

**SCHOOL OF PUBLIC HEALTH  
COLLEGE OF HEALTH SCIENCES  
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**PREVALENCE OF OVER THE COUNTER MEDICATION ABORTION IN  
WOMEN WITH INCOMPLETE ABORTIONS REPORTING TO SELECTED  
FACILITIES IN GREATER ACCRA REGION.**

**BY**

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## DECLARATION

This dissertation consists entirely of my own work produces from research undertaken under supervision. I have duly acknowledged those whose work I referenced to produce this dissertation. I have not submitted wholly or in part, any of this work to any University for the award of any degree.

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## DEDICATION

This work is dedicated to JESUS who makes all things possible, to SULIAS, KOFI, KWAME and KWAKU for the joy they bring me and to the memory of my dearest, OYE.



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## LIST OF ABBREVIATIONS

NGO-	Non-governmental organization
OTC -	Over the counter
WHO-	World Health Organisation



## ABSTRACT

Abortion can be spontaneous or induced. Induced abortions if not safely done, most often results in complications that are injurious to women and can lead to their death. One of the many reasons for the induction of abortions by women is the stigma associated with abortions which drives women seeking abortion to rely on uncertified and untrained providers, some of whom are friends, Chemical sellers and Pharmacists dispensing medication abortion drugs over the counter without prescriptions.

Induced abortions result in a significant number of deaths globally and nationally. The World Health Organization (WHO) estimated that there were 21.6 million unsafe abortions globally in 2008 with 47,000 women dying as a result. In Ghana unsafe abortion is one of the leading causes of maternal mortality.

This study compared women with incomplete abortions who used over the counter (OTC) medication abortion to induce their abortion, to women with incomplete abortions without prior use of over the counter medication abortion. The objective of the study was to determine the prevalence of over the counter medication abortion in women with incomplete abortions. The outcome of interest for the study was the presence of complicated incomplete abortions, with a focus on those who report with severe bleeding as a complication. Using consecutive sampling method, a structured questionnaire was used to collect data from women who reported with incomplete abortions to 5 selected health facilities in the Greater Accra Region of Ghana.

The study determined that the prevalence of over the counter medication abortion in women with incomplete abortions was 40.6%. It also indicated that the proportion of women reporting to the five facilities with incomplete abortions who had severe bleeding with the use of over the counter medication abortion was 43% ( $\chi^2=8.0354$   $P=0.005$ ) which

was statistically significant. It also found that severe bleeding has a significant positive association with over the counter medication abortion.

OTC medication abortion users are more likely to be educated to secondary education level, likely to be single, young, and likely to be aged between 20-24 years. They and their partners are less likely to be high income earners or engaged in any income earning venture and likely to be unemployed. If they are earning income, then they are likely to be in the low income class. They are likely to be living with their parents or relatives and likely to be having their first abortion and they will know where they can access safe abortion.

These findings bring to light the importance that Food and Drugs Authority and Pharmacy Council need to attach to monitoring of pharmacies and chemical shops to ensure that they go by their authorized roles in the dispensing of medication, such as medication abortion. The two institutions need to correct the rampant over the counter dispensing of medication abortion. Non-Governmental Organizations(NGO) and Ghana Health Service involved in safe abortion care must make the effort to train Pharmacists on their roles in the provision of safe abortion care as stipulated in the Ghana Health Service Standards and Protocols for the provision of comprehensive abortion care.

Finally, Safe abortion services available in Ghana must be publicized in ways that the society finds acceptable, considering the social stigma attached to abortion and religious beliefs/teachings about the impropriety of abortion. Safe abortion providers must be well trained and equipped to provide services in a friendly and compassionate manner in order not to drive women who need such services away.

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background Information

Abortion is not a recent phenomenon; 5000 years ago the Chinese used mercury to abort pregnancies (Grimes et al., 2006). Adanu et al (2005) reported that the Ghana Demographic and Health survey in 1997 states that 12 % of pregnancies that occurred 10 years before the survey, ended in abortions and most of them were likely induced abortions. Induced abortion is one of the leading causes of maternal mortality in Ghana (Schwandt et al., 2013).

Due to stigma associated with abortion, some women use clandestine methods to terminate pregnancies. Some of these methods are unsafe and in some African countries include the insertion of cassava sticks and the drinking of herbal preparations that sometimes result in injury and death of these women (Rasch, 2011).

