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“When there is unexpected pregnancy we call it a sin": Perceptions of Unintended Pregnancy in rural Malawi

By

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A thesis submitted to the Hubert Department of Global Health

Rollins School of Public Health

Emory University

In partial fulfilment of the requirement of Master of Public Health

April, 2016

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“When there is unexpected pregnancy we call it a sin": Perceptions of Unintended Pregnancy in rural Malawi

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Abstract

"When there is unexpected pregnancy we call it a sin": Perceptions of Unintended Pregnancy in rural Malawi.

By Davie Zolowere

Background

Over half of all pregnancies in Malawi are unintended. Many of these pregnancies result in unsafe abortions, a major cause of maternal mortality. Rural communities are the most affected. Despite the high rates of unintended pregnancies in rural communities, the factors influencing unintended pregnancy remain unclear. Therefore, the aim of this study was to understand the meaning of unintended pregnancy and explore the factors influencing it's occurrence in these communities.

Methods

We conducted a cross-sectional study using focus group discussions and key informant interviews in rural communities with a high occurrence of unintended pregnancies in Mulanje district. Participants were purposively sampled, and data was transcribed verbatim, translated, coded using MAXQDA, and analyzed.

Results

Unintended pregnancies were described as those occurring outside of marriage. These pregnancies were stigmatized, considered sinful and most result in unplanned marriages. However, pregnancies within marriage are seen as blessings and mostly viewed as intended. Although we cannot determine causation, this study found that religious beliefs, transactional sex, sexual cleansing practices within a context of poor sex education, gender imbalance and poverty may influence occurrence of unintended pregnancies. The study also identified myths on contraception, alleged effective traditional methods and folklore methods as important barriers to modern contraceptive use.

Conclusion

The understanding of unintended pregnancy by these rural communities is different from definitions of unintended pregnancy used in survey epidemiology. Poor sex education, gender imbalance and poverty drive un-safe sexual practices culminating in unintended pregnancies.

Public Health Recommendations

There is need for measures that take into context these constructs to avoid biasing estimates of unintended pregnancies within marriage in these areas. Interventions to address unintended pregnancies in rural communities in Malawi should consider the local culture, economic issues, gender relations, and religious values. **Key words:** contraceptive myths, gender imbalance, sexual cleansing, unintended pregnancy, unplanned marriages.

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List of Abbreviations

CDC	Center for Disease Control
CHAM	Christian Health Association of Malawi
CI	Confidence Interval
CONGOMA	Council for Non-Governmental Organizations in Malawi
DALYs	Disability-adjusted Life Years
DHMT	District Health Management Team
DHS	Demographic Health Survey
FGD	Focus Group Discussion
ICPD	International Conference on Population and Development
IDR	Incident Rate Ratio
IMR	High Infant Mortality Rate
IPAS	International Projects Assistance Services
JHPIEGO	Johns Hopkins Program on International Education in Gynecology and Obstetrics
KII	Key Informant Interview
LBT	Low Birth Weight
MDG	Millennium Development Goal Number
MDHS	Malawi Demographic Health Surveys
MoH	Ministry of Health
MEPDM	Ministry of Economic Planning and Development of Malawi
MMR	Maternal Mortality Ratio
MSH	Management Sciences for Health
MSF	Medicines sans Frontieres
NHSRC	Malawi National Health Sciences Research Committee
NSO	National Statistical Office
NGOs	Non-governmental Organizations
NSFG	National Survey of Family Growth
OR	Odds Ratio
PAC	Post-abortion Care
PMTCT	Prevention of Mother to Child Transmission
PoA	Cairo Program of Action
PRAMS	Pregnancy Risk Assessment Monitoring System
PrTB	Pre-term Birth
RR	Risk Ratio
SDGs	Sustainable Development Goals
SSDI	Support for Service Delivery and Integration
TBA	Traditional Birth Attendant
TFR	Total Fertility Rate
UN	United Nations
UNFPA	United Nations Populations Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization
WCBA	Women of Childbearing Age

Chapter 1. Introduction

1.1 Introduction and Rationale

Reproductive and maternal health are important indicators for health care globally. Under Goal Number 3 of the Sustainable Development Goals (SDGs), Target 3.1 aims at decreasing the worldwide maternal mortality ratio (MMR) to below 70 per 100,000 live births by 2030 (United Nations, 2015). Additionally, Target 3.7 focuses on "universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programs," which are likewise vital for reducing MMR.

Although maternal deaths declined worldwide between 1990 and 2013 as a consequence of positive responses to Millennium Development Goal Number (MDG) 5, the numbers are still unacceptably high. In 2013, nearly 300,000 women died from complications of pregnancy worldwide, translating to over 800 deaths per day and a global MMR just above 200 per 100,000 live births (World Health Organization, 2014; Kassebaum et al., 2014). Almost all maternal deaths occur in developing countries, accounting for 99% of worldwide maternal deaths (United Nations, 2008; Court, 1996). In Trends in Maternal Mortality: 1990 to 2013 (2014) the World Health Organization (WHO) and other international organizations reported that the MMR in low and middle income countries is 14 times higher than in high income countries. Sub-Saharan Africa continues to be the worst affected region, with an MMR of 510 per 100,000 live births (WHO, 2014). Therefore, women in this region have a high lifetime risk of dying from maternal health causes.

Malawi has one of the highest MMRs in the world at 675 per 100,000 live births (NSO AND ICF MACRO, 2011). Moreover, the country has failed to achieve its MDG5 target of 155 maternal deaths per 100,000 live births, as the most recent estimate shows that the MMR is at 574/100,000 live births (Ministry of Health (MoH), 2011; National Statistical Office(NSO), 2015). Projections by Coulbourn and colleagues (2013) show that four women die for every 1,000 live births. The top five causes of maternal mortality in Malawi are sepsis, antepartum and postpartum hemorrhage, hypertensive diseases of pregnancy, and abortion complications (Bowie & Geubbels, 2013). Abortion complications are almost entirely due to unsafe abortions and are responsible for around 20 % of the deaths (Lema et al. 2005; Bowie & Geubbels, 2013).

Unintended pregnancies contribute to nearly 70% of global maternal deaths (Singh, Darroch & Ashford, 2014). In 2013, from abortions alone, unintended pregnancies were responsible for 17% of MMR (50,000 maternal deaths) (Kassebaum et al., 2013). In 2012, a quarter of all pregnancies occurred in Africa; 224 women were pregnant for every 1,000 women of childbearing age (WCBA) (15-44 years) (Sedgh, Singh, & Hussain, 2014). In addition, Africa continues to experience the highest rates of unintended pregnancy, where 80 women per 1,000 WCBA have unintended pregnancies; the Sub-Saharan region, at 108/1,000, has the highest rate compared to all other sub regions in the world (Sedgh et al., 2014). Furthermore, worldwide, 40 pregnancies per 100 were unintended, and in Southern Africa, over half were unintended with more mistimed than unwanted pregnancies. Nevertheless, the proportion of unintended pregnancies in Africa has persistently declined according to estimates made in 1995, 2008 and 2012 (Singh, Sedgh, & Hussain, 2010; Sedgh et al., 2014). It is, therefore, not surprising to see many women dying of pregnancy related causes in Sub-Saharan Africa, given the high occurrence of unintended pregnancies.

Unintended pregnancy rates are particularly high in Malawi. Over half of pregnancies among women aged 15-49 are described as unintended (Palamuleni & Adebowale, 2014). These high rates are likely due to the high total fertility rate (5.7), high unmet need for contraceptives (26%), low contraceptive prevalence rate (35%), and continued use of traditional methods (4%) (NSO and ICF Macro, 2011). Moreover, the fertility rate is much higher in rural areas, with an average of lifetime births of over six children per woman and lower use of contraceptives compared to urban women (41% rural vs. over 50% urban) (NSO AND ICF MACRO, 2011). Mulanje district in the south registers very high numbers of teenage pregnancies, over 6,000 for each traditional authority, a majority of which are unintended (Phiri, 2015). Moreover 30% of 15-19 year-old adolescents reported already starting childbearing and the reported median age at first sex was 15.6 years for WCBA with only 10.7% reporting virginity (NSO AND ICF MACRO, 2011). Furthermore, only 45% of married WCBA reported currently using modern contraceptives and a high unmet need of 21%. Finally, there is a gap between the desired number of children and the number of children born (4.0 vs. 6.1) (NSO AND ICF MACRO, 2011). Although the rate of unintended pregnancy in Mulanje is not known due to lack of district specific studies, it is likely that the rates are higher than national figures, given the above issues.

Consequences of unintended pregnancies to the Malawi health system are high, ranging from unintended population growth, to a high number of maternal deaths, to high financial expenditures for service delivery (Bowie & Geubbels, 2013; Coulbourn et al., 2013; Levandowski et al., 2013). Unintended pregnancies significantly contribute to the high population growth in Malawi, which is projected to almost double (above 26 million) by 2030 if no effective interventions are established (NSO AND ICF MACRO, 2011; United Nations Department of Economic and Social Affairs/Population Division (UNDPD), 2015). Moreover,

the rapid population growth is straining the country's resources. Over 80% of Malawians use charcoal as cooking fuel resulting in massive deforestation (NSO AND ICF MACRO, 2011). In addition, as 65% of Malawian live below the poverty line, the high population growth predisposes more people to poverty and makes them more vulnerable to natural disasters (NSO, 2008; Ministry of Economic Planning and Development of Malawi (MEPDM), 2012). According to UN HABITAT's State of the African Cities 2014 Report, 68% of urban dwellers in Malawi live in slums due to the rapid migration from rural to urban areas as a consequence of population growth, which has reduced land size for food growth (UN HABITAT's State of the African Cities, 2014; MEPDM, 2012). Most social amenities in the slums are poor, exposing dwellers to economic and health hazards.

Additionally, the Malawi health system uses substantial resources to manage abortion complications, and neonatal, infant and under five morbidity and mortality as a consequence of un-prevented unintended pregnancies (Bowie and Geubbels, 2013; Levandowski et al., 2013; Vlassoff et al., 2014). By investing in measures to prevent unintended pregnancies, the Malawi government could avoid spending millions of dollars for maternal and child health care services, and these funds could potentially be reinvested in other efforts (Vlassoff et al., 2014). Therefore, understanding the contextual issues that impact the occurrence of unintended pregnancies in Malawi is critical.

1.2 Problem Statement

While there has been an increase in research on unintended pregnancies in Sub-Saharan Africa, most studies are quantitative and retrospective, and are based on national cross-sectional surveys (Weldegebreal, Melaku, Alemayehu,& Gebrehiwot, 2015; Sedgh, Sylla, Philbin, Keogh,&

Ndiaye, 2015; Obare, van der Kwaak & Birungi, 2012; Kavanaugh et al., 2013). Moreover, most of these studies are nationally representative, not region or district specific. Likewise, these studies focus on women, and to a large extent, neglect the community in which the women live. In spite of the high prevalence of unintended pregnancies in Malawi, very little is known about the contextual issues. The high unintended pregnancy rate may result in part from a failure to contextualize health services provision to address the local beliefs and perceptions that are key to health seeking behavior. However, we know the qualitative approach is important for studying pregnancy intention in order to capture contextual factors, because qualitative methods emphasize the emic perspective and therefore capture context better than quantitative approaches (Hennink, Hutter, & Bailey, 2011; Maxwell, 1992; Morgan, & Smircich, 1980).

Unintended pregnancy is the most common reason for seeking abortion; however, according to the penal code (1930), abortion is illegal in Malawi and attracts a maximum prison sentence of 14 years (Malawian Penal Code, 1930). As a result, most abortions are unsafe, resulting in significant maternal morbidity and mortality. Moreover, abortion is the most common cause of gynecological admission to hospitals and one of the top five causes of maternal deaths in Malawi (Bowie and Geubbels, 2013; Coulbourn et al., 2013; Lema et al., 2005). Furthermore, women accessing abortion services face stigma and discrimination (Jackson, Johnson, Gebreselassie, Kangaude, & Mhango, 2011). Moreover, rural communities are the most burdened with these unintended pregnancies and abortions. Therefore, describing factors related to unintended pregnancies in rural communities is important, as it provides information to enhance provision of effective evidence based public health interventions that are context sensitive.

1.3 Purpose Statement

Our goal was to describe perceptions and influences on unintended pregnancy among rural residents of Mulanje district, Malawi.

1.3.1 Research Questions

Our specific research questions are:

- How do rural residents define unintended pregnancies?
- What are the influences on unintended pregnancies?

1.4 Significance Statement

Understanding the meaning and influencing factors of unintended pregnancies is critical for public health in Malawi because unintended pregnancy is a significant cause of population growth that strains the country's meagre resources. Unintended pregnancy also leads to unsafe abortion, a top cause of maternal mortality which is worse in rural communities. In addition, understanding perceptions of unintended pregnancy in the rural areas where the majority of the population lives and where reproductive health outcomes are poor, is paramount for the health system in order to improve overall reproductive health outcomes (NSO, 2008; MoH, 2011; Kalirani-Phiri et al., 2015). Moreover, the socio-ecological model of health approach posits that to combat health problems like maternal health issues successfully, both personal and community factors should be well understood (Onono et al., 2015; Rivera, Alvarez, Quintana, Cruz-Correa, & Orengo, 2007; McLaren & Hawe, 2005). This study will inform service providers on perceptions and risky activities that are important when implementing reproductive health services to address the high rates of unintended pregnancies in the district.

If taken into consideration, the results of this study could significantly contribute to reducing misconceptions and stigma related to unintended pregnancies through community health education and promotion. Furthermore, the study may contribute to reducing abortion complications and maternal mortality through the provision of culturally sensitive targeted prevention strategies to impede occurrence of unintended pregnancies. Finally, the results can inform policy makers.

1.5 Definition of Terms

1. Unintended Pregnancy: A pregnancy that is mistimed or unwanted at the time of conception (http://www.cdc.gov/reproductivehealth/unintendedpregnancy/).

2. Unplanned Pregnancy: Pregnancy that occurred when the woman used a contraceptive method or when she did not desire to become pregnant but did not use a method.

3. Intended Pregnancy: Pregnancy that occurs when it is wanted and the timing is appropriate.

4. Culture Norm: A set of rules, standards, or beliefs shared by members of a group that when acted upon by those members, produces behaviors that fall within a range considered acceptable and proper by those members

5. Community: A group of people living in the same place or having a particular characteristic in common.

6. Perceptions: A way of regarding, understanding, or interpreting something; a mental impression.

7. Unsafe Abortion: A procedure for terminating an unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking minimal medical standards or both (http://www.who.int/healthinfo/statistics/indmaternalmortality/en/).

8. Maternal Mortality: The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes (ibid).

9. Natural contraceptive methods: "Birth control that relies on observations about the woman's body and menstrual cycle." (http://www.medicinenet.com/natural_methods_of_birth_control/)

Chapter 2. Literature Review

1.1 Introduction

In the following literature review we discuss what is currently known about unintended pregnancies. First, we discuss the meaning of unintended pregnancies in public health, illustrating the challenges with the current understanding. Second, the burden of unintended pregnancies is presented. Third, we deliberate the consequences of unintended pregnancies. Fourth, we discuss attitudes towards unintended pregnancies. Finally, we summarize key issues from the review in line with objectives of the current study.

The 1994 International Conference on Population and Development (ICPD) established the Cairo Program of action (PoA) to drive reproductive health until 2014 (Ashford, 2004). In contrast to previous international population conferences, which only had government representation, ICPD had widespread participation by over 1,500 non-governmental organizations (NGOs) and religious bodies and civil society (United Nations, 1995). At this conference, the individual rights to determine how many children one wants and the intervals between births without coercion or fear were emphasized. This was an improvement from preceding approaches, which lacked direct commitments and input from governments (Ashford, 2004; Finkle, 2002). The PoA was a milestone; it was expected to change the status of reproductive health. However, accomplishments of the ICPD were affected by inadequate political commitment and "donor fatigue," particularly from donors diverting focus to human immunodeficiency virus (HIV) and associated infectious diseases. Although progress has been made, today 22 years after the conference, 40% of pregnancies are unintended; women are still conceiving pregnancies they do not want at all or at a time they did not plan (Sedgh et al., 2014).

Therefore, at the London Summit on Family Planning in 2012 representatives of nations including Malawi pledged and strategized to decrease unmet need for contraceptives, which significantly contributes (79%) to unintended pregnancies (Singh & Darroch, 2012; Cohen, 2012).

1.2 The Meaning of Unintended Pregnancy

An unintended pregnancy is a pregnancy that has occurred quicker than desired (mistimed), or when the pregnancy was not wanted at all. ‘‘Intended,’’ ‘‘unintended,’’ ‘‘mistimed,’’ ‘‘wanted,’’ and ‘‘unwanted,’’ are interrelated terms that refer to pregnancy intention (Klerman, 2000; Santelli et al., 2003). On the other hand, an intended pregnancy occurs at the right time and when wanted. However, the meaning of unintended pregnancy is not easy to understand at the individual level because we assume pregnancy is a conscious decision and reported pregnancy intention status changes when comparing reports before pregnancy, during pregnancy and following a live birth (Joyce, Kaestner, & Korenman, 2000). Retrospective determination of unintended pregnancies underestimates the measures (Joyce et al., 2000). Moreover, most data to estimate prevalence is collected retrospectively after delivery when mothers with live births may already have accepted the baby and hence are more likely to report a pregnancy that was unintended as intended. In addition, data from the NSFG (National Survey of Family Growth) has shown that pregnancy intention status between married people can be different (Klerman, 2000; Santelli et al., 2003). Some women do take into consideration their partners’ intention status in defining their pregnancy intention (Klerman, 2000; Santelli et al., 2003). Moreover, women have reported being happy with pregnancies despite the pregnancies being identified as unintended and not all pregnancies conceived as a consequence of contraceptive failure have been identified as unintended (Trussell, Vaughan, & Stanford ,1999; Klerman, 2000; Redshaw,

& Henderson, 2013). All of these factors complicate the meaning and measurements of unintended pregnancies.

Surveys like the Pregnancy Risk Assessment Monitoring System (PRAMS) and DHS determine pregnancy intention status by asking a series of questions on timing of pregnancy, fertility plans and contraceptive use. The commonly asked question is: "At any time that you became pregnant, did you want to become pregnant then, did you want to wait until later, or did you not want to have any (more) children at all?" The three common options are wanted then (wanted), wanted the pregnancy to happen later (mistimed) and did not want at all (unwanted). (http://www.cdc.gov/prams/questionnaire.htm). Some surveys include an ambivalent option where the participants are unsure of intention status. Most researchers code ambivalent as "missing." However, other measures encourage the use of scales to determine intention status (Barrett, Smith, & Wellings, 2004).

