of social problems as resources will be freed and channeled to other demands [19].

2.7 Strategies for Adolescent Contraceptive Access

Literature presents several demand and supply side strategies that have been used to involve adolescents aged 15-19 in contraceptive use such as:

2.7.1 Supply Side Strategies

2.7.1.1 School Based Health Centers

Availability of school based health services was another strategy for improving uptake of contraceptives among adolescents aged 15-19. In United States of America School Based Health

Centers have played a significant role in improved uptake of contraceptives among adolescents of age bracket 15-19 years and reduction of teenage pregnancies [61]. School Based Health Centers which operate on static and outreach basis bring together many of the interventions known to work to prevent teen pregnancies: increased access to clinical care and contraceptives, access to confidential and trustworthy services, and clinical and classroom settings to implement many evidence based pregnancy prevention curricula [61]. School Based Health Centers are strategically situated to provide increased access to reproductive health services in conjunction with evidence based curricula in the school [59]. Literature indicate the need for provision of reproductive health services where kids live to maximize contraceptive use hence the use of SBHCs [61]. In Malawi, literature shows that SRH policies provides contraceptive education in schools and provision of contraceptives solely by health facilities [51]. In search of the literature the reasons for this is not explicit. In United States SBHCs provided a One Stop Center, delivering all services at one place hence maximizing contraceptive uptake among adolescents [61]. Therefore, SBHCs provide conducive environment for adolescents to access Sexual and Reproductive Health services other than health facility [61]. This is in line with International Federation of Gynecology and Obstetrics (FIGO) report which recognize that health workers cannot meet needs of adolescents alone joining or creating networks that act together and maximize resources are essential for increased contraceptive access [12].

2.7.1.2 Youth Friendly Health Services

Youth-friendly approaches built on existing services and facilities but incorporate a better understanding of adolescents' unique barriers and needs have shown to increase uptake of contraceptives among adolescents [16]. Studies conducted in Uganda and Nigeria showed that Providers trained in Youth Friendly Health Service delivery increased more visits and use of

condoms by young clients than other providers [62]. The Malawi Ministry of Health 2016 policy brief on Strengthening the delivery and accessibility of Youth Friendly Health Services in Malawi indicated that YFHS are needed if young people are to receive sexual and reproductive health care as they are expected to meet age specific needs hence excluding barriers limiting unmarried young people [63]. In Malawi, YFHS youth clubs static and outreach and community awareness conducted by public hospitals are some of the strategies for improving uptake of contraceptive among adolescents [41]. Despite remarkable benefits of YFHS in Malawi, an evaluation conducted by USAID in 2014 reported that awareness and ever-use of the Youth Friendly Health Services program is low, with less than one-third of community youth survey respondents reporting to have heard about YFHS and 13% reporting to have ever used YFHS. Those living in communities where health facilities offer YFHS report knowing more about YFHS than those living in communities where facilities do not; about 35% versus 25%, respectively. Knowledge and use of YFHS varied by districts and zones as well as by age, sexual experience, and school attendance status of the young people being interviewed. Sexually experienced youth, those who were out of school, and those who were older more often accessed YFHS than their counterparts, suggesting that where young people are in their lifecycle plays a significant role in their knowledge and use of YFHS [41]. A review by Mazur et al argued that YFHS lack a framework to measure progress and develop standard for assessing effectiveness of YFHS is one of the major challenges faced by YFHS [64]. Therefore, this suggests the need for strong monitoring system and multi-sector approach in the provision of YFHS in order to meet all adolescents where they live.

2.7.2 Demand-Side Strategies

These include demand creation activities. Literature identified the following strategies.

2.7.2.1 Peer Education

Peer education and mass media campaigns that address cultural and gender norms have been effective for increasing adolescents' agency to seek family planning services or negotiate contraceptive use or sex [65]. A review by Syvanemyr in 2015 found that peer education play an important role in adolescent development and socialiazation and many young people benefit more from peer education than other cadres in the population [66]. They further documented that peer education has risk and protective factors such that having peers who have had sex is a risk factor across health outcomes. Despite this, a review by Torres found that peer education increased SRH knowledge and delayed first intercourse [65].

2.7.2.2 Consumer Engagement

Family Planning 2020 in 2013 report underscored that engagement of young people themselves in Sexual and Reproductive health service programming as an important factor in ensuring access and use of contraceptive among adolescents [67]. Inclusion of adolescents and use of peer counselors are some demand side activities. Similarly, a review by Torres in 2015 pointed out that buy-in from youth and their communities create the potential for program's longevity and success [65].

2.7.2.3 Mass Media

Evidence demonstrate effectiveness of mass media when incorporated with multiple channels and are combined with other interventions delivered at clinics and schools thereby making messages about service-seeking more actionable [49]. A review by Svanemyr in 2015 found that Mass media has potential for penetrating places where adolescent sex discussions are limited and discouraged due to culture and religious issues [66]. In Australia Proactive STI testing in non-clinical and some

health settings appears feasible and achieves higher testing rates than in general practice. Apart from that, the study observed that the internet and SMS are useful adjuncts for influencing behaviors such as condom use and STI testing when used together with media information [68].

2.7.2.4 Schooling and Economic Empowerment

A review by Svanemyr in 2015 documented that school attendance particularly secondary education associated with better SRH outcomes such as contraceptive use and health services [66]. In Brazil stipends for school attendance, such as conditional shoes, uniforms or cash transfers, have shown to significantly lower child-bearing because they raise the opportunity cost of dropout due to pregnancy [69]. In addition, evidence show that school attendance provide opportunity for students to gain communication skills and a sense of confidence that help them assert themselves in relationships [66]. Studies have showed that offering transportation to health facilities and ensuring adequate stocks of a range of products are effective ways of making contraception more accessible [16]. In addition, evidence shows that financing schemes such as voucher schemes expand access and improve uptake of services by adolescents [70].

2.7.2.5 Community-Based Distribution

Community distribution of contraceptives has been found to be playing a crucial role in increasing uptake of contraceptives among adolescents. In Pakistan, community-based approach successfully reduced unmet needs and improved continuity in contraceptive use. The study showed that contraceptive prevalence rate increased by 10.7%, from 42.3% at baseline to 53.0% mid-intervention, with an increase in use of modern contraceptive methods of 9.2% [71]. In India, studies showed that community based approach increased uptake of contraceptive use among adolescents as young as 8 years than a school based approach [72].

2.7.2.6 Comprehensive Sexuality Education (CSE)

Delivering curricula at school helps programs reach a concentrated group of adolescents and offers a source of sexual health information to students who may be reluctant to ask their parents or teachers. United Nations Educational Scientific and Cultural Organization (UNESCO) in 2009 underscored that Comprehensive Sexuality Education in combination with other actions, it can contribute to preventing early and unprotected sexual activity, rather than encouraging this, as feared by some [73]. However, a study conducted in Nepal in 2013, showed that needs and expectations regarding HIV and sexual health education are not being met through schools [74]. A review by Chandra-Mouli et al in 2015 show that CSE programs are not implemented with adequate attention as the curriculum content tends to be weak with no basic information about male or female condoms and contraception (including emergency contraception), key aspects of sex and sexual health were lacking, including information about reproduction, STIs, abortion and where to access condoms and sexual health services and empowering young people, building agency, or teaching advocacy skills [75]. In addition, a review by Haberland et al in 2015 pointed on the need for instructors to be trained to deliver the materials comfortably and be willing to engage with students on sensitive topics [76].

2.7.2.7 Youth Centers

Studies have underscored Youth Centres as another strategy for encouraging young people access to SRH services [75]. Youth centers are usually conceptualized as meeting points and ‘‘one-stopshops,’’ which are intended to be a friendly, safe, and non-clinical environment where SRH information and services can be provided alongside other social services, such as recreational activities or Internet cafés [75]. However, a review by Zuurmond in 2012 on effectiveness of Youth Centers in low and middle income countries reported age and gender related disparities on

utilization of Youth Centers and that Youth Centers does not result in increased use of SRH services or in any meaningful SRH behavior change. The review further found that Youth Centers were mainly used by a relatively small proportion of young people who lived nearby, mostly male. Inaddition, the review found that these young men were attending school or college, and were much older than the intended target age such that those out of school were not reached. Apart from that the youth centers were mainly frequented for recreation purposes and that there were no or very limited and transient effects on the use of SRH services or contraceptive methods, moreover, the cost per beneficiary was very high [77]. Research noted that while youth centers have not been shown to be effective in changing adolescent SRH behaviors, youth centers may provide other social benefits through the provision of recreational and other youth development programs and may promote socially desirable outcomes such as reductions in gang activity or the development of employable skills [75] . Therefore, this shows that despite being a popular strategy for Adolescent SRH programming, youth centers are not cost-effective for increasing uptake of SRH services among adolescents [75].

2.8 Summary of Literature Review

Complications from pregnancy and childbirth are the leading cause of death in girls aged 15-19 in low and middle income countries where almost all of the estimated 3 million unsafe abortions occur. Unsafe abortions continue to occur partly due to failure to prevent pregnancies, with Sub-Saharan Africa contributing the most significant burden of all unsafe abortions among young people globally, of which a quarter occurs in those aged 15–19 years. The low utilization is there in both married and unmarried adolescents compared to those in age bracket 20-24 years. Strategies such as YFHS and sexuality education exists for young people to access SRH services. However, restrictive policies, cost, distance, lack of knowledge, cultural and religious believes

impede access and utilization of contraceptives by adolescents. Therefore, this study explored strategies for optimising uptake of contraceptives among adolescents age 15-19 years.

CHAPTER THREE: THEORATICAL FRAMEWORK

3.1 Introduction

The study was guided by Social Ecological Model (SEM). The Social Ecological Model (SEM) is a theory-based framework for understanding the multifaceted and interactive effects of personal and environmental factors that determine behaviors, and for identifying behavioral and organizational leverage points and intermediaries for health promotion within organizations [23]. It is a framework for understanding the multiple levels of a social system and interactions between individuals and environment within this system [23, 24]. The model recognizes the complex social and environmental system in which individuals exist and how the concentrically larger systems in which they regularly move affect individual behavior [23]. Therefore, to understand strategies that may optimize uptake of contraceptives among adolescents aged 15-19 years it was important to understand the strategies at every level of social system.

Figure 1: Sociol-Ecological Model [23]

There are five nested, hierarchical levels of SEM: Individual, interpersonal, community, organizational, and policy or enabling environment [25]. Adopting a Social-Ecological approach when developing a network takes into account these multiple layers of influence and suggests the network will encompass a comprehensive approach to addressing the issue at hand [23, 24].

3.2 Previous Use of Social Ecological Model

Several studies have used the Social-Ecological Model to identify interventions aimed at improving access to health care. A review by Harper et al in United States of America in 2018 on Social-Ecological Model to improve access to care for adolescents and adults described multiple factors that impact health care utilization and highlight opportunities for interventions. The Social-Ecological Model identified effective interventions in several domains not traditionally associated with health care such that at relationship level the study documented a growing attention of positive impact of parents in helping young people access services even while confidentiality remains a cornerstone of care. At the organizational level, research on school based health centers, youth-serving organizations, school referral programs for health services, and school nurses has shown that providing health services in the school setting is a cost-effective way to increase access. Finally, at the societal level, there is emerging evidence that social media can be used to improve access and utilization of care for adolescents. For example, a prospective intervention study of young men aged 15–24 who have sex with men found that a web based marketing intervention increased HIV and Sexually Transmitted Infection testing [24]. In Nepal, Social-Ecological Model was used in a study to develop interventions aimed at improving dietary behavior for people living with diabetes or high blood glucose levels [25]. Ecological model incorporated multiple determinants into different levels of influence on behaviour (intrapersonal, interpersonal, organizational, community and public policy) and considered the interaction of behaviors across

these different levels of influence, which led to multi-level suggestions for interventions to effectively change behavior [25].

3.3 Rationale for Using Social Ecological Model

The choice of the model was based on its ability to address multiple determinants of behavior and identifying interventions at population and individual level. Hence, this provided opportunity for the researcher to understand strategies that optimize uptake of contraceptives among adolescents and identify patient-centered strategies and differentiated models of care that can be used at each level.

CHAPTER THREE: OBJECTIVES

3.1 Broad Objective

To explore strategies that may optimize uptake of contraceptives among adolescents aged 15-19 years in Nsanje district, Malawi.

3.2 Specific Objectives

The specific objectives of the study were;

1. To identify individual, interpersonal, community strategies that may improve uptake of contraceptive among adolescents aged 15-19 years.
2. To identify health system and policy strategies that may promote uptake of contraceptive use among adolescents aged 15-19 years.
3. To identify differentiated model of delivering contraceptives to adolescents aged 15-19 years.

CHAPTER FOUR: METHODOLOGY

4.1 Study Design

The study employed qualitative cross-sectional study design to explore strategies that may improve contraceptive uptake among adolescents aged 15-19 years in Nsanje district, Malawi.

4.2 Study Setting

The study was conducted in the rural district of Nsanje, Malawi. Nsanje is one of the 28 districts in Malawi located at the tip of southern region. According to 2018 Malawi Population and Housing Census Nsanje district has 299,168 people, 143, 578 males and 155, 590 females respectively [78]. Nsanje is one of the districts in the southern region with the highest rate of adolescent childbearing at 38.8% proceeded by Machinga district 41.1% of women and girls aged 15-19 years having begun childbearing, respectively [79].

The majority of health services is provided by Malawi government through Ministry of Health under Nsanje District Health Office. According to Nsanje District Health and Education Management offices, YFHS and sexuality education in schools through life skills subject are the only strategies available for young people to access contraceptives. The choice of Nsanje district was based on two reasons. First, evidence showed that Nsanje is one of the districts hardly hit by child marriage which was the major determinant of teenage bearing in Malawi [79]. Secondly, research has showed that in all regions, unmet need is higher among adolescent women wanting to avoid pregnancy who live in rural areas and who live in poorer households [19]. Nsanje is one of the rural districts in Malawi hence the choice of the setting.

4.3 Study Population

The study population included adolescents of age 15-19 years, teachers, Traditional leaders and YFHS and family planning providers in Nsanje district.

4.4 Study Period

The study was conducted from August to September 2019.

4.5 Sampling Technique

A non-probability purposive sampling method was used to select participants based on their age, expert knowledge and responsibility [80]. Adolescents age 15-19 years in schools, out of school, attending YFHS, married or unmarried and willing to participate in the study and of with parental assent as appropriate were recruited. No parent refused child's participation. We also included Health Care Workers working in YFHS and family planning and other departments who provided consent were recruited. Teachers teaching subjects such as Life skills, Biology and other subjects in humanities were recruited. The head teacher at the institution assisted with identification of teachers who took part in the study while other teachers assisted with identification of learners who participated in the study. In addition, Parents with children of age 15 years and over were included in the study. Village heads in selected villages in Nsanje Boma were recruited in the study. The traditional leaders were identified by the Health Surveillance Assistant and drawn from the catchment area where the Health Surveillance Assistant works.

4.5.1 Eligibility Criteria of Participants

4.5.1.1 Inclusion Criteria

The study included the following:

Health Care Workers (HCW)

- Health workers in YFHS and Family Planning.
- Willing to participate in the study
- Able to give written consent

Adolescents 15-19 years of age

- In schools
- Out of school
- Attending YFHS
- Married or unmarried
- Willing to participate in the study
- Able to give written consent

Traditional Leaders

- Willing to participate in the study
- Able to give written consent

Teachers

- Teaching humanities subjects such as Life skills and Biology

Parents

- With Chidren of age 15 years and over.

4.5.1.2 Exclusion Criteria

The following were excluded from the study:

Health Care Workers

- Unwilling to participate in the study
- Unable to provide informed consent

Adolescents

- Adolescents aged below 14 and 20 years above
- Unwilling to participate in the study
- Unable to provide informed consent
- Assent not provided by their parents if age was below 17 below.

Parents

- With chidren below 15 years
- Unwilling to participate in the study
- Unable to provide informed consent

Teachers

- Not involved in teaching humanities subjects such as Life skills and Biology
- Unwilling to participate in the study
- Unable to provide informed consent

Traditional Leaders

- Unwilling to participate in the study
- Unable to provide informed consent

4.6 Sample Size

A total of fourty participants took part in the study. These included 11 health care workers, 9 Community leaders, 12 adolescents and 4 teachers and 4 parents respectively. The sample size was reached based on Guest and Creswell who stated that to reach a saturation point in a qualitative study a total of twelve to thirty participants is sufficient [81]. The sample may increase until saturation is reached. This is because in a qualitative study adding subjects to the sample amidst study progress in order to reach saturation point is allowed [80].

The table below provide summary of participants that were selected in the study. The selection of cadres was done to meet a range of different professionals concerned with contraceptive use hence widened the gravity of response source.

Table 1: Summary of Methods

Sample	Method	Purpose	Sample characteristics	Sample size
Adolescents	In-depth interviews	to understand a condition, experience, or event from a personal perspective	They were categorized into three; school going, out-of- school and those attending YFHS and were four in each category.	12
Teachers	In-depth interviews	to understand a condition, experience, or event from a personal perspective	These were Secondary School teachers and were included in the study as they are the ones responsible for providing sexuality education.	4
Parents	In-depth interviews	to understand a condition, experience, or event from a personal perspective	These are responsible for advice and custodian of adolescents upbring	4
Traditional Leaders	Focus Group Discussions	to investigate beliefs, attitudes and concepts of normative behavior	These are influential people and custodians of power who controls the dos and don'ts of the people necessary for maintaining accepted and expected cultural and moral behavior in the community	1 with 9 traditional Leaders
Health Care Workers	Key Informant Interviews	to explore background information or an institutional perspective	These are professionals such as Health Suiveillance Assistants, nurses and clinicians providing YFHS and Family Planning at hospital and Community or primary level	11

4.7 Data Collection

The data was collected by a team with previous experience in qualitative data collection and trained research assistants from September to October, 2019. Research assistants had academic background of medicine, nursing and midwifery. Data collection was done using Interview guides developed from the study objectives and Social Ecological Framework.

Twelve In-depth interviews were conducted with individual adolescents to capture data on the strategies that may optimize uptake of contraceptives. Eight In-depth Interviews were conducted to capture perspective of parents and teachers which included four in each category. At the health facility eleven Key Informat Interviews with Health Care Workers involved in Youth Friendly Health Service and Family Planning were conducted. Four Research Assistants, Health Care Workers with a degree or diploma in Health profession were employed and trained in data collection. Individual In-depth Interview guides was developed for Health Care Workers, adolescents, parents, teachers and community leaders. The In-depth Interview guide was developed in English and translated into local language Chichewa. Voice recorders were used to collect data (Appendix 2).

The Interview guides were reviewed and checked by supervisor and pretested by AKM to achieve reliability and validity of the data collection tools [82]. The IDIs and KIIs were conducted by AKM with assistance from the research assistants at Nyamadzere Community Day Secondary School where initial data collection was conducted. All interviews were conducted in private rooms provided by the head teacher at participant convenient time. Topics across IDIs, KIIs and FGDs focused on strategies that may optimize uptake at individual, community and institution level. We ensured data credibility by employing persistent inquiry using probes and to ensure that questions

have been responded adequately [82]. As a form of member check each interview and the discussion was summarized at the end to ensure quality data and trustworthy [83].

4.8 Data Management

A unique identification number was used instead of name to each participant except on consent form. The transcripts were checked thoroughly against the audio records for accuracy. All IDIs, KIIs and FGDs were conducted in chichewa, digitally recorded, transcribed and translated into English. All audios and transcripts were identified by a number to ensure anonymity and data was stored in a computer protected by a password.

4.9 Data Analysis

Social Ecological Model guided data analysis in this study. Qualitative data was analyzed using thematic analysis described by Braun and Clarke [84]. The choice of thematic analysis over other methods of analyzing qualitative data was based on its goal or ability to identify patterns in the data that were important and interesting. In addition, thematic analysis is capable of interpreting and making sense of data [85]. Thematic analysis involved searching across a data set, be that a number of interviews, or a range of texts to find repeated patterns of meaning [86].

Initial interview audios and transcripts were listened to by the researcher and his supervisor and discussed how to approach data analysis. Then codes were deductively generated from Social Ecological Framework and study objectives. Coding framework was developed and applied during thematic analysis which involved searching across the transcripts to find repeated patterns and associations on emerging themes [87], focusing on strategies for optimizing contraceptive uptake by the researcher. Inductively, each code was examined for further subcategories while similar and

recurrent themes were being placed in overarching theme. Finally, codes were organized under recurring themes of which themes were interpreted by repeated reading of transcripts by the researcher. Further, the themes generated were verified against digital recordings and reviewed and discussed with the supervisor.

CHAPTER FIVE: PRESENTATION AND DISSEMINATION OF RESULTS

5.1 Introduction

The study was conducted to fulfill academic requirement to the award of Master of Science Global Health Implementation. Therefore, copies of the dissertation were submitted for marking at University of Malawi, College of Medicine. The final dissertation document will be submitted to the dean of postgraduate studies and research of University of Malawi, College of Medicine and College of Medicine Research and Ethics Committee (COMREC). Furthermore, research findings will be disseminated at the institutions where the study was conducted. Besides, the research findings will be disseminated at local and international conferences and manuscripts of results will be submitted for publication in peer reviewed journals.

5.2 Ethical Considerations

Ethical approval was obtained from College of Medicine Research and Ethics Committee (COMREC P.08/19/2779), and institutional permission was granted by Nsanje District Health and Education offices as well as Nyamadzere Community Day Secondary School Head teacher. Participation in the study was voluntary and written informed consent was obtained from all study participants prior to the interview and FGDs. Parental Consent and Adolescent assent were obtained from all participants aged below 18 years per regulations that govern research in Malawi. Interviews were conducted in a private room to prevent others from hearing hence ensuring privacy. Participants were identified by codes and not their names to ensure anonymity and confidentiality. Participants who declined to take part in the study were assured that their decision will not affect learning and receipt of health care at the hospital.

5.3 Results

The results have been analyzed following Social Ecological Model and have been presented according to this framework whilst respecting study objectives.

5.4 Demographic Characteristics of Study Participants

5.4.1 Demographic Characteristics of Traditional Leaders

Nine participants participated in the FGD. Of these, six were males and three were females. In terms of tribe six were Sena, two Mang'anja, and one Yao. In terms of religion, eight were Pentecostals and one Muslim. Seven participants were educated at the secondary school level, and all the participants were self-employed. The median age of the participants was 41. Eight participants were able to read and no participant received training or orientation on adolescent sexual and reproductive health and YFHS.