It is common knowledge that in Ghana there is an upsurge in the use of medication abortion and a lot of these are accessed from Pharmacies and Chemical shops. Communication with medical staff at the Reproductive Health Unit of the Korle bu Teaching Hospital in Accra the capital of Ghana and Ridge Hospital, the Regional Hospital of the Greater Accra Region, show that women coming in for elective abortions with Manual vacuum aspiration has dropped considerably over the past year which may be due to the easy access that women have to medication for abortion. It is also common knowledge that women in Ghana access medication abortion over the counter. Damalie et al (2011) showed that women in Ghana use over the counter misoprostol to induce abortion and they report with complications that include severe bleeding and 60% of the women used medication abortion (misoprostol) whilst two-thirds of the rest who did not use medication abortion (misoprostol) used herbal preparations, alcoholic beverages and

sugar concoctions to abort . This is a higher proportion compared to the findings of the Ghana Maternal Health Survey in 2007 which reported that 40% of women use D&C , 16% use medication abortion and 12% use manual vacuum aspiration as their method of abortion(Ghana Statistical Service (GSS), Ghana Health Service (GHS), & Macro International., 2009). This shows the upsurge in the use of medication abortion for inducing abortions in Ghana.

What seems limited in literature is whether there is a direct association between over the counter medication abortion and post abortion complications, especially severe bleeding, defined as soaking of 2 sanitary pads hourly for 2 consecutive hours (Schaff et al., 1999). In a country where anaemia is common and 42% of Ghanaian women are anaemic, (Ghana Statistical services, 2014) severe bleeding after use of medication abortion can easily lead to death if it is not treated early or women report late to health facilities. This study sought to find if there was a significant association between use of over the counter medication abortion and postabortion complications including severe bleeding . Using a cross sectional study aimed at women who visit five health facilities in Greater Accra Region with incomplete abortions, this study will with the aid of a structured questionnaire collected data to find answers to the following questions;

Main Question-

- What is the prevalence of over the counter medication abortion in women with incomplete abortion?

Sub Questions-

- What proportion of women reporting to the 5 facilities with incomplete abortions had severe bleeding with the use of over the counter medication abortion?

- Is there any significant association between presence of severe bleeding in women and the use of over the counter medication abortion?
- What are the differences in characteristics of women who have incomplete abortions due to use of over the counter medication abortion and those who use other means of abortion?

This study may help make a case for adequate regulation of over the counter medication abortion and the need to train Pharmacists/Chemical sellers on their proper roles in safe abortion care.

## **1.2 Research Problem**

The public health problem under study is the use of over the counter medication abortion and how it affects post abortion complications, exemplified by severe bleeding in women who use it for abortions and report with incomplete abortions. Pharmacists and much less so, chemical sellers are not trained to offer abortion services but trained to dispense medication and advise on its effect and appropriateness for the condition presented and interactions with other medication that the patient may be taking. Medical abortion drugs are classified as prescription only medication and hence must be dispensed as such but it is common knowledge that they are dispensed over the counter in most pharmacies and chemical shops. Health problems could happen if women seeking abortions are given these medications without adequate advice on how it should be taken, routes of administration and where they could get help from in case they suffer complications after the use of the medication.

Globally there are about 40 million abortions per year with 20 million of them unsafe abortions and 70,000 deaths. Most of which occur in under developed Countries including

Ghana (Shah & Åhman, 2009). More than 97% of unsafe abortions take place in developing countries (Grimes et al., 2006). Between 2003 and 2009 the rate of unsafe abortions in Africa jumped from 5.5 million to 6.2 million. Sub Saharan Africa bears the brunt with figures of 4.7 million in 2003 to 5.5 million in 2008 (WHO, 2008).

Complications of unsafe abortions due to the over the counter dispensing of medication abortion drugs can lead to death and injuries for women. Some Ghanaian Women who had an abortion 5 years prior to the 2007 maternal health survey in Ghana had health issues related to the abortion. Some of the complaints were pain, infection causing foul smelling vaginal discharges and serious complications such as uterine perforations (Atindanbilla et al., 2015). Damalie et al (2014) reported that use of the medication abortion drug over the counter by 126 women resulted in severe morbidities among three quarters of them. This is evidence of the dangers that over the counter use of medication abortion can cause. Additionally, most Pharmacists and Chemical sellers dispense medication abortion without post abortion family planning counselling and this can only increase the risk of repeat abortions.