Critical evaluations of meaning and measurements of unintended pregnancies have been on-going for over 40 years. In his 1973 critique of the National Fertility Study, Ryder outlines challenges with measurements and the meaning of unintended pregnancies (Ryder, 1973). He reports that because our approach involves asking the women retrospectively to indicate if before conception they wanted the pregnancy then or later, we usually end up with the point of view at the time we are collecting data. There is a high probability that individuals report a rationalized account of circumstances of how things ended up. He further argued that some couples may not consciously plan pregnancies, others may be unsure whether they want pregnancy, and others may have no idea of their fertility intentions. We assume they would report the truth even if they were uncertain of their pregnancy intention.

1.2.1 Understanding Terms Describing Pregnancy Intention

Barret and Wellings (2002) investigated pregnancy intention in Britain. They used open-ended in-depth interviews with a purposively sampled diverse group of women during pregnancy to understand the women's understanding of terms commonly used to describe intention status of pregnancy (Barrett, & Wellings, 2002). They discussed the first set of the questions without the interviewer explicitly mentioning any of the words "planned," "unplanned," "intended," "unintended," "wanted," or "unwanted," while in the second part of the interview, they explicitly asked the women what these terms meant to them (Barrett & Wellings, 2002). They found that these terms were rarely used spontaneously by the women to describe their pregnancy circumstances from the first part of the interviews. Only a few women with advanced education used the terms spontaneously. Planned pregnancies were described as those pregnancies conceived after agreement with the partner, while unplanned pregnancies were those that occurred "accidentally." However, the main limitation of the study was that the participants were asked at a time when they were pregnant or about to terminate the pregnancy; hence, their index circumstances may have affected how they related to the terms. Furthermore, the research was conducted in a high-income English speaking country where these terms have been used for a long period, and therefore, participants might have been familiar with them. As a result, the findings may not be applicable in a setting that is low social-economic and culturally different, where these terms may be relatively new. Regardless of these limitations, the findings demonstrate a lack of spontaneous use of the terms commonly employed to describe unintended pregnancies and variations in understanding of these terms. Further research is required to understand these terms in a different setting.

Likewise, Fisher and colleagues (1999) conducted a qualitative study on concepts of unintended pregnancies in the U.S. to describe the meaning of unintended pregnancies from the perspective of women and whether they would consider their pregnancies (real or imaginary) as unintended (Fischer, Stanford, Jameson, & DeWitt, 1999). They conducted 18 in-depth interviews with women who were accessing pregnancy related health care. They found that the understanding of pregnancy intention terms was diverse among the women with respect to socio-economic forces. The meanings of "wanted" and "planned" pregnancy were different. Unwanted pregnancies were described as those that would likely end in abortion, while unplanned pregnancies were those that were conceived before prior agreement with a partner. Finally, in their definitions, the women took the intention perspective of male partners into consideration. Although the results are not generalizable, the study demonstrates the diversity surrounding the meaning of unintended pregnancy and the need to consider a partner's input in discussions of pregnancy intention (Fischer et al., 1999).

1.2.2 Change in Fertility Intentions

In their quest to understand fertility intentions, Taulo and colleagues (2009) conducted a study to evaluate whether women's wish for more children would vary over time and by Human Immunodeficiency Virus (HIV) sero-status (Taulo et al., 2009). They used a prospective cohort design as part of a randomized control trial. A sample of 1,686 participants were randomly selected from prenatal and postnatal clinics in three health facilities in Blantyre city. They were followed up for 12 months and pregnancy intentions were documented using a questionnaire at the study foundation and every three months for one year. A change in the desire for children with time was the outcome of interest: change from "no" to "more children," and from "more children" to "no further children." Overall, there was a change in fertility intentions over the

study period in both groups. However, HIV negative women generally indicated a desire for more childbearing compared to their counterparts. Among HIV negative women, the intention increased by 5% from the baseline, while for the HIV reactive women, there was almost a 6% decline in intention. There was a significant difference in the variation of pregnancy intentions to "no more children" by HIV status, three times as high (adjusted Hazard Ratio 2.89, 95% CI 2.35, 3.56) for HIV positive women, keeping the reported number of pregnancies, gender, presence of electric power, coital regularity, and education constant. Additionally, there was low condom use among participants (less than 5%) but was much lower among the HIV negative.

This was a prospective study; therefore, recall bias was reduced. However, recruiting participants from the antenatal and postnatal clinics within the three facilities implies that the results are not generalizable. In addition, HIV positive mothers may likely want to limit childbirth to minimize the risk of mother to child transmission (PMTCT), regardless of availability of PMTCT services. Nevertheless, the study demonstrates that pregnancy intention is not a static phenomenon; it can vary with time and circumstances.

1.3 Determinants of Unintended Pregnancies

1.3.1 The Developed World

Kagesten and colleagues (2015) conducted a study in France to determine characteristics associated with pregnancies and intention status from the perspectives of men (Kagesten, Bajos, Bohet, & Moreau, 2015). They conducted a representative cross-sectional survey phoning a randomly selected sample of 2,997 men 15 to 49 years of age who sired a pregnancy within five years before the survey. The men responded to questions on whether the pregnancies they procreated were planned, wanted, or mistimed. The outcome of interest was pregnancy intention,

in two categories: intended and unintended. One-fifth of all latest pregnancies were reportedly unintended, of these nearly half (45%) ended in pregnancy termination. Moreover, three-fifth of pregnancies just before the most recent were identified as unintended. A significant proportion of pregnancies were reported to have happened due to contraceptive non-use (58%) or incorrect use (39%). The possibility of not using contraceptives was almost three times as high (adjusted incident rate ratio (aIDR) 2.9, 95% CI 1.6, 5.2) among those without a degree compared to those with a degree, taking into account the effect of age, income, employment, and relationship status. Additionally, they found that the latest unintended pregnancy was associated with age (aIDR 2.3 95% CI 1.5, 3.5), woman's education level (aIDR above 1.8 p-value <0.011 for all categories compared to those without middle school), and challenging financial circumstances at conception (aIDR 2.1 95% CI 1.5, 3.0). Finally, the rate was 60% higher among those who reported that the pregnancy interfered with their education in relation to those who said it did not interfere and 40% higher for those who suggested it interfered with work in comparison to those who said it never interfered with work; however, this association was not statistically significant (p value 0.1). The study demonstrates that age, education level, finances, and employment are important contributing factors to unintended pregnancies. The study also confirms that contraceptive non-use and inadequate use are associated with unintended pregnancies. Getting in-depth qualitative data from men would help understand their perceptions of unintended pregnancies.

1.3.2 Malawi

Using data from DHS 2010, Palamuleni and Adebowale demonstrated a high occurrence of unintended pregnancies in Malawi using a representative sample of 2,144 currently pregnant women (Palamuleni & Adebowale, 2014). Over half (53.3%) of women in the study indicated that their index pregnancy was unintended (25 % mistimed, 28% unwanted). Significant factors

in bivariate analysis included the age of the woman, area of residence, parity, region of residence, number of children wished by the woman, and financial status of the woman. However, in the multiple regression analysis, only the age of the respondent, financial status, region of residence, fertility preferences, and number of children ever born remained significant. Age was significantly associated with both ill-timed and unwanted pregnancies. Women less than 20 years of age were over six times more likely to say that their index pregnancy was ill timed compared to those aged 30 years or over (p-value <0.05). Likewise, younger women were three times more likely to say their pregnancy was unwanted (OR 2.57, p value <0.001). Furthermore, as the women's age increased, the likelihood of an unwanted or ill-timed pregnancy was likewise reduced.

Women with more than four children were five times more likely to indicate that their index pregnancy was ill-timed compared to those who had never had child (p value <0.001). The association was similar for unwanted pregnancies. Mistimed pregnancies were higher in the North seconded by the South. Women from the Southern Region were 0.66 times less likely to report their pregnancy as unwanted compared to the Central Region, while the Southern women were almost twice as likely to report an unwanted pregnancy compared to those from the North (both significant, p value <0.05). Rural women were more likely than urban women to report unwanted pregnancy (28.6 % vs. 22.4%, p value < 0.05).

As anticipated, women who wished to have more children were less likely to say that their index pregnancy was unintended compared to those who wished to stop childbearing (OR 0.61 p value < 0.05). The researchers also reported that the likelihood of indicating pregnancy as unwanted was 68% higher among women of lower socio-economic status compared to women of higher financial status (OR 1.68 p value< 0.05).

This was a nationally representative study, with a large sample size and participants from both urban and rural areas. In addition, the researchers used a three level outcome, including unwanted, mistimed and wanted pregnancies, and therefore the data were more informative. Also, women who were not certain about the intention status of their pregnancies were not separated. Moreover, pregnancy intention might not be a "conscious decision" in most women (Santelli et al., 2003). Nonetheless, the study demonstrates a high occurrence of mistimed and unwanted pregnancies in Malawi and that women's age, rural residence, region of residence, low socioeconomic status, number of children desired, and parity are important determinants of unintended pregnancy.

Likewise, Vlassoff and colleagues also reported a high occurrence of unintended pregnancies in Malawi using DHS 2010 and induced abortion rates in 2009.They demonstrated that among WCBA, an estimated 542 pregnancies per 1,000 were unintended in 2013 (Vlassoff et al., 2014). Of these unintended pregnancies, 153/1,000 ended up in ill-timed births, while an additional 218/1,000 culminated in births that were unwanted. A further 87/1,000 ended in induced abortions, a majority of which were likely unsafe, while the remaining 84/1,000 resulted in miscarriages. The authors further report that nearly 88 % of the unintended pregnancies occurred among women who were not using any contraceptive method. Only 12% happened as a result of contraceptive method failure (7% modern, 5% traditional methods). Of the women who wanted to stop or delay childbirth, 40% were not using contraceptives or were utilizing methods that are not effective. According to the authors, decreasing the unmet need for modern contraceptives by 50% would reduce the estimated number of unintended pregnancies by more than 56%.

By ensuring that all women's contraceptive needs are achieved, the estimated number of unintended pregnancies would reduce by almost 85 %. Still, 15% of gestations would be unintended, because contraceptives are not absolutely effective. Moreover, reducing unintended pregnancies by 85% would reduce maternal mortality by over 40%. They further approximate that, considering the huge cost of the high MMR, the high infant mortality rate (IMR), and the significant disability-adjusted life years (DALYs) lost due to infant and maternal morbidity as a consequence of unintended pregnancies and childbirth, investing in contraceptives would be beneficial for the Malawi government. For each supplementary U.S. dollar spent on contraceptive services per annum, over two dollars would not be expended on both neonatal and maternal care. The long-term benefits would be significant. In conclusion, the study demonstrated the high occurrence of unintended pregnancies and prior low contraceptive use among women with unintended pregnancies. It also showed significant financial advantages and reduction in infant and maternal mortality if unintended pregnancies were to be reduced.

1.4 Consequences of Unintended Pregnancies on Health Outcomes

The consequences of unintended pregnancies on the health of the mother, fetus, and baby are unquestionably enormous. Moreover, almost three quarters of MMR is attributable to unintended pregnancies (Singh, Darroch, & Ashford, 2014). Over half or all unintended pregnancies culminate in induced pregnancy termination, the rest in spontaneous miscarriage and unintended births (Sedgh et al., 2014). Gipson proposes more studies on unintended pregnancies, especially in developing countries due to limited data (Gipson et al., 2008). However, determining the consequences of unintended pregnancies in these areas is challenging without comprehending contextual issues.

1.4.1 Consequences of Unintended Pregnancies on Neonatal and Child Outcomes

1.4.1.1 Preterm Births and Low Birth Weight

Shah and colleagues (2011), in a multi-analysis study in which they reviewed birth outcomes from births that were reported to be unintended, demonstrated a higher likelihood of low birth weight (LBT) and pre-term birth (PrTB) among unintended pregnancies (Shah et al., 2011). The likelihood of LBW among live babies born to mothers whose pregnancies were unintended was 36% higher (OR 1.36 95%CI: 1.25, 1.48) compared to live births from intended pregnancies. Moreover, the likelihood of LBW among ill-timed births was 31% higher than the likelihood among intended births, while unwanted births were 51% more likely to culminate in LBW than among intended births. Both associations were significant at p-value 0.05. Similarly, the likelihood of PrTB was significantly higher for those babies delivered from unintended (Odds Ratio 1.31) and unwanted pregnancies (Odds Ratio 1.50). Although the risk for PrTB was higher for ill-timed births (OR 1.36 (95% CI: 0.96, 1.93)), the association was not statistically significant (Shah et al., 2011). Nonetheless, these findings indicate poorer outcomes among live births from unintended pregnancies compared to intended pregnancies.

1.4.1.2 Neonatal Deaths

Singh et al. (2013) also demonstrated poorer child outcomes among births from mothers who reported their pregnancy as unintended. Compared to wanted births, the unintended births were 38% (95% CI: 1.01, 1.87) more likely to receive insufficient childhood immunizations (Singh, Singh, & Mahapatra, 2013). Similarly, the unintended births were at an increased risk (83%) of dying within the first 28 days of birth compared to the intended births (Singh et al., 2013). Although there was a positive relationship between the numbers of deaths within one

year of birth by whether or not the pregnancy was intended, the association was not statistically noteworthy (Singh et al., 2013). However, the study demonstrates poorer childhood outcomes from births from unintended pregnancies. These results are probably due to poorer health care for women with unintended pregnancies as a consequence of stigma, or poorer care to children born from unintended pregnancies.

1.4.2 Consequences of Unintended Pregnancies on Maternal Outcomes

1.4.2.1 Antenatal Care Attendance

A recent prospective cohort study conducted in rural India by Singh, Singh, & Mahapatra (2013) demonstrated insufficient antenatal care among mothers who indicated their births as unintended compared to those whose births were wanted (Singh et al., 2013). The authors used 2,100 childbirths data from the National Health Survey in which pregnancy intention was determined prior to delivery to determine antenatal attendance and childhood immunizations. They demonstrated that mothers who described their pregnancies as unintended were over two times (RR 2.32 (95% CI: 1.54-3.48) more likely than those whose births were desired to receive insufficient antenatal care, indicating poor health seeking among mothers who did not want their pregnancy. The strengths of the study are that it was prospective and had a large sample size. The study demonstrated poor antenatal attendance from mothers with unintended pregnancies. Qualitative investigation among mothers and their communities may therefore explain reasons behind the poor health seeking behavior.

1.4.2.2 Abortion

Levandowski and colleagues (2013) determined the burden of abortion in Malawi in 2009 (Levandowski et al., 2013). They combined data from two surveys – the health facility and health professional surveys – to estimate the occurrences. They used stratified and systematic random sampling methods to select 269 nationally representative private and public health facilities. One hundred sixty-six facilities that provided post-abortion care (PAC) were included in the study. For one month, trained staff collected data prospectively from clients who attended these PAC facilities. Health care workers providing PAC were also interviewed. Additional data were collected from post-abortion care records, the most recent Housing and Population Census, DHS, and the Multiple Indicator Cluster Survey. The number of post-abortion clients was used to estimate induced abortions by subtracting the expected spontaneous miscarriages. By multiplying a correction factor to women who accessed PAC, the number of women who experienced induced abortions in 2009 was estimated. After estimating the total number of pregnancies (including live births, miscarriages and abortions), unintended pregnancies were estimated using rates from DHS 2010. The study found high abortion rates in Malawi among WCBA; yearly abortion rate (23/1000 women range: 17-30/1000 women), induced abortion ratio (12/100 live births, range: 8-15/100 live births), and complications from unsafe abortion hospital admissions (6.5 per 1,000 women). Furthermore, over a quarter of all women conceived pregnancies (269 per 1,000 women) of which more than half were unintended (52%, 139/1,000 women). These rates are comparable to other low income countries but higher than developed countries (Sedgh G., et al., 2012). The main limitation of the study was determining an appropriate multiplier for estimations, which may bias the results differentially. Nonetheless, the

study demonstrated a high occurrence of unintended pregnancies, induced abortions, and hospitalization from unsafe abortion complications in Malawi.

1.4.2.3 Mother's Depression

Pereira et al (2009) conducted a cross-sectional study in Brazil to determine factors associated with depression during pregnancy (Pereira, Lovisi, Pilowsky, Lima, & Legay, 2009). Using systematic sampling, they included 331 antenatal mothers accessing health care from public facilities. They conducted surveys with mothers on circumstances surrounding their pregnancies, including assessment of depression using the Composite International Diagnostic Interview. The one-year prevalence of depression was high (14.2% 95% CI: 10.7-18.5). Controlling for employment, clinical psychiatric variables, and stressful events from the previous year, the prevalence odds of depression among women who indicated unintended pregnancies were two times the odds among those with intended pregnancies (Adjusted prevalence OR 2(95% CI: 1.0-3.9)). However, causality cannot be attributed from the study considering its cross-sectional design; therefore, temporality is difficult to determine. Additionally, the confidence intervals are wide, in part because the sample size was less than the planned sample as per a priori power calculations. Also, the results may only be generalizable to women who access health care from the Brazilian public health system. Nevertheless, the study demonstrates high prevalence of antenatal depression and an association between depression and unintended pregnancies among low socio-economic status population (women attending public hospitals).

Similarly, Redshaw and Henderson (2013) demonstrated that unintended pregnancies are associated with postnatal depression and progression of depression from antenatal to the post-natal period using a random sample of women from birth registries in England (Redshaw &

Henderson, 2013). They conducted surveys with 5,332 women at three months post-partum inquiring about issues surrounding their pregnancy, including diagnosis of antenatal depression, whether the depression progressed to the post-natal period, and whether the pregnancy was planned, unplanned, or unwanted. At three months post-delivery, the rate of depression among those who were diagnosed with prenatal depression was 21.3%, while among those without prenatal depression the rate at three months post-delivery was only 5.4%. The difference was statistically significant (p-value <0.0001). In the univariate analysis, the prevalence of antenatal depression was significantly associated with unintended pregnancies independently both for those who reported "unplanned but pleased" or "unplanned and not pleased" with the pregnancy (both associations p-value <0.01). However, in the multivariate analysis for antenatal depression, the only significant association was for the women who reported unintended pregnancy and were unhappy due to the pregnancy (adjusted OR 1.66 95% CI: 1.25, 2.20). The study participants were of diverse backgrounds and, notably, the outcomes were worse among African British participants. In conclusion, the study demonstrates that unintended pregnancies are an important correlating factor for post-natal depression, especially among women diagnosed with antenatal depression.