5.4.2 Demographic characteristics of Health Care Workers

Of the eleven key informants, six were males and five were females. Two of the participants were educated to secondary school level and nine to college level. In terms of occupation, three were Nurse Midwife Technicians, two were Nurse Midwife Technicians with Community Health specialization, two were Health Surveillance Assistants, two were Registered Nurse Midwives and two were Clinicians. One Registered Nurse Midwife was the District's Family Planning Coordinator and One Clinician was the District's YFHS Coordinator. Two of the respondents had worked for less than 4 years while four had worked for 5-8 years and five for 10-25 years. The median age for key informants was 33.

5.4.3 Demographic Characteristics of Teachers

Four teachers participated in the IDIs. Two of the respondents were females and the other two were males. Two of the respondents were married, one was widowed, and one single. In terms of religion two were Catholics, one was Presbyterian and one belonged to the Pentecostal church. Two of the respondents had worked for 13-15 years, one worked for 9 years, and one for 5 years. The median age was 40. No respondent attended training or orientation on adolescent sexual and reproductive health and YFHS.

5.4.4 Demographic Characteristics of Parents

Four parents participated in IDIs. Two of the respondents were females and the other two were males. Three of the participants were married and one was widowed. All the four belonged to Pentecostal churches and two of the respondents were educated to the primary school level, one was educated to secondary level and one did not attend formal education. Three were self-employed as farmers and one was a government employee. The median age was 54.5 years. All respondents never heard about adolescent sexual and reproductive health and YFHS before the interviews.

5.4.5 Demographic Characteristics of Adolescents

Twelve adolescents participated in IDIs. They were categorized into three; school going, out-of-school, and those attending YFHS and were four in each category. Nine respondents were Pentecostals while two were Presbyterian and one was Adventist. The median age of adolescents was 18 years.

There were two females and two were males in the school going category, and one was in form 2 and the other 3 were in form 3 and all were single in terms of marital status. There were four females in the out-of-school category, one was separated from her partner, one never married and two were married. All of the four out-of-school respondents had a child each. There were two females and two males in the YFHS attendees group. Of these 4, two were school going and the other two were secondary school dropouts and they were all single.

Table 2: Summary of Demographic Characterisitics of Study Participants

Variable	Traditional Leaders	Health Care Workers	Teachers	Parents	Adolescents
Median age	41	33	40	54.5	18
Gender					
Males	6	6	2	2	4
Females	3	5	2	2	8
Tribe					N/A
Sena	6	N/A	N/A	4	
Mang'anja	2			0	
Yao	1			0	
Religion		N/A			
Pentecostal	8		1	4	9
Muslim	1		0	0	0
Catholics	0		2	0	0
Presbyterian	0		1	0	2
Adventist	0		0	0	1
Education level					
Primary	2	0	0	2	0
Secondary	7	2	0	1	2
College	0	9	4	0	0
No-formal	0	0	0	1	0
School going	N/A	N/A	N/A	N/A	4
Out-of- school					
Attending	N/A	N/A	N/A	N/A	4
YFHS	N/A	N/A	N/A	N/A	4
Employment status					
Not employed	0		0	0	0
Formal	0				
Self-employed	9	11	4	1	0
Work experience		5-8years	0 5-15years	3 N/A	0 0
Training on Adolescent SRH/YFHS	0	11	0	0	4
Marital status	N/A	N/A			
Married			2	3	2
Windowed			1	1	0
Separated			0	0	1
Single			1	0	9

5.5 Proposed Strategies for Optimising Uptake of Contraceptives among Adolescents Aged 15-19 Years

Three major themes emerged from the interviews and discussions in relation to the strategies for optimizing uptake of contraceptives among adolescents aged 15-19 years. These strategies were at Individual, community and interpersonal levels and were further categorized into physical spaces, promotion strategies and organizational strategies. Organizational strategies include aspects of design and way of delivering contraceptive services (Table 2).

Table 3: Proposed Strategies for Optimizing Uptake of Contraceptives among Adolescents Aged 15-19 years

Social Ecological Framework	**Strategies**	
Themes	**Physical Spaces**	**Promotional Approaches**
Individual	Pharmacy/drug store, Hospital	• Leaflets, flyers • Short Message Service, • Placards, • Radio and television,
Community and Interpersonal	**Youth Centred Services:** • **Youth Corners, clubs and centers**	• Use of community leaders, • Counselling and guidance in schools and homes, • Information, Education and Communication: • Awareness campaigns, peer education, o community meetings with chiefs, o Mobile Public Address System, o Radio and television messages, o posters, health education programs in schools and community, o contraceptive trainings to parents
Organizational: • design and delivery, • public policy • Society laws	**Resources** • Uninterrupted availability of contraceptivesTrained providers **Governance** • Introduction of bylaws by traditional leaders **School activities**	

	• Trainings of teachers in YFHS and adolescent sexual and reproductive health • Health education and counseling delivered by health workers • Inclusion of contraceptive use topics in school curriculum • Collaboration between ministry of health and education **Integrated services** • Integration of contraceptive use in mother care groups in schools • Integration of contraceptive use service in school health programs **Adolescent centered Units** Traditional leaders led youth groups • Adolescent health department in hospitals

5.5.1 Theme One: Individual Level Strategies

The strategies under individual theme were categorized into physical spaces where contraceptives would be provided and strategies for promotion contraceptives at that level.

5.5.1.1 Physical Spaces for Contraceptive Provision

Category one: Local Pharmacy, Drug Store and Hospital

The local pharmacy, drug store and hospital were preferred spaces for delivering contraceptives as suggested by adolescents, traditional leaders, teachers, parents and health care workers. There were variations in terms of preference on where to get contraceptives across participants. One adolescent in the out-of-school category prefers that contraceptives be accessed at a nearest pharmacy or drug store because of convenience and potential reduction in impeding factors.

"I think they have to be going to a pharmacy nearby". (19-year-old, Out of school adolescent_1)

When queried reagarding affordability of contraceptives, she further said that adolescents should get contraceptives from community health care workers especially those who maynot be financially able to do so.

"They should use doctors in the villages". (19-year-old, Out of school adolescent_1)

This was also shared by one parent who stated of covert access to contraceptives for their children

"Today we see that other health workers are approached secretly by parents to have their children injected contraceptive at their homes they don't want their children to be seen". (50 years old, male parent)

5.5.1.2 Strategies for Promoting Contracepticves at Individual Level

Leaflets, Posters, Flyers and Short Message Services

In terms of individual promotion strategies, some respondents suggested that giving leaflets will enhance use of contraceptives as adolescents will be communicated on where to get the contraceptives.

"Printing placards and posters making leaflets distributing them trying to make sure that the information is available everywhere any language based on the language the area is fluent and understand". (Clinical Officer, 4 years work experience)

In addition to giving leaflets and flyers other respondents preferred to be communicated through Short Message Service (SMS).

> *"I think Mobile phones through use of SMS will make an adolescent access contraceptives." (Adolescent_1, YFHS)*

5.5.1.3 Community and Interpersonal Strategies

These are proposed strategies which can be used to improve uptake of contraceptives at community and interpersonal level and in this study they are presented together because of the overlap between them as opposed to a demarcated presentation in the original model.

Physical Spaces for Contraceptive Provision at Community and Interpersonal Levels

These are places where respondents suggested that adolescents will be comfortable to access contraceptives in the community and through interaction between individuals.

Category 1: Youth Centred Services: Youth Corners, Clubs and Centers

Some respondents in KIIs suggested that there should be Youth Corners which are placed away from the hospital where adolescents go and access any service regarding their health as expressed from this quote;

> *"Like here in Nsanje we don't have what we call Youth corners where they can get everything and this a big problem in Nsanje. These are special rooms constructed separately away from people and at secret place that one has no special day youths go there and find everything there I mean any health service there staff working there are*

YFHS providers youths flock to enter youth corner even if they are suffering from Malaria they flock to Youth Corner which has integrated services". (Clinician_2)

Apart from Youth Corners some respondents suggested that adolescents will be comfortable to access contraceptives from Youth clubs. The following quotes illustrated this:

"Contraceptives should be accessed through youth clubs since youths are shy accessing contraceptives in the hospitals". (Adolescent 3_YFHS)

"Attending youth clubs, we can also introduce a youth club here at school". (Learner 2_Female)

They further said that having a youth club at school will act as a point of contact with health workers and students.

"There should be learners as youths themselves, teachers and one as a patron and once a month authorities have to visit them and monitor and support them". (Clinician_2)

However, this proposal was regarded as selective as not all students will be members of the youth club hence the best is for health workers to come and meet every student at the general assembly and that learners should belong to youth clubs in the community where they can express themselves freely.

"In a school set up there is a social gap between learners and teachers the learner does not open up so we should channel this to where learners are coming from the say in the communities there should be youth group yes they have to be created to be engaged with peers the youths will free to talk to each other in that they can be influenced". (Teacher 1_Male)

Respondents also suggested that measures to strengthen attendance to youth clubs be identified. They proposed that chiefs should support the youth clubs so that adolescents within age 15-19 years are attending.

"We have to be conducting meetings together with health workers to encourage and support the parents as a chief I have to be working together with the chair of the group and check the register to see which child is not attending the youths groups and make a follow up with parents we chiefs we need to be in-charge of the youth groups the registers should be with us they have to be collecting them from our homes and health workers should be reporting to us before meeting the youths we have to be in control to make youth groups a serious business we need to be involved leaving it for youths themselves things will not work". (Male TL6_FGD)

"You know in villages there are so many things which happen and benefits the villagers so as we have said that we will be doing meetings with them and parents we will tell them that if they are not attending youth groups they will be excluded from the benefits which others will have for example commodities which organizations distribute so in that way we should just be using the youth register". (Female TL9_FGD)

Respondents also noted that it was important to have both male and female health workers servicing the youth clubs because some adolescents may not express themselves adequately when the health worker is of opposite sex.

> ***"****...for the provision of contraceptives some may be shy when they see that the one giving them is a male when they are females because these are sensitive issues I think health workers who will be coming should be two a female and male to fully assist everyone". (Male TL2_FGD)*

Apart from Youth Corners and clubs some respondents in KIIs suggested that there should be Youth Centers or recreation centers for adolescents to have fun and this is where an opportunity to reach them with contraceptives is provided.

> *"Youth centers in the hospital and outside the hospital we need to have open days to provide all things". (Community Health worker_1)*

However, the respondents in IDIs suggested that Youth centers need to be operated by health workers.

> ***"****For the government to implement and sustain it they need to work hand in hand work community nurse who conduct mobile clinics". (Nurse_1)*

Promotion Strategies at Community and Interpersonal Level

Category 1: Various People as Deliverers of Information and Contraceptives

Some participants reported that for adolescents to be motivated to use contraceptives chiefs need to be used to enforce the messages being provided.

> *"Yes as I said the information which will be given through our chiefs will be powerful so those who see the benefits will follow". (Parent_1)*

Additional men were suggested as vessels to deliver contraceptive messages because they are influential in the community as expressed in the following quote:

> *"No but what I can say is that many traditional leaders, men, husbands have to be engaged". (Community health nurse_1)*

However, some respondents suggested that adolescents will be comfortable to access contraceptives from peers or friends. The following quotes illustrated this:

> *"For example an adolescent should be involved in distribution of the services". (Nurse_1)*
> *"Support groups for youth are important as they help peer educators to meet adolescents and they also act as a platform for youths to access services but motivation for the adolescents have to be there for example I remember before being a teacher I worked as a peer educator for Theatre for Change, we used to have biscuits that was motivating them to come for another meeting."(Teacher 1_Male)*

The same teacher further described the relevance of such a group

> *"In addition, these groups are advantageous in that you can be able to know how many youths are collecting the contraceptives unlike in the hospital where they are shy and the condoms are just kept at a private place example in the toilet it is difficult to know that it is really the adolescent who has taken the condoms so in the community it will be easy" (Teacher 1_Male)*

> *"Yes, it is just challenging but we have HSAs in the villages who provide this they have pills and injections so for him to be accessed by young one is difficult as HSAs are adults so they are shy so youth groups will allow adolescents to be helping each other"(Parent 3)*

Some respondents suggested that a Community health worker has to visit the adolescents at the youth club in their meeting days. This will enable them to access contraceptives easily. The following quotes illustrated this:

> *"Health workers should come in the clubs to distribute condoms and other contraceptives". (Learner 2_Female)*

However, some respondents in IDIs suggested that a young Community health worker should be visiting them in the clubs to deliver the contraceptives and train them on how the function.

"Even at youth club we need young health care worker who can make us express ourselves freely you know when they are too old it is like is dealing with his or her children". (Adolescent_3)

Category 2: Information, Education and Communication

Another proposed promotion strategy by the respondents in FGDs, KIIs and IDIs suggested the use of health education strategies and media in order to reach adolescents, parents, chiefs and the general public. The suggested strategies include Awareness campaigns, peer education, village crier, community meetings with chiefs, Mobile Public Address System, radio and television messages, posters, health education programs in schools and community specifically to parents and parents.

Subcategory 1: Awareness Campaigns

Some respondents pointed out that health workers should conducting awareness campaigns on adolescent contraceptive use as one promotion strategy for optimising contraceptive use among adolescents. This was expressed as follows;

"Through community health awareness and as youths, we may share this information to others". (Adolescent_YFHS 1)

"We really need to do awareness campaigns in hard to reach areas because that is where more problems are … (Clinician 2)

A clinician cautioned on using personnel with skills in handling awareness campaigns on contraceptives among adolescents to avoid fueling sexual immorality.

> *"I think there should be awareness campaigns on the advantages of contraceptives for all age groups, there should be expertise in the awareness process because we don't want the process to result in sexual immorality but the issue should be preventing unplanned pregnancies and we want to control bad outcomes that comes with teen pregnancies but availability of contraceptives should be easily accessible". (Clinician 1)*

Subcategory 2: Health Education

Apart from awareness campaigns some respondents added health education talks in the community, schools and hospitals.

Posters in the school environment were advocated for and that adolescents would be able to read-off the information at will.

> *"Pasting posters in schools showing an adolescent access these services may help to increase awareness to the youths that the services are available to everybody hence allaying anxiety and fears which most of them have". (Nurse_3)*

A teacher suggested that health workers make regular visits to the school to educate adolescents on contraceptives.

"I think the health care workers should be coming in the school to deliver the information on contraceptives use we have to give the time for that than living responsibility to teachers because if you ask the learners they don't aspire to be teachers after school but health worker so there speech will carry more weight than that coming from teachers". (Teacher 1_Male)

A nurse echoed the sentiments of the teacher on the need for health care workers visiting schools to educate adolescents on contraceptives.

"Another one is community sensitization we need to be going to the schools to provide health education of benefits of contraceptives and methods we have yes". (Community health Nurse 2)

Some participants pointed that health education in schools is feasible but were not keen on provision of contraceptives within the school premises. They further supported the current policy which allows for provision of contraceptives 100 meters away from school to enhance learners' concentration on studies.

"It is good not to provide these services within the premises of school campus. For example depo provera, if these services are given at school it will be perceived as those taking services are sexual active by those who chose abstinence". (Nurse_2)

In support of this, one teacher proposed that adolescents should access contraceptives in the community where they are coming from with support of their parents and further stated that the teacher-student relationship is not a conducive one for openness.

> *"In a school set up there is a social gap between learners and teachers the learner does not open up so we should channel this to where learners are coming from the set in the communities there should be youth group yes they have to be created to be engaged with peers the youths will free to talk to each other in that they can be influenced". (Teacher 1_Male)*

A clinician further reflected on contraceptive education sessions within a hospital and recommended such messages in the various departments at a hospital.

> *"Here in the hospital, we really need to have health talks in all the departments about contraceptive use by adolescents". (Clinician 2)*

Education could also be provided by peers. Respondents from FGDs, IDIs and KIIs agreed that this is one of the best promotion strategy to motivate them as adolescents prefer people of their age group than adults. The following quotes illustrates this:

> *"There should be peer educators can be those they have finished schools they should be coming to school and provide peer education". (Teacher 1_Male)*

"Some time back they were training peer educators from communities to educate other youth, this is important since those youth can be discussing the issue and make informed decision". (Nurse_2)

Subcategory 3: Use of Available Technologies

Respondents from IDIs and KIIs suggested the use of radio and television messages as a way to influence adolescents to use contraceptives. They added use of mobile phones for Short Message Service and calls to make follow ups.

"There are radios these may also encourage girls to go to the hospital for contraceptives". (Learner 1_Female)

"They should provide us with contraceptives and sensitize the youth in the clubs on use of contraceptives using radio, television and phone messages". (Adolescent 4_YFHS)

"The programs in the communities should have means to follow up adolescents may be home visits and phone calls I remember when we were going in schools with Campaign for Female Education (CAMFED) for contraceptive sensitization follow ups were not made so in the communities adolescents need to be followed up". (Nurse_1)

Someone assigned by the chief to be moving around the village speaking about contraceptive use will make people aware of contraceptives. They added that having a car moving around with loud speakers communicating on the use of contraceptives will influence one to use contraceptives

"Health workers in the villages should be moving around with loud speakers preaching about use of contraceptives and also chiefs can assign someone to do that like they do with vaccines". (Adolescents 1_out of school)

Subcategory 4: Counselling and Guidance

The participants in IDIs, FGDs agreed to have counseling sessions on adolescent contraceptive use. This was expressed as follows:

"As you know in the villages' girls are denied access to contraceptives because of misconceptions that using contraceptives will make them impotent so parents should allow their children to use these methods. For the parents to accept, there is need for parents and children to be given counselling and education on the benefits of contraceptive use while in school, it will not be a way of encouraging sexual immorality but is a strategy of preventing them from getting pregnant while in school because these days children may be indulging in sexual activities secretly despite us as parents telling them to abstain". (Teacher 2_Female)

Respondents in KIIs expressed the need for health workers to conduct adolescent counseling on SRH in schools as teachers lack counseling skills to handle adolescents and they are not clear enough and express themselves as they are shy to talk to adolescents.

"Yes the other issue is about teachers they need to be oriented on YFHS with the reason that they should be able to talk as currently they do not adequately talk sensitive issues and link them to the health services". (Clinician 2)

One teacher also expressed the same argument by the health care worker as illustrated by the following quotes:

> *"There is need for health workers and other organizations support to and interventions and give the learners' education and counselling on contraceptive use". (Teacher 3_Female)*

Some respondents recommended that counselling and guidance should be done by parents as illustrated in these quotes:

> *"They have a role in giving the child sex education information especially to girls I remember one parent came to me with her daughter to be injected contraceptive as she does not want her child to get pregnant after observing that the girl is having boyfriends the daughter denied as she was not prepared at home". (Nurse_1)*

> *"As parents our responsibility is to counsel and guide them but as humans they just hear without following what we have told them". (Male TL2_FGD)*

Another parent expressed variation and opted for health care workers to complement counselling sessions to the adolescents:

> *"As you know as a parent in the village it is my responsibility to be counselling my child on contraceptives because these days school is important because of the poverty we have but I wish health workers to be coming where we live and in schools where our children*

spend their time to be educating parents and our children because as parents we live with them daily as a result they don't believe what we say". (Parent 1_38 year old woman)

Other parents suggested that the church should add contraceptives counselling in the sessions they have with adolescents as follows:

"We can take it that for many churches in this country they have a counselling ceremony or session for youths this is where the church elder and the big mama (wife to the pastor) put it that all the girls should go for the counselling ceremony this is where the elders of the church counsel girls so in the counselling session they can add counselling on contraceptive use this will do good to the girls". (Learner 1_Female)

Category 3: Community Meetings or Gatherings

There were various forms of holding community meetings with multiple players.

At community level the churches were to be informed of the consequences of promoting abstinence to persuade them to include contraceptives in their counseling sessions:

"Because mostly they (church) encourage abstinence so there is need to engage them through meetings to make them aware because if they discourage contraceptives the adolescents go for abortions so together we can try to find solutions because this leads to disaster like removal of uterus so I think they cannot be happy with that". (Community Health Nurse_1)

The chiefs and health care workers could also hold sessions with adolescents.

"As I said I just hear my children that they get these from the doctor so as we see young children doing bad behaviors so all these it is the responsibility of doctors and chiefs to sit down and conduct meetings with parents". (Parent 4_60 year old woman)

"You know in villages there are so many things which happen and benefits the villagers so as we have said that we will be doing meetings with them and parents we will tell them that if they are not attending youth groups they will be excluded from the benefits which others will have for example commodities which organizations distribute so in that we should just be using the youth register" (Female TL9_FGD)

"We need to engage them in meetings to sensitize them". (Community Health Nurse_2)

Within a school setting, contraceptive use among adolescents should be discussed in PTAs.

"As teachers we need to engage them in meetings through Parents Teachers Association (PTA) so that one can come during assemblies we have with students to talk this encourages learners as they will receive the information from both teachers and parents hence learners will appreciate that use of contraceptive is important as parents came from the learners set up". (Teacher 1_Male)

Category 4: Home Visits

Home visits by community health workers are an important strategy to reach adolescents. Home visits provide opportunity for health worker to discuss with parents and adolescents themselves following community meetings.

"Yes as today we see that other health workers they are approached secretly by parents to have their children injected contraceptive at their homes they don't want their children to be seen". (Parent_3)

"Yes nowadays health workers are being called by parents to have their children injected at home". (Nurse_1)

Another parent had this to say regarding home visits:

"They have to be going to through the chiefs and talk to the children themselves such that when they do the contrary they have to be penalized by the chiefs". (Parent_4)

Category 5: Incentives

Providing incentives to adolescents on contraceptives may promote uptake of contraceptives among adolescent. It was found that bursaries have been one of the strategy to keep girls in school but there impact has been inadequate as girls continue drop out of school even with financial support. It is suggested that bursaries should go together with contraceptive use when beneficiaries are become sexually active.

"Yes I feel that as parents we lose opportunity for support towards education of our children it is not wise for someone on bursary to get pregnant and drop out from school others they do not have the opportunity to have bursary so using contraceptives you don't lose anything". (Parent-1)

5.5.1.4 Theme 2: Organization Strategies for Delivering Contraceptives to Adolescents

These are strategies that are concerned with rules, regulations, laws and formal and informal structures that may promote uptake of contraceptives among adolescents. Hence the combined presentation of public policy and organizational levels in this study as opposed to the way it is presented in the model (separate). These are proposed strategies in the design and the way services on contraceptives as suggested to be delivered to adolescents. Several strategies emerged under organization strategies.

Category 1: Resources

Subcategory 1: Adequate Stocks of Contraceptives

Some respondents in the KIIs and FGD suggested that contraceptive services to adolescents need to be uninterrupted to avert demotivating adolescents from accessing services.