Other studies in Nepal have shown that apart from inadequate knowledge on medical abortion dosages for effective or complete abortion, Pharmacy workers knowledge about the signs of an incomplete abortion and complications that need immediate referral may be lacking without appropriate training on use of the medication abortion and safe abortion (Tamang, Puri, Lama, & Shrestha, 2015).

The medication abortion mifepristone is metabolized by the enzyme cytochrome P450 3A4 and hence for women taking erythromycin, ketoconazole or itraconazole whilst using mifepristone, there could be delay of the metabolism of mifepristone and hence an increase in its serum levels with its attendant effects (Sitruk-Ware, 2006). It's important

that Pharmacy and Chemical shop workers know of these interactions and advice accordingly. In Ghana where it is common knowledge that Pharmacies are not always manned by Pharmacists but by Pharmacy Assistants and Medicine Counter Assistants, such technical knowledge on interactions of medication abortion which is known by Pharmacists may not be available to women who buy over the counter medication abortion.

Over the counter dispensing of medication abortion hence could cause health problems for women and therefore it may be worthwhile to find its prevalence and the significance of any association between it and post abortion complications and then look at solutions that will make Pharmacy and Chemical shop workers adhere to the dispensing of the drug on prescription only and refer women seeking it to service sites where they will get adequate care.

### **1.3 Justification**

This study seeks to show that over the counter dispensing of medication goes beyond disobeying a regulatory order and also causes harm to women. If the issue of unsafe abortion is to be properly addressed then all health professionals should play their roles as defined in the Ghana Health Service Standards and Protocols regulating the provision of comprehensive abortion care services or Pharmacy Council regulations on the dispensing of prescription only medicines only on the presentation of a valid prescription from a qualified prescriber, to ensure that women are properly served so that there are no needless deaths. This study also seeks to bring to fore the need to train Pharmacists on their role in comprehensive abortion care and influence them to accept and implement that role. Pharmacists and Chemical sellers dispensing of medication abortion over the counter contributes to the unpreparedness of Ghana's health system to provide safe abortion

options to women and help increase the impact of unsafe abortion on maternal mortality. Finally, the study seeks to improve research on the use of over the counter medication abortion, its acceptability and potential complications due to misuse and misapplication and add to or verify current literature on the characteristics of women who access abortion from Pharmacies /chemical shop.

If the research is not able to find answers to the research question, the need to train Pharmacist on their role in comprehensive abortion care might not be recognized and any associations between over the counter medication abortion use and severe bleeding may not be established. The over the counter dispensing of medication abortion might persist and women will be exposed to the dangers of using medication abortion without proper advice on its usage, potential complications and knowledge of facilities to go to in the case of complications.

Women will also not receive advice on post abortion family planning which can prevent repeat abortions. This will have an effect on maternal mortality in Ghana as more women may suffer injuries and complications that can lead to their deaths as they persist in accessing medication abortion over the counter. When women die , it affects the survival of their children, especially those under 5 years as maternal mortality is a determinant of child survival (Moucheraud et al., 2015). So if this study is not able to find answers to the research question there maybe consequences beyond maternal mortality.

If the study is successful, it is expected that the findings will cause the Pharmacy Council and Food and Drugs Authority improve on the regulation of medication abortion dispensing in Pharmacies and Chemical shops. The Ghana Health Service will be made aware of the impact on severe bleeding of the use of over the counter medication abortion.