A study conducted in Ethiopia by Dibaba and colleagues (2013) found similar results (Dibaba, Fantahun & Hindin, 2013). This prospective cohort study showed that when adjusting for social support, education, wealth status, occupation, work burden during pregnancy, food accessibility, history of miscarriage, and partner violence during pregnancy, those with pregnancies that were unwanted were twice as likely to experience depression during pregnancy (adjusted OR 1.96 95% CI: 1.04, 3.69). The main strength of this study is its prospective design in which temporality could be established. However, the confidence interval is wide and hence uncertain

about the strength of the association. Nonetheless, the study confirms depression as an important factor associated with unintended pregnancies.

1.5 Perceptions about Unintended Pregnancies

In the "strategic assessment of unsafe abortion in Malawi" using qualitative methods, Jackson and colleagues (2011) investigated abortions and unintended pregnancies. They interviewed 485 key informants from 10 districts, diverse backgrounds, and education. The government key informants were from ministries of health, education, justice, gender, and youth. They also interviewed multiple non-governmental organizations, health care workers and key representatives from the community, including pastors, chiefs, and general citizens. The study found that prevention of unintended pregnancy was reported as an important initial step to decreasing maternal deaths resulting from unsafe abortions. The principle method of preventing unintended pregnancies was reported to be through contraceptive use. However, the study identified multiple barriers associated with use of contraceptives, ranging from supply problems to common misconceptions and beliefs. Religious dogmas contributed to low supply, stock outs, and non-availability of commodities. For example, some Catholic health facilities did not keep contraceptives in their pharmacies because the Church does not advocate for contraceptive use. Consequently, communities living in the vicinity of these facilities could not easily access family planning commodities. Secondly, the demand for contraceptive services, particularly the most popular methods like Depot Provera, was so high that the demand was greater than the supply.

The commonest misconceptions affecting contraceptive use were reduced ability to conceive pregnancy and reduced sexual desire. Additionally, barriers to contraceptive use included gender disparities because men had more power and the expectation that women should have husband's

consent before accessing any contraceptive method. Female participants reported wanting 3-4 children, while men desired to have almost double that figure. One of the reported reasons men wanted their wives to have more children was to reduce the beauty of their wives, thereby decreasing competition from other men.

In addition, the study reported that unsafe abortions were common and identified common reasons women access abortion services. These included: financial reasons and failure to adequately support any more offspring, a wish to continue schooling without interruption, experiencing pregnancy outside of marriage, pressure and influence of guardians, pregnancies conceived from prostitution and or rape, "pregnancies that are too close," desire to remain in church without excommunication, and "pregnancies resulting from traditional sexual practices."

Furthermore, the study identified various methods used for unsafe abortions, including methods taken orally, vaginal applications, and other medicines that were believed to work by application on the penis. Detergents, a strong solution of tea, overdose of analgesia and antibiotics, "aloe vera," various root based herbal remedies, and "cassava sticks" were also identified (Jackson et al., 2011).

The main strength of the research was the diversity of participants who came from different backgrounds and education, both from urban and rural areas and cultural diversities spanning 10 districts. However, community activities which would likely increase occurrence of unintended pregnancies like traditional sexual practices were identified but not described. Nonetheless, the study demonstrate that unintended pregnancies are a common problem in Malawi and they are associated with important socioeconomic, cultural and gender disparity issues that require further investigation.

Recently, Mohammadi and colleagues conducted a study to explore perceptions of unintended pregnancies among women who encountered unintended pregnancies in Iran, a country where elective abortions are unlawful. (Mohammadi, Nourizadeh, & Simbar, 2015). They conducted 31 face-to-face in-depth interviews with a purposively selected sample of women from both private and public clinics in Tabriz, one of the cities in the country. They collected data until saturation. Transcription and thematic analysis were conducted simultaneously with data collection. The researchers found that women with unintended pregnancies expected undesirable consequences including, shame, discrimination, and intimidation. The women also feared economic challenges, uncertainty from disagreements with partners, and career and childcare pressures. Moreover, the women feared adverse health consequences for them or for the baby if the pregnancies resulted in live births.

Lastly, abortion was an alternative solution to unintended pregnancies, but fear of stigma by colleagues or family, and the rule of law were barriers to accessing services by some participants. This study illustrated that unintended pregnancies affect women's lives in multiple ways, denying them socioeconomic opportunities and increasing their fear and instability. It also demonstrates how contextual cultural norms like an abortion restrictive environment may affect women. Therefore, to address unintended pregnancies comprehensively in this society, understanding the perspective of community members is important.

1.6 Summary of Review

The literature review has shown that women in high income English speaking countries tend not to spontaneously use terms commonly used to describe pregnancy intention. Moreover, there is variation in understanding the terms, even in these countries. Additionally, some women

consider their husband's views when describing the circumstances around their pregnancies. The meaning in low and middle income countries where these terms are relatively new, with diverse cultural norms and poorer socioeconomic status, may therefore be different. Community perceptions of unintended pregnancies might affect health seeking behavior and pregnancy prevention strategies. Therefore, it is paramount to identify community perceptions of unintended pregnancies.

Secondly, the review has shown that unintended pregnancies have serious consequences, including unsafe abortions, unintended births, preterm and low birth weights, neonatal deaths, insufficient childhood immunizations, maternal depression, and high maternal morbidity and mortality. In addition, unintended pregnancies affect women's lives in multiple ways, denying them socioeconomic opportunities and increasing their fear and instability. Unintended pregnancies are an especially important health problem in Malawi, where incidence of unintended pregnancies, induced abortions, and hospitalization from unsafe abortion complications are high. Woman's age, rural residence, region of residence, low socioeconomic status, and parity are important determinants of unintended pregnancy. Women in rural areas are of particular concern, as they disproportionately experience poor maternal outcomes, especially as related to unintended pregnancies. In addition, reducing the occurrence of unintended pregnancies in Malawi would significantly reduce maternal and infant morbidity and mortality.

Despite extensive research on unintended pregnancies in Malawi, we could not find any studies that focused on rural community norms to understand the high occurrence of unintended pregnancies in these communities. Yet contraceptive use is low, there is a high unmet need for contraceptives, and a majority of pregnancies are unintended. During the 2012 London Summit, Malawi committed itself to reducing unintended pregnancies. However, without understanding

community perspectives regarding unintended pregnancies, the country risks not achieving its goal.

More information about what pregnancies are considered unintended and community activities associated with high rates of unintended pregnancies is required. This information would inform interventions on prevention and management of these pregnancies. Therefore, our goal was to describe the meaning of unintended pregnancies and its influencing factors in rural communities.

Chapter 3. Methods and Results

3.1 Methods

3.1.1 Introduction

In the methods section we describe the study setting, sampling procedures and justifications, data collection instruments, and processes used to collect data. We then present data preparation and analysis and discuss ethical considerations. Finally, limitations and delimitations of the study are described.

3.1.2 Population and Sample

3.1.2.1 Location

According to the National Statistical Office (2008), Malawi had a population of 13,077,160 in 2008, with a predominance of rural residence (84%) and an annual growth rate of 2.8%. The United Nations projected the 2015 population would be 17.3 million (United Nations, 2014). Malawi has a high population density, above 134 per square km (United Nations, New York, 2014).

This study was conducted in Mulanje district, located 39 km south of Blantyre the commercial center of Malawi. Figure 1 below (page 39) shows the location of Mulanje district. In 2008, the population of Mulanje was estimated at 521,391, with a population growth of 2% and over 95% of the population living in rural areas (NSO, 2008). The projected population in 2014 was 557,788 (NSO, 2008). Moreover, they estimated 128,291 women of childbearing age and 27,889 pregnancies expected to end in live birth (NSO, 2010). The Malawi DHS 2010 reported a high

total fertility rate (TFR) in Mulanje (5.1), high lifetime births per woman (6.1), low contraceptive use (45%), and a high unmet need for contraceptives (21%) (NSO & ICF MACRO, 2011). Adolescent pregnancies were also high (Phiri, 2015).

Our interest was particularly in rural areas where unintended pregnancies were reportedly common.

Figure 1: Map of Malawi showing position of Mulanje district

MDHS 2010: National Statistical Office (NSO) and ICF Macro, 2011.

The district has multiple tea plantations that offer employment to the majority of the local population. There are two hospitals (the district and mission hospitals) and 21 health centers (K. Kabwere, personal communication, July 20, 2014). The principle actors in reproductive health services in the district are the MoH, the Christian Health Association of Malawi (CHAM), chiefs, traditional and religious authorities, and non-governmental organizations. Some of the organizations working in Malawi are UNFPA (United Nations Populations Fund), SSDI (Support for Service Delivery and Integration), MSH (Management Sciences for Health), UNICEF (United Nations Children's Fund), MSF (Medicines sans Frontieres), IPAS (International Projects Assistance Services), and JHPIEGO (Johns Hopkins Program on International Education in Gynecology and Obstetrics) (MoH, 2011; CONGOMA (Council for Non-Governmental Organizations in Malawi), 2014).

3.1.3 Procedures

3.1.3.1 Research Design

We used a cross-sectional study design. Our aim was to describe perceptions and norms related to unintended pregnancies in the rural community. Because our aim was to identify the emic perspective, that is, to explore unintended pregnancy from the perspective and in the context of the Mulanje community itself, the best approach is qualitative research (Hennink et al., 2011; Fossey, Harvey, McDermott & Davidson, 2002). Moreover, qualitative research methods are useful for understanding contextual issues and capturing social norms. Our study population were residents from areas with a high occurrence of unintended pregnancies. Eligible participants were rural residents of Mulanje district over 15 years of age.

3.1.3.2 Sample Size

Our aim was to collect data until we reached data saturation. Guest and colleagues demonstrated that by 12 interviews, data saturation may be achieved in a homogenous sample, and very few new ideas are added by conducting more interviews (Guest et al., 2006). In contrast, our sample was heterogeneous, but considering that discussions were based on community norms not personal experiences, we determined that the topics discussed would reach saturation sooner. Moreover, all participants were from rural areas with high unintended pregnancy occurrence and therefore similar in that aspect. Therefore, we estimated that data saturation would be reached with a sample size close to that described by Guest. We conducted two focus group discussions (FGDs) with adult men, two with female youths and three with adult women. A minimum of two focus groups were required per group of participants to determine whether saturation of themes had been achieved. Likewise, for key informant interviews (KIIs), we collected data from three pastors, three traditional initiation counsellors, two village chiefs, and one traditional birth attendant. We could only recruit one traditional birth attendant due to difficulties in finding willing attendants to participate. Out of the three attendants we approached, only one was available to participate. In total, we conducted six FGDs and nine KIIs. Table 1 below shows the characteristics of the participants.

Table 1: Characteristics of Study Participants, 2015

Participant characteristic	Gender	Number	Method of data collection
Youths	Female	16	2 FGDs
Adults	Female	16	2 FGDs
	Male	16	2 FGDs
Pastors	Male	3	KII
Traditional initiators	Female	3	KII
Chiefs	Males	2	KII
Traditional birth attendant	Female	1	KII
Total number of participants		57	

3.1.3.3 Inclusion and Exclusion Criteria

Rural Malawian residents of Mulanje district over 15 years of age from areas of high unintended pregnancy occurrence were eligible to participate in the study.

3.1.3.4 Sampling Procedure

Study participants were selected using purposive sampling. Because of the diversity of the study population and potentially sensitive nature of the topic, we used community gate keepers, informal community networks, and snowballing to recruit participants. The District Safe Motherhood coordinator and members of the District Health Management Team (DHMT) identified Ngolowera, Njeza, Msikawanjala, Mulanje Border, Mkando, Thembe, and Namisasi as communities within the district where unintended pregnancies were most common. Therefore, participants were recruited from these areas.

3.1.3.4.1 Focus Group Discussion

Adult women and men from catchment areas with common unintended pregnancies who were guardians to patients admitted to the district hospital were purposively recruited for FGDs. The hospital was used to recruit a sufficient number of adult participants for the FGDs because they were waiting for visiting hours to see patients and were therefore readily available. Additionally, being the biggest public hospital in the district, it was a convenient venue for recruiting participants from the eligible catchment areas. We engaged participants from different areas with high unintended pregnancy occurrence within the district to increase variation in participants. For FGDs with adults, we used gate keepers and snowballing. The gate keepers identified participants who in turn identified other participants.

For each identified participant, we verified whether they came from one of the specified regions with high unintended pregnancies. The participants did not know each other before meeting at the hospital. Furthermore, youths were purposively recruited from two youth clubs. We conducted FGDs with these youth group members from different rural areas within the district who were involved with youth activities within their catchment areas. Because they were in contact with their peers, they were more likely to have diverse information on practices and norms among the youths. One youth focus group comprised participants from a religious youth organization while the other was from a non-religious organization. The District Youth Friendly Health Services coordinator identified the youth groups, and the chairperson from these youth groups invited eligible participants from different rural villages to participate in the study. Thus, we used informal networks to recruit the youths.

3.1.3.4.2 Key Informant Interviews

Key informants included village chiefs, pastors, and initiation ceremony counselors and were sampled purposively from areas of high unintended pregnancy occurrence. We used community gate keepers and informal networks, such as health care workers and chiefs to identify the key informants. We recruited three initiation counsellors, identified by the chiefs of the villages. The traditional birth attendant (TBA) was recruited through the Safe Motherhood coordinator. The three pastors and the chiefs were recruited through health extension workers. This sampling procedure provided a diversity of views because the participants came from various rural areas and represented diverse age groups, religious affiliations, and leadership roles.

3.1.3.4.3 Data Collection

Using two data collection methods, key informant in-depth interviews, and focus group discussions helped us understand the topic better, as the methods are complementary and capture both breadth from FGDs and depth from KIIs, ensuring that the data collected is valid (Alain Decrop, 1999; Farmer, et al., 2006). We used triangulation by utilizing both KIIs and FGDs to capture diverse views and cultural norms and obtain in-depth information on the topic.

Each FGD was composed of a homogenous population stratified by age (youths and adults), gender, and marital status to encourage participation (Hennink, 2014).

The data collectors underwent an intensive three-day training (by the investigator) on qualitative research methodology and effective qualitative data collection methods. Role plays and piloting were used to provide practical expertise, thereby improving the qualitative data collection. The key informant interviews were conducted in participants' homes, and the focus group discussions were conducted at the Mulanje district and mission hospitals, which were convenient meeting

places. Five KIIs and four FGDs were conducted by the investigator, while four KIIs and two FGDs were conducted by two research assistants.

The interviews were conducted in the local Chichewa language. Participants were given an opportunity to choose between a male or female interviewer to ensure they felt comfortable and that data quality was not compromised by the gender of the interviewer. Additionally, we wanted to provide options, in case personal or cultural norms only allowed same gender conversations.

On average, both the KIIs and FGDs were conducted for 60 minutes, and ranged from 30 to 90 minutes. All KIIs and FGDs were audio recorded and field notes were documented to note the setting and the demeanor of the participants, which were not possible to capture with the audio recorder. Also, the field notes were used to document key themes and new issues. The notes were compared after each data collection to identify newly emerging issues to determine saturation, as immediate transcription was not possible in view of the limited field duration.

3.1.4 Instruments

3.1.4.1 Key Informant Interview and Focus Group Discussion Guides

We created semi-structured, open ended interview and focus group discussion guides with three principle categories. The first category of questions focused on the meaning of unintended pregnancies, and whether and how residents discuss unintended pregnancies. The second category centered on cultural and community practices that are thought to be responsible for unintended pregnancies from the perspective of the participants. The final category paid attention to social interactions with individuals who have unintended pregnancies, and specifically how unintended pregnancies are addressed by the community. All questions in the three categories

were open ended and probing for each new theme was done to gather adequate information (for example, “What do you mean? Or “Would you tell me more about that?). Although interview guides had been developed prior, the open ended probing identified unanticipated issues areas noted as important by the participants. The open ended questions also encouraged personal perspectives. Moreover, we were not strict in the order of questions as we allowed for a flexible flow in the conversation according to responses from the participants; however, we ensured that the key questions were discussed.

The FGD and KII guides were designed in English and translated to Chichewa, and were crosschecked for accuracy by the local research team. Both guides were designed to ask about norms and practices, not about personal experiences, because the study aim was to describe community norms. The questions were adapted to be different for KIIs and FGDs; for KIIs they were phrased to specifically ask for individual expert opinions, while for FGDs they were phrased to facilitate effective discussion of norms among participants. The objective was to ensure depth of information for KII and diversity of information for FGD.

3.1.5 Data Analysis

3.1.5.1 Data Preparation

The audio data were transcribed verbatim in the local Chichewa language by trained research assistants and the researcher. One transcript from each transcriber was randomly selected and compared to the audio recording to confirm that transcriptions were verbatim and complete. The transcripts were then translated into English by the research assistants in order to minimize loss of information during the translation process. The translated documents were maintained in both languages; after each Chichewa paragraph its English translation immediately followed to ease

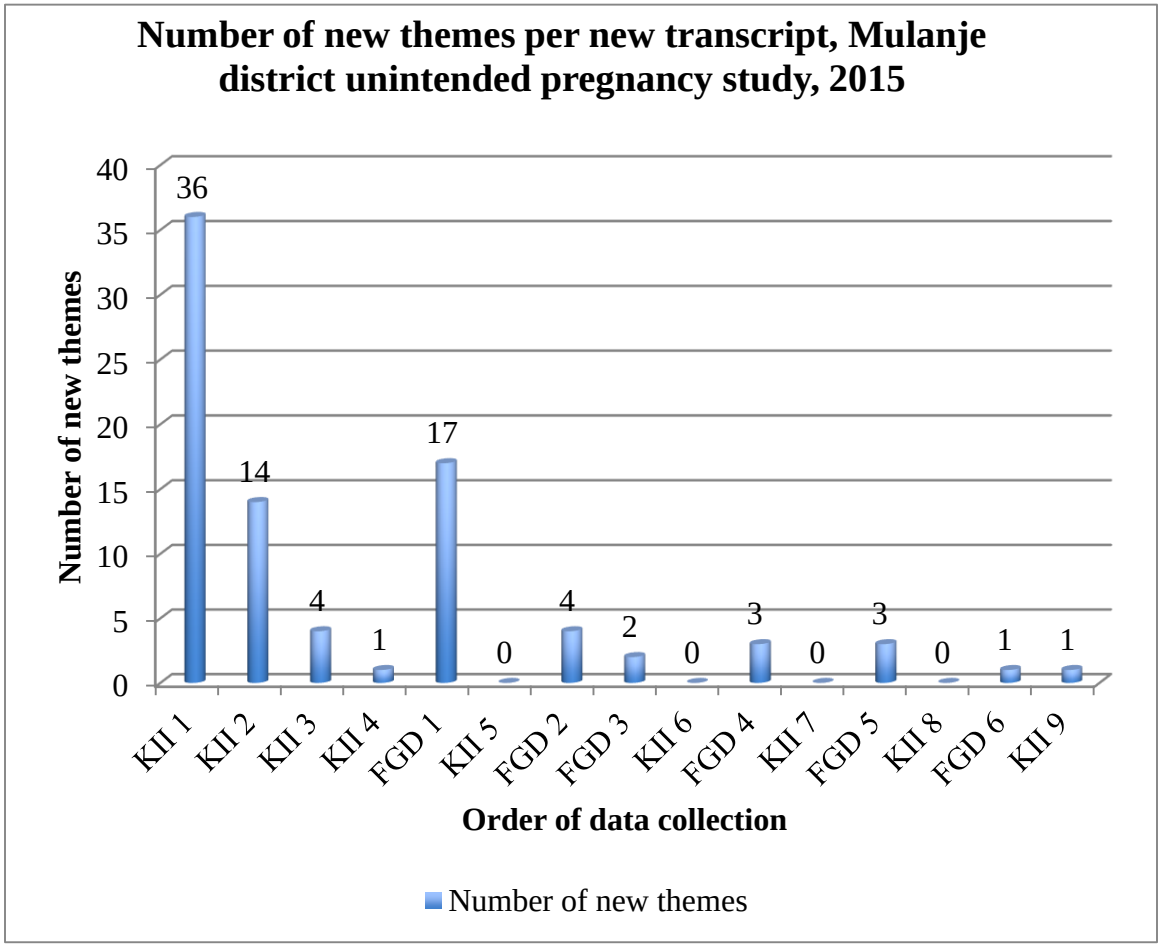
translation corrections where necessary. An independent bilingual Masters of Public Health student from the College of Medicine Malawi cross checked the transcripts with the audio recording to ensure correct transcription and translation. The author checked the translated transcripts for translation correctness and corrections were made where necessary. Where the transcription translation was not clear, the audio was listened to again to preserve the words of the participant. We imported transcripts and notes directly into MAXQDA11, which allowed for memoing, categorizing, defining, editing, searching, and merging codes. After multiple reading of data, memoing was done.