> *"There should be no intermittent supply of commodities. For example if youth comes to the facility and find out that there are no resources it is a missed opportunity". (Nurse_2)*
>
> *"Ensure resources are available to the youths because sometimes you may publicize the services and the adolescents come for the services just to be told that resources are not available which pulls them backwards on utilizing contraceptives". (Nurse_3)*

A teacher further asserted on consistent supply of contraceptives to avoid missed opportunities among adolescents:

"Contraceptives should be available all the time because it will not be wise to hear that they are not available because to catch the adolescent again it is difficult". (Male TL8_FGD)

Health care workers emphasized on availability of all types of contraceptives to broaden the choice among adolescents,

"We have to make sure all the methods are readily available to avoid frustrations when they find that we do not have we really need to be very open and do not discourage them other methods we need to be going for their choices this is not helpful". (Community Health Nurse_2)

Some respondents added that providing adolescents with preferred contraceptive method is a crucial factor as denying them demotivate them.

"The choice of contraceptive method is also important as they need to be well informed on the methods for them to make a good choice because denying them without proper explanation will demotivate them". (Male TL1_FGD)

Category 2: Governance

Subcategory 1: Introduction of Bylaws and Penalties by Traditional Leaders in Villages

Some respondents in the KIIs, FGDs and IDIs suggested that introduction of bylaws will result in making adolescents to use contraceptives to prevent teen pregnancies. They further suggested

inclusion of penalties for parents and adolescent with a teen pregnancy. This was expressed as follows:

> *"Traditional leaders need to make bylaws so that in their villages teen pregnancies should not happen". (Community Health Nurses_2)*

Health care workers advocated for the involvement of chiefs in contraceptive use among adolescents and drew their experience with the championing of hospital deliveries that chiefs are involved in.

> *"They need to put laws as we have done with pregnant mothers, traditional leaders have put in place penalties for a home delivery also I think this should be applied for a teen pregnancy this has been there already in the past at church for a teen pregnancy they were being expelled because of the pregnancy existing outside marriage even in the villages the whole family was being expelled". (Community Health Nurse_1)*

An adolescent suggested of penalties in the event of a teen pregnancy.

> *"They may encourage the youths to go for contraceptives and a policy may be set to penalize all young girls getting pregnant whilst in school". (Adolescent 2_YFHS)*

A chief suggested collaborative efforts among teachers, health workers and chiefs to reinforce bylaws set in a community.

"We need to make it an agreement with you health workers at the villages we will introduce penalties and you as well at this hospital. Those coming with teen pregnancies they have to take a letter from the chief to ensure that they have paid the penalty in that way this will encourage them to use contraceptives". (Male TL7_FGD)

The bylaws should also cover attendance to youth clubs as stated below:

"Establishing community bylaws for example adolescents should attend youth clubs to get access to contraceptives". (Nurse_1)

However in a FGD, one of the participant initially disagreed with the rest of the participants as he felt that encouraging adolescents to use contraceptives endorses them to engage in premarital sex as below:

"I think discussing that is not good as putting strategies is like encouraging young people to freely do sexual activities". (Male TL6_FGD)

Later on, the same participant agreed with the other participants when majority of the participants agreed on adolescent contraceptive use.

"I just wanted to commend my fellow chief that it should be like that but as you have said that we are discussing on strategies that may improve uptake of contraceptives among adolescents is it that we are encouraging them to be involved in sexual activity by telling them that they have to use contraceptives "I think it is about having strategies that will

discourage them from being pregnant while young, look these days you find some girls being pregnant at 13, 14, 15 years this is not good". (Male TL6_FGD)

Category 3: School Activities

Subcategory 1: Mandatory teaching of Sexual and Reproductive subjects in schools

Teachers bemoaned the practice of voluntarism over subjects on sexual and reproductive health and recommended that they become compulsory to ensure that learners are getting information that can stimulate them to use contraceptives.

"*The government has removed life skills subject which has been there as a compulsory subject over a sudden it has been removed… I see that the government is overambitious also learning materials should be available for sexuality education it demotivates to see that there is even no book for the teacher to use". (Teacher 1_Male)*

They further insisted that even in the upper classes in secondary school, these subjects should remain compulsory for a learner to attend

"*There are subjects on growing up and changing but when going to senior classes learners leave them and go for courses that suit their future careers for example life skills and social and development are dropped so it is a lost opportunity I think these subjects need to be compulsory for everyone and it is important to add these topics on sexual and reproductive health in more subjects to fully utilize the opportunity we have contacted with learners". (Teacher 3_Female)*

Subcategory 2: Introduction of topics on contraceptive use in the curriculum

Some teachers responded that it is difficult for them to divert to already prepared lesson to talk about benefits of contraceptive use among adolescents as they adhere to what is in the syllabus. In addition they said that there is limited time dedicated to deliver information on contraceptive use. Therefore, they need topics on contraceptive use to be fully illustrated to enable them deliver information well.

> *"No we as teachers we concentrate on topic as it is and it is difficult for us to divert the topic and teach students about contraceptive use the syllabus is not adequately enriched to disclose sensitive information I feel that partial information was provided in the books there is need for additions on information, techniques and methodology on teaching for the learners to understand on this". (Teacher 3_Female)*

> *"For example when teaching you adhere much to the objectives of the lesson so to divert and provide counselling and education on contraceptive use is very difficult and you cannot talk more". (Teacher 2_Female)*

> *"Family planning topic should be incorporated in life skill subject". (Nurse_2)*

They further added that the current information in the syllabus is not comprehensive and remains inadequate.

"The problem with our delivery of sexual education in school is theoretical, I think a practical component is important for example dramas the curriculum has to include this". (Teacher 1_Male)

"There should be addition to the existing ones. There is need to add because mostly the books are just introductory, no information is open sensitive issues have to be written openly in the books". (Teacher 2_Female)

Some of the respondents proposed that teachers be trained in adolescent sexual and reproductive health and YFHS to enable them handle adolescents effectively. The following are the quotes as expressed by the respondents:

"Yes as I said in the beginning it has been a long time I was trained from college so we need seminars to update our information as I said adolescents are difficult to handle". (Teacher 4_Male)

"Yes the other issue is about teachers they need to be oriented on YFHS with the reason that they should be able to talk as currently they do not adequately talk sensitive issues and link them to the health services". (Clinician_2)

"Teachers should also be trained on how to approach adolescents in promoting youth friendly services". (Nurse_3)

"Teachers should be doing risk assessment if they observe that someone is at risk they should be doing one to one approach in counseling those students to opt for family planning methods". (Nurse_2)

Category 4: Integrated Services

Subcategory 1: Collaboration between the Education Sector and School Health Programs

Some teachers responded that they need to be implementing school health programs together with health care workers. This is because health care workers and teachers work independently therefore there is no opportunity to share experiences. They further added that a structured program is needed and be incorporated in school calendar. This will allow schools to spare time for health workers to talk to the learners.

"Yes, I know that health workers do come but there coming is not adequate they have to give us a program for the whole year may be visiting the schools twice per term that will be good..." (Teacher 3_Female)

"Health workers and school leaders like district health officers and head teachers should conduct meetings, come up with needs identified in schools and see how to handle such issue for example how adolescents should be able to access contraceptives in hospitals". (Nurse_3)

"Yes, it is possible because we can ask the head teacher to exempt one class session for the counseling and education on contraceptive use sometimes during break or when knocking off but this is inadequate to talk to the children". (Teacher 2_Female)

Subcategory 2: Integration with Existing Structures

Participants in IDIs and KIIs expressed the need to integrate services on contraceptive use in already existing strategies for youth in the community. In schools, respondents said that there is need for contraceptive use information to be integrated in mother care group activities. In the community, some respondents proposed that health workers should use available Youth clubs as expressed in the following quotes:

> **"**There are existing youth groups not relating to health there have to be utilized because adolescents do not prefer coming to the hospital as they are afraid to be seen rather than coming here". (Clinician_2)

Community based health providers should also provide contraceptives as part of their duties to promote access. They added that health care workers working in the community example HSAs should add provision of contraceptives to adolescents to their duties hence they need to be trained in YFHS and visit the youth clubs.

> ***"****Reaching to them in their communities with the services through existing structures such as community outreach programs in which family planning services can be incorporated". (Nurse_1)*

> *"Health workers who come with childhood vaccination should work with adolescents themselves because there they operate is an open space hence adolescents are shy to be there so they should find ways of meeting the adolescents". (Male FL6_FGD)*

Community health workers could also participate in the youth clubs available in their communities

> ***"****Working hand in hand with health surveillance assistant in the club in case one need such services". (Adolescent 4_YFHS)*

> ***"****For the government to implement and sustain it they need to collaborate with community nurses who conduct mobile clinics to disseminate the information to the community". (Nurse_1)*

> *"The doctors who were employed by government to work in the villages with childhood vaccines they should be coming in the villages together with contraceptives for it to be within reach as it is difficult for adolescent to travel long distances just for contraceptives since this is not a serious issue to them in this way we could have seen some improvements". (Male TL2, FGD)*

However, some respondents pointed that HSAs cannot be fully reached by adolescents as they happen to be adults and parents.

> ***"****They should provide us with contraceptives and sensitize the youth in the clubs on use of contraceptives as adolescents feel shy to get condoms from health workers in the community as they are our parents". (Adolescent 3_YFHS)*

Alternatively, young health workers should be coming to the communities to provide contraceptives. HSAs should be going to the youth groups and give contraceptives to peer educators who can be easily reached by adolescents.

> *"Dissemination of information to adolescents, motivating the youths for example an adolescent should be involved in distribution of the services". (Nurse_1)*

> *"We need to train peers to educate others and conduct awareness campaigns there are also peers also there are Youth community based government guiding yes Community Based Distributing Agents (CBDA) these are peers the interaction between youths is easy…..we should also improve our attitudes as health workers". (Community Health Nurse_2)*

While in school some respondents proposed that contraceptive services be integrated in existing school health programs as expressed in this quote:

> *"Sensitizing adolescents in schools for examples utilizing mother care group to teach adolescents on contraceptives". (Adolescent 2_YFHS)*

> *"There are mother care groups there they can be using these groups to sensitize learners they have to be identifying the grownups and teach them about contraceptive use". (Nurse_1)*

"There is a program of school health and nutrition where we assess learners so when going there we can combine that with contraceptive service provision". (Community Health Nurse_2)

Category 5: Adolescent Centered Units

Subcategory 1: Provide Adolescent Services Separately From Adult Services

Some respondents in the KIIs suggested that it will be necessary for hospitals to create a conducive environment for adolescents by having a department for adolescent health that provides all the services needed. This will resolve inaccessibility of services secondary to shyness among adolescents queuing up with adults to receive sensitive services like contraceptives. They added that adequate time is needed for health worker to serve adolescent and it is difficult to prioritize them amidst adults.

"We need to have a special room where they can get everything at any time that way we can help". (Clinician_2)

"There should be a special room to give all health services in the room for youths where they can come at any time to access what they want because even if you give them special day and time it is difficult they forget the days… apart from that recreations centers in their areas where they go and play they can access contraceptives there and information". (Community Health Worker_1)

"Prioritizing youths in service rendering at health facilities is difficult to do there are challenges such as workload so health workers opt to provide services together with

students even if they come in uniform so it is better to have a special room to provide care to them for example today I found one student from Nsanje Secondary School I told the clinician to assist the student first because next time she will not come again because of the treatment we have given her". (Nurse_1)

They added that the rooms need to have health workers trained in YFHS delivery to provide integrated adolescent health services to encourage good practices towards adolescents in the hospital as expressed in this quote.

"Yes we lack dedicated room for adolescent services that is why our YFHS Program is not being implemented well". (Clinician_2)

Provision of adolescent health services separately in hospital will provide opportunity for health worker to negotiate for contraceptive use as argued by some adolescents as expressed in the following quote:

"Another way is that for example when a girl is sick and has gone to the hospital health workers should be telling them about contraceptives". (Learner 1_Female)

CHAPTER SIX: DISCUSSION

6.1 Introduction

The main findings of this study whose objective was to identify strategies for optimising uptake of contraceptives among adolescents aged 15-19 years show that enabling environment to deliver and promote use of contraceptives among adolescents aged 15-19 years need to have various people and places as deliverers of contraceptives such as local private drug stores, adolescent centered units in hospitals, community health workers and peers enforced by policies such as mandatory teaching of contraceptives in schools by school health nurses and bylaws and penalties for teen pregnancy by traditional leaders as well as integrating delivery of contraceptives in existing health structures and a collaboration between Ministries of health and education and private sector.

6.2 Proposed Strategies for Optimising Uptake of Contraceptives among Adolescents

6.2.1 Physical spaces for Contraceptive Provision at Individual Level

The findings show that adolescents prefer to access contraceptives at the hospital, pharmacy and at a nearest drug store. The finding is consistent with findings reported by Chandra-Mouli in 2014 and USAID in 2015 where they highlighted that there are various places adolescent prefer to access contraceptives other than the hospital [9, 16]. A study done by Radovich et al in 2018 reported that young women obtained contraceptives from limited-capacity, private providers compared with older women [88]. They further highlighted that this is the reason adolescents use short methods than long methods. Therefore, there is a need for making pharmacies and drug stores adolescent friendly [16]. This calls for policy makers to formulate policies that enforce collaboration between government and implementing partners as well as private pharmacy owners in the delivery of YFHS to contain unmet needs such as low uptake of longterm methods. A possible explanation to

this is that adolescents want to access contraceptives in private, a place where they feel that confidentiality and privacy are guaranteed [16]. This implies that adolescents prefer to access contraceptives from a variety of places especially places convenient to them eventually making delivery of contraceptives to adolescents more complex. Thus, informing adolescent sexual and reproductive health programs and experts to consider a wide range of places where adolescents can access contraceptives [9]. More importantly, this may be realized if policy makers and providers partner with private pharmacy and drug store owners in order for the adolescent to have wide access to contraceptives [89]. The findings builds on the report by FHI360 Ethiopia 2004 report which reported that government and donors supported private commercial ventures such as private franchise clinics and contraceptive social marketing that provide reproductive health services, though these were not necessarily targeted to youth [26].

6.2.2 Strategies for Promoting Contraceptives at Individual Level

The current study suggested that use of flyers may promote uptake of contraceptives at individual level. This is consistent with findings from a study done in Malaysia where flyers were used together with channels in improving uptake of sexual and reproductive health services by adolescents [90]. Our finding on the use of Short Message Services to stimulate adolescents to access contraceptives adds up to what was found in a study done in Australia where Short Message Services were used to influence health behaviours such as condom use and STI testing among adolescents [68]. In Ethiopia, the use of posters in schools was highlighted as one strategy for influencing uptake of contraceptives among adolescents [89] which is consistent with the findings of the current study. This implies that for adolescents to adequately access contraceptives there is a need for increasing the knowledge on the places where they can access contraceptives. Therefore, this is a reason for implementers to use various communication platforms to increase awareness

on where contraceptives can be accessed. However, there is a need to implement them together with multiple channels and approaches such as mobile health [68, 89].

6.2.3 Physical Spaces for Contraceptive Provision at Community and Interpersonal Levels

These are proposed strategies which can be used to improve uptake of contraceptives at community and interpersonal level and in this study they are presented together because of the overlap between them as opposed to a demarcated presentation in the original model.

6.3 Youth Centred Services: Youth Corners, and Clubs and Centers

Youth specific spaces such as Youth clubs, Youth Centers and Corners in the community as strategies for optimal uptake of contraceptives among adolescents provide a platform for social network which support adolescents to access contraceptives [91]. One of the spaces the current study reported is a Youth Friendly Corner. This finding is consistent with what was reported in a study done in Zambia and Zimbabwe where Youth Friendly Corner improved uptake of contraceptives by young people [92, 93]. It is a private space staffed by dedicated young volunteers where youth come for counseling and referrals for sexual and reproductive health services without adult interaction [93]. Unlike Youth clubs and Centres which combine recreation activities, Youth Corners are dedicated in providing SRH services [93]. Apart from Youth Corners, the current study reported the use of Youth clubs as another strategy. This was also shared by a study done in Machinga, Phalombe and Dowa, Malawi where Youth club was highlighted as a strategy for optimising uptake of contraceptives to young people [51]. These are places where young people meet in the community and participate in 'life skills' training, health education sessions and recreational activities [1]. This study also suggested use of Youth Centers as another strategy.

Youth Centers are meeting points and “onestop shops” which are intended to be a friendly, safe and non clinical environment where SRH services and information is provided alongside social services such as recreational activities or internet cafes’ [75]. In terms of performance, separate studies conducted in Machinga, Malawi and a review by Zuurmond in 2012 reported low uptake of SRH services in Youth clubs and centers [77, 94]. A possible explanation to the reasons may be that these places which operate on static or mobile basis are convenient to adolescents provide alternative for contraceptive access to adolescents as they shun hospitals [16]. Thus, underscoring the need for program implementers to establish more outlets beyond the health facility for expanded adolescent contraceptive access in the district. In addition, policy makers need to formulate policies that enforce establichment of more nonclinical places for delivering contraceptives to adolescents.

The current study suggested that health workers in the hospital and community to work and visit these physical spaces to meet peer educators and adolescents themselves hence forming meeting points for linking the community and the health system. This may provide health workers opportunity to monitor and evaluate performance of these places which is currently not available [9, 94]. To address human resource challenges with this strategy task shifting has been highlighted as a solution by many studies [16, 95, 96]. Therefore, it is imperative that for improved uptake of contraceptives in Youth clubs and centers leadership from health workers incollaboration with community leaders is essential as suggested by the current study.

6.3.1 Promotional Strategies at Community and Interpersonal Levels

6.3.1.1 Various People as Deliverers of Information and Contraceptives

The current study reported that adolescents prefer to access contraceptives from peers and young health workers rather than adults as they are shy. This is in line with findings reported by Self in a study conducted in Machinga, Dowa and Phalombe, Malawi found that adolescents prefer to get contraceptives from peers [51]. Similarly, a study conducted in Zambia reported that adolescents prefer to collect contraceptives from young providers as they understand their challenges [92]. In separate studies by Chandra-Mouli et al in 2014 and Hatami in 2015 reported the use of peers to disseminate information on SRH [16, 97].Thus, it is imperative to consider peers in the distribution of contraceptives targeted at adolescents.

The use of influential people in the community such as men, chiefs, parents and guardians to educate adolescents on contraceptives is in agreement with a review by USAID 2015 report which reported that interventions directed at influencing the sexual and reproductive health behaviors of adolescents are significantly enhanced where there are complementary interventions for parents, providers, religious leaders, and other influential adults who can foster a supportive environment in health facilities, schools, religious places of worship, and in homes [9]. This was also shared in reviews conducted by Gottschalk in 2014 and Kesterton in 2010 which highlighted the need for working with community and religious leaders to contain myths and misconceptions that hinder contraceptive use [70, 98]. A possible explanation to this is that this will improve adolescents' access to contraceptives as barriers caused by influential people in the community will be reduced. Therefore, it is important for family planning implementers to engage influential people when designing and implementing adolescent contraceptive use programs in the community.

The current study found that extending education on adolescent contraceptive use to key groups such as parents, traditional and church leaders is crucial in making adolescents access contraceptives. In addition, apart from community leaders the current study suggested education to be extended to Parents Teachers Association (PTA). Although young people receive sex education in schools and youth clubs to influence them access contraceptives discretion to use contraceptives remains in the hands of parents and guardians. Therefore, this study proposed that individuals who are key in influencing an adolescent to make decisions to access contraceptives need to be well informed of the benefits of adolescents in using contraceptives in order to break the misconceptions in the community. This is in line with what WHO in 2012 reported on the need to improve the understanding of influential community leaders and the community at large on adolescents need for information and contraception, and the risks to their wellbeing of not responding to these needs [99]. In addition a review by Kesterton in 2010 underscored the need for involving community leaders in sexual and reproductive health of young people in order to gain community support [98]. A study done in Malawi reported that parents expressed negative opinions of youth using FP and parents could prevent youth from accessing FP services. However, the majority of youth also said parents provided FP support and information especially around abstinence. A few parent participants acknowledged that they could play a role in encouraging youth to use FP, but also noted that many parents are reluctant to support youth using FP [51]. This is inconsistent with the current study findings where parents agreed to allow adolescents to use contraceptives to prevent school dropouts which aggrivate poverty. This implies that there is a need for comprehensive education to parents and community leaders for improved uptake of contraceptives by adolescents.

Involvement of adolescents and other influential people in the design and distribution of contraceptives will curb fear to reach adults for contraceptives as they feel that they are their parents. They prefer peers and young health workers to reach them. The strategy is also illustrated in other studies previously done where involvement and buy-in from adolescents was underscored as an important factor in ensuring access and use of contraceptive [16, 65, 89, 95]. This calls for policy makers and implementers to incorporate adolescents in the programming and implementation of activities aimed at improving uptake of contraceptives among adolescents.

6.3.1.2 Information, Education and Communication

Use of Available Technologies

This study suggested that Information, Education and Communication (IEC) materials in local language may improve uptake of contraceptives among adolescents. This is consistent with findings in a study done in Zambia where IEC materials in local language were identified as a strategy for disseminating SRH information to adolescents [92]. Similarly, a review by Svanemyr in 2015 found that Mass media has potential for penetrating places where adolescent sex discussions are limited and discouraged due to culture and religious issues [66]. This is also in line with findings reported in a study done in United States of America which showed effectiveness of mass media when incorporated with multiple channels and combined with other interventions delivered at clinics and schools thereby making messages about service-seeking more actionable [49]. However, use of phones as proposed by this study to follow up those who are on contraceptives is difficult to sustain due to financial constraint and can be incorporated with other strategies. Use of internet as a strategy for improving uptake of contraceptives among adolescents which was proposed by Jones et al in 2011 and Chandra-Mouli et al in 2014 [16, 100],was not

suggested by this study. The possible reasons may be the study setting was rural location where access to internet is rare.

Currently, there are messages on contraceptive use on various media platforms but evidence on their coverage on adolescent contraceptive use is limited. Therefore, there is a need for a research to address this gap.

Conducting awareness campaigns together with multiple strategies such as radio and television as suggested in this study is consistent with what was reported in Ethiopia where a variety of activities such as Men's day in Family Planning improved awareness of men's role in family planning as decision influencers of women and children [89]. This was also reported by Svarnemyr in his review as one way of creating enabling environment for adolescent contraceptive use [66]. Therefore, it is important for the government and its partners to conduct awareness campaigns on contraceptive use by adolescents to make the public aware on the burden of teen pregnancies and the benefits of contraceptives to adolescents.