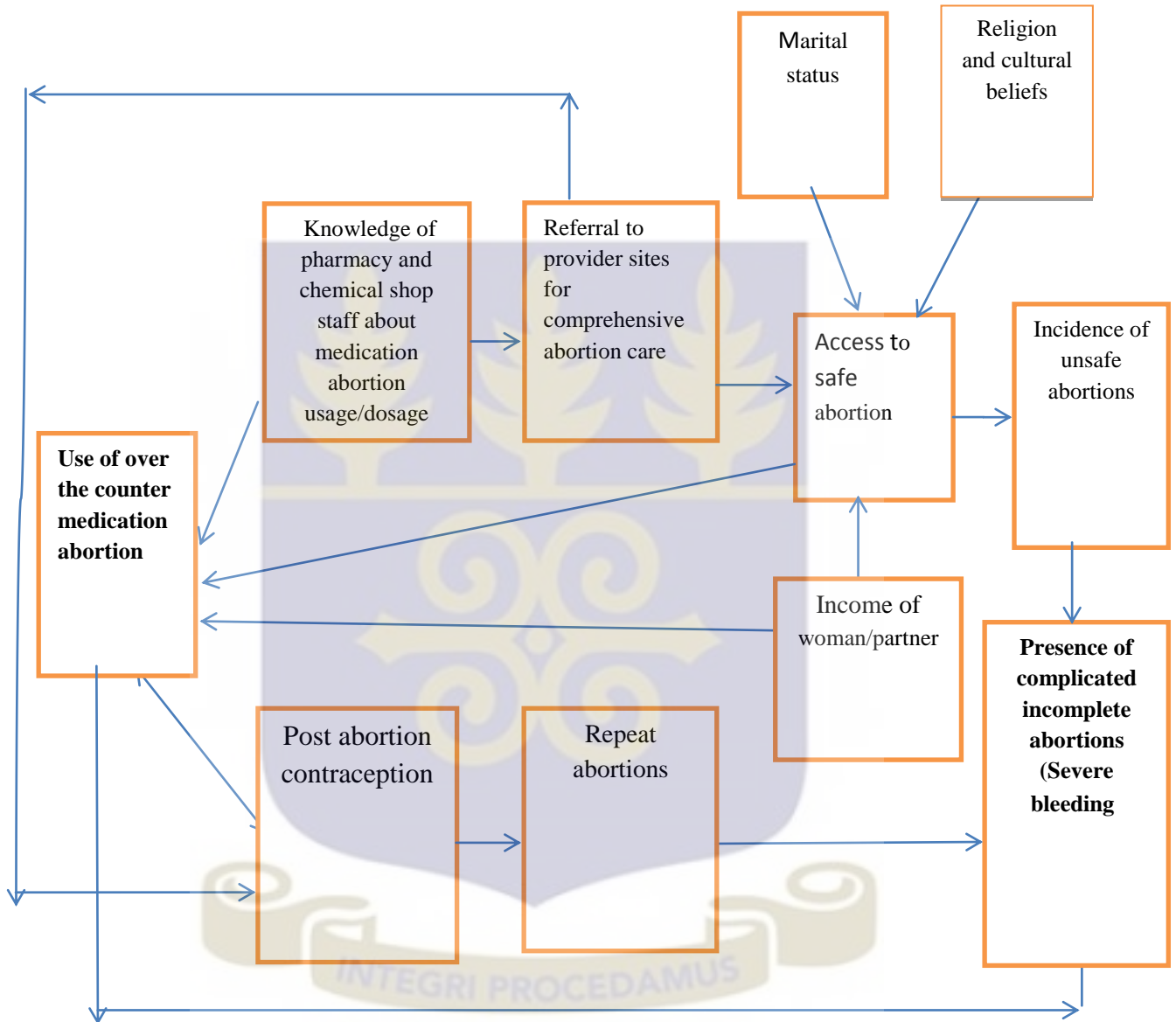
It may also help Non-Governmental organizations working on the distribution of medication abortion and the provision of safe abortion services to include and aim provide on training of Pharmacists to better handle and dispense medication abortion.

Women seeking abortions will be better informed about the dangers of accessing over the counter medication abortion and the need to visit accredited safe abortion provider sites to access services.

#### 1.4 Objectives

- **General Objective-** To determine the prevalence of over the counter medication abortion in women with incomplete abortions.
- **Specific Objectives**
- To determine the proportion of women reporting to the 5 facilities under study(La General Hospital, Achimota Hospital, Tema General Hospital, Korle bu Teaching Hospital and Ga West District Hospital) with incomplete abortions who had severe bleeding with the use of over the counter medication abortion
- To determine if there is a significant association between presence of severe bleeding in women and the use of over the counter medication abortion
- To determine the differences in characteristics of women who have incomplete abortions due to use of over the counter medication abortion and those who use other means of abortion.