Memoing included interpreting the meaning, either direct or implicit, of the transcript text based on how the author understood the participants' responses. Self-reflections on the part of the researcher noting a personal understanding of the text from the participants' views were also documented to ensure reflexivity. This was done in order to note personal reflections and positions on issues in order to avoid projecting the investigators' beliefs and thoughts to the participants so that the findings presented are truly grounded in the data. Field notes were referred to in the memoing process to contextualize information. For example, where interviews were conducted outside houses, some participants would not provide detailed explanations on relatively sensitive subjects, regardless of probing. Therefore, we would note from the field notes the circumstances behind the shallow nature of the information.

The memos helped identify key themes noted through repetition and relevance to the research question. We conducted multiple line-by-line reading of the transcript text to identify 86 themes and developed a codebook of the key themes, subcategories, and definitions. When a new theme was identified in the codebook development process, it was defined and added to the list of codes. We then checked if the code names and categories in our codebook were appropriate by

crosschecking our codebook through a repeated reading of the data. We adjusted the code names, definitions, and categories where they were not clear. Thereafter, the author coded all transcripts using the codebook. However, to ensure that no transcript text was missed in the coding process, the transcripts were read again to confirm that all relevant text was coded to minimize missing important data for analysis. Of the 86 codes and sub-codes that were developed, 76 were inductive, 20 in-vivo, and only 10 out of the 86 codes and sub-codes were deductive. Thirty-six codes were developed from the first transcript, 14 from the second transcript, four from the third, one from the fourth, 17 from the fifth (first FGD), zero from the sixth, four from the seventh, two from the eighth, zero from the ninth, three from the tenth, zero from the eleventh, three from the twelfth, zero from the thirteenth, and one each from the fifteenth and sixteenth transcripts, as the graph below demonstrates. Therefore we reached data saturation. Data management was done using MAXQDA11.

Figure 2: Graph of number of codes developed from each additional transcript, Mulanje district, unintended pregnancies study, 2015



3.1.5.2 Data Analysis Process

Our aim was to develop a detailed description of the meaning of and influences on unintended pregnancies in rural communities where unintended pregnancies are common. After coding, we did multiple searches of themes using MAXQDA 11 to provide data for the detailed description. We read across themes and compared retrieved data by gender, marital status, age group, and education of participants. As described by Viney and Bousfield, we used systematic multiple reading of transcripts for themes with awareness of similarities, differences, and inconsistencies to bring the results (Viney & Bousfield, 1991). We analyzed transcription text using a thematic

approach as described by Guest and colleagues (Guest, MacQueen, & Namey, 2012). For the theme of unintended pregnancies, we retrieved all data on the codes on unintended pregnancy within and outside of marriage and did multiple readings across all retrieved data, taking note of key findings in the process. We then retrieved data by sex to compare how unintended pregnancies were being described among men and women. We also compared the understanding between married participants and unmarried participants. Additionally, we compared by education. However, we only had exact data on education for in-depth interview participants, while the FGD participants had varied education levels from no education to some secondary school education; consequently, we were unable to determine exact education for FGD participants. Through these comparisons, we acquired the context and nuances for the meaning of unintended pregnancies as reported by participants. We also retrieved sections where the theme of unintended pregnancies intersected with codes for support systems, gender issues, blame game, stigma, family name, pregnancy is a blessing, secrecy, abortion, deserted, marriage of convenience, and contraceptives. This provided more data on nuances and context. Furthermore, we retrieved data on intended pregnancies to determine whether there were differences as a negative situation to compare to the data.

For influencing factors of unintended pregnancies, we retrieved data on early marriages, idleness, video show, gambling, financial reasons, promiscuity, peer influence, parties, parental influence, drug use, *kusasa fumbi (sexual cleansing)*, contraceptives, contraceptive myths, abortion, stigma, initiation, abstinence, stigma, and premarital sex is sin. Similarly, we did multiple readings of data across the themes, and then compared by gender, marital status, and education, documenting important findings in the process. We also attempted to retrieve sections

where the theme of intended pregnancies intersected with the aforementioned codes as a negative case comparison.

The notes were used to create a detailed description of results. After description, we checked retrieved segments of the key themes again to confirm that the findings were from the data. Minor changes were made to establish the legitimacy of the results. While confirming findings from the data, we selected few key verbatim quotations to add to the description notes.

3.1.6 Ethical Considerations

3.1.6.1 Ethical Review

The research was reviewed as part of the project "Maternal Morbidity and Mortality in the Mulanje District of Southern Malawi." The Emory Institution Review Board waived ethical review, as the study did not meet the definition of human research because we did not intend to collect personal information, and we did not aim to generalize the findings. The local Malawi National Health Sciences Research Committee (NHSRC) granted an expedited review and approval (Protocol #15/5/1433).

3.1.6.2 Informed Consent

Informed consent was obtained from each participant prior to participation. Considering the potentially sensitive nature of the subject, we acquired verbal consent. All participated voluntarily without force or coercion and had the freedom to withdraw at any point without any consequences.

3.1.6.3 Privacy, Confidentiality and Data Security

Considering the sensitivity of the subject matter with regard to Malawian culture, both KIIs and FGDs were conducted in private rooms, except for two KIIs, which were conducted outside due to the inability to access private space in the villages. The data collected was only accessed by the research team and used solely for research purposes. In addition, the recorded electronic data was password protected. No names were documented, possible identifiers were de-identified, and recorded data were destroyed after transcription. For the FGDs, the researchers maintained confidentiality; however, we did not have control over what the participants would reveal after the discussion. Nevertheless, we encouraged the participants to keep the discussion details confidential. Furthermore, because participants were asked to describe community norms, not personal experiences, we anticipated that there was less risk of disclosure of confidential personal information.

2.1.6.4 Potential Harms and Benefits

No physical harm was associated with the study. Likewise, because the participants discussed community norms and perceptions, not personal experiences, they had little risk of emotional harm. We did not note any stress symptoms from the participants. We gave a small compensation for their participation in the study; otherwise, participants received no direct benefit. The study has the potential to improve reproductive health practices, thereby reducing unintended pregnancies and the consequences if used to inform health service provision in the area. The results will be disseminated at the district and ministry levels.

3.1.7 Limitations and Delimitations

3.1.7.1 Limitations

Firstly, these findings are limited to rural areas with high occurrence of unintended pregnancy in Mulanje district. Therefore knowledge gained from the study is not generalizable but may be relevant to similar settings.

The sensitive nature of the topic in the local context might have caused discomfort, affecting the quality of collected data. Nonetheless, we did not ask about personal experiences but community norms, so participants were likely to be comfortable.

Selection bias may have occurred due to the use of purposive sampling methods to recruit study participants. However, our interest was in community norms and diversity of opinions; hence, the sampling methods were appropriate. In addition, there is a possibility of social desirability bias due to the high interest in research on reproductive health in Malawi. However, the triangulated data collection using KIIs and FGDs, and the discussing social norms not personal experiences, assures the certainty of our results.

The analysis did not include data from young male participants therefore the results might not reflect their perspectives. Although, the data demonstrated saturation of themes hence unlikely that we would acquire more themes from the young male participants, their perspective would still be informative. Moreover, the younger married men who participated in FGDs possibly presented views of the unmarried male youths.

Furthermore, only three protestant pastors participated. Therefore their views might not represent views of pastors from other churches. However, the diverse religious allegiance from FGD participants provided information from other religions.

Finally, the study results may have been influenced by the researcher's ethnicity and individual biases. Due to the personal background of the primary researcher — who is from the region where the study was conducted — ethnicity, gender, attitudes, and beliefs may have influenced data interpretation. However, the researcher was aware of these biases therefore practiced reflexivity to balance the potential influence on the data and participants.

3.1.7.2 Delimitations

The study is delimited to rural residents in Mulanje district. In addition, the participants included identified themselves as residents of the district.

3.2 Results

The findings below describe the core issues of how the rural community understands the meaning of unintended pregnancies as presented by the study participants. Additionally, we describe factors that were reported to influence occurrence of unintended pregnancies in rural Mulanje, where these pregnancies are reportedly high.

3.2.1 Meaning of Unintended Pregnancy

Generally, unintended pregnancies were described as pregnancies that happen when they are not wanted, or are unexpected, mistimed, or unplanned. Moreover, these pregnancies were considered accidental pregnancies. If a woman wished to prevent childbirth altogether but conceives, the pregnancy was described as unwanted. On the other hand, unexpected, accidental, mistimed, and unplanned were described similarly. These terms were explained interchangeably as a pregnancy that occurs without prior planning or agreement with the partner, or that happen suddenly when the individuals did not expect it. Mistimed pregnancies, defined as pregnancies that do not occur at the desired time, were part of this similar group of unintended pregnancies. The participants reported that the meaning of "earlier than desired" varies among and within couples.

There was no standard duration for timeliness, as this was individualized. For instance, if the desired time interval between births was four years, if the pregnancy was conceived any time before the four years, then to that couple the pregnancy was considered mistimed. Participants also reported that generally these pregnancies are regarded as a woman's fault, apart from instances of rape. However, few participants did not seem to agree with categorizing and describing pregnancy intention. To them, the goal of having sexual intercourse is to procreate;

therefore, the pregnancy should not be described as unintended, even if the persons did not desire it. Consequently, once a man and a woman agree to have sexual intimacy, pregnancy should be an expectation. These participants acknowledged pregnancies as unintended if conceived from rape or coercion because the woman is forced; she did not wish to have sex. Coerced sexual intimacy or rape was described to be particularly common among the financially disadvantaged, where women are sexually victimized in exchange for money or materials. The quotations below depict a focus group participant explaining that pregnancy cannot be unintended:

FGD3 P1 (adult male): "..... *We have been hearing the words unintended pregnancy from radios. So, aah, they really disturb my mind. Unexpected pregnancy? What do they mean how is it unexpected? ……A woman can't get pregnant without a man sleeping with her*."
All: *It's not possible.*
P1: "*It's not possible. Aah, a woman gets pregnant only when a man sleeps with her. So a pregnancy cannot be unintended."*

3.2.2 Unintended Pregnancies within Marriage

Within marriage, three aspects of unintended pregnancy were discussed: when a couple wanted to delay conception, stop childbirth altogether, or space subsequent births but conception occurs. Participants reported that, usually, only the couple would know whether their pregnancy was intended or not, as pregnancy issues within marriage are not openly discussed. However, where there were disagreements and blame, these issues would involve third parties, like traditional guardians of the marriage bond or religious leaders through which counselling would be offered to the couple. Only then would there be a risk of outside people knowing that the pregnancy is unintended.

Conversely, some participants explained that all pregnancies from a marital union are intended. They are "God's blessings." The indicated that if the husband asked for the woman's hand in marriage, then any pregnancy from the marital union is satisfactory, regardless of the number or duration between pregnancies. The pregnancy *"*has an owner" (the husband); therefore it cannot be unintended. These ideas of "no unintended pregnancy within marriage" were mostly from older, less educated participants and individuals with strong religious views. However, most educated participants explained the importance of proper family planning and expected that even "God himself "likes orderliness, so He would never be displeased by a well sized family able to take adequate care of its children. We did not find patterns about the meaning by gender. Interestingly, within marriage, there were cultural expectations that soon after wedding, the couple should conceive. Absence of pregnancy within a few months led to conclusions of infertility problems. Therefore, a couple could have an unintended pregnancy; however, it would be "expected" by the community.

The participants below describe that within marriage pregnancy cannot be unintended:

KII 3 (female adult): *"…not to a woman who is married because you have someone your husband, so when he gets you pregnant that's not unintended because the pregnancy has its owner, the father is there and he knows he is the one responsible……It is intended since you are married, those ones are from God's wish, gifts from heaven."*

FGD4 P6 (adult male)*: "…You are two people in the house, so you know what the two of you are doing. (P5: You definitely know)…So if it happens that the woman has gotten pregnant and you should say, I did not expect it, is your head working? No, it cannot be."*

3.2.3 Unintended Pregnancies Outside of Marriage

Some participants explained that unintended pregnancies happen only outside of marriage. First, they considered pregnancies conceived by married women or men, but with extra-marital partners, as unintended. These pregnancies were unintended because they are from "stealing"; the husband cheated the wife by engaging in sexual relationships with other women, resulting in pregnancy or vice versa. For example, if a husband were away for a long period and upon returning finds the wife pregnant, and if the gestation age does not match with the time the couple last had sex, then that pregnancy was described as unintended, because it was sired by another man. Therefore, the participants still associated these pregnancies with extra-marital pregnancies, because they were not conceived with the regular partner.

Second, premarital "out of wedlock" pregnancies were unanimously described as unintended. Repeatedly, participants expounded that in their communities, unintended pregnancy is commonly related to unmarried youths, particularly, those who are still in school. They said that adolescents might not be physically or financially ready to care for pregnancy. Youths only want to enjoy sex, but due to non-use or contraceptives failure, pregnancies result. Participants also implicated a lack of knowledge about contraceptive among the youths, saying that due to religious beliefs, before marriage most adults advocated for abstinence compared to contraceptives. Additionally, these out of wedlock pregnancies were attributed to disobedient youths who failed to abstain from sex because they ignored advice. Because premarital sex was described as sinful, these pregnancies were commonly ridiculed and given derogatory terms like "fatherless," "useless," or "valueless" pregnancies.

Consequently, premarital pregnancy attracts massive stigma and discrimination from the community and even, at times, from church members. However, while premarital sex is not acceptable, and unintended pregnancy stigmatized, children delivered from unintended births were considered a gift from God. The participant below explains unintended pregnancy among the youths:

KII 8: "*I just pity the unmarried girls, if they have unintended pregnancy it means that they haven't done well, that they didn't follow church and parental advice…they have sinned against the law, their life, church elders, and their parents and also against God. For God said do not commit adultery… So when there is unexpected pregnancy we call it a sin, we confront them and tell them to repent."*

Unintended pregnancies among youths commonly resulted in forced marriages. In fear of the shame associated with the pregnancy, most parents ordinarily abandon the girl at the home of the man responsible for the pregnancy, resulting in early marriages. Moreover, some reported that no other man may be interested in marrying her once she delivers outside of marriage. Regardless of the age of the responsible man, the girl is abandoned unless an agreement is made with the family for support. If the couple wants to continue their education, they would do so while married, from their own house. These become marriages of convenience and most youths enter them despite not being ready. Furthermore, some chiefs seem to encourage these marriages. The chiefs encourage the families to institute marriage between the pair as the excerpt below explains:

KII 7 (adult male): "*This is the chief's compound, so it is the duty of the chief to bring together, to build but not destroy…But, the parents of the girl who has been impregnated can come to complain against the boy who is responsible for their daughter's pregnancy. So we call both parties to discuss the matter, and we tell the boy that, from now onwards the girl is his wife. So*

it's up to the parents to organize the whole thing, as for us our duty is just settling the disputes, by declaring that since the boy impregnated the girl then the woman is his, turned into his wife."

Nevertheless, some parents support the girl and take care of the baby and send the girl back to school until she finishes. This was reportedly common among knowledgeable parents. Some boys refuse to be responsible for the pregnancy and some girls may identify the guy they know would help them. This was reportedly common among girls with multiple sexual partners. Therefore unintended pregnancies among youths were closely described in relation to a lack of support.

3.2.2 Influences on Unintended Pregnancies in Rural Communities

Participants reported *kusasa fumbi,* alcohol and marijuana, peer influence, poverty, early marriages, social activities, and contraceptive myths as key influencing factors for occurrence of unintended pregnancies in their communities.

3.2.2.1 Sexual Cleansing 'kusasa fumbi' after Initiation

The initiation ceremony, a cultural event that marks transition from adolescents into adulthood was reported as an important factor for sexual practices and unintended pregnancies. During this ceremony (one to four weeks long), the initiates are in seclusion undergoing counselling sessions. Ideally, only mature youths should be initiated but regularly those as young as 10 years old are included. Being initiated in this community is fashionable. Therefore, the majority of youths become initiated to conform to the cultural expectation. Participants explained that there are no major differences in the activities that happen at the male and female sessions. They both discuss physiological and practical sexual issues related to their bodies and of the opposite sex.