Peer education in schools and community would curb timidity expressed by adolescents in accessing contraceptives. A study done by Torres found that peer education increased knowledge of SRH among adolescents [65] . A study done in South Africa also indicated improved access to SRH services and contraceptives through peer led Youth Service points [101]. Furthermore, it was proposed that there is a need for health workers to work with peers when implementing activities on contraceptive use for adolescents in school and out of school. This implies that peers are crucial for improved uptake of contraceptives. However, a study done by Jones et al in United States added that despite adolescents relying more on friends they had greater trust in traditional sexuality

education sources such as school and family members[100] . The disparity in the studies may be due to cultural differences as in some locations adolescents are free to talk sex related matters with adults and in some contexts culture is restrictive.

6.4 Organizational Strategies for Delivering Contraceptives to Adolescents

Availability of all types of contraceptives promote uptake and this finding resonates with a Zambian study that reported that stock-outs of preferred contraceptive methods and unavailability of long acting reversible contraceptives (LARCs) in some facilities, negatively affected contraceptive utilisation, as it meant that communities could not use nor access such services when they wanted to [102]. This was also reported in Malawi where stock outs of commodities presented a challenge for young people in accessing family planning commodities and also impacted their choice of provider [103]. This implies that rigorous supply chain management of contraceptives is required for improved uptake of contraceptives among adolescents. To make this possible there is need for capacity building on family planning providers regarding supply chain management of contraceptives [95]. An intermittent supply of contraceptives demotivates adolescents and creates a missed opportunity for use.

The current study suggested presence of skilled health workers in YFHS in order to improve uptake of contraceptives among adolescents. A study done in Machinga, Dowa and Phalombe, Malawi reported that unfriendly health workers was one reason for young people fear to access SRH services from the hospital[51]. Therefore, YFHS trainings to health workers were recommended for health workers to create enabling environment. Similarly, studies done in Ethiopia and Zambia reported that trained family planning providers in YFHS create conducive environment that motivates young people to access contraceptives [92, 99]. Therefore, it is important for policy

makers and implementers to place emphasis on intensifying capacity building activities on YFHS among providers. Moreover, it is important for policy makers and implementers to ensure that health workers providing general health services other than SRH to adolescents apply the skills regardless of place and type of service. In addition, they have to formulate and enforce policies that promote training of health workers on adolescent SRH in training schools.

Application of by-laws and sanctions would improve adolescent contraceptive use. In search of literature no study suggested this strategy in Malawi and elsewhere. However, some studies have reported the need for formulation of laws at local and national level which create enabling environment for SRH services for adolescents although implementation is challenged by human rights issues [66, 104]. A unique finding of this study is that traditional leaders are to set laws and penalties for adolescents who do not take part in youth clubs and those happen to have teen pregnancy including their parents. Among strategies to improve maternal health, traditional leaders issue by-laws which are local rules to increase the uptake of antenatal and delivery care [105]. For those who not attend antenatal and delivery care at health facility penalties are given. This may explain the need for by-laws and sanctions to improve uptake of contraceptives among adolescents. This calls for policy makers to formulate and enforce policies that promote adolescent access and use of contraceptives than restrictive laws for improved uptake of adolescent contraceptives.

Strengthening training for teachers in schools to enhance their knowledge in teaching adolescents benefits of contraceptives as suggested by this study substantiates findings reported by Bastein in 2011 which showed that there is over reliance of school teachers in sub-saharan Africa in teaching about sexuality [106]. The teachers reported that they are taught during training in college on how to handle adolescents but there training was not specific on adoscent SRH. In addition, teachers

bemoaned lack of inservice training on SRH and school health personnel. Therefore, this implies that capacity building of teachers on adolescent contraceptive use is crucial for improved uptake of contraceptives by adolescents. In addition, there is need for policy makers to revisit policies and implementation of school health programs and evaluate the need to bring back school health nurses.

Although sex education in schools is the current strategy which is being used to link learners to places where they can access contraceptives located 100 meters away, this study proposed that for improved uptake of contraceptives by adolescents health education on contraceptives be delivered by health workers in schools. Adolescents perceive health care providers as being the right people to give information and services and are therefore likely to see health care providers for their health concern [92]. The current study therefore respond to what was reported by Svanemyr in 2015 that teachers are limited in terms of capacity to teach sexuality education specifically tackling contraceptive use [66]. Similarly, a study conducted in Ethiopia reported that the role of family and school teachers as the source of contraceptive information for the female youth was low [107]. Clearly, there is a need for policy makers to formulate policies that promote contraceptive use education delivered by health care workers in school health programs. However, this proposed strategy is inconsistent with findings from a study done in United States where education on contraceptives is given together with contraceptive provision in schools by school health program [61]. Similarly, a study in Zambia reported that the lack of policies aimed at facilitating contraceptive methods provision in schools is a barrier to adolescent access to much-needed contraceptive services amidst high levels of early marriages and teenage pregnancies [102]. The possible explanation to the observed difference between United States and these two countries (Malawi and Zambia) is cultural context, parents consider provision of contraceptive information

to their children immoral [92]. The current study found that it is of more importance to maintain the current government policy as taking contraceptives in schools may disturb learner's concentration on their studies.

In addition to health education, participants in the current study proposed addition of counselling session on contraceptives to identified sexually active learners by health workers which was previously done by teachers. The finding is consistent with results from previous studies which showed that individual counseling about contraception and sexual health topics is most effective using patient-centered approaches, such as motivational interviewing [108, 109]. Counseling provide a platform for nonthreatening environment, to engage adolescents in their own behavior change, asking adolescents about their goals and helping them identify inconsistencies between their goals and current behavior, waiting for adolescents to find their own answers rather than pointing them out and supporting adolescents' capacity to change [108]. Our findings show that health workers conduct individual counseling on contraceptive use to adolescents in schools than teachers is consistent with findings from previous studies which found that adolescents consider health care providers as highly trusted source of sexual health and other confidential information [100, 110].This shows the need for counseling sessions for adolescent contraceptive use by health workers than teachers in schools. Therefore, this necessitates resumption of school health sessions by health care providers. However, the proposed strategy may lead to identification and singling out sexually active adolescents which has potential for stigma. Therefore, it is necessary to consider ways that prevent stigma when considering this strategy.

Inclusion of contraceptive use topics in the school curriculum will allow teachers to deliver such information in compliance with the syllabus. A study done in Denmark showed that

comprehensive curricula on adolescent sexual and reproductive health in schools resulted in improved uptake of contraceptives when delivered with strategically static and outreach centers [59]. This suggested that comprehensive curricula in schools on contraceptive use coupled with outreach clinics 100 meters away from school may improve uptake of contraceptives among adolescents. Therefore, ministry of health should consider inclusion of contraceptive use related topics separately in subjects for teachers to deliver information adequately. Also, school health programs by health workers to incorporate contraceptive use in health education delivered in schools. This is in line with what is reported in Ethiopia where communication materials specifically targeting youth are distributed through youth centers and schools [89]. Unlike previous studies done in United States which reported provision of contraceptive information and services in schools [59, 61], the current study suggested that health workers should strictly provide information as delivery of contraceptives may disturb learners. This is in line with the current policy in Malawi which allows delivery of contraceptives with 100 metres from school. Therefore, policy makers and providers need to incorporate information on adolescent contraceptive use in school health program implementation package.

Collaboration between ministry of health and education provides platform to identify challenges between two parties and work on improvement. In the current study participants also suggested that having a structured program between two parties may provide dedicated approach to the implementation of activities towards common goal. This is in line with what was reported in Ethiopia where ministries of health, population and environment collaborated in Family Planning programming and delivery by employing community based distribution of family planning services into Ethio-Wetlands and Natural Resources Association activities [111]. In United States, Florida School Health Program reported that for effectively coordinated school health efforts,

different groups of people playing different roles need to work toward the same goals to ensure that all the different school health policies, programs, and services are collectively aimed at achieving a particular set of priorities [112]. In review of Malawi National Education Policy 2013 and National Education Strategic Plan 2008-2017 no information on the role of the teacher on SRH and specifically adolescent contraceptives use was found [113, 114]. Therefore, current findings implies the need for an assessment on the impact of education policy on sexuality education and barriers to the collaborative implementation of sexuality education in schools.

Mother care groups currently operating in schools in nutrition and health need to integrate adolescent contraceptive information to adolescent in their programs which was unique finding of our study. Mother care group is a group made of volunteer mothers in the community who are selected by community leaders or the community as a whole to promote health behaviors in families under guidance of a health promoter [115]. The Care Groups reinforce health lessons through group interaction and become a primary source of support and encouragement for the volunteers [115]. In Ethiopia, Family Planning distribution was integrated into Ethio-Wetlands and Natural Resources Association activities of which increased uptake of contraceptives was reported [111].

In search of literature no study reported about integration of adolescent contraceptive services with Mother Care groups. Thus, the need for implementation research on integration of adolescent contraceptive use in mother care groups to evaluate its effect on contraceptive uptake. Integrating contraceptive access and use in already existing platforms was suggested as another strategy. The finding was consistent with what Chandra Mouli reported in his review that in making health services adolescent friendly, it is important to build on what already exists - modifying general

health facilities and building the competencies and attitudes of existing health-service providers, rather than setting up new facilities and assigning some health-service providers exclusively for adolescents [16]. Therefore, modifying existing structures to accommodate programs for contraceptive uptake is of importance for optimal uptake of contraceptive use. In addition, studies done in Zambia and Ethiopia, although the studies targeted general population than adolescents healthcare providers reported that integration of services in the health facilities provided an enabling environment to reach as many clients as possible and enabled clients who may have come for other healthcare services to be provided with services [95, 102]. This shows that existing structures as a strategy has potential for improving uptake of contraceptives as they provide opportunity to reach those who did not have intention to access contraceptives. This explains the reason for policy makers to integrate and promote contraceptive services targeting adolescents in existing health programs.

Task shifting through use of lay cadres was another strategy. A study conducted in Malawi reported that community based distribution of SRH services has potential for expanding youth access to SRH services facility based services and may be an important tool for increasing the uptake of SRH services in this population[103] . A possible explanation to this is that task shifting through Community Based Distribution Agents (CBDAs) and Health Surveillance Assistants increased platforms for accessing SRH services than health facility [41]. This is in agreement with what is reported in Ethiopia and elsewhere, Health Extension Workers, non-clinical people were trained in administering of contraceptives increased uptake of contraceptives [16, 95, 96]. In addition, this study added the need for young people to approach those distributing contraceptives in the community. Thus, informing family planning implementers' to use already existing community structures such as home visits, village clinics and youth clubs to increase access points for

contraceptives by adolescents. Although, task shifting provided good results in contraceptive uptake confidentiality was reported a potential challenge hence calling for capacity building of lay cadres [16, 95].

6.4.1 Adolescent Centered Units

Our findings show that traditional leaders to lead youth clubs, centers and corners in their respective communities builds upon what was earlier reported in Machinga, Malawi and Chandra-Mouli in 2015 which showed that the effect of these places was low hence the need for efforts to improve performance [75, 91, 94]. These studies reported that impact of Youth Centres in improving uptake of contraceptives is low but contributes prevention of adolescents to bad social behaviours such as gang activity. In addition, underutilization of Youth clubs and Centers of which many teen pregnancies were registered despite existence of Youth clubs was reported. Thus, calling policy makers and implementers to consider engaging chiefs and local leaders in the implementation of Youth clubs.

Delivery of adolescent health services from adults within health facility has been difficult because hospitals are usually congested such that attention is given to the sick and YFHS is not prioritized. This is consistent with findings in a study done in Bangladesh where low access of family planning by unmarried females resulted in the establishment of Adolescent Friendly Health Corners (AFHCs) at selected government facilities at district and union levels [116]. Therefore, there is a need for government and implementing partners to establish separate rooms within health facilities for adolescent health to ensure enablibling environment for negotiating adolescent contraceptive use. However, this is inconsistent with studies done in Tanzania, Zambia and a review by Chandra-Mouli which reported that a good number of facilities providing SRH services are adult centered

hence the need for Youth friendly service provision to be integrated in adult health services in order for the health workers to gain skills that will change health providers' attitude towards youth when seeking health services [16, 102, 117].

The study further reported that adequate time is needed to provide information to enable adolescent make an informed decision hence a special place providing a conducive environment to negotiate contraceptive access and use is necessary. In Nigeria, waiting time poor or unfriendly health providers' attitudes such as keeping adolescent waiting, spending little time with them during consultations, judgmental attitude of providers and lack of confidentiality in service provision are associated with low adolescents' access and use of reproductive health services [48]. Similarly, a study done in Malawi reported that waiting time and unfriendly health workers were a barrier to adolescents access to SRH services [51]. This implies that having special room to provide all adolescent health needs at one place within the hospital may improve quality of adolescent health services hence improving uptake of contraceptives among adolescents. Therefore, implementation research on feasibility, performance and quality of services to inform practice on whether or not to scale up will be required.

6.5 Strengths and Limitations of the Study

One strength of this study is that the study used Social Ecological Framework which helped the study to capture the views of people from implementers of the strategies such as health care workers, community leaders, parents, teachers and adolescents which are users of contraceptives. This allowed wide gathering of data on key thematic areas. Therefore, the study has managed to bring understanding of areas that influence uptake of contraceptives among adolescents hence the findings can be used to inform further research, policy and practice.

However, there are a number of limitations to the study. First, the findings are from a qualitative sample and are confined to one setting, Nsanje district and may not reflect the views of other locations in Nsanje district and beyond.

CHAPTER SEVEN: CONCLUSION

7.1 Introduction

To optimize uptake of contraceptives among adolescents aged 15-19 years this study highlights the need for interventions that consider not only individual but also their environment which include various people and places as deliverers of contraceptives at individual, community and institutional level. In addition, our study found the need for promotional strategies at individual and community level to influence adolescents to use the people and places for delivering contraceptives. Furthermore, interventions at institutional level such as providing adolescent health separate from adults through adolescent centered units (one stop center) may contain health worker challenges in prioritizing and negotiating with adolescents when delivering health services. Nevertheless, in culturally contextualized society, bylaws and penalties for teen pregnancies by traditional leaders in collaboration with health sector may optimize uptake of contraceptives. Partnerships with local private drug stores may optimize uptake by removing access obstacles such as cost.

7.2 Implications of Study Findings

The following are implications of the study on various stakeholders at individual, interpersonal, community and organizational or policy level:

- Provide various outlets other than the hospital for delivering contraceptives to adolescents.
- Traditional leaders to formulate bylaws and establish sanctions or penalties to adolescents and their parents for not attending youth clubs and centers and for teen pregnancy

- Government and implementing partners to collaborate and partner with private owners of pharmacy and drug store to enhance enabling environment for providing contraceptives.
- Integrate adolescent contraceptive provision with existing health services and school health programs.
- Government to bring back school health nurses in schools to facilitate delivery of school health services including contraceptive use.
- Formulate and enforce policies that promote training of health workers on adolescent SRH in training schools.
- Capacity building on family planning providers regarding supply chain management of contraceptives.
- Rigorous supply chain management of contraceptives targeting adolescents.

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APPENDICES

Appendix 1: Consent and Assent Forms

1.1 Informed Consent Form for Health Care Workers English Version 1, 17 July, 2019 Study Title: Assessment of strategies to improve uptake of Contraceptives among adolescents aged 15-19 years in Nsanje District, Malawi.

Principal Investigator:

Andrew Makwinja, Master of Science Global Health Implementation student, College of Medicine.

Research Supervisor:

Dr Linda Nyondo-Mipando; Health Systems Specialist, College of Medicine.

What you should know about this study

You are asked to take part in this study. The research study is being conducted to explore strategies that may improve uptake of contraceptives among adolescents age 15-19 years. Therefore, you are asked to take your time to read this consent form to understand the purpose of the study, study procedures and the part you will perform as a participant. You are also informed that your participation in the study is voluntary and encouraged to accept to participate or not.

The investigator of this study is Mr Andrew Makwinja, Master of Global Health Implementation student at University of Malawi, College of Medicine. Before making a decision to take part in this study we would like you to have information on the purpose of this study, potential risks and benefits of you participating in this study and our expectation from you as a participant. You are encouraged to ask questions on the information provided. Upon understanding the information provided you are then asked whether to take part or not. In the case that you have decided to participate, your will be given two copies of consent form to sign. One copy will be given to you and another will be kept by the researcher.

Purpose of the study

The main objective of the study is to explore strategies that may improve uptake of contraceptives among adolescents aged 15-19 years in Nsanje district, Malawi. These factors can be attributed to consumer performance and the health system. Therefore, your views on this will help to inform policy and improve adolescent Sexual and Reproductive Health service delivery.

Study procedures

In the first place the researcher is going to ask you to consent your participation in the study by signing the consent form. Then the researcher is going to ask you to provide personal information to ascertain your eligibility. Lastly, you will be asked to respond to questions on contraceptive use among adolescents.

Risks and discomfort

There will be minimal risks and discomforts you may experience from participating in this study. Although, you are asked to provide clear explanation your free to keep some information you think you cannot share. Despite, this you are encouraged to provide as much information on contraceptive use among adolescents. The interviews will be conducted in private and that the recorded interview will be given an identity rather than your name to ascertain confidentiality. In case of the situation that someone know your participation in this study you are assured of anonymity through the identification number your voice will be accorded, hence not knowing your responses.

Potential benefits

There will be no physical benefits you will obtain from your participation. However, the information you will provide will help in improving population health making Sexual and Reproductive Health services among adolescents available and accessible to people.

Reasons why you may be withdrawn from the study without your consent

There are two things which can halt your participation in this study. These are; the study has been stopped by College of Medicine Research Ethics Committee (COMREC) and in the situation that the study is harmful to you.

Costs and compensation

You are informed that you will not receive any money or any item from participating in this study.

You are encouraged to make a decision not to participate if this will not affect you in any way.

Confidentiality

Information you will provide as a participant will be kept confidential through a Computer with password known to the Principal Investigator and Research supervisors. The interview will be accorded privacy and that the recorded interview will be assigned an Identification number.

Research related injury

If it happens that you have been injured while participation in this study, you will be directed to places you can get treatment. Also, note that you will not be compensated for the injury.

Problems or questions

If you have any questions regarding this study, please contact:

- The researcher, Mr Andrew Kondaine Makwinja at Nsanje District Hospital Office on 088 44 66 093
- The research supervisor, Dr Linda Nyondo-Mipando on 0999 44 12 12

In case of concerns or questions about your rights as a study participant, contact:

• The Chairperson, College of Medicine Research Ethics Committee, University of Malawi College of Medicine, Blantyre Campus on 01 871911

SIGNATURE

If you understood the information, and you voluntarily agree to take part in this study, please validate your voluntary participation by signing your name below.

_____ _____

Participant Name (print) Participant Signature and Date

_____ _____

Researcher Name (print) Researcher Signature and Date

_____ _____

Witness Name (print) Witness Signature and Date
(As appropriate)

1.2 Informed Consent Form for Community Leaders English Version 1, 17 July, 2019 Study Title: Assessment of strategies to improve uptake of Contraceptives among adolescents aged 15-19 years in Nsanje District, Malawi.

Principal Investigator:

Andrew Makwinja, Master of Science Global Health Implementation student, College of Medicine.

Research Supervisor:

Dr Linda Nyondo-Mipando; Health Systems Specialist, College of Medicine.

What you should know about this study

You are being asked to join a research study. This consent form explains the research study and your part in the study. Please read it carefully and take as much time as you need. Please note that your participation in this study is entirely voluntary and you may decide not to take part or to withdraw from this study at any time. There will be no penalty if you decide to quit the study. During the study, we will tell you know if we learn any new information that might affect whether you wish to continue to be in the study or not.

The main objective of the study is to explore strategies that may improve uptake of contraceptives among adolescents aged 15-19 years in Nsanje district, Malawi. These factors can be attributed to consumer performance and the health system. Therefore, your views on this will help to inform policy and improve adolescent Sexual and Reproductive Health service delivery.

Before you decide if you want to be a part of this study, we want you to understand the study. The study staff will talk with you about this information. You are free to ask questions about this study at any time. Before you decide whether to take part in this research study, you need to know the purpose, the possible risks and benefits to you, and what will be expected of you during the study. After the study has been fully explained to you, you can decide whether or not you want to participate. Once you understand this study, and if you agree to take part, you will be asked to sign this consent form or make your mark in front of someone. You will be offered a copy of this form to keep.

Purpose of the study

The main objective of the study is to explore strategies that may improve uptake of contraceptives among adolescents aged 15-19 years in Nsanje district, Malawi. These factors can be attributed to consumer performance and the health system. Therefore, your views on this will help to inform policy and improve adolescent Sexual and Reproductive Health service delivery.

Study Procedures

About 8 local leaders will be asked to attend Focus group discussion. The discussion will be done once and there will be no follow up discussions. The research staff will facilitate the discussions and will also collect some demographic details on a questionnaire. If you agree to join this study, you will be asked to be at Nsanje District Hospital so that you participate in Focus Group Discussions. Focus Group Discussion comprises unstructured interviews with a small group of people. You will belong to a group of local leaders within Nsanje district.

If you are interested to participate in this study you will need to meet some requirements. Firstly, we will ask you to sign or thumb print this consent form. Secondly, we will collect some information about you such as age, tribe, religion, where you live and your nature of work apart from being local leader.

Risks and or discomforts

We do not anticipate major risks. Some discussions may be sensitive and you are free not to answer. However, we encourage you to answer all questions because it will help us to understand your views as community leaders on strategies for optimsing uptake of contraceptive use among adolescents. We will make every effort to protect your privacy and confidentiality while you are in the study and we will not use your name in the study summaries. However, your group members may know of your views on the subject since the discussions will be in a group. We will ask all group members not to discuss whatever is discussed in the sessions outside of the session however we cannot guarantee compliance to that. The discussions will take place in private.

Potential benefits

There will be no physical benefits you will obtain from your participation. The discussion will take place at the hospital because it is convenient to all the villages therefore you will not be given

anything. However, the information you will provide will help in improving population health making Sexual and Reproductive Health services among adolescents available and accessible to people.

Reasons why you may be withdrawn from the study without your consent

There are two things which can halt your participation in this study. These are; the study has been stopped by College of Medicine Research Ethics Committee (COMREC) and in the situation that the study is harmful to you.

Costs and Compensation

There is no cost associated with this study and you will not receive payment for participation. At the end of the discussion we will reimburse your transport costs. You are free not to participate in the study. This will not affect your job or regular health care at this hospital.

Confidentiality

Efforts will be made to keep the questionnaires and recordings of the interviews confidential to the extent permitted by law. However, we cannot guarantee absolute confidentiality. You will be identified by a code. Your name will not be used in any publication of this study. The recorded discussions will only be used for research purposes and once those requirements are met they will be erased. After the discussions, the consent form will be kept as per COMREC guidelines. During the discussions you will use codes and not your real names. The study records will be kept in a locked cabinet in the Researcher Supervisor's office at the College of Medicine. However, your records may be reviewed by Supervisors, study staff, the Malawi Ministry of Health, and the Malawi College of Medicine Research Ethics Committee (COMREC).

Research Related Injury

It is unlikely that you will be injured as a result of being in this study, however if you are injured as a result of being in this study, the study staff will give you immediate necessary treatment for your injuries. You will not have to pay for this treatment. You will then be told where you can get additional treatment for your injuries, if needed. There is no program for monetary compensation or other forms of compensation for such injuries through this study. You do not give up any legal rights by signing this consent form.

Problems or Questions

For questions about this study or a research-related injury, contact:

The researcher, Mr Andrew Kondaine Makwinja at Nsanje District Hospital Office on 088 44 66 093

Dr Linda Nyondo-Mipando, Research Supervisor. Located at the College of Medicine, Department of Health systems and Policy, phone number 0999 44 1212

For questions about your rights as a research subject, contact:

The Chairperson, College of Medicine Research Ethics Committee. Located at the Malawi College of Medicine, phone 01-871-911

SIGNATURE

If you understood the information, and you voluntarily agree to take part in this study, please validate your voluntary participation by signing your name below.

_____ _____

Participant Name (print) Signature and Date

Participant thumb print

_____ _____

Researcher Name (print) Researcher Signature and Date

_____ _____

Witness Name (print) Witness Signature and Date (As appropriate)

1.2.1 Community Leaders Informed Consent Form Chichewa Version 1, 17 July, 2019

KALATA YOPEMPHA CHILOLEZA KWA AKULUAKULU AMUDZI

Iwerengedwe (mokweza) ndi kuperekedwa kwa otenga nawo mbali mu kafukufuku kuti atengere kunyumba.

Mawu otsogolera okhudza kafukufukuyi

Tikukukupemphani kuti mudzatenge nawo mbali mukafukufuku ofuna kupeza njira zothandiza kuti achinyamata apeze chithandizo cha kulera kuti apewe pakati makamaka pakati pa achinyamata azaka pakati pa khumi ndi zisanu ndi khumi ndi mphambu zisanu ndi zinayi.

Kodi cholinga cha kafukufukuyu ndi chiyani?

Cholinga chenicheni cha kafukufukuyu ndi kupeza njira zosiyanasiyana zomwe zingathandize achinyamata kupeza thandizo lakulera mosavuta poona kuti ana ambiri a zaka a pakati pa khumi ndi zisanu komanso khumi ndi mphambu zisanu ndi zinayi akusiya sukulu msanga kamba koti ali ndi mimba kapena pakati.

Kodi kafukufuku akuchitikira kuti?

Kafukufukuyu akuchitikira m'boma lino la Nsanje pa chipatala cha chikulu ndinso kusukulu ya sekondale ya Nyamadzere.

Kodi kafukufukuyu achitika bwanji?

Pofuna kukwaniritsa zolinga za kafukufuku, muzapemphedwa kuti mudzayankhe mafunso kudzera muzokambirana pagulu la mafumu osachepera asanu ndi atatu omwe akonzedwa ndi cholinga chopereka chithunzithunzi cha mmene njira zomwe zingathandize achinyamata kupeza njira zakulera ndikugwiritsa ntchito kulera mosavuta.

Zovuta kapena zosowetsa mtendere mu kafukufuku

Sitikuyembekezera zovuta zina zilizonse zokhudzana ndi kafukufukuyu. Mfundo kapena mayankho onse omwe mudzapereke inu zidzasungidwa mwa chinsinsi. Palibe wina aliyense amene sali wakafukufuyi amene azadziwe mfundo kapena zoyankha zomwe tapeza.

Kodi phindu lotenga nawo mbali mu kafukufuku ndi chiyani?

Potenga nawo mbali mukafukufukuyi, mukuthandizira kupereka ukadawuro wapamwamba umene ungathandize kuti uomoyo wa achinyamata tatchulawa upite patsogolo pakupewa kutenga mimba msanga. Izi zizathandizira kuti achinyamata apitilize maphunziro awo popanda chowasokoneza komanso kawateteza kuzovuta zimene zimabwera chifukwa chakutenga mimba akadali achichepere monga, matenda otaya mikodzo and chimbudzi kuchokera malo osayenera, imfa za a amayi kamba ka uchembere, kumwalira kwa mwana wobadwayo komanso umphawi chifukwa choti sanaphunzire. Palibe malipilo a ndalama yina yiliyonse yomwe mudzapeze kamba kotenga nawo mbali mu kafukufukuyi. Mudzapatsidwa zakumwa zoziziritsa kukhosi ndi zodyela zake panthawi ya zokambirana ku malo komwe kafukufukuyi adzachitikire. Wopangitsa kafukufuku ndi amene adzibwera ku chipatala cha Nsanje chomwe chili pafupi ndi komwe mumakhala ndiye chifukwa cha chimenechi sipadzakhala kupepesedwa chifukwa choti mwayenda kufika kumalo a kafukufuku. Komanso wopangitsa kafukufuku alibe bungwe lililonse lomuthandiza pakafukufukuyi akudalira ndalama zopeza yekha ndiye sangakwanitse kupereka ndalama mmene kufunikira.

Kutenga nawo mbali mu kafukufuku

Kutenga nawo mbali mukafukufukuyu ndi kodzipereka nokha. Ngati mutasankha kuti kusatenga nawo mbali mukafukufuyi mudzapitilabe kulandila chinthandizo chomwe chimapelekedwa ku chipatala.

Zikomo kwambiri

Ngati muli ndi mafunso kapena mukufuna kudziwa zambiri zokhudza kafukufukuyi chonde funsani:

The Chairperson, College of Medicine Research and Ethics Committee, P/Bag 360, Blantyre.

Telephone: 01 871911

Andrew Makwinja, Nsanje District Hospital, Box 30, Nsanje. Cell: +265 88 44 66 093. Email:

andrewmakwinja@gmail.com

Tsamba losayina

Ndapemphedwa kupereka chibvomerezo chotenga nawo mbali mukafukufukuyi zimene zitandipatse kuthekere kopanga nawo zokambirana. Ndawerenga zonse za nkafukufukumu ndiponso andiwerengeranso. Ndinapatsidwa mpata wofusa mafunso ndipo mafunso anga onse ayankhidwa ndipo ndakhutira ndimayankho operekedwawo. Ndapereka chibvomerezo kuti nditha kutenga nawo mbali mu kafukufukuyi.

Tsindikizani dzina la mtsogoleri _____

Siyini ya mtsogoleri _____

Tsiku_____

tsiku/mwezi/chaka

Ngati sangakwanitse kulemba; CHIDINDO CHA CHALA CHACHIKULU CHA KUMANJA

Mboni yodziwa kulemba yiwasayinile (ngati nkotheka, munthuyo asankhidwe ndi eni ake wokhuzidwa ndi wina aliyense wopangitsa kafukufuku). Iwo amene sadziwa kulemba adindenso chibvomerezo ndi chala chachikulu.

Ine ndaonerera kuwerengedwa komveka bwino kwa chibvomerezo chotenga nawo mbali

mukafukufuku ngati mfumu ndipo mwai unalipo wofunsa mafunso. Ndikuperekera umboni kuti sindinakakamizidwe mwanjira yiliyonse.

Dzina la mboni_____ NDI Chala cha chikulu chodindira

Sayini ya mboni _____

Tsiku _____

Tsiku/mwezi/chaka

Zonena za wopanga kafukufuku kapena wotenga mbali

Ndawawerenga bwino lomwe ngati kholo zokhudza wotenga mbali mukafukufuku ndipo mwakuzindikira kwanga ndayesetsa kuti atsogoleriwa amvetsetse ndipo zochitika ngati izi:

1.----------

2.----------

3.----------

(mwachidule kusonyeza kuti amvetsetsadi)

Ndikutsindika kuti atsogoleri a mmudzi anapatsidwa mpata wofunsa mafunso okhudza za kafukufuku ndipo mafunso onse omwe anafunsidwa ayankhidwa momveka bwino. Ndikutsimikizira kuti wina aliyense sanakakamizidwe kuti apereke chibvomerezo ndipo kuti chibvomerezo chaperekedwa mwaulere ndiponso mwakufuna kwa munthu aliyense.

Dzina la ofufuza/kapena wotenga nawo mbali_____

Chivomerezo choti kalatayi ndisayinira----------kapena ayi---------

1.3 Informed Consent Form for Teachers English Version 1, 17 July, 2019

Study Title: Assessment of strategies to improve uptake of Contraceptives among adolescents aged 15-19 years in Nsanje District, Malawi.

Principal Investigator:

Andrew Makwinja, Master of Science Global Health Implementation student, College of Medicine.

Research Supervisor:

Dr Linda Nyondo-Mipando; Health Systems Specialist, College of Medicine.

What you should know about this study

You are asked to take part in this study. The research study is being conducted to explore strategies that may improve uptake of contraceptives among adolescents age 15-19 years. Therefore, you are asked to take your time to read this consent form to understand the purpose of the study, study procedures and the part you will perform as a participant. You are also informed that your participation in the study is voluntary and encouraged to accept to participate or not.

The investigator of this study is Mr Andrew Makwinja, Master of Global Health Implementation student at University of Malawi, College of Medicine. Before making a decision to take part in this study we would like you to have information on the purpose of this study, potential risks and benefits of you participating in this study and our expectation from you as a participant. You are encouraged to ask questions on the information provided. Upon understanding the information provided you are then asked whether to take part or not. In the case that you have decided to participate, your will be given two copies of consent form to sign. One copy will be given to you and another will be kept by the researcher.

Purpose of the study

The main objective of the study is to explore strategies that may improve uptake of contraceptives among adolescents aged 15-19 years in Nsanje district, Malawi. These factors can be attributed to

consumer performance and the health system. Therefore, your views on this will help to inform policy and improve adolescent Sexual and Reproductive Health service delivery.

Study procedures

In the first place the researcher is going to ask you to consent your participation in the study by signing the consent form. Then the researcher is going to ask you to provide personal information to ascertain your eligibility. Lastly, you will be asked to respond to questions on contraceptive use among adolescents.

Risks and discomfort

There will be minimal risks and discomforts you may experience from participating in this study. Although, you are asked to provide clear explanation your free to keep some information you think you cannot share. Despite, this you are encouraged to provide as much information on contraceptive use among adolescents. The interviews will be conducted in private and that the recorded interview will be given an identity rather than your name to ascertain confidentiality. In case of the situation that someone knows your participation in this study you are assured of anonymity through the identification number your voice will be accorded, hence not knowing your responses.

Potential benefits

There will be no physical benefits you will obtain from your participation. However, the information you will provide will help in improving population health making Sexual and Reproductive Health services among adolescents available and accessible to people.

Reasons why you may be withdrawn from the study without your consent

There are two things which can halt your participation in this study. These are; the study has been stopped by College of Medicine Research Ethics Committee (COMREC) and in the situation that the study is harmful to you.

Costs and compensation

You are informed that you will not receive any money or any item from participating in this study.

You are encouraged to make a decision not to participate if this will not affect you in any way.

Confidentiality

Information you will provide as a participant will be kept confidential through a Computer with password known to the Principal Investigator and Research supervisors. The interview will be accorded privacy and that the recorded interview will be assigned an Identification number.

Research related injury

If it happens that you have been injured while participation in this study, you will be directed to places you can get treatment. Also, note that you will not be compensated for the injury.

Problems or questions

If you have any questions regarding this study, please contact:

• The researcher, Mr Andrew Kondaine Makwinja at Nsanje District Hospital Office on 088 44 66 093

• The research supervisor, Dr Linda Nyondo-Mipando on 0999 44 12 12

In case of concerns or questions about your rights as a study participant, contact:

• The Chairperson, College of Medicine Research Ethics Committee, University of Malawi College of Medicine, Blantyre Campus on 01 871 911

SIGNATURE

If you understood the information, and you voluntarily agree to take part in this study, please validate your voluntary participation by signing your name below.

_____ _____

Participant Name (print) Participant Signature and Date

_____ _____

Researcher Name (print) Researcher Signature and Date

_____ _____

Witness Name (print) Witness Signature and Date
(As appropriate)

1.4 Informed Consent Form for Parents for Adolescents age 15-17 years English Version 1, 17 July, 2019

Study title: Assessment of Strategies that may improve uptake of contraceptives among adolescents (15-19 years) in Nsanje District, Malawi.

My name is Andrew Makwinja, A Master of Science in Global Health Implementation student at College of Medicine and I am conducting the research project at Nsanje District Hospital, Nyamadzere Community Day Secondary School and I would like to ask if you can give permission to interview your child.

This Informed Consent Form has two parts:

- Information Sheet (to share information about the study with you)
- Certificate of Consent (for signatures if you agree that your child may participate)

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

Information Sheet

Introduction

I would like to ask if you can give permission to interview your child. You may talk to anyone you feel comfortable talking with about the research and you can take time to reflect on whether you want your child to participate or not. Be assured that if you do not understand some of the words or concepts, I will take time to explain them as you go along and that you may ask questions now or later.

Purpose of this study

We want to find better ways to find out strategies that people feel might increase use of contraceptives among adolescents. Sexuality education and Youth Friendly Health Services are current strategies available but still research shows that contraceptives use is low in Malawi. We are hoping that this research will improve strategies that are used to reach adolescents when it comes to contraceptive use.

Study risks

There are no anticipated any risks associated with this study. You are free not to participate in the study if you prefer not to. All the information you give will be kept confidential. We will not share the information you give us with anyone not involved in the study.

What are the benefits of your participation?

You may not directly benefit from your participation in the study, however you will contribute to how adolescent sexual and reproductive health can be improved thereby helping in reduction of early school dropout, teen pregnancies and maternal/neonatal morbidity and mortality.

Selection of Participants

We want to talk to many teenagers about their health particularly on the strategies which they feel will provide them with opportunity to access and use contraceptives while at school and out of school. We would like to ask your child to participate because he/she is a teenager and lives in this area.

Voluntary Participation

You do not have to agree that your child can talk to us. You can choose to say no and that will not change anything. We know that the decision can be difficult when it involves your children. And it can be especially hard when the research includes sensitive topics like adolescent contraceptive use. You can ask as many questions as you like and we will take the time to answer them. You don't have to decide today. You can think about it and tell me what you decide later.

Procedure

Your child will be one of the adolescents to be interviewed. The interview will be done by the Principal Investigator and research assistants.

To ensure that the participants are comfortable, we will also answer questions about the research study that they might have. Then we will ask questions about what do they know about sexual and reproductive health. We will talk about where they got the information from. We will encourage them to talk about sexual and reproductive health things like premarital sex abstinence and contraceptive use. These are the types of questions we will ask. We will not ask them to share personal stories or anything that they are not comfortable sharing.

The interview will take place at Nyamadzere Community Day Secondary School and Nsanje District Hospital.

The interview will be audio-recorded, but no-one will be identified by name on the recordings. The audios will be kept be kept in a lockable cupboard. The information recorded is confidential, and no one else except the researcher will be allowed to listen to the audios. The audios will be destroyed after 5 years.

Reimbursements

Your child will not be provided with anything to take part in the research. However, he/she will be given some soft drinks and snacks during the time of interview since it will be after classes. The researcher will visit them at school and the hospital so that they do not incur any travel costs. In addition, this research project is not funded by any organization so the researcher will not manage to find money to compensate the participants for their time.

Confidentiality

We will not be sharing information about your child outside the research team. The information that we collect from this research project will be kept confidential. Information about your child that will be collected from the research will be put away and no-one but the researchers will be able to see it. Any information about your child will have a number on it instead of his/her name. Only the researchers will know what his/her number is and we will lock that information up with a lock and key. It will not be shared with or given to anyone except the researcher, COMREC and my supervisor will have access to the information.

Dissemination of Research Findings

At the end of the study, we will be sharing what we have learnt with all the participants and with the community. We will do this by meeting first with all the participants and then with the larger community. Nothing that your child will tell us today will be shared with anybody outside the research team, and nothing will be attributed to him/her by name. A written report will also be given to the participants which they can share with their families. We will also publish the results in order that other interested people may learn from our research.

Right to refuse or withdraw

You may choose not to have your child participate in this study and your child does not have to take part in this research if he/she does not wish to do so. Choosing to participate or not will not affect either your own or your child's education from the involved schools in any way. You and your child will still have all the benefits that would otherwise be available at these primary schools. Your child may stop participating in the interview at any time that you or he/she wish without either of you losing any of your rights here.

Who to Contact

If you have any questions you may ask them now or later, even after the study has started. If you wish to ask questions later, you may contact any of the following:

The Chairperson, College of Medicine Research and Ethics Committee, P/Bag 360, Blantyre. Telephone: 01 871911

Andrew Makwinja, Nsanje District Hospital, P.O. Box 30, Nsanje Cell: 0884466093. Email:

andrewmakwinja@gmail.com

SIGNATURE PAGE

I have been asked to give consent for my daughter/son to participate in this research study which will involve her completing one interview and I have red the foregoing information, or it has been red to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily for my child to participate as a participant in this study.

Print Name of Parent or Guardian _____

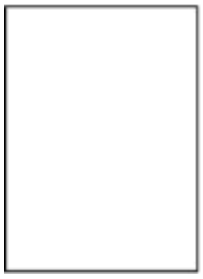
Signature of Parent_____

Guardian_____

Date _____

Day/month/year

If participant is illiterate: Use Thumb print of participant



If illiterate

A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumb print as well.

I have witnessed the accurate reading of the consent form to the parent of the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____

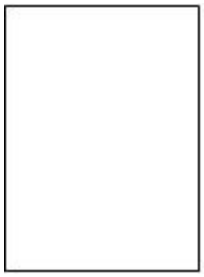
Signature of witness _____

Date _____

Day/month/year

AND

Thumb print of participant



Statement by the researcher/person taking consent

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

1……..

2……..

3……..

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

A copy of this Informed Consent Form has been provided to the parent or guardian of the participant.

Print Name of Researcher/person taking the consent_____

2.4.1 Parental Consent Form Chichewa Version 1, 17 July, 2019

TSAMBA LA CHILOLEZO CHOTENGA NAWO MBALI MU KAFUKUFUKU KUPITA KWA MAKOLO A ANA A ZAKA KHUMI NDI ZISANU NDI KHUMI NDI ZISANU NDI ZINAYI

Iwerengedwe (mokweza) ndi kuperekedwa kwa otenga nawo mbali mu kafukufuku kuti atengere kunyumba ndikukawapatsa makolo kapena wachikulire owayang'anira.

Mawu otsogolera okhudza kafukufukuyi

Tikukukupemphani kuti mwana wanu adzatenge nawo mbali mukafukufuku ofuna kupeza njira zomwe zingathandize kuti achinyamata angagwiritse ntchito kuti apeze ndi kugwiritsa ntchito njira zakulera azaka pakati pa khumi ndi mphambu zisanu komanso khumi ndi mphambu zisanu ndi zinayi.

Kodi cholinga cha kafukufukuyu ndi chiyani?

Cholinga chenicheni cha kafukufukuyu ndi kupeza njira zomwe zingathandize kuti achinyamata azipeza ndi kugwiritsa ntchito njira zakulera mosavuta poona kuti atsikana ambiri a zaka a pakati pa khumi ndi mphambu zisanu komanso khumi ndi mphambu zisanu ndi zinayi akusiya sukulu msanga kamba koti ali ndi mimba kapena pakati.

Kodi kafukufuku akuchitikira kuti?

Kafukufukuyu akuchitikira ku Sukulu ya sekondale ya Nyamadzere ndi pa Chipatala chachikulu muno m'boma la Nsanje.

Kodi kafukufukuyu achitika bwanji?

Pofuna kukwaniritsa zolinga za kafukufuku, muzapemphedwa kuti mwana wanu adzayankhe mafunso omwe akonzedwa ndi cholinga chopereka chithunzithunzi cha njira zimene achinyamata a zaka zomwe tatchulazi angapezere ndi kugwiritsa ntchito njira zakulera mosavuta.

Zovuta kapena zosowetsa mtendere mu kafukufuku

Sitikuyembekezera zovuta zina zirizonse zokhudzana ndi kafukufukuyu. Mfundo kapena mayankho onse omwe mudzapereke inu zidzasungidwa mwa chinsinsi. Palibe wina aliyense amene sali wakafukufuyi amene azadziwe mfundo kapena zoyankha zomwe tidzazipeze.

Kodi phindu lotenga nawo mbali mu kafukufuku ndi chiyani?

Potenga nawo mbali mukafukufukuyi, mukuthandizira kupereka ukadawuro wapamwamba umene ungathandize kuti umoyo wa achinyamata pa nkhani zogonana ndi uchembere wabwino upite patsogolo ndi kupewa kutenga mimba msanga. Izi zizathandizira kuti achinyamata apitilize maphunziro awo popanda chowasokoneza komanso kawateteza kuzovuta zimene zimabwera chifukwa chakutenga mimba akadali achichepere monga, matenda otaya mikodzo and chimbudzi kuchokera malo osayenera, imfa za a mai Kamba ka uchembere, kumwalira kwa mwana wobadwayo komanso umphawi chifukwa choti sanaphunzire. Palibe malipilo a ndalama yina yiliyonse yomwe mwana wanu adzapeze kamba kotenga nawo mbali mu kafukufukuyi. Adzapatsidwa zakumwa zoziziritsa kukhosi ndi zodyela zake panthawi ya zokambirana ku sukuluku ndi ku chipatala cha boma la Nsanje. Wopangitsa kafukufuku ndi amene adzibwera ku sukulu kumene mwana wanu akuphunzira kapena ku mudzi kumene mwana wanu amakhala ndiye chifukwa cha chimenechi sipadzakhala kumupepesa chifukwa choti wayenda kufika kumalo a kafukufuku. Komanso wopangitsa kafukufuku alibe bungwe lililonse lomuthandiza

pakafukufukuyi akudalira ndalama zopeza yekha ndiye sangakwanitse kupereka ndalama mmene kufunikira.

Kutenga nawo mbali mu kafukufuku

Kutenga nawo mbali mukafukufukuyu ndi kodzipereka nokha. Ngati mutasankha kuti mwana wanu asatenga nawo mbali mukafukufuyi mudzapitilabe kulandila chinthandizo chomwe chimapelekedwa pa sukulupo ngakhale pa chipatala.