In addition, participants reported that sexual intercourse is simulated. Because the information taught is about sexuality and how to behave as adults and within marriage, once initiated, the individual is considered a full adult and therefore ready for marriage. They are instructed to have sex as a ritual of sexual cleansing soon after initiation. Initiates are encouraged to choose cleansing partners from the camp of the other gender. They are advised that failure to perform the sexual cleansing will result in a permanent pale skin. Furthermore, the youths are cautioned that the pale skin does not resolve until the individual obliges and performs the sexual cleansing process. Therefore, initiates are pressurized to practice the cleansing. Interestingly, most participants mentioned that they do not trust that this belief it true, but acknowledged some people are afraid and end up practicing it. However, not all initiated youths practice *kusasa fumbi* despite being told it is a requirement. The focus group participant below explains the sexual cleansing practice:

FGD 5 P4 (female youth):*"For instance, mhmh at the initiation 'thezo' as we call it here we are told a lot of things. They say when we get back home we should sleep with a man, explaining to say if we don't we will slowly become pale and many other things. So since one has been initiated and told to do so, they go ahead and do as told hence after doing so they find themselves getting pregnant when it wasn't part of the plan."*

Additionally, there are riddles only taught at the initiation ceremony as a marker of initiation. After initiation, as a way of encouraging interaction between initiated boys and girls, they test each other's knowledge of the riddles. There is a priori agreed punishment or reward for passing or failing. The common rewards are sex, money, or materials like pieces of cloth. Often, adult men take advantage of the inexperienced newly initiated girls, coercing them to have sex for the cleansing. Unfortunately, there are no safe sex messages incorporated in the ceremonies,

inevitably encouraging unprotected sex. The participants reported that consequently, this belief is an important path toward unintended pregnancy and sexually transmitted diseases in the community. Despite reducing rates over the past few years, participants reported that the practice is common.

In an attempt to reduce premarital sex associated with the initiation practice, some churches have implemented Christian initiation ceremonies where the counseling is more focused on encouraging obedience and abstinence. Nonetheless, counselors were concerned that the church version of the initiation ceremony is neglecting important cultural sexual lessons that are essential for adolescents. Likewise, youths explained that the initiation ceremonies are very important as they provide them with key sexual information. Youths suggested increasing diversity in the topics discussed, including information on education and how they can be productive to the society. They also advocated inclusion of safe sex messages and making condoms readily available for use during and after the initiation ceremony.

3.2.2.2 Alcohol and Marijuana

Participants commonly linked alcohol *mtonjani* and marijuana to the occurrence of unintended pregnancies. Reportedly, the local alcohol breweries (where marijuana is also readily available) are open almost daily and are frequented by both genders. Typically, women who partake are unmarried, while both married and unmarried men participate. Men who drink this strong alcohol become uninhibited and freely have sex with women there. The sex is usually unprotected, resulting in unintended pregnancies and sexually transmitted infections. Moreover, rape is common. Unfortunately, most men refuse to be responsible for pregnancies conceived from sex at beer drinking places. Refusing to accept responsibility for their actions, they say they

do not remember having sex with the woman because they were drunk. As a result, some women are left to deal with their pregnancies alone.

Furthermore, they reported that some school girls drop out of school due to unintended pregnancies resulting from sex with men the local breweries. Once a girl becomes pregnant in this way, her value as a young woman diminishes in the eyes of the community. Therefore, some of these pregnancies end up in unsafe abortions or baby abandonment. Moreover, participants reported that abortion is not viewed favorably in the community. When the girl delivers her baby, her chances of continuing with school are minimal, as she usually ends up working in tea plantations to support herself and the baby. In addition, they reported that it is the women who are frequently ridiculed by the community for partaking in drinking and allowing drunk men to have sex with them. They say the woman has a responsibility to refuse sex. On the contrary, the boys or men responsible for the pregnancies continue their normal lives. The focus group participant below explains about the influence of alcohol:

FGD 4 P5 (adult male): *"Especially the 'mtonjani,' eish it's not something small in bringing problems … You find a normal young girl who is a school goer; well kempt and dressed yet is going to drinking joints. (P7: Yeah). Three months down the line, you find that she's pregnant...Her value is gone there."*

3.2.2.3 Peer Influence and Poverty

Participants reported that among girls, the desire to have material goods has led most to indulge in sex in exchange for money and other material goods. The sex is ordinarily with older and experienced men because they have money. Often, the sex is unprotected and leads to unintended pregnancies. This was reported to be common among school girls who envy their peers for their

fashionable clothes, food, or money. Therefore, due to peer pressure, the less privileged girls practice transactional sex to have materials enough for them to feel worthy or as belonging to a group of friends who have these fashionable items. The female youth below explains:

FGD 5 P2 (female youth): *"Someone tells you how fashionable a certain dress has become, 'the way that friend of mine dresses I want to be like her' without knowing that your friend dresses like that because her parents are rich. Then you start offering the short time sex things with the intention of wanting to wear a bangle that is similar with the earrings (um) and other things with the way life is nowadays."*

For poor girls, it was reported that the financial sex transactions may happen because of poverty, as their parents could not support them to satisfy their needs. However, for girls from richer parents, it was reported that the "devil" who tempts them is to blame. Otherwise, those girls do not have an excuse to practice transactional sex.

For orphans in young, female-headed families for whom there is little support, sex is way of finding income to support fellow children in the family. When they do not have food, soap, and other necessities, they become involved in transactional sex. Unfortunately, the women have less bargaining power for condom use because the men possess the money that the women need. Often, the women are young, lacking experience using contraception. Sometimes, even elderly women who are experiencing financial strains resort to transactional sex. Additionally, some parents encourage girls to earn money through prostitution in order to support the family.

Related to the issue of financial need is the issue of gambling. Participants reported that women addicted to gambling exchange sex for money if they lose bets. Some men were reported to take advantage of winning in order to demand unprotected sex from the women. Although, apart from

financial challenges, promiscuity, and simply enjoying sex, the influence of the devil and lack of self-discipline were blamed for transactional sex. The key informant below describes:

KII 8 (female adult): "*For others it's because of poverty, I don't have this but my friends have. Whilst others come from well to do families but they are cheated by their friends they take it as a fashion for having fun in life…which is because of the power of the devil, sin. So they get pregnancies."*

3.2.2.4 Early Marriages

Participants explained that frequent early school dropout led to early marriages in the community. Once the youths quit school and stay at home, there isn't much to do. Therefore they resort to early marriages. Following marriage, the community immediately expects babies. If there is no pregnancy within a few months, it is concluded that there are infertility problems. Elders may offer to assist with infertility solutions. Consequently, though a couple is not ready to procreate, they may conceive because of the pressure.

Furthermore, participants reported that there are more early marriages in Mulanje than in districts where *lobola* (bride wealth) is practiced. For those districts, participants reported that it is not allowed to be sexually active before paying the *lobola*. Therefore, as a large amount of money is required for *lobola*, it acts as a deterrent to un-prepared grooms. In addition, the wedding parties themselves are expensive. On the contrary, in Mulanje district, it is easy to get married because there is no *lobola;* for that reason less investment is required. Moreover, the wedding party may just be a small function between families of the bride and groom. The participant below explains:

FGD 4 P3 (adult male): **"***What I see as the other reason why these problems come is mainly because we rush in getting married here…In our friends' communities you 'buy' a woman that you cannot ask her out just like that…Even if your sexual desires are so high, there's no way you*

can touch a girl around without paying for her first. Yet back home here, we just say aah, I want you so we'll see what to do; you just discuss…It is why those people 'buy' each other yet we don't do that here. So this is what is destroying us here, since we just ask each other out easily."

Furthermore, participants discussed that young men in rural communities rarely receive support from parents beyond adolescence. Parents feel that once individuals pass adolescence and are initiated, they are old enough to support themselves or get married. Therefore, they encourage them to marry. This norm is similar to the experiences of the parents from their own parents, hence the circle continues, plummeting more youths into early marriages. Following marriage, the young men are required to live in their wife's village. They are given a piece of land to build a house and grow food but, due to limited land, the piece of land is usually small. Initially, the young couple depends on the wife's family, but soon they are expected to grow food for self-sustenance. Being a new place, it is difficult for the young men to establish themselves. Considering the difficulties they face securing employment, worsened by early school dropout, most resort to doing temporary piecework to sustain their family. If tea plantation jobs are not available, cultivating other peoples' land for meagre pay is the only way to survive.

FGD P4 (adult male): *As he has explained, what happens is that many here neglect school for example. (P6: Yeah). It happens that a person my age dropped school a long time ago. And so parents tend to say that son, you can't be staying in my household at this age; why don't you find a girl to marry. Sometimes it's like they add to the problems. So in wanting to avoid being a burden to the parents, you end up taking a girl and leave her at home; thus continuing to get poor for the rest of your life.*

FGD P5 (married male)…. It happens that many of the youths are living with their parents; for instance a guy like me living with my parents. A girl leaves her home and goes to get married and live with a boy at his home. Yet here in my community, once a person my age gets married, they have nothing else to do with me. Leave this place and go and live with your wife.

3.2.2.5 Social Activities

Participants explained that the lack of social activity in their communities drives sexual activities that potentially result in unintended pregnancies. There are few events to keep people busy; as a result, they resort to engaging in sexual intercourse to pass time. However, sports tournaments keep youths busy, leaving less time for sexual activities. Other reported social activities that keep people busy were variety shows, video shows, wedding parties, and kitchen top up parties. Kitchen parties are cerebration done following a period of contributing money in a group of women to support each other buy household utensils. However, apart from reducing the occurrence of unintended pregnancies, these activities were also reported to potentially increase pregnancies in some circumstances. Activities that would run until late at night were said to be used as an opportunity to have sex. For example, variety shows where youths parade in beauty contests were reported as venues where unprotected sexual intercourse easily happens. Some patrons end up spending the night together and having unprotected sexual intercourse. Moreover, most movies at video shows during night hours were reportedly pornographic films, which might further drive sexual activities. No condoms were said to be readily available at these venues. Similarly, participants reported that overnight wedding celebrations and kitchen top-up parties are used as a chance to have sex. The quotations below depicts how social activities were viewed as protective on one hand but harmful on the other:

FGD 3 P5 (adult male): *"Nothing to do so we are like, alas, what else do I do? Let me just take this lady and you know just enjoy her. Those problems come right there."*

FGD 1 P7 (adult female): *"There has been an introduction of sexual/pornographic movies on the televisions. So as these children are watching these things it compels them to go and try it out, so*

in doing so they eventually get pregnant. Sometimes a girl goes to watch movies out until very late like 9 o'clock at night and they make arrangements for sex there."

3.2.2.6 Contraceptives Myths

Participants reported that a lack of contraceptive knowledge, negligence, myths about contraceptives, side effects, and a lack of discipline were the main barriers to contraceptive use, triggering high unintended pregnancies. The calendar method was a preferred method, especially among men because it is not a barrier method. However, participants explained that poor knowledge of how it works were setbacks to its use. Yet, they said it was the most accessible method. Frequent stock-outs of supplies from public facilities also led community members to resort to the natural method. Body-to-body contact was also reportedly favored. They said the pleasure is less with condom use: "We don't eat a sweet whilst it's still wrapped in paper" was a common phrase used by men to describe how they reason about condom use. The participant below explains:

KII 1: Am not speaking from a Christian perspective but taking it the way the world is now, there are ways in which they can be having fun and not get pregnant, however there is the natural method that most people fail to understand. It requires you to find out what dates/days that the woman is menstruating and how you avoid those days, so such things our boys don't care and sometimes they lack knowledge of such things.

FGD 4 P6 (adult male): *"The main issue is, should I really eat this thing while in its sachet? Ah, that is not on! (P4: Not at all!) I won't allow it here but for me to enjoy it properly, it should be like flesh and flesh has to meet, blood."*

Myths about contraceptives were common. Some participants reported that others believe the lubricating fluid in condoms contains HIV and were therefore afraid to use condoms. However,

other participants dispelled the fears. Participants reported that some people believed hormonal contraceptives reduce a man's power to have sex, reducing the sex frequency. Consequently, they said the reduced intercourse frequency might result in secondary infertility. Moreover, youths were discouraged to use hormonal contraceptives for fear of the infertility. The hormonal contraceptives were reported to reduce sexual pleasure for both men and women. As the participant below explained:

FGD 2 P1(female adult): *…When you use contraceptives for a long time…what happens is that even when your man caresses you, you don't feel it you lose the feeling, it just doesn't feel right."*

Other reported myths included allergic reactions among women, also that Depot Provera caused preterm births and higher concentrations from prolonged use might lead to epilepsy.

In addition, although participants were not sure of the magnitude of practice they reported a folklore method, a traditional belief that tying beads in the waist protects against pregnancies. The adolescent below explains:

FGD 6 P7 (female youth): *When you have finished your menstruation after 10 days, this fluid goes away too, and you can wait for it later on. I have learnt about this type of natural method of family planning, some people use this type of family planning method, some use beads tied in around the waist, we have learnt such methods.*

3.2.2.6.1 Contraceptives within Marriage

Most participants said within marriage unintended pregnancies were experienced because of non-use and in-appropriate use of contraceptives. Furthermore, lack of open communication between partners led to in-appropriate use. Moreover some husbands did not approve use.

Consequently, some women used clandestine means to access contraceptives. They sometimes access the contraceptives without documentation in the health passports which can potentially lead to missing appointments. Similarly, some women resort to accessing contraceptives from clandestine providers.

3.2.2.6.2 Contraceptives Outside of Marriage

Religion was described as a major barrier for contraceptive use among youths. Religious beliefs encourage youths to abstain, because sex before marriage is sinful. Therefore, contraceptives among youths were generally unacceptable. However, sex was reportedly common, even among religious youths. Some youths do not use contraceptives for religious reasons; yet they practice sexual intercourse, which is likewise not permissible. Participants reported that religion does not advocate teaching contraceptive use to youths, because when the youths are taught they tend to practice, when the aim of teaching would be for awareness and use of the knowledge when they get married. On the contrary, when some religious leaders discuss condoms with youths, they emphasize the message that condoms are not reliable, and that the youths are only guaranteed to avoid pregnancies through abstinence. Participants reported that even religious leaders acknowledge that most youths are sexually active, but would still not acknowledge contraceptive use amongst the youths. Similarly, most elders do not approve of girls accessing contraceptives. However, some girls access injections secretly from health facilities where youth friendly health services are available. Regardless of the opposition, youths expressed that when one knows they cannot abstain, the best alternative is to use contraceptives. However, due to side effects related to contraceptive use, the youths reported preferring condoms to hormonal methods.

3.2.2.6.3 Contraceptives among Women and Men

Women face displeasure and complaints from men within marriages when contraceptives fail. Most men explained that commonly it is because the wives did not use the methods appropriately, causing contraceptive failure. Sometimes, third parties would be required to help bring peace within the family, explaining to the men that contraceptives may fail. Moreover, participants reported that most men push contraceptive use to women saying women should take the initiative, as they are the ones that get pregnant.

In summary, the data suggests that religious beliefs, cultural practices, transactional sex, and social events in the context of poor contraceptive practices and availability, poor sex education, gender issues and poverty drives the occurrence of unintended pregnancies in this rural setting. Figure 3 below, demonstrates this relationship.

Figure 3: Factors influencing occurrence of unintended pregnancies Mulanje district, 2015.

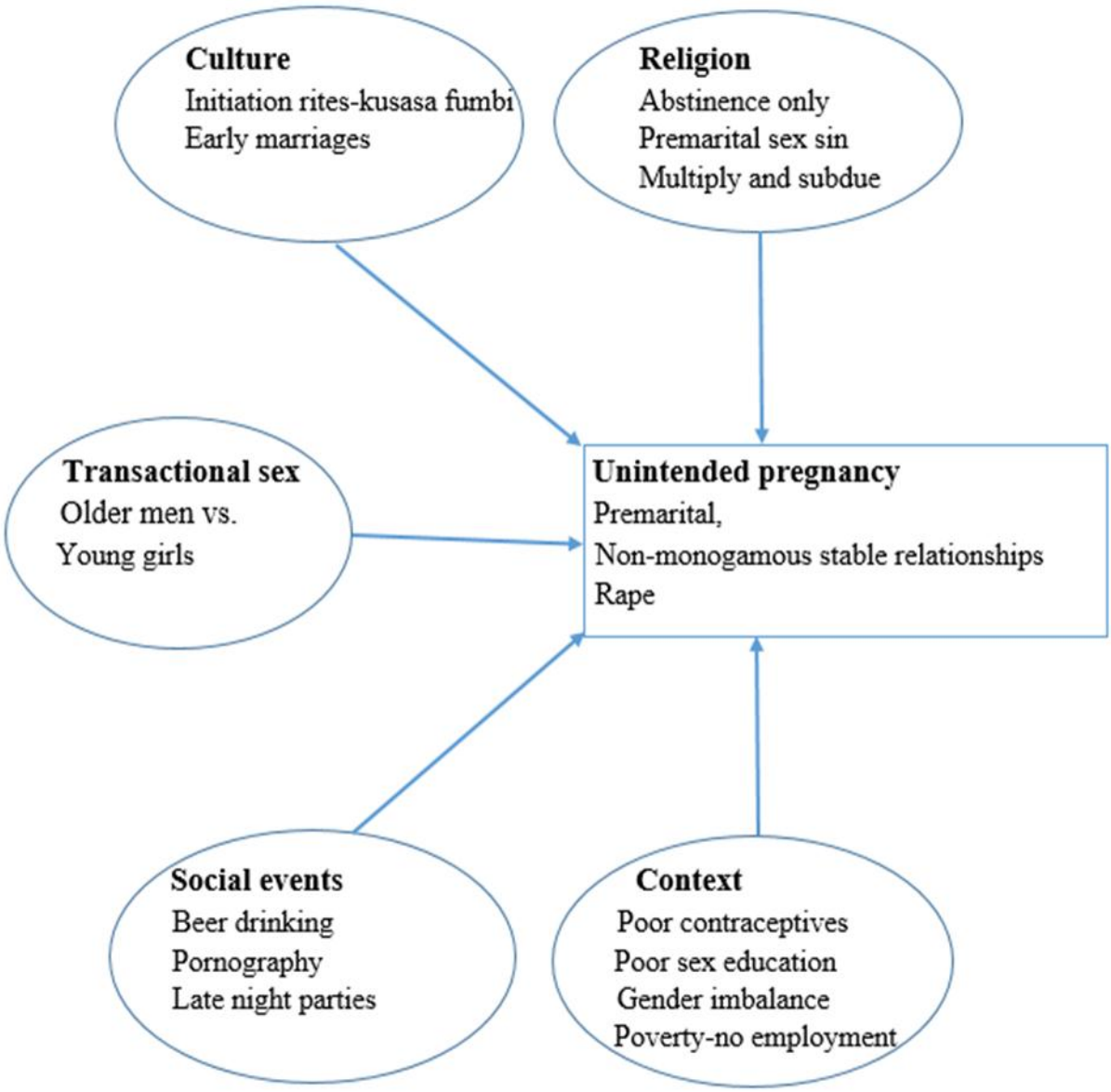


Diagram of key factors that influence occurrence of unintended pregnancies in rural Mulanje

Chapter 4. Discussion, Conclusion and Recommendations

4.1 Discussion

In our qualitative study of unintended pregnancies in rural Mulanje, we describe the meaning of unintended pregnancy from the perspective of the community. We then discuss factors that are reported to influence occurrence of unintended pregnancies in these communities.