Zikomo kwambiri

Ngati muli ndi mafunso kapena mukufuna kudziwa zambiri zokhudza kafukufukuyi chonde funsani:

The Chairperson, College of Medicine Research and Ethics Committee, P/Bag 360, Blantyre. Telephone: 01 871911

Andrew Makwinja, Nsanje District Hospital, P.O. Box 30, Nsanje. Cell: +265884466093. Email:

andrewmakwinja@gmail.com

Tsamba losayina

Ndapemphedwa kupereka chibvomerezo choti mwana wanga atenge nnawo mbali mukafukufukuyi zimene zitamupatse kuthekere kopanga nawo zokambirana. Ndawerenga zonse za nkafukufukumu ndiponso andiwerengeranso. Ndinapatsidwa mpata wofusa mafunso ndipo mafunso anga onse ayankhidwa ndipo ndakhutira ndimayankho omwe aperekedwa. Ndapereka chibvomerezo kuti mwana wanga kutenga nawo mbali mu kafukufukuyi.

Tsindikizani dzina la kholo/woyang'anira _____

Siyini ya kholo/woyang'anira _____

Tsiku_____

tsiku/mwezi/chaka

Ngati sangakwanitse kulemba chifukwa cha zifukwa monga kusatha kulemba;

Mboni yodziwa kulemba yiwasayinile (ngati nkotheka, munthuyo asankhidwe ndi kholoolo ndipo asakhale wokhuzidwa ndi wina aliyense wopangitsa kafukufuku). Iwo amene sadziwa kulemba adindenso chibvomerezo ndi chala chachikulu.

Ine ndaonerera kuwerengedwa komveka bwino kwa chibvomerezo chotenga nawo mbali mukafukufuku ngati kholo la wachinyamata wa chichepere kwambiri ndipo mwai unalipo wofunsa mafunso. Ndikuperekera umboni kuti sanakakamizidwe mwanjira yiliyonse.

Dzina la mboni_____ NDI

Chala cha chikulu chodindira

Sayini ya mboni _____

Tsiku _____

Tsiku/mwezi/chaka

Zonena za wopanga kafukufuku kapena wotenga mbali

Ndawawerenga bwino lomwe ngati kholo zokhudza mwana wao mwai wotenga mbali mukafukufuku ndipo mwakuzindikira kwanga ndayesetsa kuti makolowo amvetsetse ndipo zochitika ngati izi:

1.----------

2.----------

3.----------

(mwachidule kusonyeza kuti amvetsetsadi)

Ndikutsindika kuti kholo kapena woyang'anira mwana anapatsidwa mpate wofunsa mafunso okhudza za kafukufuku ndipo mafunso onse omwe anafinsidwa ayankhidwa momveka bwino. Ndikutsimikizira kuti wina aliyense sanakakamizidwe kuti apereke chibvomerezo ndipo kuti chibvomerezo chaperekedwa mwaulere ndiponso mwakufuna kwa munthu aliyense.

Kalata ngati yomweyi ya chibvomerezo yaperekedwa kwa kholo/woyang'anira mwana ____

Dzina la ofufuza/kapena wotenga nawo mbali_____

Chibvomerezo choti kalatayi ndisayinira----------kapena ayi--------- Form.

2.5 Assent Form for Adolescents aged 15-17 years- English Version 1, 17 July, 2019

Study Title: Assessment of strategies to improve uptake of Contraceptives among adolescents aged 15-19 years in Nsanje District, Malawi.

Principal Investigator: Andrew Makwinja, Master of Science Global Health Implementation student, College of Medicine.

Research Supervisor: Dr Linda Nyondo-Mipando; Health Systems Specialist, College of Medicine.

This Informed Assent Form has two parts:

Information Sheet (gives you information about the study)

Certificate of Assent (this is where you sign if you agree to participate)

Part I: Information Sheet

Introduction

My name is Andrew Makwinja and I am a Master of Science Global Health Implementation student at University of Malawi College of Medicine. Part of my studies require me to conduct a research. This is the reason I am doing a research to understand your views on strategies for optimising uptake of contraceptives among adolescents to reduce teenage pregnancies which will reduce school dropouts and maternal and neonatal morbidity and mortality. Therefore, we think this research could help tell us that.

I am going to give you information and invite you to be part of a research study. You can choose whether or not you want to participate. We have discussed this research with your parent or guardian and they know that we are also asking you for your agreement. If you are going to participate in the research, your parent or guardian also have to agree. But if you do not wish to take part in the research, you do not have to, even if your parents have agreed.

You may discuss anything in this form with your parents or friends or anyone else you feel comfortable talking to. You can decide whether to participate or not after you have talked it over. You do not have to decide immediately. There may be some words you don't understand or things

that you want me to explain more about because you are interested or concerned. Please ask me to stop at anytime and I will take time to explain.

Purpose of the study

We want to find better ways to find out strategies that people feel might increase use of contraceptives among adolescents. Sexuality education and Youth Friendly Health Services are current strategies available but still research shows that contraceptives use is low in Malawi. We are hoping that this research might bring other strategies apart from the ones currently being used.

Choice of participants

We are asking adolescents who are your age - between 15 and 19 years old - who are living in Nsanje district.

Participation is voluntary

Participation in this study is voluntary. If you decide not to be in the research, its okay and nothing changes. Everything stays the same as before. Even if you say "yes" now, you can change your mind later and its still okay.

Procedures

You will be one of the 18 adolescents to be interviewed. The interview will be done by the Principal Investigator and research assistants. Your name will not be used for identification instead a number will be assigned to you. The interview will be audio-recorded and the audios will be kept in a lockable cabinet. This will be done to ensure that no one identifies you and does not access what you have shared.

We will also answer questions about the research study that you might have. Then we will ask questions about what do you know on sexual and reproductive health. We will talk about where you got the information from. We will encourage you to talk about sexual and reproductive health things like premarital sex abstinence and contraceptive use. These are the types of questions we will ask. We will not ask you to share personal stories or anything that you are not comfortable sharing.

The interview will take place at Nyamadzere Community Day Secondary school and Nsanje District Hospital as well.

I have checked with the child and they understand the procedures _____(initial)) of the Interviewer

Risks

There are no anticipated any risks associated with this study. You are free not to participate in the study if you prefer not to. All the information you give will be kept confidential. We will not share the information you give us with anyone not involved in the study.

Discomforts

If you feel experience discomfort from taking part in the study your free not to take part or continue participating in the study.

I have checked with the child and they understand the risks and discomforts ____(initial)

Benefits

You may not directly benefit from your participation in the study, however you will contribute to how adolescent sexual and reproductive health can be improved thereby helping in reduction of early school dropout, teen pregnancies and maternal/neonatal morbidity and mortality.

I have checked with the child and they understand the benefits_____ (initial) done by the Interviewer

Reimbursements

Your will not be provided with any payment to take part in the research. However, you will be given some soft drinks and snacks during the time of interview since it will be after classes. The researcher will visit you in your respective places meaning school, the hospital and the community so that you do not incur any travel costs. In addition, this research project is not funded by any organization so the researcher will not manage to find money to compensate the participants for their time.

Confidentiality

The interview will be conducted at a place occupied by the interviewer and participant to ensure privacy. The interview will be audio-recorded and the audios will be kept in a lockable cabinet. This will be done to ensure that no one identifies you and does not access what you have shared.

Compensation

If you become sick during the research, we will look after you. We have given your parents information about what to do if you are hurt or get sick during the research.

Sharing the Findings

When we are finished with the research, the results written will be given you and your parents. Afterwards, we will be telling more which include the government, scientists and others, about the research and what we found. We will do this by writing and sharing reports and by going to meetings with people who are interested in the research work conducted.

Right to Refuse or Withdraw

No one will be angry or disappointed with you if you say no. It's your choice. You can think about it and tell us later if you want. You can say "yes" now and change your mind later and it will still be accepted.

Who to Contact

If you have any questions you may ask them now or later, even after the study has started. If you wish to ask questions later, you may contact any of the following:

The Chairperson, College of Medicine Research and Ethics Committee, P/Bag 360, Blantyre. Telephone: 01 871911

Andrew Makwinja, Nsanje District Hospital, P.O. Box 30, Nsanje Cell: 0884466093. Email:

andrewmakwinja@gmail.com

PART 2: Certificate of Assent

I have read this information (or had the information read to me) I have had my questions answered and know that I can ask questions later if I have them.

I agree to take part in the research.

OR

I do not wish to take part in the research and I have not signed the assent below. _____(initialled by child/minor)

Only if child assents:

Print name of child _____

Signature of child: _____

Date: _____

Day/month/year

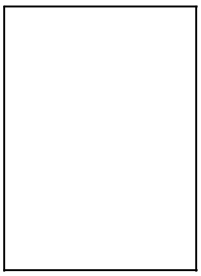
If illiterate:

A literate witness must sign (if possible, this person should be selected by the participant, not be a parent, and should have no connection to the research team). Participants who are illiterate should include their thumb print as well.

I have witnessed the accurate reading of the assent form to the child, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness (not a parent)_____ AND Thumb print of participant

Signature of witness _____



Date _____

Day/month/year

I have accurately read or witnessed the accurate reading of the assent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given assent freely.

Print name of researcher_____

Signature of researcher_____

Date_____

Day/month/year

Statement by the researcher/person taking consent

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

1……

2……

3……

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

A copy of this assent form has been provided to the participant.

Print Name of Researcher/person taking the assent_____

Signature of Researcher /person taking the assent _____

Date _____

Day/month/year

2.5.1 Adolescent Assent Form Chichewa Version 1, 17 July, 2019

KALATA YOPEMPHA CHILOLEZO KUTI MWANA ATENGE NAWO MBALI KUSATIRA KUVOMEREZA KWA MAKOLO KAPENA OMUYANG'ANIRA

Iwerengedwe (mokweza) ndi kuperekedwa kwa otenga nawo mbali mu kafukufuku kuti atengere kunyumba

Mawu otsogolera okhudza kafukufukuyi

Tikukukupemphani kuti muting nawo mbali mukafukufuku ofuna kupeza njira zoti achinyamata apeze komanso agwiritse ntchito kulera mosavuta makamaka pakati pa achinyamata azaka pakati pa khumi ndi mphambu zisanu komanso khumi ndi mphambu zisanu ndi zinayi.

Kodi cholinga cha kafukufukuyu ndi chiyani?

Cholinga chenicheni cha kafukufukuyu ndi kuunika mmene njira zothandiza kuti achinyamata azipeza ndi kugwiritsa ntchito kulera mosavuta poona kuti ana ambiri a zaka a pakati pa khumi ndi mphambu zisanu komanso khumi ndi mphambu zisanu ndi zinayi akusiya sukulu msanga kamba koti ali ndi mimba.

Kodi kafukufuku akuchitikira kuti?

Kafukufukuyu akuchitikira ku m'boma lino la Nsanje pa chipatala cha chikulu ndinso pa Sukulu ya sekondale ya Nyamadzere.

Kodi kafukufukuyu achitika bwanji?

Pofuna kukwaniritsa zolinga za kafukufuku, muzapemphedwa kuti muzayankhe mafunso omwe akonzedwa ndi cholinga chopereka chithunzithunzi cha mmene njira zakulera zikuperekedwera pa achinyamata.

Zovuta kapena zosowetsa mtendere mu kafukufuku

Sitikuyembekezera zovuta zina zirizonse zokhudzana ndi kafukufukuyu. Mfundo kapena mayankho onse omwe mudzapereke inu zidzasungidwa mwa chinsinsi. Palibe wina aliyense amene sali wakafukufuyi amene azadziwe Mfundo kapena zoyankha zomwe tidzazipezo.

Kodi phindu lotenga nawo mbali mu kafukufuku ndi chiyani?

Potenga nawo mbali mukafukufukuyi, mukuthandizira kupereka ukadawuro wapamwamba umene ungathandize kuti maphunzitsidwe a za ubereki akhale abwino othandiza achinyamata kudziwa zenizeni za mmene matupi awo amagwirira ntchito ndi kupewa kutenga mimba msanga. Izi zizathandizira kuti achinyamata apitilize maphunziro awo popanda chowasokoneza komanso kawateteza kuzovuta zimene zimabwera chifukwa chakutenga mimba akadali achichepere monga, matenda otaya mikodzo and chimbudzi kuchokera malo osayenera, imfa za amayi Kamba ka uchembere, kumwalira kwa mwana wobadwayo komanso umphawi chifukwa choti saphunzire.

Kutenga nawo mbali mu kafukufuku

Kutenga nawo mbali mukafukufukuyu ndi kodzipereka nokha. Ngati mutasankha kusatenga nawo mbali mukafukufuyi mudzapitilabe kulandila chinthandizo chomwe chimapelekedwa pa sukulu pano.

Zikomo kwambiri

Ngati muli ndi mafunso kapena mukufuna kudziwa zambiri zokhudza kafukufukuyi chonde funsani:

The Chairperson, College of Medicine Research and Ethics Committee, P/Bag 360, Blantyre. Telephone: 01 871911

Andrew Makwinja, Nsanje District Hospital, P.O. Box 30, Nsanje, Tel: 0884466093. Email:

andrewmakwinja@gmail.com

Tsamba losayinila

Mutu wa kafukufuku:

Assessment of strategies that may improve uptake of contraceptives among adolesents aged 15-19 years in Nsanje district, Malawi.

Chivomerezo cha otenga nawo mbali:

Ine ndawerenga chikalatachi / chikalatachi chawerengedwa kwa ine. Ndauzidwa,zonse zokhudzana ndi kafukufuku ndipo ndikusaina kapena kuika chidindo changa mmusimu kusonyeza kuti ndavomera kuti ine nditenga nawo mbali mukafukufukuyu. Ndamvetsa kuti ine ndikhoza kusiya nthawi ina iriyonse ndipo sipadzakhala chovuta pakutero. Mafunso anga onse ayankhidwa ndipo ndapatsidwa imodzi mwa chikalata kupita nacho kunyumba ngati umboni wanga.

Inde ☐ Ayi ☐

_____ _____ _____

Dzina la otenga nawo mbali Saini Tsiku

_____ _____ _____

Dzina laogwira ntchito ya kafukufuku Saini Tsiku

Wotenga nawo mbali ndi : Wodziwa kulemba ☐ Wosadziwa kulemba ☐

*For illiterate participants, name and date to be completed by study staff below:*_____ _____

Dzina la otenga nawo mbali Tsiku

_____ _____

Dzina la otenga nawo mbali lalembwedwa ndi Tsiku

Witness name, signature and date are required only when the consenting participant is illiterate

_____ _____ _____

Dzina la mboni Saini ya mboni Tsiku

2.6 Informed Consent Form for Adolescents aged 18-19 years-English Version 1, 17 July, 2019

Study Title: Assessment of strategies to improve uptake of Contraceptives among adolescents aged 15-19 years in Nsanje District, Malawi.

Principal Investigator: Andrew Makwinja, Master of Science Global Health Implementation student, College of Medicine.

Research Supervisor: Dr Linda Nyondo-Mipando; Health Systems Specialist, College of Medicine.

This Informed Consent Form has two parts:

Information Sheet (gives you information about the study)

Certificate of Consent (this is where you sign if you agree to participate)

Part I: Information Sheet

Introduction

My name is Andrew Makwinja and I am a Master of Science Global Health Implementation student at University of Malawi College of Medicine. Part of my studies require me to conduct a research. This is the reason I am doing a research to understand your views on strategies for optimising uptake of contraceptives among adolescents to reduce teenage pregnancies which will reduce school dropouts and maternal and neonatal morbidity and mortality. Therefore, we think this research could help tell us that.

I am going to give you information and invite you to be part of a research study. You can choose whether or not you want to participate. You do not have to decide immediately.

There may be some words you don't understand or things that you want me to explain more about because you are interested or concerned. Please ask me to stop at anytime and I will take time to explain.

Purpose of the study

We want to find out strategies that you feel might increase use of contraceptives among adolescents. Sexuality education and Youth Friendly Health Services are current strategies available but still research shows that contraceptives use is low in Malawi among adolescents. We are hoping that this research might improve existing strategies and bring other strategies apart from the ones currently being used.

Choice of participants

We are asking adolescents who are your age - between 15 and 19 years old and are living in Nsanje district.

Participation is voluntary

Participation in this study is voluntary. If you decide not to be in the research, its okay and nothing changes. Everything stays the same as before. Even if you say "yes" now, you can change your mind later and its still okay.

Procedure

You will be one of the adolescents to be interviewed. The interview will be done by the Principal Investigator and research assistants. Your name will not be used for identification instead a number will be assigned to you. The interview will be audio-recorded and the audios will be kept in a lockable cabinet. This will be done to ensure that no one identifies you and does not access what you have shared.

We will also answer questions about the research study that you might have. Then we will ask questions about what do you know on sexual and reproductive health. We will talk about where you got the information from. We will encourage you to talk about sexual and reproductive health things like premarital sex abstinence and contraceptive use. These are the types of questions we will ask. We will not ask you to share personal stories or anything that you are not comfortable sharing.

The interview will take place at Nyamadzere Community Day Secondary school and Nsanje District Hospital.

I have checked with the child and they understand the procedures _____(initial)) of the

Interviewer

Risks

There are no anticipated any risks associated with this study. You are free not to participate in the study if you prefer not to. All the information you give will be kept confidential. We will not share the information you give us with anyone not involved in the study.

Discomforts

If you experience discomfort from taking part in the study your free not to take part or continue participating in the study.

I have checked with the child and they understand the risks and discomforts ____(initial)

Benefits

You may not directly benefit from your participation in the study, however you will contribute to how adolescent sexual and reproductive health can be improved thereby helping in reduction of early school dropout, teen pregnancies and maternal/neonatal morbidity and mortality.

I have checked with the child and they understand the benefits_____ (initial) done by the Interviewer

Reimbursements

Your will not be provided with any payment to take part in the research. However, you will be given some soft drinks and snacks during the time of interview since it will be after classes. The researcher will visit you in your respective places meaning school, the hospital and the community so that you do not incur any travel costs. In addition, this research project is not funded by any organization so the researcher will not manage to find money to compensate the participants for their time.

Confidentiality

The interview will be conducted at a place occupied by the interviewer and participant to ensure privacy. The interview will be audio-recorded and the audios will be kept in a lockable cabinet. This will be done to ensure that no one identifies you and does not access what you have shared.

Compensation

If you become sick during the research, we will look after you.

Sharing the Findings

When we are finished with the research, the results written will be given you and your parents. Afterwards, we will be telling more which include the government, scientists and others, about the research and what we found. We will do this by writing and sharing reports and by going to meetings with people who are interested in the research work conducted.

Right to Refuse or Withdraw

No one will be angry or disappointed with you if you say no. It's your choice. You can think about it and tell us later if you want. You can say "yes" now and change your mind later and it will still be accepted.

Who to Contact in case of concerns

If you have any questions you may ask them now or later, even after the study has started. If you wish to ask questions later, you may contact any of the following:

The Chairperson, College of Medicine Research and Ethics Committee, P/Bag 360, Blantyre. Telephone: 01 871911

Andrew Makwinja, Nsanje District Hospital, P.O. Box 30, Nsanje Cell: 0884466093. Email:

andrewmakwinja@gmail.com

PART 2: Certificate of Consent

Only if adolescent consent

Print name: _____

Signature: _____

Date: _____

Day/month/year

If illiterate:

A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumb print as well.

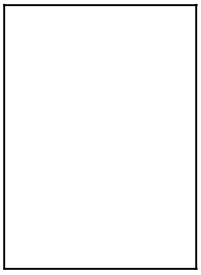
I have witnessed the accurate reading of the consent form to the participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness _____ AND Thumb print of participant

Signature of witness _____

Date _____

Day/month/year



Researcher

I have accurately read or witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of researcher_____

Signature of researcher_____

Date_____

Day/month/year

A copy of this assent form has been provided to the participant.

2.6.1 Adolescent Consent Form Chichewa Version 1, 17 July, 2019

KALATA YOPEREKEDWA KWA OTENGA NAWO MBALI PAKAFUKUFUKU KWA A ZAKA ZAPAKATI KHUMI NDI ZISANU KOMANSO KHUMI NDI MPHAMBU ZISANU NDI ZINAYI

Iwerengedwe (mokweza) ndi kuperekedwa kwa otenga nawo mbali mu kafukufuku

Mawu otsogolera okhudza kafukufukuyi

Tikukukupemphani kuti mutinge nawo mbali mukafukufuku ofuna kupeza njira zoti achinyamata apeze komanso agwiritse ntchito kulera mosavuta makamaka pakati pa achinyamata azaka pakati pa khumi ndi mphambu zisanu komanso khumi ndi mphambu zisanu ndi zinayi.

Kodi cholinga cha kafukufukuyu ndi chiyani?

Cholinga chenicheni cha kafukufukuyu ndi kuunika mmene njira zothandiza kuti achinyamata azipeza ndi kugwiritsa ntchito kulera mosavuta poona kuti ana ambiri a zaka a pakati pa khumi ndi mphambu zisanu komanso khumi ndi mphambu zisanu ndi zinayi akusiya sukulu msanga kamba koti ali ndi mimba.

Kodi kafukufuku akuchitikira kuti?

Kafukufukuyu akuchitikira m'boma lino la Nsanje pa chipatala cha chikulu ndi pa sukulu ya sekondale ya Nyamadzere.

Kodi kafukufukuyu achitika bwanji?

Pofuna kukwaniritsa zolinga za kafukufuku, muzapemphedwa kuti muzayankhe mafunso omwe akonzedwa ndi cholinga chopereka chithunzithunzi cha mmene njira zakulera zikuperekedwera kwa achinyamata.

Zovuta kapena zosowetsa mtendere mu kafukufuku

Sitikuyembekezera zovuta zina zilizonse zokhudzana ndi kafukufukuyu. Mfundo kapena mayankho onse omwe mudzapereke inu zidzasungidwa mwa chinsinsi. Palibe wina aliyense amene sali wakafukufuyi amene azadziwe mfundo kapena zoyankha zomwe muzapereke.

Kodi phindu lotenga nawo mbali mu kafukufuku ndi chiyani?

Potenga nawo mbali mukafukufukuyi, mukuthandizira kupereka ukadawuro wapamwamba umene ungathandize kuti njira zoperekera kulera kwa achinyamata zipite patsogolo ndi kupewa kutenga mimba msanga. Izi zizathandizira kuti achinyamata apitilize maphunziro awo popanda chowasokoneza komanso kawateteza kuzovuta zimene zimabwera chifukwa chakutenga mimba akadali achichepere monga, matenda otaya mikodzo ndi chimbudzi kuchokera malo osayenera, imfa za amayi kamba ka uchembere, kumwalira kwa mwana wobadwayo komanso umphawi chifukwa choti saphunzire.

Kutenga nawo mbali mu kafukufuku

Kutenga nawo mbali mukafukufukuyu ndi kodzipereka nokha. Ngati mutasankha kusatenga nawo mbali mukafukufuyi mudzapitilabe kulandila chinthandizo chomwe chimapelekedwa pa sukulu pano.