4.1.1 Meaning of unintended pregnancies

Only few participants did not agree with categorizing pregnancy intention circumstances because pregnancy is a possible consequence of any heterosexual sexual activity. Although a small number understood the meaning of unintended pregnancies as defined in survey paradigms, in general participant's description of unintended pregnancies related to whether the pregnancy occurred within or outside of marriage, with unintended pregnancies being those out of marriage and those within marriage described generally as intended.

We found two other primary studies by Fishers et al. (1996) and Barret and Wellings (2002) that examined perceptions about the terms used to describe pregnancy intention. Both studies are from the developed world and focused on women's perceptions only. Therefore, our study was unique in that it explored these perceptions from both women and men in a low income rural setting.

Our findings are consistent with both studies in that women's understanding of unintended pregnancies differed from how the terms are comprehended and used in quantitative surveys. Although some participants understood unintended pregnancies as those that are mistimed or unwanted and therefore consistent with the epidemiological meaning, the unanimous

understanding was that unintended pregnancies are "*out of wedlock*" pregnancies or those conceived from non-consensual heterosexual sexual relations. Contrary to the findings by Fishers and colleagues, and Barret there was at least a consensus understanding of the meaning of unintended pregnancies among our participants that these pregnancies are extra marital pregnancies, in spite of other variations. It is interesting that these extramarital pregnancies were explained two fold, first between unmarried individuals, second a married individual conceiving the pregnancy with a partner outside of marriage. These findings could be explained by the expectation of "high moral values" in this society especially due to religious beliefs about the sanctity of marriage that a married individual should only have sex with their marital partner and the belief that premarital sex is sin. Therefore children are traditionally expected to be conceived within marriages. It is then not surprising that children within marriage are considered blessings regardless of the number.

Additionally, we see unintended pregnancies being described as "*accidental*." This is interesting considering Henrich's theory of accidents prevention which depicts that a majority of accidents (80%) are due to mistakes of people (Hayhurst 1932):

"Accidents only occurs as a result of personal or mechanical hazards, they occur through the fault of careless persons, these faults are acquired or inherited as a result of a social environment where or how a person was raised and educated."

Henrich's theory possibly explains the blame towards unmarried youths for conceiving premarital pregnancies as the community considers the pregnancies as mistakes due to carelessness which could have been avoided. On another hand, the religious belief that premarital sex is sin explains part of the blame towards these unmarried individuals who

conceive pregnancies in rural Mulanje. Consequently, the blame might culminate in stigma, discrimination, abandonment and forced marriages. Moreover, those with these pregnancies were expected to repent for conceiving "*out of wedlock*" pregnancy.

Similar to Barret and Wellings (2002), the study found that some participants were uncomfortable to designate pregnancy intention status saying it is not appropriate to consider pregnancies as unintended. They said so long as the sexual intercourse is consensual then the pregnancies are by default intended except in cases of rape. Especially for pregnancies within marriage where some participants reasoned marriage is an automatic consent for procreation regardless of the number and timing of pregnancies. The religious belief that children are blessings from God expressed by these participants could explain this finding. Moreover, some participant explained the biblical belief to multiply and subdue the earth (Genesis 1: 28). It is reassuring that among religious leaders, some advocated for limiting procreation if a couple cannot ably care for many children.

Consistent with findings by Chimbiri (2007), we found that regardless of the age of the couple as long as they are married, pregnancies were expected and acceptable. With this expectation that once married a couple should have children, married adolescents are likely to conceive pregnancies they do not intend, to satisfy community expectations although they might not be ready for the pregnancy. Moreover, we found community pressure to newly married couples to conceive pregnancies, meaning a couple would have an unintended pregnancy which was however 'expected' by the community. Therefore, there is a clear community influence to couples on procreation.

Our participants considered unintended pregnancies as similar to unplanned pregnancies and planned similar to intended, a finding consistent with Barret and Wellings (2002). However, our challenge was that the local language meaning of unplanned and unintended are interchangeable.

Notably, unintended pregnancies among youths were closely described in relation to lack of support. Most participants expressed worry about extramarital unintended pregnancies for the woman because these pregnancies lacked support which is expected from the husband. This possibly explains why premarital pregnancies were stigmatized and termed derogatory names like pregnancies "*without an owner.*" Conveying the gender dimension of man as a provider to the family and the woman as a receiver, therefore in the absence of the man the woman is considered lacking and inadequate. Women's empowerment might be an important strategy in these areas. In a Bangladesh study among currently pregnant women, Rahman found that for each unit improvement in women's empowerment on the autonomy scale the likelihood of unintended pregnancies reduced by 16%, conversely a unit reduction in the autonomy scale increases likelihood by 19% (Rahman, 2012). Furthermore, this concept of *lacking an owner* likely explains why female adolescents were subjected to early marriages.

Religion played a major role surrounding unintended pregnancies in these areas, influencing the understanding of the meaning, as a sources of support to individuals with these pregnancies but also influenced occurrence of stigma. The stigma mostly brought about by considering those with unintended pregnancies outside of marriage as sinners because they were involved in adultery hence the pregnancy. Our findings echoes Farmer (1999) who argues that religion cannot be neglected in sexual reproductive health as religious organizations strategically place themselves to discourage use of sexual interventions not in line with their beliefs (Farmer, 1999).

In summary, our findings back Finley's theory that the terms used to describe pregnancies may not be consistent with the women's emic perspective description of pregnancy intention status (Finlay 1996). The findings support this hypothesis among both male and female genders in rural resource limited setting.

Finley's 1996 theory:

"*My unease with the dichotomy between planned/intended and unplanned/unintended pregnancy arose from suspicion that these were not truly 'emic' categories for most respondents*." (Barret and Wellings, 2002; Finlay, 1996, p.79)

4.1.2 Factors influencing occurrence of unintended pregnancies

Our findings indicate that religious and cultural beliefs, transactional sex, and social events in the context of poor contraceptive practices and availability, poor sex education, gender issues and poverty drives the occurrence of unintended pregnancies in this rural setting (figure 3, page 72). All these factors affect safe sex practices.

We found that initiation ceremonies are an important source of sexual and reproductive health information in these rural communities. Consistent with results by Munthali and Zulu (2007) for diverse ethnic cultures in Malawi, once an individual is traditionally initiated, they are no longer considered young therefore they may have sex or get married. However, premarital sex is strongly discouraged based on religious beliefs but on the other hand, it is an integral part of the traditional initiation rite where youths are encouraged to practice "*kusasa fumbi*" as a form of sexual cleansing. In addition, gender power dynamics also plays a significant role particularly among older men who take advantage of younger newly initiated girls by having sex with them as part of the girls' sexual cleansing process. Clearly, there is antagonism between traditional and religious based initiation ceremonies. As reported, some churches commenced religious initiation ceremonies focusing on abstinence only messages to counteract the traditional sexual cleansing practices. Our findings on sexual cleansing are in-line with studies from other districts in Malawi (Kaler, 2004; Chimbiri, 2007). Our findings are different in that we found two forms of initiation ceremonies, one based on religion and the other on tradition. However, both types of initiation ceremonies do not include safe sex information in their sessions. Consequently, initiated youths likely practice unprotected sex predisposing to unintended pregnancies. Although the traditional initiation ceremonies might welcome a comprehensive package of safe sex education, it is

unlikely that religious organizations would allow because some information is in conflict with their religious beliefs.

In addition, participants reported frequent premarital sex among adolescents regardless of the religious beliefs. Moreover, even the religious leaders acknowledged frequent sex among unmarried youths. Mturi (2003) in Botswana also found that adults acknowledged that adolescents are sexually active but were uncertain whether or who should provide sexual counselling to the youths. Unsurprisingly, despite the religious leaders acknowledging active sexual practices among adolescents, they still discourage safe sex messages like condom use but focus on abstinence only messages despite evidence to the contrary. Mainly, because safe sexual practices like condom use is sinful and unacceptable before marriage by religious norms, similar to findings by Mtika (2001). Eventually, most youths are not adequately informed raising the potential of unsafe sex practices that predispose them to unintended pregnancies, sexually transmitted infections, and unsafe abortions since safe abortion services are illegal and not readily available. Remarkably, the youths consider condoms and other contraceptives important for safe reproductive health behavior and prevention of unintended pregnancies. However, the services are not easily accessible.

Non availability, lack of contraceptive knowledge amongst youths, and reliance on folklore methods predisposes to unintended pregnancies in rural Mulanje. Similar to Wong in his Malaysian study, our participants reported less use of contraceptives because of fear of side effects and myths (Wong, 2012). While participants in the Malaysian study believed that drinking fruit juices, sugarcanes and pineapple may prevent pregnancy, ours believe tying beads in the waist is equally efficacious. Therefore, although the specific beliefs are different, we

equally find myths affecting modern contraceptive use. These myths are a barrier for safe sex practices.

We found that consumption of alcohol was identified as an influencing factor for unintended pregnancies through increased unsafe sex practices under intoxication. The effect of alcohol on unsafe sex practice is not clear cut from literature, some researchers support the hypothesis (Roberston & Plant, 1988; Bagnall, Plant & Warwick, 1990; Gold et al. 1992) while others oppose it (Leigh, 1990; Senf & Price, 1994). Our findings are consistent with Brown and Vanable (2007) that alcohol intoxication influences unsafe sex with casual partners increasing the likelihood of unintended pregnancies. Moreover, alcohol has been commonly associated with high risk of unsafe sex among adolescents experiencing their first sex raising the chance of teenage pregnancies (Dempsey et al, 2001; Brown, Vanable, 2007). In our study, men are reported to take advantage of drunken women and have unprotected sex but eventually refuse responsibility of the pregnancies, leaving the women to suffer the consequences alone.

Additionally, we demonstrate that poverty, peer pressure and alcohol intoxication led women to practice unprotected heterosexual sex in exchange for money. Coupled with challenges to access modern contraceptives, the transactional sex directly affect unintended pregnancy occurrence. Moreover, the men have the final say on whether condoms are used or not. Unfortunately, most men prefer sex without condoms because the sex feels better. We therefore see gender power dynamics and poverty as important contextual issues hindering safe sex practices hence influencing occurrence of unintended pregnancies. The data further shows that these rural areas are highly male dominated, the men are said to ‘own’ the pregnancies such that women with premarital pregnancies are stigmatized because they do not have a husband. Therefore for a

pregnant woman to be respected, they need to have a husband, adding more evidence to gender imbalance.

A recent adolescent study in Malaysia found peer pressure among adolescent with less than college education influenced occurrence of unintentional sexual encounters (Wong, 2012).

Moreover, we also found that occurrence of adolescent unintended pregnancies frequently resulted in early marriages mostly under the influence of the community. It is generally expected that once an adolescent has conceived pregnancy, the responsible man should marry her, she is his wife automatically. Unless the parents of the girl want otherwise, for example they wish their daughter to continue education. It seems plausible that by marrying off the adolescent, they reasons they are helping her considering that premarital pregnancy jeopardizes girls' opportunity of getting married. Therefore, more women in these rural areas are subjugated under their husbands, become more dependent and possibly more prone to gender imbalances.

An already existent system through which sexual knowledge can be passed on to youths, through initiation ceremonies is a great opportunity for public health interventions. Taking advantage of these establishments to introduce safe sex practices and more comprehensive cultural sensitive health education.

4.2 Conclusion

To explore the meaning of unintended pregnancies and its influencing factors we conducted a qualitative study in communities with high occurrence of unintended pregnancies in rural Mulanje, Malawi.

We found that the emic understanding of unintended pregnancy among rural residents is different from the epidemiological constructs of unintended pregnancy typically used in demographic surveys. Unintended pregnancies were described as pregnancies outside of marriage, and accidental pregnancies. Unintended pregnancies outside of marriage are highly stigmatized, considered sinful, lack support and most culminate in undesired marriages. On the contrary, most participants considered pregnancies within marriage as intended and God's blessings. Our findings suggests that religious beliefs, moral values and anticipated support for pregnancy inform their understanding of the meaning of "unintended pregnancies". On the contrary, we also found a community influence towards married individuals to have children.

Although a causal association cannot be established this qualitative study enlightens how several factors like religious beliefs, social events, transactional sex and cultural norms like initiation ceremonies, within a context of poor sex education, gender imbalance, and poverty can influence unsafe sexual practices potentially increasing occurrence of unintended pregnancies. The study also reveals important barriers to modern contraceptive use including insufficient sexual reproductive awareness, myths about contraception, and alleged effectiveness of traditional and folklore contraceptive methods.

4.3 Recommendations for Future Research

We recommend further studies to quantify and determine to what extent the understanding that unintended pregnancies are out of wedlock pregnancies and that all pregnancies within marriage are intended has direct effect on contraceptive practice. The effect of these beliefs on couples' responses to survey that quantify unintended pregnancies also warrants further studies because

we were not able to investigate whether the women's meaning of unintended pregnancies would affect how they respond to survey questionnaires on pregnancy intention.

We also recommend development of measures of unintended pregnancies that would take into consideration these context specific issues to minimize biases and determine the true burden.

Furthermore, we recommend research on development of effective culturally, religious and gender sensitive sexual health interventions tailored for rural areas like these.

4.4 Public Health Implications

1. These findings might have serious implications on estimates of unintended pregnancies. If this emic perspective affects how women report pregnancy intention status in surveys most married women would underreport unintended pregnancies, then current estimates from demographic health surveys would be underestimations of the true burden.

2. Prevention of unintended pregnancies especially among adolescents might be the best alternative to protect them from stigma and discrimination emanating from carrying these pregnancies. Therefore, policy makers and program managers should consider pregnancy prevention among youths as a priority.

3. We found that initiation ceremonies in the rural community are a crucial route through which youths get sexual information. Provision of evidence based sexual reproductive health interventions through these ceremonies can reach many youths to help address unintended pregnancies and its consequences.

4. Multi-tiered SRH interventions through multiple ways will capture diverse groups in this society to prevent unintended pregnancies.

5. As a key factor affecting contraceptive practice, the myths about contraceptives need to be directly challenged.

6. Situational factors that give rise to unsafe sex and risk taking need to be highlighted and challenged. This is especially relevant to the role of alcohol and contraceptive failure.

7. The sex educational needs should be addressed, especially with respect to gender, to include women empowerment. However, successful interventions in these areas require involvement of both men and women.

5. Appendices

5.1 Key Informant Questionnaire Guide, English

Perceptions of communities towards unintended pregnancies

Introduction

Thank you for accepting to take part in this interview. My name is Davie Zolowere, I am a student from Emory University in the USA. My colleague is ……..We are conducting a research on pregnancies, specifically on what people in the community think about unintended pregnancy. Therefore, over the next few weeks we will be discussing with various people from the district. We realize that to understand the perceptions on unintended pregnancies, it is important to ask informed people in the community. It is only them who can understand this issue well and provide appropriate information. That's why we involved you as our key informants from the community, those who stay here in rural Mulanje like you are the ones we will be interviewing for the study.

In this interview, we will be talking about the thoughts, and what happens in this community related to pregnancy in particular unintended pregnancy. How this community engages with issues related to unintended pregnancy. Your knowledge is very important, without you we cannot know what happens in the community. So we are here to learn from you. There is no wrong answer in this interview; your information is our truth because our truth is what happens here. Please be free to say anything during this interview. If you have any relevant and important information that you can share but I have not asked, feel free to add.

Our discussion is confidential, only the research team will access the information. We will not use your name in the information collected. Therefore, no other person will be able to connect the information you share with me today to you.

Finally, your participation is voluntary, without force or coercion, and you are free to withdraw from the interview at any point. If you are not comfortable with certain questions, feel free not to respond. There is no direct benefit to you apart from a small appreciation.

The interview will take about 60 minutes. Do you have that time?

I would like to record our discussion so that I do not miss any details, don't worry about your voice because after I finish writing the recording I will delete the recording. Is it okay with you for me to record?

Do you have any questions?

I accept to voluntarily take part in the study

Yes

No

Introduction questions

I heard that there were floods in Malawi, a few months ago, was this district affected?

Considering that people have just harvested, how will the food security levels be like this year?

Knowledge on unintended pregnancy. I will now ask you questions on pregnancies.

1. How comfortable are people in this community to discuss the topic of pregnancy?
2. When you hear the term unintended pregnancy what comes to your mind?
3. Would you explain whether or not unintended pregnancy occur in marriage
4. What influence people/couple in this community on whether or not to say they have unintended pregnancy?

Community. Now I will ask you questions on perceptions of the community on unintended pregnancy

5. How does this community relate with a woman with unintended pregnancies? (Probe: married and unmarried women)
6. What activities happen in this community that are related to the occurrence of unintended pregnancies?

7. Could you please explain on the existing community support on unintended pregnancy in this area?

Cultural beliefs on unintended pregnancy. Now I will ask questions on cultural issues and unintended pregnancy.

8. I would like to hear you explain on the cultural beliefs in this community about pregnancy? What about unintended pregnancies?
9. How are unintended pregnancies addressed in this community?

10. How comfortable is this community to discuss abortion?
11. Would you like to explain how abortion is conducted in your community if it happens?
12. In this community, what are the reasons given why people resort to induced abortion?

Closing

14. What services does the community want to have on reproductive health?

15. Are there any additions to our discussion on unintended pregnancy?

Thank you for your participation

5.2 Focus Group Discussion Guide, English

Introduction

Thank you all for accepting to be part of this group discussion. My name is Davie Zolowere, I am a student from USA, Emory University. My colleague is……..We are conducting a research on unintended pregnancies here in Mulanje. We would like to know issues on unintended pregnancies in the community. We realize that it is important to understand what happens in our communities with regard to unintended pregnancies. You are the best people to inform us, this is where you stay and you are knowledgeable on these issues. We are therefore here to learn from you.

In this discussion, we will be discussing on issues affecting unintended pregnancies in the community. All your information is very important so please feel free and open, do not be shy to offer your knowledge. Be free to communicate any related information even if I may not ask a specific question to that extent.

The information that I collect from here only the research team will access it and will only be used for research purposes. I will not attach any names to whatever anybody says. I will keep the information secure and safe however because we are a group it is possible that one of us may reveal what was discussed. Nevertheless, I would like to request that what we discuss here should not be taken outside.

Your participation is entirely voluntary. If you are not comfortable with certain questions you are free not to respond. We may stop the discussion before the end when you want us to without any problems and each one of you is free to leave the discussion at any point.

The discussion will take about 60 minutes.

Do you have any questions?

Introduction questions.

Do you all stay here in Mulanje? (To continue only with those who say yes)

Let us start by introducing ourselves. Please mention your first names, and the village you come from.

How did the harvest go this year, considering we have just finished harvesting?

Part one. Occurrence of unintended pregnancy. Now we will discuss occurrence of unintended pregnancy

1. How comfortable are people in this community to discuss pregnancy?

2. What comes to your mind when you all hear the term unintended pregnancy?

3. Why do unintended pregnancies happen in this community, if they do? (Probe: What are the factors that influence unintended pregnancies in this area?

4. Would you all like to explain whether or not unintended pregnancy occur in marriage?

5. What activities in this community that are related to the occurrence of unintended pregnancies?

Part two. Culture questions. Now we will discuss issues pertaining to culture and unintended pregnancy.

6. What are the beliefs concerning pregnancies here? (To probe meanings/explanations of identified beliefs)

6. How does culture relate to unintended pregnancies here in Mulanje, if at all they are related?

Part three. Perceptions and practices on unintended pregnancy. Now we will discuss perceptions and practices on unintended pregnancy.

8. How does this community relate to an individual with an unintended pregnancy?

9. Would you all like to explain on the support on unintended pregnancy in this community?

10. What measures are taken in the community to prevent pregnancies?

11. How comfortable are people to discuss abortions in this community?

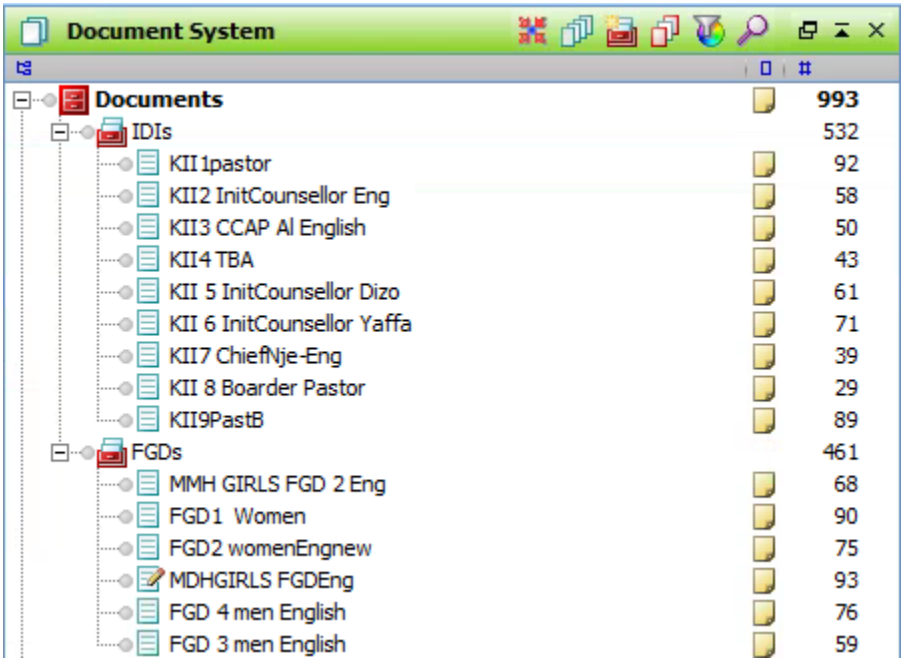
12. How are unsafe abortions conducted here if they are?

Concluding

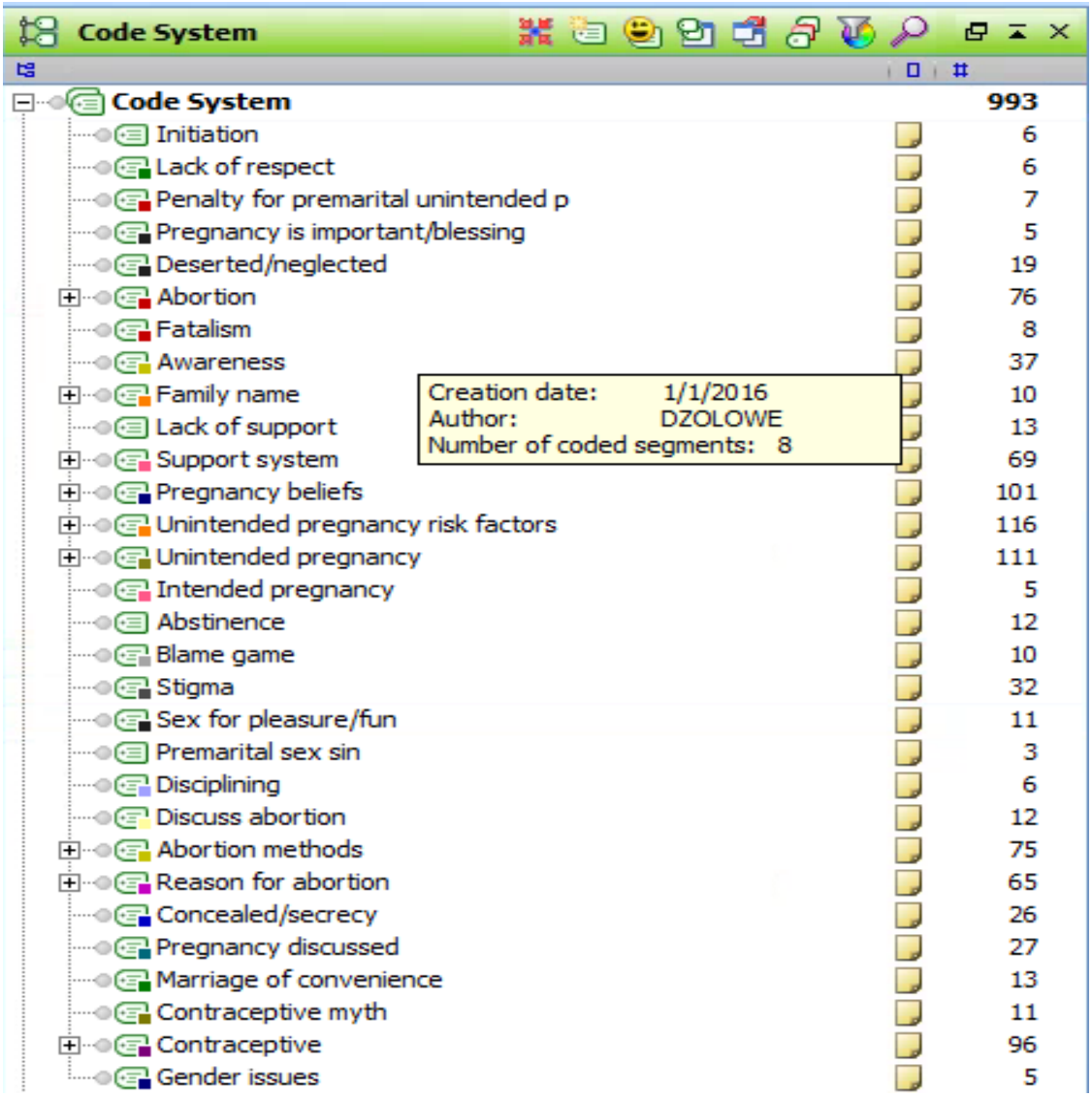
13. Are there any additions to our discussion on unintended pregnancies?

Thank you for your participation.

5.3 Number of coded Segments per Transcript

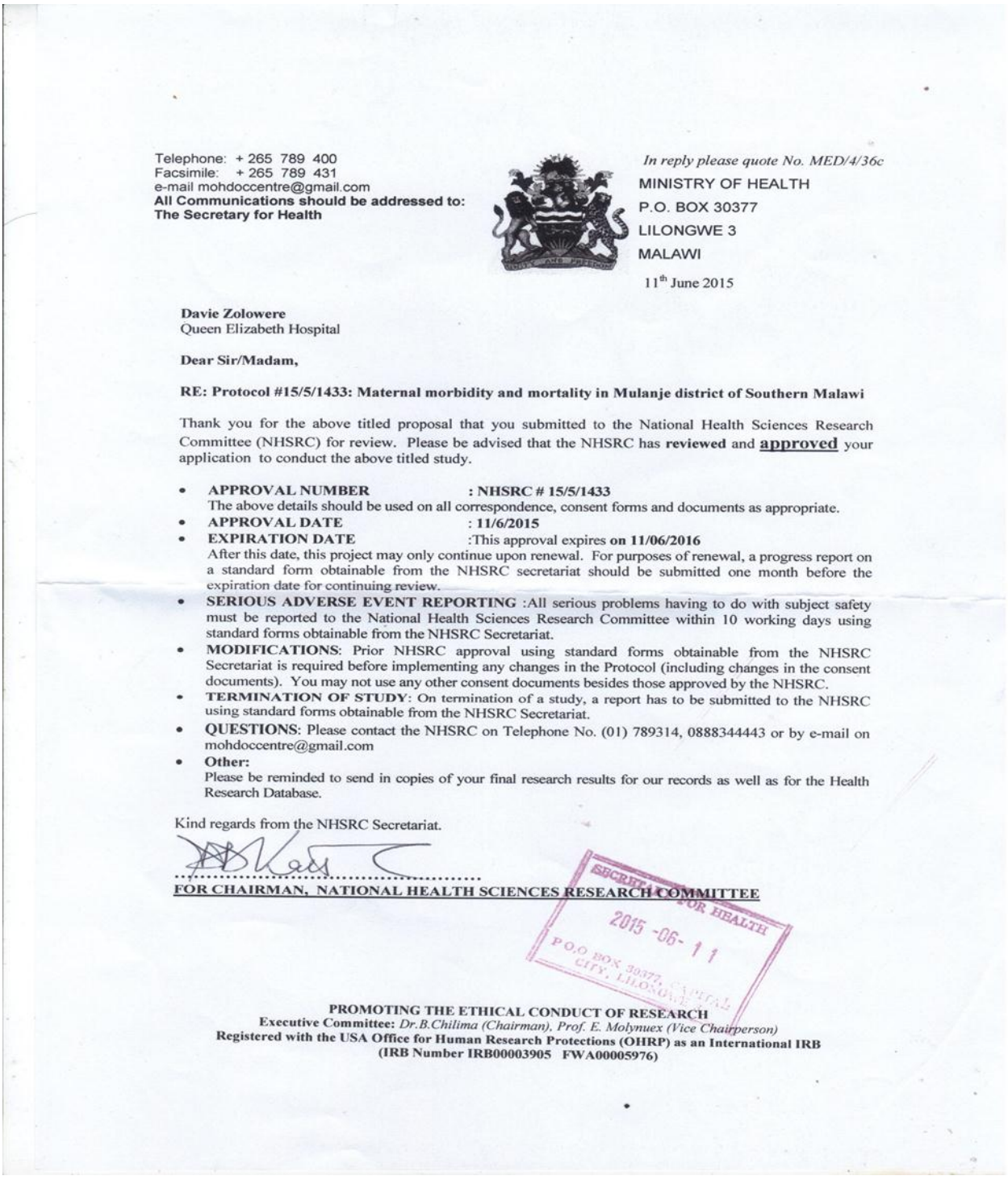


5.4 Code Book



List of key codes from the transcription text

5.5 Malawi National Health Sciences Research Committee Approval



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All Communications should be addressed to:
The Secretary for Health

In reply please quote No. MED/4/36c
MINISTRY OF HEALTH
P.O. BOX 30377
LILONGWE 3
MALAWI

11th June 2015

Davie Zolowere
Queen Elizabeth Hospital

Dear Sir/Madam,

RE: Protocol #15/5/1433: Maternal morbidity and mortality in Mulanje district of Southern Malawi

Thank you for the above titled proposal that you submitted to the National Health Sciences Research Committee (NHSRC) for review. Please be advised that the NHSRC has **reviewed** and **approved** your application to conduct the above titled study.

- **APPROVAL NUMBER : NHSRC # 15/5/1433**
  The above details should be used on all correspondence, consent forms and documents as appropriate.
- **APPROVAL DATE : 11/6/2015**
- **EXPIRATION DATE** :This approval expires **on 11/06/2016**
  After this date, this project may only continue upon renewal. For purposes of renewal, a progress report on a standard form obtainable from the NHSRC secretariat should be submitted one month before the expiration date for continuing review.
- **SERIOUS ADVERSE EVENT REPORTING** :All serious problems having to do with subject safety must be reported to the National Health Sciences Research Committee within 10 working days using standard forms obtainable from the NHSRC Secretariat.
- **MODIFICATIONS**: Prior NHSRC approval using standard forms obtainable from the NHSRC Secretariat is required before implementing any changes in the Protocol (including changes in the consent documents). You may not use any other consent documents besides those approved by the NHSRC.
- **TERMINATION OF STUDY**: On termination of a study, a report has to be submitted to the NHSRC using standard forms obtainable from the NHSRC Secretariat.
- **QUESTIONS**: Please contact the NHSRC on Telephone No. (01) 789314, 0888344443 or by e-mail on mohdoccentre@gmail.com
- **Other:**
  Please be reminded to send in copies of your final research results for our records as well as for the Health Research Database.

Kind regards from the NHSRC Secretariat.

.....
FOR CHAIRMAN, NATIONAL HEALTH SCIENCES RESEARCH COMMITTEE

SECRETARY FOR HEALTH
2015 -06- 11
P.O. BOX 30377, CAPITAL CITY, LILONGWE

PROMOTING THE ETHICAL CONDUCT OF RESEARCH
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(IRB Number IRB00003905 FWA00005976)

6. References

1. Adhikari, Soonthorndhada and Prasartkul, 2009. "Correlates of unintended pregnancy among currently pregnant married women in Nepal" BMC International Health and Human Rights, 9:17 doi: 10.1186/1472-698X-9-17. Retrieved on October 14, 2015 from: http://www.ncbi.nlm.nih.gov/pubmed/19671161
2. Ashford, L.S**.,** 2004. What Was Cairo? The Promise and Reality of ICPD. Online Publication-Population Reference Bureau. Retrieved on 01/28/2016 from: http://www.prb.org/Publications/Articles/2004/WhatWasCairoThePromiseandRealityofICPD.aspx
3. Bagnall, G., Plant, M. and Warwick, W. (1990). Alcohol, drugs and AIDS-related risks: results from a prospective study. AIDS Care, 2: 309-317.
4. Barrett G., and Wellings K., 2002. What is a 'planned' pregnancy? Empirical data from a British study. Soc Sci Med. 2002 Aug; 55 (4):545-57.Retrieved on 01/25/2016 from http://measure.ascody.co.uk/ssm2002barrett.pdf
5. Barrett, G., Smith, S., and Wellings, K., (2004). Conceptualization, development, and evaluation of a measure of unplanned pregnancy. Journal of Epidemiology and Community Health, 58(5), 426–433. http://doi.org/10.1136/jech.2003.014787
6. Biseck T., Kumwenda S., Kalulu K., Chidziwisano K., and Kalumbi L., 2015. Exploring fertility decisions among pregnant HIV-positive women on antiretroviral therapy at a health Centre in Balaka, Malawi: A descriptive qualitative. Malawi Medical Journal. 2015 Dec; 27(4):128-34. Retrieved on 02/13/2016 from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4761703/
7. Bowie and Geubbels, 2013.Epidemiology of Maternal Mortality in Malawi – 2nd edition. Retrieved from: http://www.medcol.mw/commhealth/publications/epi%20book/Maternal%20health%20v2%202.pdf. Accessed on January 1, 2015.
8. Brown J.L., Vanable P.A., 2007. Alcohol use, partner type, and risky sexual behavior among college students: Findings from an event-level study. Addictive Behaviors Volume 32, Issue 12, December 2007, Pages 2940–2952. Retrieved on 04/4/2016 from: http://www.sciencedirect.com/science/article/pii/S0306460307001694
9. Chimbiri AM, 2007. The condom is an 'intruder' in marriage: evidence from rural Malawi Social Science and Medicine 64(5):1102-1115
10. Court C., 1996. WHO claims maternal mortality has been underestimated. BMJ. 1996 Feb 17; 312(7028):398. Retrieved from: http://www.ncbi.nlm.nih.gov/pubmed/8601105. Accessed on October 14/2015.
11. Coulbourn, Lewycka, Nambiar, Anwar, Phoya and Mhango, 2013. Maternal mortality in Malawi, 1977 to 2012. BMJ Open. Accessed from http://bmjopen.bmj.com/content/3/12/e004150.draft-revisions.pdf
12. Cohen. A., 2012. London Summit Puts Family Planning Back on the Agenda, Offers New Lease on Life for Millions of Women and Girls. Guttmacher Policy Review.