Zikomo kwambiri

Ngati muli ndi mafunso kapena mukufuna kudziwa zambiri zokhudza kafukufukuyi chonde funsani:

The Chairperson, College of Medicine Research and Ethics Committee, P/Bag 360, Blantyre. Telephone: 01 871911

Andrew Makwinja, Nsanje District Hospital, P.O. Box 30, Nsanje, Cell: 0884466093. Email:

andrewmakwinja@gmail.com

Tsamba losayinila

Mutu wa kafukufuku:

Assessment of strategies that may improve uptake of contraceptives among adolesents aged 15-19 years in Nsanje district, Malawi.

Chivomerezo cha otenga nawo mbali:

Ine ndawerenga chikalatachi / chikalatachi chawerengedwa kwa ine. Ndauzidwa,zonse zokhudzana ndi kafukufuku ndipo ndikusaina kapena kuika chidindo changa mmusimu kusonyeza kuti ndavomera kuti ine nditenga nawo mbali mukafukufukuyu. Ndamvetsa kuti ine ndikhoza kusiya nthawi ina iliyonse ndipo sipadzakhala chovuta pakutero. Mafunso anga onse ayankhidwa ndipo ndapatsidwa imodzi mwa chikalata kupita nacho kunyumba ngati umboni wanga.

Inde ☐ Ayi ☐

_____ _____ _____

Dzina la otenga nawo mbali Saini Tsiku

_____ _____ _____

Dzina laogwira ntchito ya kafukufuku Saini Tsiku

Wotenga nawo mbali ndi : Wodziwa kulemba Wosadziwa kulemba ☐

☐

*For illiterate participants, name and date to be completed by study staff below:*_____ _____

Dzina la otenga nawo mbali Tsiku

_____ _____

Dzina la otenga nawo mbali lalembwedwa ndi Tsiku

Witness name, signature and date are required only when the consenting participant is illiterate

_____ _____ _____

Dzina la mboni Saini ya mboni Tsiku

Appendix 2: Data Collection Tools

2.1: Enrollment Form English Version 1, 17 July, 2019

Enrollment Form

please complete this form at entry

ID

☐☐☐

Enrollment Date

Day MonthYear

Gender M ☐ F ☐

SOCIO DEMOGRAPHIC HISTORY

□Teacher □Community leader
□Other(Specify)_____

1. How old are you?.....□□ years

(estimate if unsure)

□never married □sepa rated

2. What is your current marital status?

□married □divorced
□living with partner □widowed

3. What is your religion?

□Roman Catholic □CCAP
□Muslim □Pentecostal
□SDA □Baptist
□Anglican
□Other(Specify)_____

4. What is your Tribe?

□Chewa □Lomwe
□Yao □Tumbuka
□Ngoni □Sena
□Other(Specify)_____

5. What is your highest level of education?

□no schooling □grade 1 -8
□Form 1- 4 □attended College/University

6. Are you able to read?.....□yes ....□no

7. What is your occupation?

□RNM □NMT
□Clinical Officer □HSA

8. How long have you been in this job?

□1 -5 years □10 -15 years

□6 -10 years □15+

COMMENTS (please specify item number):

2.2 Semi-Structured Interview Guide for Adolescents English Version 1, 17 July, 2019

1. Introduction of Facilitator and Interview process

- **The facilitator introduces self and explain purpose of the interview**

IDENTIFICATION PARTICULARS

Enrollment Identification Number

Date:

What is your education status?

Attending secondary school: YES NO

Youth Friendly Health Services Status: YES Out of School: YES NO

1. **To identify individual, interpersonal, community strategies that may improve uptake of contraceptive among adolescents aged 15-19 years**.

A. At individual level

Do you know consequences of teen pregnancy?

a. If yes, probe more to ascertain knowledge?

b. Where did you obtain this information?

c. Probe on ways to prevent teen pregnancy

d. What about use of contraceptives

e. Where did you obtain information about contraceptives

f. Have you ever gone to places where they provide contraceptives

g. Probe why? Probe reasons?

h. Probe on solution to each reason

i. What do you think should be done to motivate you to use contraceptives even if your not married

j. Probe on what should be done to motivate more people

a. Which places do you think contraceptives should be available for it to de readily available

b. Probe on what should be done to make sure adolescents are using contraceptives in places you have mentioned

c. Probe on who do you think should be responsible to make sure that your using contraceptives

d. Do you your financial capacity hinders you from accessing contraceptives? What do you think should be done on this challenge

e. Are there other things out there you think are enablers for young people to access contraceptives

B. At Interpersonal level

May you explain ways or methods you can use to motivate your friend or relative to use contraceptives even if they are not married?

What do you think the parents or guardians can do to motivate you to use contraceptives?

What kind of support do you need from the following people to enable you access contraceptives or in what ways can the following help you access contraceptives;

- Parents

- Peers

- Community leaders

May you tell me what should be done to your parents or family to enable you use contraceptives even if you are not married

C. At Community level

What should be done in the community you are coming from to enable you and others to access and use contraceptives?

In relation to your culture what do you think should be done to enable you to access contraceptives?

2. To identify health system and policy strategies that may promote uptake of contraceptive use among adolescents aged 15-19 years.

a. At Society Level

May you tell me what you expect from the hospital to enable you access contraceptives or what do you prefer when at the hospital should be ways health workers can help you access contraceptives

Probe on what do you think should be changed or improved What about in your school what do you think should be done

May you tell me what the government should do or change to ensure that young people have access and are using contraceptives?

Thank the participant for participation and contribution

3.3 Semi-Structured Interview Guide for Teachers English Version 1, 17 July, 2019

1. **Introduction of Facilitator and Interview process**

- **The facilitator introduces self and explain purpose of the interview**

A. To identify individual, interpersonal, community strategies that may improve uptake of contraceptive among adolescents aged 15-19 years.

a. At individual level

1. Experience in providing sexuality education and linking young people with Family Planning Youth Friendly Health Services in school

- Have you undergone formal training, inservice or on job training on sexuality education

b. Interpersonal level

What strategies are there to prevent pregnancy related and early marriage school drop outs among adolescents

- Probe on what strategies are there in the school
- If its sexuality education which subjects are there

c. Community level

What support do you expect from the community to enable young people access and use contraceptives?

- Probe on strategies at adolescent aged 15 -19 as an individual, cognitive or knowledge, structural changes at community level

1. Health facility
2. Parents
3. Religious leaders

4. Traditional leaders

3. To identify health system and policy strategies that may promote uptake of contraceptive use among adolescents aged 15-19 years.

a. At Society Level

- What do you think should be done for to link girls to YFHS in hospitals
- Apart from sexuality education available. What do you think can be other strategies that an increase contraceptive use in your work as a teacher (cognitive or knowledge, structural changes and financial changes) at schools should be done.
- What should be done changed or improved at policy level to enable you as a teacher to increase use of contraceptives among adolescents aged 15-19.

Thank the participant for participation and contribution

2.4 Semi-Structured Interview Guide for Parents English Version 1, 17 July, 2019

D. Introduction of Facilitator and Interview process

- **The facilitator introduces self and explain purpose of the interview**

IDENTIFICATION PARTICULARS

Enrollment Identification Number

Date:

A. To identify individual, interpersonal, community strategies that may improve uptake of contraceptive among adolescents aged 15-19 years.

a. At individual level

- Do you know consequences of teen pregnancy?
- Probe on ways to prevent teen pregnancy
- What about use of contraceptives
- May you tell me if it is worth to discuss this with your child
- Where do you think can your child can obtain contraceptives
- What do you think can be other places or ways that can make contraceptives readily available to your child
- Probe on what should be done to make sure adolescents are using contraceptives in places you have mentioned
- What hinders your child to use contraceptives
- What do you think should be done to motivate your child to use contraceptives even if they not married
- Probe on what should be done to motivate more people

- Do you your financial capacity hinders young people from accessing contraceptives? What do you think should be done on this challenge

- Are there other things out there you think are enablers for young people to access contraceptives

E. At Interpersonal level

May you explain ways or methods you can use to motivate your child to use contraceptives even if they are not married

What kind of support do you need from the following people to enable you motivate access contraceptives or in what ways can the following help you access contraceptives;

- Fellow Parents

- Teachers in schools

May you tell me what should be done to your family to enable you motivate young people use contraceptives even if you are not married

F. At Community level

In relation to your culture, religion, and financial constraints what do you think should be done to enable young people access contraceptives?

B. To identify health system and policy strategies that may promote uptake of contraceptive use among adolescents aged 15-19 years.

a. At Society Level

May you tell me what you expect from the hospital to be changed to enable young people access contraceptives or what do you prefer at the hospital should be ways health workers can help young people access contraceptives

Probe on what do you think should be changed or improved What about in schools what do you think should be done

May you tell me what the government should do or change to ensure that young people have access and are using contraceptives?

Probe on laws

Thank the participant for his or her time

2.5 Semi-Structured Interview guide on Key Informants Health Care Workers English Version 1, 17 July, 2019

1. **Introduction of Facilitator and Interview process**

    - **The facilitator introduces self and explain purpose of the interview**

2. To identify individual, interpersonal, community strategies that may improve uptake of contraceptive among adolescents aged 15-19 years.

A. At individual level

Young people do not have capacity to do or decide they rely on adults to support them from your experience as a health worker what can be ways to empower young people to use contraceptives regardless of their marital status

Probe on financial constraints, cognitive (knowledge) constraints

B. At interpersonal level

As required by laws to provide contraceptives away from schools what do you think should be done by teachers and health care worker to ensure that learners in school access contraceptives use

As a health worker what do you think can be the strategies which can be used to engage parents as gate keepers in the community to allow and motivate young people to use contraceptives?

Probe on what do you think the support can be like from parents

Probe on what should be done to peers or friends to ensure that adolescents are encouraged to use contraceptives by their peers

Probe on what methods should be used by peers to encourage or motivate their counterpart to use contraceptives

C. At community level

what ways can be used to engage community leaders in ensure that young people are using contraceptives

As a health worker what should be done to ensure contraceptives are available for young people in the community

What do they think can make young people access and use contraceptives in the community?

Probe on strategies at adolescent aged 15 -19 as an individual, cognitive or knowledge, structural changes at community level

1. Parents
2. teachers
3. religious leaders
4. traditional leaders

2. To identify health system and policy strategies that may promote uptake of contraceptive use among adolescents aged 15-19 years.

D. Society level

In terms of laws and policy what do you think should be done for contraceptives to be easily accessed by young people

E. Institutional level

What do you think can be structural changes at institution like this hospital should be changed for young people to access contraceptives?

- How long have you been providing Family Planning and YFHS Services
- From your experience what do you think should be done by providers to ensure that young people access and use contraceptives

- What do you think should be done to ensure that they are empowered to do so
- What do you think are major reasons for increased morbidity and mortality in teen pregnancy?
- What is your experience on contraceptive use by adolescents aged 15 -19 years? Married and unmarried?
- Do you think is necessary to ask an adolescent to have contraceptive access when she has come for other services?
- Do you have any guideline to rely on when providing care to adolescents
- Probe on why the health care workers think it is necessary?
- What options are available to prevent teen pregnancy at this facility
    - Probe on contraceptive use
    - As a health worker what do you think can be strategies that can increase use of contraceptive health facility.
    - Explain to me in detail available strategies that are delivered at this facility to ensure adolescents contraceptive use
    - Apart from YFHS available. What do you think can be other strategies that health facility can use to increase contraceptive use in your work as a health worker (cognitive or knowledge, structural changes and financial changes) at health facility should be done.
    - Probe on resources in pharmacy
    - Probe on stock outs, probe on measures when stocks are out. Probe on alternatives to ensure sustainable availability of contraceptives for adolescents
    - In terms of monitoring, probe on any supervision visits to evaluate service delivery to adolescents

- Is there anything else you think is important to share or comment on related to this topic?

Thank the participant for participation and contribution

2.6 Focus Group Discussion (FGD) Guide on Community Leaders English Version 1, 17 July, 2019

Date:

Location:

Time discussion started: Ended:

Total number of participants:

Men: Women:

1. **Introduction of facilitators and FGD process**

    The facilitator introduces her or himself and note taker

    Explain the purpose of the FGD

    Explain rules and format of the FGD. These include; use of numbers instead of actual names for privacy and confidentiality, use of electronic recorder, no right or wrong answer, everything said by anyone will be kept confidential and anonymous, participants to speak truth and are expected to be honest and one person talks at a time.

2. **Introduction of participants**

    Ask participants to mention their name and area of origin

    Ask if there are questions before starting discussion.

3. **Experience about contraceptive use by adolescents**

    What do you think are the reasons behind adolescents dropping out of school?

a) If due to teen pregnancy, probe on what should be done to prevent them from being pregnant while in school.

    Probe on what strategies are there in the community

b) If early marriage what should be done as Community leaders to ensure that adolescents do not have more children in marriage.

- if is about use of contraceptive methods what strategies or changes they wish to be put in place to ensure use of contraceptive

    I. In their communities as leaders?

    II. Parents

    III. Religious leaders

    IV. Individual adolescent

    V. Schools

    VI. Health facility

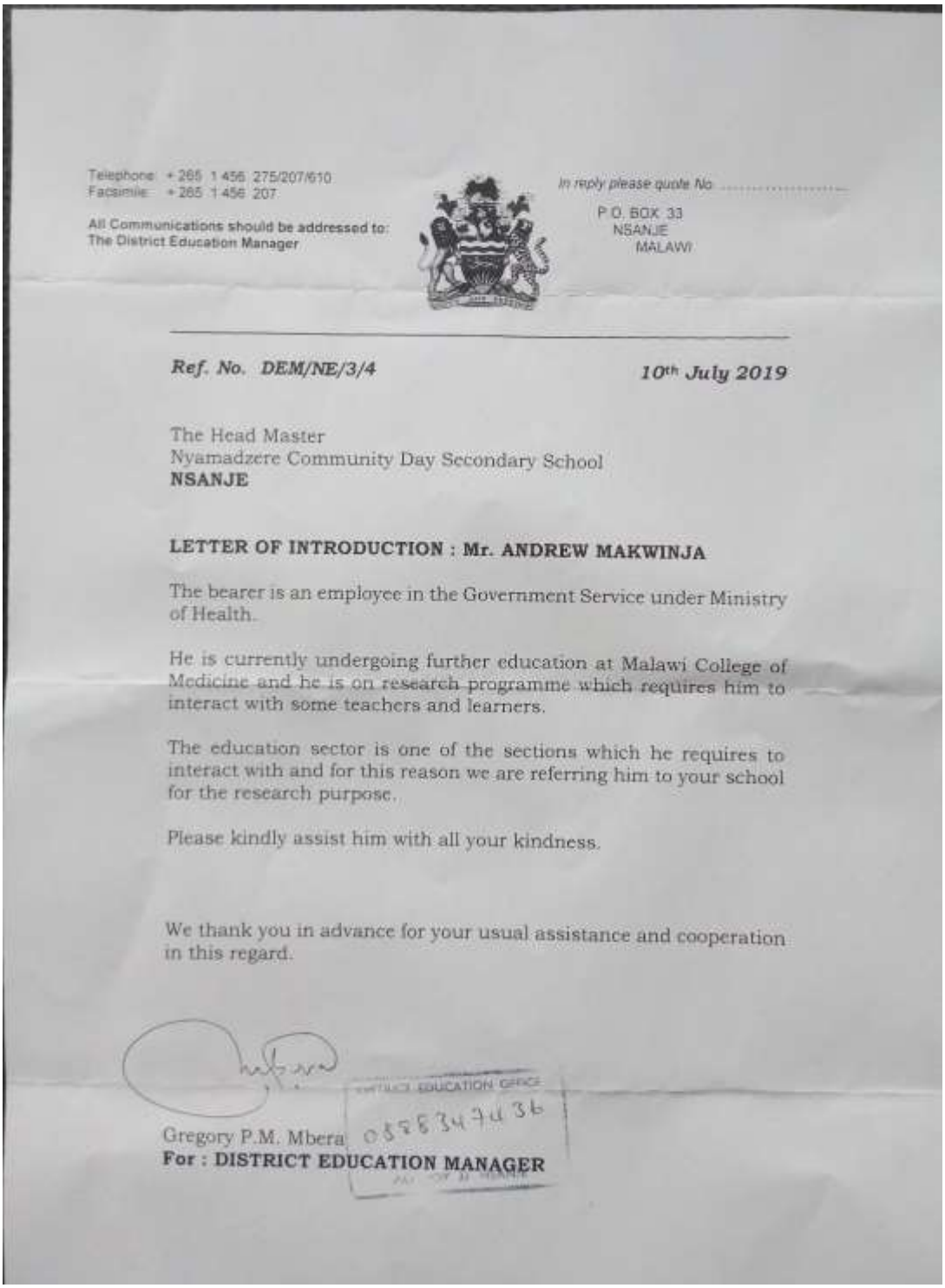
4. Wrap up

- Is there anything else you would like to say relating to the discussion we had

Thank the participants for their time and contribution

Appendix 3: Permission Letters

3.1 PERMISSION FROM THE DISTRICT EDUCATION MANAGER NSANJE



Telephone +265 1 456 275/207/610
Facsimile +265 1 456 207

All Communications should be addressed to:
The District Education Manager

In reply please quote No .....

P.O. BOX 33
NSANJE
MALAWI

Ref. No. DEM/NE/3/4 *10th July 2019*

The Head Master
Nyamadzere Community Day Secondary School
NSANJE

LETTER OF INTRODUCTION : Mr. ANDREW MAKWINJA

The bearer is an employee in the Government Service under Ministry of Health.

He is currently undergoing further education at Malawi College of Medicine and he is on research programme which requires him to interact with some teachers and learners.

The education sector is one of the sections which he requires to interact with and for this reason we are referring him to your school for the research purpose.

Please kindly assist him with all your kindness.

We thank you in advance for your usual assistance and cooperation in this regard.

Gregory P.M. Mbera
For : DISTRICT EDUCATION MANAGER

DISTRICT EDUCATION OFFICE

3.2. PERMISSION FROM THE ACTING DIRECTOR OF HEALTH AND SOCIAL SERVICES NSANJE

Ref. No: NDH/Admin/ref/0063

Tel: 01 456 258

Email: nsanjedho@gmail.com

All Communications to be addressed to: **The Director of Health & Social Services**

Nsanje District Health Office

P.O. Box 30

Nsanje

15th July 2019

The Chairperson, CoMREC, Private Bag 360, Blantyre

Dear Sir

RE: AN ASSESSMENT OF STRATEGIES FOR IMPROVING UPTAKE OF CONTRACEPTIVES AMONG ADOLESCENTS AGE 15-19 IN NSANJE, MALAWI.

Having gone through the protocol for the suggested study, as per the above title; we would like to recommend it for your approval.

We are well aware of the existing conflict of policies between Ministries of Education and Health of the government of Malawi regarding contraceptive use among school going girls; of which the suggested age group of the study is targeting. However, we believe the study could bring out information that would assist in finding a platform where such intervention could be offered to this age group and thereby preventing unwanted pregnancies and allow the girls to go further with their education. We also believe that this is in line with the office's objectives regarding improving maternal and child health.

Your usual cooperation is greatly appreciated.

Yours faithfully

Dr Alexander Chijuwa
Ag Director of Health & Social Services

MINISTRY OF HEALTH
DISTRICT HEALTH OFFICER
15 JUL 19
NSANJE DISTRICT HOSPITAL
P.O BOX 30, NSANJE

PERMISSION FROM NYAMADZERE DAY SECONDARY SCHOOL

From: The Head teacher, Nyamadzere CDSS, P. O. Box 41, Nsanje.

THE HEADTEACHER
NYAMADZERE CDSS
11 JUL 2019
P.O. BOX 41
NSANJE

To: Whom it may concern

Dear Sir,

LETTER OF AUTHORITY: MR. ANDREW MAKWINJA

We hereby write to let you know that we have authorized Mr. Andrew Makwinja to come to our institution to do his research. We also would like to thank him for choosing our school as his sight for this.

I remain.

Yours faithfully,

Leah Zambasa Nyowani

(Head Teacher)

3.4 CERTIFICATE OF APPROVAL

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.08/19/2779 - Assessment of Strategies for improving uptake of Contraceptives among Adolescents aged 15-19 years in Nsanje, Malawi Version 1.0 dated 17 July 2019 by Andrew Makwinja

On 25-Aug-19

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 some of which are indicated on the next page for your study

Approved by College of Medicine
26-Aug-2019
(COMREC) Research and Ethics Committee

25-Aug-19

Dr. YB. Mlombe - Chairperson (COMREC) — Date

Appendix 4: Study Budget

The following list of items is essential to the successful completion of the study (see appendix 3).

Number	Item	Quantity	Unit Price (MK)	Total Price (MK)
1	COMREC Submission fee			(150USD)* (110,250.00)
2	Research Assistants	4	10,000.00	40,000.00
4	COM Administration fee			7300.00 *
5	Audio recorders	4	0	0
6	Transport			20,000.00
7	Ream of papers	1	6,000.00	6,000.00
8	Ball points pens	10	150.00	1500.00
9	A4 Envelopes	10	50.00	500.00
10	Contingency		5,000	5,000.00
Total				190, 550.00

* COM Administration fee calculated as 10% of the total budget

* COMREC Submission fee converted to United States dollars

Appendix 5: Project Logframe

	2019							
MONTHS / ACTIVITIES	4	5	6	7	8	9	10	11
Full Proposal development 2page proposal development	■	■	■					
Proposal submission to COMREC				■				
Feedback from COMREC and corrections				■	■			
Data collection process						■		
Data analysis						■		
Dissertation development							■	
Submission of dissertation to supervisor							■	
Feedback from supervisor and corrections							■	
Dissertation submission								■

Appendix 6: Study Setting Map

The map of Nsanje district in Malawi. Source: B. Chiepa GIS Manager MsF-B

Appendix 7: Manuscript Submitted For Publication: BMC Reproductive Health Journal

Delivery strategies for optimizing uptake of contraceptives among adolescents aged 15-19 years in Nsanje District, Malawi

Authors and affiliations

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[3]Ministry of Health, Nsanje District Hospital, Malawi

[4]Medecins sans Frontieres-Belgium Malawi Mission

[*]Corresponding author

University of Malawi, College of Medicine, Private Bag 360, Chichiri, Blantyre 3, Malawi

Email: andrewmakwinja@gamil.com

Abstract

Background: Despite the documented benefits of contraceptives, uptake among adolescents aged 20-24 years is high compared to the age group 15-19 years in Malawi. As the world's population of 15-19-year-olds continues to grow the need to meet the increasing demand for contraceptive services and information that address adolescent-specific needs cannot be underestimated. To inform Sexual and Reproductive health services for the youth, we explored strategies for optimizing uptake of contraceptives among this age group.