Summer 2012, Volume 15, Number 3. Retrieved on 01/28/2016 from: https://www.guttmacher.org/pubs/gpr/15/3/gpr150320.pdf

13. Council for Non-Governmental Organizations in Malawi (CONGOMA), 2014. NGO Board of Malawi. List of Registered NGOs AS OF 20 AUGUST, 2014. Retrieved on 3/13/2016 from http://www.ngoboardmalawi.mw/downloads/malawi_ngo_directory_nov_2013.pdf
14. Dibaba, Y., Fantahun, M., and Hindin, M. J. 2013. The association of unwanted pregnancy and social support with depressive symptoms in pregnancy: evidence from rural Southwestern Ethiopia. *BMC Pregnancy and Childbirth*, *13*, 135. http://doi.org/10.1186/1471-2393-13-135
15. Dempsey, M., Heslin, J. and Bradley, C. (2001). The experience of teenage pregnancy in the south east of Ireland. Synopsis of a detailed report submitted to the South Eastern Health Board in March 2000.
16. Farmer P. Infections and inequalities: the modern plagues. Berkeley, Los Angeles, and London: University of California Press; 1999.
17. Fischer RC , Stanford JB, Jameson P, and DeWitt MJ, 1999.Exploring the concepts of intended, planned, and wanted pregnancy. J Fam Pract. 1999 Feb; 48(2):117-22. Retrieved on 01/21/2016 from: http://www.ncbi.nlm.nih.gov/pubmed/10037542
18. Finkle, J.L., 2002. Impact of the 1994 International Conference on Population and Development. 02-Oct-2002. Retrieved on February 4, 2016 from: http://www.un.org/esa/population/publications/completingfertility/RevisedFINKLEpaper.PDF
19. Finlay, A, 1996. Teenage pregnancy, romantic love and social science: An uneasy relationship. In G Barret and K Wellings, Journal of Epidemiology and Community Health, 58(5), 426–433. http://doi.org/10.1136/jech.2003.014787
20. Fossey, E., Harvey, C., McDermott, F., and Davidson, L., 2002. Understanding and evaluating qualitative Research. Australian and New Zealand Journal of Psychiatry 2002; 36:717–732. Retrieved on 3/13/2016 from http://pathways.bangor.ac.uk/fossey-et-al-evaluating-qual-research.pdf.
21. Gipson, J. D., Koenig, M. A., and Hindin, M. J., 2008. The Effects of Unintended Pregnancy on Infant, Child, and Parental Health: A Review of the Literature. *Studies in Family Planning*, *39*(1), 18–38. Retrieved from http://www.jstor.org/stable/20454434
22. Gold, R. S., Karmiloff-Smith, A., Skinner, M. J., and Morton, J. (1992). Situational factors and thought processes associated with unprotected intercourse in heterosexual students. AIDS Care, 4.
23. Guest, G., MacQueen, K.M. & Namey, E.E. (2012). Applied Thematic Analysis. Sage publications.
24. Guest, G., Bunce, A., and Johnson, L., 2006. How many interviews are enough? An experiment with data saturation and variability. Field Methods, 18(1), 59-82. Doi: 10.1177/1525822X05279903
25. *Hayhurst, ER (January 1932).* Industrial Accident Prevention, a Scientific Approach. Am J Public Health Nations Health. 1932 Jan; 22(1): 119–120. Retrieved on 04/02/2016

from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1556694/pdf/amjphnation00593-0121b.pdf
26. Hennink M., Hutter I., and Bailey A., 2011. Qualitative Research Methods. Chapter2, Nature of qualitative research. Pages 8-26. Los Angeles, London, Sage publications Ltd.
27. Higgins and Wang, 2015. Which young adults are most likely to use withdrawal? The importance of pregnancy attitudes and sexual pleasure. Contraception Volume 91, Issue 4, April 2015, Pages 320-327. doi:10.1016/j.contraception.2014.12.005
28. Jackson E., Johnsone B.R., Gebreselassie H., Kangaude G.D., and Mhango C., 2011. A Strategic assessment of abortion in Malawi. Reproductive Health Matters 2011; 19(37): 133-143. Retrieved on 04/25/2015 from: http://www.sciencedirect.com/science/article/pii/S0968808011375635
29. Joyce T., Kaestner R., and Korenman S., 2000. The stability of pregnancy intentions and pregnancy-related maternal behaviors. Maternal Child Health J. 2000 Sep; 4(3):171-8. Retrieved on 03/21/2016 from https://zicklin.baruch.cuny.edu/faculty/profiles/papers/joyce2.pdf
30. Kågesten A., Bajos N., Bohet A., & Moreau C., 2015. Male experiences of unintended pregnancy: characteristics and prevalence. Human Reproduction (Oxford, England), 30(1), 186–196. http://doi.org/10.1093/humrep/deu259. Retrieved on 01/28/2016 from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4262464/
31. Kalilani-Phiri L., Gebreselassie H., Levandowski B.A., Kuchingale E., Kachale F., and Kangaude G., 2015 The severity of abortion complications in Malawi. Int J Gynaecol Obstet 2015 Feb; 128(2):160-4. Doi: 10.1016/j.ijgo.2014.08.022. Epub 2014 Nov 6.
32. Kaler A, 2004 AIDS-talk in Everyday Life: The presence of HIV/AIDS in men's informal conversation in southern Malawi Social Science and Medicine 59: 285–297
33. Kassebaum et al, 2014. Global, regional, and national levels and causes of maternal mortality during 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. Lancet. 2014 Sep 13; 384(9947):980-1004. Doi: 10.1016/S0140-6736(14)60696-6. Epub 2014 May 2. Retrieved on October 15, 2015 from: http://www.ncbi.nlm.nih.gov/pubmed/24797575#.
34. Kavanaugh M, Moore A, Akinyemi O, Adewole I, Dzekedzeke K, Awolude O and Arulogun O, 2013. Community attitudes towards childbearing and abortion among HIV-positive women in Nigeria and Zambia. Culth Health Sex. 2013; 15(2):160-74. Doi: 10.1080/13691058.2012.745271. Epub 2012 Nov 23.Retrieved on 01/24/2016 from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3545282/
35. Khuliena Kabwere. District Health Officer, Ministry of Health, Mulanje District, 2014. Personnal communication.
36. Klerman, LV. 2000. "The intendedness of pregnancy: a concept in transition." Maternal and Child Health Journal 4 (3): 155-162.
37. Krauss, P.P., Marcos, L.G., Pilowsky, Daniel L., Abelha, L.L., and Fortes, L.L., 2009. Depression during pregnancy: prevalence and risk factors among women attending a public health clinic in Rio de Janeiro, Brazil.*Cadernos de Saúde Pública*, *25*(12), 2725-

2736. Retrieved January 25, 2016, from http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0102-311X2009001200019&lng=en&tlng=en.

38. Leigh, B.C. (1990). The relationship of substance use during sex to high risk sexual behavior. The journal of sex research. Vol 27. pp. 199-213.
39. Levandowski B.A., Mhango C., Kuchingale E., Lunguzi J., Katengeza H., Gebreselassie H., Singh.S.,3013. The Incidence of Induced Abortion in Malawi. International Perspectives on Sexual and Reproductive Health, 2013, 39(2):88–96, doi: 10.1363/3908813. Retrieved on 01/28/2016 from: http://www.guttmacher.org/pubs/journals/3908813.html
40. Lema., Changole., Kanyighe and Malunga., 2005. Maternal mortality at the Queen Elizabeth Central Teaching Hospital, Blantyre, Malawi, *East African Medical Journal*, 2005, 82(1):3–9.
41. Malawian Penal Code. Laws of Malawi. Chapter 7:01; 1930.
42. Maxwell J.A., 1992. Understanding and Validity in Qualitative Research. Harvard Graduate School of Education Harvard Educational Review Vol. 62 No. 3 fall 1992. Retrieved on 3/13/2016 from http://hepgjournals.org/doi/pdf/10.17763/haer.62.3.8323320856251826
43. McLaren L., & Hawe P., 2005. Ecological perspectives in health research. J Epidemiol Community Health 2005; 59:6–14. Doi: 10.1136/jech.2003.018044. Retrieved on 02/01/2016 from: http://jech.bmj.com/content/59/1/6.full.pdf+html
44. McIntosh C.A., and Finkle JL., 1995. The Cairo Conference on Population and Development: A New Paradigm? Population and Development Review, Vol. 21, No. 2 (Jun., 1995), pp. 223-260 Published by: Population Council Stable URL: http://www.jstor.org/stable/2137493. Retrieved on 01/28/2016
45. Ministry of Health, 2011. Malawi Health Sector Strategic Plan 2011 – 2016. Moving towards equity and quality. Retrieved on October 15, 2015 from: http://www.medcol.mw/commhealth/publications/3%20Malawi%20HSSP%20Final%20Document%20 (3).pdf
46. Ministry of Economic Planning and Development of Malawi, 2012. Department of Population and Development, Division of Development Planning. Why Population Matters to Malawi's Development. Accessed from: http://www.prb.org/pdf12/malawi-population-matters.pdf
47. Mohammadi E., Nourizadeh R., and Simbar M., 2015. Iranian Azeri women's perceptions of unintended pregnancy: A qualitative study. Iranian Journal of Nursing and Midwifery Research, 20(2), 255–262.Retrieved on 01/28/2016 from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4387652/
48. Morgan G., and Smircich L., 1980. The Case for Qualitative Research. The Academy of Management Review, October 1, 1980 5:4 491-500; retrieved on 02/12/2016 from: http://www.ipaa.ir/files/site1/pages/morgan%20the%20case%20for%20qualitative%20research.pdf

49. Munthali, A. C., & Zulu, E. M. (2007). The Timing and role of Initiation Rites in Preparing Young People for Adolescence and Responsible Sexual and Reproductive Behaviour in Malawi. *African Journal of Reproductive Health*, *11*(3), 150–167. Retrieved on 4/3/2016 from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2367147/
50. Mtika M.M., 2001 The AIDS epidemic in Malawi and its threat to household food security Human Organization 60(2): 178-188
51. Mturi A.J., 2003. Parents' attitudes to adolescent sexual behaviour in Lesotho. Afr J Reprod Health. 2003 Aug; 7(2):25-33. Retrieved on 4/4/2016 from: http://www.ncbi.nlm.nih.gov/pubmed/14677297
52. National Statistical Office (NSO) and ICF Macro, 2011. Malawi demographic and health survey 2010. Zomba, Malawi, and Calverton, Maryland, USA: NSO and ICF Macro.
53. National Statistical Office (NSO), 2015. Malawi - MDG Endline Survey 2014. Zomba, Malawi: National Statistical Office. Retrieved on 04/01/2016 from: https://mics-surveys-prod.s3.amazonaws.com/MICS5/Eastern%20and%20Southern%20Africa/Malawi/2013-2014/Final/Malawi%202013-14%20MICS%20%28MDG%20Endline%20Survey%29_English.pdf
54. National Statistical Office (NSO), 2008. Malawi 2008 Population and Housing Census. Retrieved from; http://www.nsomalawi.mw/images/stories/data_on_line/demography/census_2008/Main%20Report/Census%20Main%20Report.pdf
55. National Statistical Office, Malawi Housing and Population Census 2008; and United Nations Development Programme, Preparing for Coming Storms: Disaster Risk Reduction Programme (Lilongwe, Malawi: UNDP, 2011), accessed at www.undp.org.mw.
56. Obare F., van der Kwaak A., and Birungi H., 2012. Factors associated with unintended pregnancy, poor birth outcomes and post-partum contraceptive use among HIV-positive female adolescents in Kenya. BMC Womens Health 2012 Oct 6; 12:34. Doi: 10.1186/1472-6874-12-34. Retrieved on 02/15/2016 from: http://bmcwomenshealth.biomedcentral.com/articles/10.1186/1472-6874-12-34
57. Onono M., Kwena Z., Turan J., Bukusi E.A., Cohen C.R., and Gray G.E., 2015. "You Know You Are Sick, Why Do You Carry A Pregnancy Again?" Applying the Socio-Ecological Model to Understand Barriers to PMTCT Service Utilization in Western Kenya. J AIDS Clin Res. 2015 Jun; 6(6). Pii: 467. Epub 2015 Jun 5.
58. Palamuleni, M., and Adebowale, A., 2014. Prevalence and Determinants of Unintended Pregnancies in Malawi. African Population Studies, Vol. 28, No. 1, April 2014. Retrieved on 01/25/2015 from: http://www.bioline.org.br/pdf?ep14010
59. Pereira P., Lovisi G., Pilowsky D., Lima L., and Legay F., 2009. Depression during pregnancy: prevalence and risk factors among women attending a public health clinic in Rio de Janeiro, Brazil.*Cadernos de Saúde Pública*, *25*(12), 2725-2736. Retrieved January 25, 2016, from http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0102-311X2009001200019&lng=en&tlng=en.

60. Phiri, A., (2015, August5). Teenage pregnancies soar in Mulanje. *The Blantyre Newspaper Limited Times*. Retrieved from http://www.times.mw/bnl-times/

61. Rahman M, 2012. Women's autonomy and unintended pregnancy among currently pregnant women in Bangladesh. Matern Child Health J. 2012 Aug; 16(6):1206-14. Doi: 10.1007/s10995-011-0897-3.
62. Redshaw M., and Henderson J., 2013. From Antenatal to Postnatal Depression: Associated Factors and Mitigating Influences. Journal of Women's Health. June 2013, 22(6): 518-525. doi:10.1089/jwh.2012.4152.
63. Rivera J., Alvarez N., Quintana E., Cruz-Correa J., Orengo J.C., 2007. Social and clinical features of pregnancy in adolescents]. Bol Asoc Med P R. 2007 Jan-Mar; 99(1):8-12. Retrieved from: http://www.ncbi.nlm.nih.gov/pubmed/17616040
64. Robertson, J.A. and Plant, M.A. (1988). Alcohol, Sex and Risk of HIV infection. Drug and
65. Alcohol Dependence. Vol 22. pp. 75-78.
66. Ryder N. B., (1973). A Critique of the National Fertility Study. Demography, 10(4), 495–506. Retrieved from http://www.jstor.org/stable/2060877
67. Santelli J., Rochat R., Hatfield-Timajchy K., et al, 2003. The Measurement and Meaning of Unintended Pregnancy. Perspectives on Sexual and Reproductive Health, Volume 35, Issue 2, pages 94–101, March 2003. Retrieved from: https://www.guttmacher.org/about/journals/psrh/2003/03/measurement-and-meaning-unintended-pregnancy.
68. Sedgh G., Sylla A.H., Philbin J., Keogh S., & Ndiaye S., 2015. Estimates of the Incidence of Induced Abortion and Consequences of Unsafe Abortion in Senegal. International Perspectives on Sexual and Reproductive Health, 41(1), 11–19. http://doi.org/10.1363/4101115. Retrieved on 02/19/2016.
69. Sedgh G., Singh S., Henshaw S., and Bankole A, 2012. Induced abortion: incidence and trends worldwide from 1995 to 2008, *The Lancet*, 2012, 379(9816):625–632. Retrieved on 04/10/2016 from: https://www.guttmacher.org/sites/default/files/pdfs/pubs/journals/Sedgh-Lancet-2012-01.pdf
70. Senf J.H., Price C.Q., 1994. Young adults, alcohol and condom use: what is the connection? J Adolesc Health. 1994 May;15(3):238-44. Retrieved on 04/4/2016 from: http://ac.els-cdn.com/1054139X94905096/1-s2.0-1054139X94905096-main.pdf?_tid=60c76eba-faa4-11e5-ad39-00000aacb360&acdnat=1459802141_d210271762c813a706ac8319d1084278
71. Shah,P S., Balkhair T., Ohlsson A., Beyene J., Scott F.,and Frick C., 2011. Intention to Become Pregnant and Low Birth Weight and Preterm Birth: A Systematic Review. Maternal and Child Health Journal. February 2011, Volume 15, Issue 2, pp 205-216. First online: 10 December 2009. http://link.springer.com/article/10.1007/s10995-009-0546-2
72. Singh S., Sedgh G., and Hussain R., 2010. Unintended Pregnancy: Worldwide Levels, Trends, and Outcomes. Studies in Family Planning 2010; 41[4]: 241–250. Retrieved on 01/21/2016 from: http://www.mpts101.org/docs/SinghSFP-UnintendedPregnancy.pdf

73. Singh A., Singh A., and Mahapatra B., 2013. The Consequences of Unintended Pregnancy for Maternal and Child Health in Rural India: Evidence from Prospective Data. Maternal and Child Health Journal. April 2013, Volume 17, Issue 3, pp 493-500. First online: 18 April 2012. http://link.springer.com/article/10.1007/s10995-012-1023-x
74. Singh S., Darroch J.E., and Ashford L.S., 2014. Adding It Up: The Costs and Benefits of Investing in Sexual and Reproductive Health 2014, New York: Guttmacher Institute, 2014.
75. Singh S., and Darroch J.E., 2012. Adding It Up: Costs and Benefits of Contraceptive Services—Estimates for 2012, New York: Guttmacher Institute and United Nations Population Fund (UNFPA), 2012. Retrieved on 01/28/2016 from: <http://www.guttmacher.org/pubs/AIU-2012-estimates.pdf>,
76. Taulo F., Berry M., Tsui A., Makanani M., Kafulafula G., Qing Li, Nkhoma C., Kumwenda J.J., Kumwenda N., and Taha T.E., 2009. Fertility Intentions of HIV-1 Infected and Uninfected Women in Malawi: A Longitudinal Study. AIDS Behav (2009) 13:S20–S27
77. United Nations, 2015. Sustainable development goals knowledge platform. Retrieved from: https://sustainabledevelopment.un.org/topics. On October 15, 2015
78. United Nations, New York, 2014. World statistics pocketbook, 2014 edition. Retrieved on 11/13/2015 from: http://unstats.un.org/unsd/pocketbook/WSPB2014.pdf
79. United Nations, 2008"Goal 5: Improve Maternal Health," (UN Department of Public Information, 2008). Accessed October 14, 2015. http://www.un.org/millenniumgoals/2008highlevel/pdf/newsroom/Goal%205%20FINAL.pdf
80. United Nations Department of Economic and Social Affairs/Population Division, 2015. World population prospects: The 2015 revision, Key findings and advanced tables. Retrieved from: http://esa.un.org/unpd/wpp/Publications/Files/Key_Findings_WPP_2015.pdf
81. United Nations Human Settlements Programme (UN-Habitat) 2014STATE OFAFRICAN CITIES 2014. Accessed on Jan 14, 2016 from: http://unhabitat.org/books/state-of-african-cities-2014-re-imagining-sustainable-urban-transitions/
82. United Nations, 1995. Report of the International Conference on Population and Development. 5-13 September 1994. United Nations Publication, ISBN 92-1-151289-1. Retrieved on 3/21/16 from: http://www.unfpa.org/sites/default/files/event-pdf/icpd_eng_2.pdf
83. Viney L.L, and Bousfield L., 1991. Narrative analysis: a method of psychosocial research for AIDS-affected people. Soc Sci Med. 1991; 32(7):757-65. Retrieved on 3/9/2016 from http://www.ncbi.nlm.nih.gov/pubmed/2028270.

84. Vlassoff M et al., Benefits of meeting the contraceptive needs of Malawian women, In Brief, New York: Guttmacher Institute, 2014, No. 2. Accessed from www.guttmacher.org on 5 June 2015. http://www.guttmacher.org/pubs/IB-Malawi.pdf
85. Vlassoff M et al., Benefits of meeting the contraceptive needs of Malawian women, In Brief, New York: Guttmacher Institute, 2014, No. 2. Retrieved on June 26, 2015 from: https://www.guttmacher.org/pubs/IB-Malawi.pdf.
86. Weldegebreal, R., Melaku, Y. A., Alemayehu, M., and Gebrehiwot, T. G. (2015). Unintended pregnancy among female sex workers in Mekelle city, northern Ethiopia: a cross-sectional study. BMC Public Health, 15, 40. http://doi.org/10.1186/s12889-015-1366-5. Retrieved on 02/19/2016 from: http://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-015-1366-5
87. World Health Organization, 2014. Trends in Maternal Mortality: 1990 to 2013 Estimates by WHO, UNICEF, UNFPA, the World Bank and the United Nations Population Division. Retrieved on October 15, 2015 from: http://www.unicef.org/gambia/Maternal_Mortality_Rate_2013.pdf.
88. Wong, L. P. (2012). Qualitative Inquiry into Premarital Sexual Behaviours and Contraceptive Use among Multiethnic Young Women: Implications for Education and Future Research. PLoS ONE, 7(12), e51745. http://doi.org/10.1371/journal.pone.0051745
89. Yeatman S., and Sennott C., 2015. The sensitivity of measures of unwanted and unintended pregnancy using retrospective and prospective reporting: evidence from Malawi. Matern Child Health J. 2015 Jul; 19(7):1593-600. Doi: 10.1007/s10995-015-1669-2.