Methods: An exploratory qualitative cross-sectional study was conducted at Nsanje District Hospital and Nyamadzere Community Day Secondary School guided by Social-Ecological Framework to understand strategies that may optimize the uptake of contraceptives among adolescents aged 15-19. Nsanje district was purposively selected based on the reason that it is the second district in Malawi with the highest rate of adolescent childbearing of girls aged 15-19 years. We conducted a Focus Group Discussion (FGD) with 9 traditional leaders, 11 Key Informant Interviews (KIIs) with health workers, 20 In-depth Interviews (IDIs) with 12 adolescents, 4 teachers, and 4 parents. All data were digitally recorded, transcribed verbatim into English. The data was analyzed and managed using deductive thematic analysis guided by Social-Ecological Framework.

RESULTS: Adolescents suggested accessing contraceptives from local drug stores, pharmacies and hospitals at a health system level and through Youth Centres, clubs, and corners at a Community level. There is a need to ensure a continuous supply of various kinds of contraceptives and the presence of youth-friendly health care workers in the specified areas.

CONCLUSION: There is no one way of delivering contraceptives to adolescents. Multiple avenues existent at the health facility and community could be leveraged to optimize delivery and uptake of contraceptives in a manner that is not intimidating to an adolescent while involving key stakeholders.

Keywords: contraceptives, adolescents, strategies, optimizing, delivery.

Plain English summary

Documented evidence shows that contraceptive use prevents pregnancy and childbirth complications which are the leading causes of death among 15 to 19-year-old girls globally. However, the design and implementation of contraceptive service delivery to adolescents among this age group are poorly understood. Therefore, we conducted a study to understand delivery strategies for optimizing uptake of contraceptives among adolescents aged 15-19 years in the rural district of Nsanje, Malawi. We found that adolescents aged 15-19 years need to have strategies through various people and places to optimize the uptake of contraceptives. Hence, collaboration and partnerships between different actors are important to optimize the uptake of contraceptives among adolescents among this age group.

Background

Despite the documented benefits of contraception, World Health Organization (WHO) in 2015 estimated that the global unmet need for contraceptives among adolescents aged 15-19 years is 23 million and that 50% of pregnancies among this age group are unintended [1]. In sub-Saharan Africa (SSA), contraceptive use among adolescents aged 15-19 years in 2014 ranged 21-42% with an unmet need of 53-64% among unmarried while for the married, contraceptive use was at 8-36% with the unmet need of 16-62% [2]. Similarly, in Malawi, the use of contraceptives among adolescents aged 15-19 years is inconsistent with youths aged 20-24 years with 74.8% of women age 20-24 years who were contraceptive users compared to 25.2% of women in the age group 15-19 years [3].

Although adolescents aged 15-19 years old contribute 23% of global maternal mortality in low and middle-income countries, efforts to prevent the occurrence of teenage pregnancies have been suboptimal and otherwise neglected [4]. Hence, adolescents have been identified as a priority group for preventing maternal deaths globally [1]. Evidence shows that closing the unmet need for modern contraception of women aged 15–19 would reduce unintended pregnancies among this age-group by 6 million annually [5]. The closure will avert 2.1 million unplanned births, 3.2 million abortions, and 5,600 maternal deaths [5]. Therefore, increasing the use of contraception among adolescents aged 15-19 years is in tandem with global goals [4].

Several strategies have been employed for adolescents to access contraceptives, such as peer education [6, 7], consumer engagement [6, 8], mass media [7, 9, 10], community-based approaches [11, 12], school-based approaches [13, 14], Comprehensive Sexuality Education [15–18] and youth centers [17, 19]. A study conducted in Malawi advocated for more effective strategies to

address the family planning needs of youth [20]. Most of the studies reported insights from parents, adolescents, and health care workers, these include Youth Friendly Health Services, youth clubs static and outreach as well as community awareness conducted by public hospitals, improving counseling services, integrating family planning services and education within school curricula [20–22]. Given that insight from gatekeepers such as community or traditional leaders on optimizing adolescent contraceptive uptake is limited [3, 20, 22], this study explored strategies to optimize uptake of contraceptives among adolescents age 15-19 years in Nsanje district, Malawi.

Conceptual Framework

This study was guided by the Social-Ecological Framework [23]. The framework recognizes the complex social and environmental system in which individuals exist and how the concentrically larger systems in which they regularly move affect individual behavior at interpersonal, community, organization, and policy levels [23, 24]. Therefore, we used this framework because it allowed identifying strategies from critical areas where decisions on behavior are influenced at an individual (knowledge, attitudes, behaviors), interpersonal (families, friends, and social networks), community (relationships between organizations), institution (organizations and social systems) and policy (national state, local laws) level.

Methods

Study design and setting

An exploratory qualitative cross-sectional study was conducted from September to October 2019 in Nsanje district, Malawi [25]. We conducted a Focus Group Discussions (FGDs) among traditional leaders, Key Informant Interviews (KIIs) among health workers, In-depth Interviews (IDIs) among adolescents, teachers, and parents (Table 1). We conducted the study in Nsanje because it has the highest rates of adolescent childbearing at 38.8% with 41.1% of women and girls aged 15-19 years have begun childbearing, respectively [27]. YFHS and sexuality education in schools through life skills subject are the only strategies available for young people to access contraceptives.

Participant Recruitment

We drew a purposive sample of 40 participants based on their age, expert knowledge, and responsibility [28]. (Table 1). We recruited adolescents aged 15-19 years in schools, out of school, attending YFHS, married or unmarried, and willing to participate in the study and with parental assent. We included parents that have an adolescent within the age band of 15-19 years. We included Health Care Workers working in YFHS and Family Planning with assistance from their facility In-charge. All teachers included either taught Life skills and or Biology subjects and were identified with the assistance of the headteacher. We recruited the traditional leaders with assistance from Health Surveillance Assistant.

Data collection

The PI and Research Assistants collected the data using Interview guides developed from the study objectives and Social-Ecological Framework. All interviews were conducted in private rooms provided by the headteacher at participant convenient time. FGDs were facilitated by AKM and ZMM. We ensured data credibility by employing persistent inquiry using probes and to ensure that questions have been responded adequately [30]. As a form of member check, each interview and the discussion was summarized at the end to ensure quality data and trustworthy [31]. All IDIs, KIIs, and FGDs were conducted in Chichewa, digitally recorded, transcribed, and translated into English. All audios were identified by a number to ensure anonymity and data were stored in a computer protected by a password.

Data Analysis

Interviews were transcribed and translated into English. Data were analyzed using thematic analysis described by Braun and Clarke [32]. Initial interview audios and transcripts were listened to by AKM and ALNM and agreed on an analysis plan. Then codes were deductively generated from the Social-Ecological Framework and study objectives. A coding framework was developed and applied during thematic analysis which involved searching across the transcripts to find repeated patterns and associations on emerging themes [32] focusing on strategies for optimizing contraceptive uptake. Finally, codes were organized under recurring themes of which themes were interpreted by repeated reading of transcripts by AKM. Further, the themes generated were verified against digital recordings and reviewed and discussed with ALNM.

Ethical approval

Ethical approval was obtained from the College of Medicine Research and Ethics Committee (COMREC P.08/19/2779), and institutional permission was granted by Nsanje District Health and Education offices as well as the Nyamadzere Community Day Secondary School Headteacher. Participation in the study was voluntary and written informed consent was obtained from all study participants before the interview and FGDs. Parental Consent and Adolescent assent were obtained from all participants aged below 18 years per regulations that govern research in Malawi.

Results

Demographic characteristics of Traditional Leaders

Nine participants participated in the FGD. Of these, six were males and three were females. In terms of tribe six were Sena, two Mang'anja, and one Yao. In terms of religion, eight were Pentecostals and one Muslim. Seven participants were educated at the secondary school level, and all the participants were self-employed. The median age of the participants was 41. Eight participants were able to read and no participant received training or orientation on adolescent sexual and reproductive health and YFHS.

Demographic characteristics of Health Care Workers

Of the eleven key informants, six were males and five were females. Two of the participants were educated to secondary school level and nine to college level. In terms of occupation, three were Nurse Midwife Technicians, two were Nurse Midwife Technicians with Community Health specialization, two were Health Surveillance Assistants, two were Registered Nurse Midwives and two were Clinicians. One Registered Nurse Midwife was the District's Family Planning

Coordinator and One Clinician was the District's YFHS Coordinator. Two of the respondents had worked for less than 4 years while four had worked for 5-8 years and five for 10-25 years. The median age for key informants was 33.

Demographic characteristics of Teachers

Four teachers participated in the IDIs. Two of the respondents were females and the other two were males. Two of the respondents were married, one was widowed, and one single. In terms of religion two were Catholics, one was Presbyterian and one belonged to the Pentecostal church. Two of the respondents had worked for 13-15 years, one worked for 9 years, and one for 5 years. The median age was 40. No respondent attended training or orientation on adolescent sexual and reproductive health and YFHS.

Demographic characteristics of Parents

Four parents participated in IDIs. Two of the respondents were females and the other two were males. Three of the participants were married and one was widowed. All the four belonged to Pentecostal churches and two of the respondents were educated to the primary school level, one was educated to secondary level and one did not attend formal education. Three were self-employed as farmers and one was a government employee. The median age was 54.5 years. All respondents never heard about adolescent sexual and reproductive health and YFHS before the interviews.

Demographic characteristics of Adolescents

Twelve adolescents participated in IDIs. They were categorized into three; school going, out-of-school, and those attending YFHS and were four in each category. Nine respondents were Pentecostals while two were Presbyterian and one was Adventist. The median age of adolescents was 18 years.

There were two females and two were males in the school going category, and one was in form 2 and the other 3 were in form 3 and all were single in terms of marital status. There were four females in the out-of-school category, one was separated from her partner, one never married and two were married. All of the four out-of-school respondents had a child each. There were two females and two males in the YFHS attendees group. Of these 4, two were school going and the other two were secondary school dropouts and they were all single.

Proposed Strategies for optimizing uptake of contraceptives among adolescents 15-19 years

Participants recommended several strategies for delivering contraceptives among adolescents. The avenues varied from Health system based avenues that could be privately owned pharmacies to community-based spaces. The respondents showed that adolescents are keener to access contraceptives in places that will not lead to unintended disclosure of them using contraceptives which are the case in most hospitals.

Health System Based Delivery Points

Local pharmacy, drug store, and hospital

The local pharmacy, drug store, and hospital were preferred spaces for delivering contraceptives as suggested by participants from all categories with variations in terms of preference on where to get contraceptives. An adolescent in the out-of-school category prefers that contraceptives be accessed at the nearest pharmacy or drug store because of convenience and potential reduction in impeding factors.

> "I think they have to be going to a pharmacy nearby". (19-year-old, Out of school adolescent_1)

When queried regarding the affordability of contraceptives, she further said that adolescents should get contraceptives from community health care workers especially those who may not be financially able to do so.

> "They should use doctors in the villages". (19-year-old, Out of school adolescent_1)

This was also shared by one parent who stated of covert access to contraceptives for their children.

> "Today we see that other health workers are approached secretly by parents to have their children injected contraceptive at their homes they don't want their children to be seen". (50 years old, Male parent)

Notably, the health system requires strengthening for it to effectively deliver contraceptives amongst the youth in the specified areas. This could be done by ensuring that the health facilities are well resourced with contraceptives of various types. Participants suggested that contraceptive

services to adolescents need to be uninterrupted to avert demotivating adolescents from accessing services.

> "We have to make sure all the methods are readily available to avoid frustrations when they find that we do not have we need to be very open and do not discourage them other methods we need to be going for their choices this is not helpful". (Community Health Nurse_2)

Contraceptive service delivery should be strengthened by ensuring that facilities have a conducive environment for adolescents by having a department for adolescent health that provides all the services needed. Some youths report to the facility in School Uniforms hence needing privacy which can be achieved if they have designated spaces.

> "There should be a special room to give all health services in the room for youths where they can come at any time to access what they want because even if you give them special day and time it is difficult they forget the days….apart from that recreation centers in their areas where they go and play they can access contraceptives there and information". (Community Health Worker_1)

Besides, the health system should invest in having health workers that are trained in YFHS delivery who also able to provide integrated adolescent health services for comprehensive health coverage. Further, to strengthen the delivery of contraceptives in culturally contextualized society, bylaws and penalties for teen pregnancies by traditional leaders in collaboration with the health sector may optimize uptake of contraceptives. Some respondents in the KIIs, FGDs, and IDIs suggested that

the introduction of bylaws will promote delivery and use of contraceptives among adolescents to avert teenage pregnancies.

> "Traditional leaders need to make bylaws so that in their villages teen pregnancies should not happen". (Community Health Nurses_2)

"We need to make it an agreement with you health workers at the villages we will introduce penalties and you as well at this hospital those coming with teen pregnancies they have to take a letter from the chief to ensure that they have paid the penalty in that way this will encourage them to use contraceptives". (Male Traditional Leader7_FGD)

Community-Based Delivery Centres

Youth Corners

Some respondents in KIIs suggested that there should be Youth Corners which are placed away from the hospital where adolescents access any service regarding their health.

> "Like here in Nsanje we don't have what we call Youth corners where they can get everything and this a big problem in Nsanje….. these are special rooms constructed separately away from people and at a secret place that one has no special day youths go there and find everything there I mean any health service there …". (Clinician_2)

Youth Club

A youth club is another outlet where adolescents will be comfortable to access contraceptives. Youth clubs are held within a community and school setting.

> "Contraceptives should be accessed through youth clubs since youths are shy accessing contraceptives in the hospitals". (Adolescent 3_YFHS)

It was asserted that having a youth club at school will be a point of contact with health workers and students where they could offer support.

> "There should be learners as youths themselves, teachers and one as a patron and once a month authorities have to visit them and monitor and support them". (Clinician_2)

However, this proposal was regarded as selective as not all students will be members of the youth club hence the best is for health workers to come and meet every student at the general assembly and that learners should belong to youth clubs in the community where they can express themselves freely.

> "In a school set up, there is a social gap between learners and teachers the learner does not open up so we should channel this to where learners are coming from like communities". (Teacher 1_Male)

Respondents also suggested that measures to strengthen attendance to youth clubs could include support from chiefs who would ensure that adolescents within the age of 15-19 years are attending.

> "We have to be conducting meetings together with health workers to encourage and support the parents as a chief I have to be working together with the chair of the group and check the register to see which child is not attending the youths groups and make a follow up with parents ….leaving it for youths themselves things will not work". (Male Traditional Leader6_FGD)

> "We will be doing meetings with them and we will inform their parents that if adolescents are not attending youth groups they will be excluded from the benefits which others will have**". (**Female Traditional Leader9_FGD)

Respondents also noted that it was important to have both male and female health workers servicing the youth clubs because some adolescents may not express themselves adequately when the health worker is of the opposite sex.

> **"**For the provision of contraceptives, some may be shy when they see that the one giving them is a male when they are females because these are sensitive issues I think health workers who will be coming should be two a female and male to fully assist everyone". (Male Traditional Leader2_FGD)

Schools have programmes called "mother care groups" which need strengthening to effectively deliver and promote contraceptives.

> "There are mother care groups there they can be using these groups to sensitize learners they have to be identifying the grownups and teach them about contraceptive use". (Nurse_1)

Youth Centres

Key informants suggested that there should be Youth Centers or recreation centers for adolescents to have fun and this is where an opportunity to reach them with contraceptives is provided.

> "Youth centers in the hospital and outside the hospital need to have open days to provide all things". (Community Health worker_1)

However, the respondents in IDIs suggested that Youth centers need to be operated by health workers.

> **"**For the government to implement and sustain it they need to work for hand in handwork community nurse who conducts mobile clinics". (Nurse_1)

Discussion

This study outlines delivery strategies for optimizing uptake of contraceptives among adolescents aged 15-19 years. Apart from providing perspectives of parents, adolescents, and health care workers regarding strategies for delivering contraceptives to optimize uptake of contraceptives, findings of this study make an extension to what previous studies have reported by providing perspectives of community or traditional leaders and teachers as well as strategies for strengthening the delivery of contraceptives among adolescents aged 15-19 years.

Contraceptive delivery strategies for adolescents among 15-19-Year-olds

Local pharmacy, drug store, and hospital

According to the study findings, adolescents prefer to access contraceptives at the nearest hospital, pharmacy, or drug store. The finding is consistent with findings reported by Chandra-Mouli in 2014 and USAID in 2015 where they highlighted that there are various places adolescents prefer to access contraceptives other than the hospital [33, 34]. A study done by Radovich et al in 2018 reported that young women obtained contraceptives from limited-capacity, private providers compared with older women [35]. They further highlighted that this is the reason adolescents use short acting contraceptive methods than long ones. A possible explanation for this is that adolescents want to access contraceptives in private, a place where they feel that confidentiality

and privacy are guaranteed [34]. This implies that adolescents prefer to access contraceptives from a variety of places especially places convenient to them eventually making delivery of contraceptives to adolescents more complex. Thus, informing adolescent sexual and reproductive health programs and experts to consider a wide range of places where adolescents can access contraceptives [33]. Therefore, there is a need to make local pharmacies and drug stores adolescent-friendly [34]. More importantly, this may be realized if policymakers and providers partner with private pharmacy and drug store owners for the adolescents to have wide access to contraceptives including long-term contraceptive methods [36]. The findings build on the argument by FHI360 Ethiopia 2004 report which reported that government and donors support private commercial ventures such as private franchise clinics and contraceptive social marketing that provide reproductive health services, though these were not necessarily targeted to youth [37]. In situation of barriers with access to a private pharmacy or drug store such as affordability, this study suggested parents' covert access to contraceptives for their children through Community Health Care workers. Therefore, this informs future research to understand parents' covert access to contraceptives for their children through Community Health Workers in Nsanje, Malawi.

Youth Centered Services-Youth Corners, clubs and centers

Youth specific spaces such as Youth Clubs, Youth Centers, and Corners in the community as strategies for optimal uptake of contraceptives among adolescents provide a platform for the social network which supports adolescents to access contraceptives [38]. One of the spaces the current study reported is a Youth Friendly Corner which is a private space staffed by dedicated young volunteers where youth access counseling and referrals for sexual and reproductive health services without adult interaction [39]. Similarly, Youth Friendly Corners improved uptake of

contraceptives by young people in Zambia and Zimbabwe [39, 40]. Unlike Youth clubs and Centers which combine recreation activities, Youth Corners are dedicated to providing SRH services [39]. Consistent with our findings, an earlier study in 3 Malawian districts reported youth clubs as a strategy for optimizing uptake of contraceptives among young people [20]. These are places where young people meet in the community and participate in 'life skills' training, *health* education sessions, and recreational activities [41]. Our study suggests that health workers make school visits to address all learners on SRH issues to mitigate the social gap between teachers and learners. Youth Centers are meeting points and "one-stop shops" which are intended to be a friendly, safe, and non-clinical environment where SRH services and information is provided alongside social services such as recreational activities or internet cafes' [17]. A possible explanation for this suggestion by the participants is that these places which operate on a static or mobile basis are convenient to adolescents and provide an alternative for contraceptive access to adolescents as they shun hospitals [34]. Thus, underscoring the need for program implementers and policymakers to establish more outlets beyond the health facility for expanded adolescent contraceptive access in the district and policies that support such services respectively. In terms of performance, separate studies conducted in Machinga, Malawi, and a review by Zuurmond in 2012 reported low uptake of SRH services in Youth clubs and centers [19, 22]. Apart from health workers providing SRH stocks to youth clubs as alluded to earlier [22], the current study asserts for the availability of young health care workers, male and female to serve and operate the youth clubs and centers to mitigate challenges with gender and age and traditional leaders to have a leading role of youth clubs, centers and corners in their respective communities. Furthermore, Use of peers as deliverers of contraceptives to curb fear was also illustrated in other studies where involvement and buy-in from adolescents was underscored as an important factor in ensuring

access and use of contraceptives [6, 34, 36, 42]. This calls for policy makers and implementers to incorporate adolescents in the programming and implementation of activities aimed at improving uptake of contraceptives among adolescents.

STRENGTHS AND LIMITATIONS OF THE STUDY

One strength of this study is that the study used the Social-Ecological Framework which helped the study to capture the views of people from implementers of the strategies such as health care workers, community leaders, parents, teachers, and adolescents which are users of contraceptives. This allowed a wide gathering of data on key thematic areas. Therefore, the study has managed to bring an understanding of areas that influence the uptake of contraceptives among adolescents hence the findings can be used to inform further research, policy, and practice. However, one limitation to the study is that the findings are from a qualitative sample and are confined to one setting, Nsanje district, and may not reflect the views of other locations in Nsanje district and beyond.

Conclusion

To optimize uptake of contraceptives among adolescents aged 15-19 years this study highlights the need for interventions that consider not only individual but also their environment which include various people and places as deliverers of contraceptives at the individual, community, and institutional level. Also, our study found the need for interventions to strengthen the delivery of contraceptives at individual and community levels to influence adolescents to use the people and places for delivering contraceptives. Furthermore, interventions at an institutional level such

as providing adolescent health separate from adults through adolescent centered units (one-stop center) may contain health worker challenges in prioritizing and negotiating with adolescents when delivering health services. Nevertheless, in culturally contextualized society, bylaws, and penalties for teen pregnancies by traditional leaders in collaboration with the health sector may optimize uptake of contraceptives. Partnerships with local private drug stores may optimize uptake by removing access obstacles such as cost.

Abbreviations

HCW: Health Care Workers, IDIs: In-depth Interviews, KIIs: Key Informant Interviews, FCDs: Focus Group Discussions, YFHS: Youth Friendly Health Services, SRH: Sexual Reproductive Health

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Consent for publication

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Availability of data and materials

Datasets used are available from corresponding author upon request.

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The authors declare that they have no competing interests.

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Contributions

AKM planned and designed the study, developed the study methods, interview guides, conducted IDIs, KIIs and FGDs, developed analysis plan, analyzed the data and drafted the manuscript. ZMM supported facilitation of FGDs. ALNM supervised planning of the study, development of methods, analysis plan and data analysis, supervised and contributed to manuscript writing**.**

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Ethics declarations

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Ethical approval

Ethical approval was obtained from College of Medicine Research and Ethics Committee (COMREC P.08/19/2779), and institutional permission was granted by Nsanje District Health and Education offices as well as Nyamadzere Community Day Secondary School Headteacher. Participation in the study was voluntary and written informed consent was obtained from all study participants prior to the interview and FGDs. Interviews were conducted in a private room to prevent others from hearing hence ensuring privacy. Participants were identified by codes and not their names to ensure anonymity and confidentiality. Participants who declined to take part in the study were assured that their decision will not affect learning and receipt of health care at the hospital.

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