### 1.5 Conceptual Framework



## 1.6 Narrative on Conceptual Framework

Pharmacy and chemical shop staff do not have adequate knowledge on current guidelines about the provision of safe abortion care services and the law on abortion and this influences their dispensing of medication abortion over the counter (Barua, Mistry, & Weekly, 2015)(Lara, Abuabara, Grossman, & Díaz-Olavarrieta, 2006). It also influences their ability to refer clients to safe abortion care providers which may lead to an increase in the incidence of unsafe abortions which in turn will affect the presence of complicated incomplete abortions. Use of over the counter medication abortion is normally without post abortion contraception and this affects the chances of repeat abortions which could lead to more incidences of abortions and its complications. Access to family planning decreases the risk of unintended pregnancies and repeat abortions which could lead to increases in the incidence of post abortion complications(Johnson, Ndhlovu, Farr, & Chipato, 2002). The use of post abortion contraception also impacts on the use of medication abortion for induction of abortion. When women are on contraceptives the chances of them getting pregnant and using over the counter medication diminishes. The use of post abortion contraception is influenced by access to comprehensive abortion care. Comprehensive abortion care includes counselling and getting women to accept contraceptives after an abortion, in order to prevent repeat abortions.

Use of over the counter medication abortion directly influences the presence of complicated incomplete abortions and the presence of unsafe abortions. Reported complications of over the counter medication abortion include anaemia, severe bleeding, infection, sepsis and retained products of conception (Nivedita & Shanthini, 2015). Studies in Ghana have shown a higher incidence of severe bleeding as a complication in women with induced abortions who use medication abortion over the counter (misoprostol) than women who do not (Damalie et al., 2014). In Ghana the law also

specifies the cadre of health worker to carry out abortion as a medical practitioner (Ahiadeke, 2001). Part 2 of the law, Act 29 ,section 58 of the criminal code of 1960, amended by PNDC Law 102 of 1985 specifies that the abortion should be done in a government hospital, private hospital or clinic or any facility registered under the private hospital and maternity Home Act, 1958 (Morhee & Morhee, 2006). The WHO also defines unsafe abortion as *“a procedure for terminating an unintended pregnancy carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both”* (Grimes et al., 2006,p.1).

Since the list of facilities specified by the law as authorized to offer abortion services does not include Pharmacies and Chemical shops, and Pharmacists are not trained to offer abortion services, giving out a drug in a Pharmacy over the counter for an abortion may be in contravention of the law and constitutes an unsafe abortion act, unless the drug is dispensed on a valid prescription from a Doctor.

The Income of a woman and her partner affects her ability to access safe abortion. If the woman has enough income she can access abortion either through over the counter medication abortion or safely by accessing safe abortion care, either way with the support of her partner. Access to safe abortion influences the use of over the counter medication abortion. If safe abortion is available and women know this, then they will not access unsafe abortion through the use of over the counter medication abortion. Religion and cultural values makes abortion a taboo and hence women within communities where such taboos exist who need abortion are forced to have unsafe abortions because they do not want to be found out and this affects access to safe abortion services and contributes to the incidence of unsafe abortions (Sundaram, Juarez, Bankole, & Singh, 2012). Cultural taboos such as having children out of wedlock or with a married man also contributes to unsafe abortions (Mayhew, 2015) especially in rural areas where safe abortion is not readily available and where such taboos are more prevalent. Religious teachings and

beliefs about abortion and teachings of when life begins also affect the likelihood of adherents accepting to have an abortion when they need one.(Williams, 1982). When married women and women in relationships have partners who can pay for or even contribute to an abortion it enhances the chances of accessing safe abortions by such women (Sundaram et al., 2012).



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Abortion Overview

Abortion whether induced or spontaneous is one of the common occurrences in a woman's reproductive life, but shrouded in controversy, debate and passion among all segments of society. In 2003, an estimate of 42 million abortions caused each year globally was reported out of which about 22 million are safe abortions and 20 million unsafe abortions.

Shwekerela et al (2007) reported 46 million induced abortions globally, usually done under unsafe conditions in environments where abortions safe abortion care is not legally available or available under restrictive conditions.

About 70,000 women die each year from unsafe abortions and a further 5 million suffer injuries. (Shah & Åhman, 2009).

Others have reported more current figures of 47,000 deaths per year globally due to unsafe abortions (Kapp, Whyte, Tang, Jackson, & Brahmi, 2013).

#### 2.2 Incomplete Abortion

About 20-25% of women will experience a miscarriage at some point in their reproductive life. (Shwekerela et al., 2007).

Incomplete abortion results when the products of conception are not totally out of the uterus and there are some remaining, usually the chorionic or placental tissue. Bleeding continues until the uterus is empty and could result in sepsis or shock. Incomplete abortion could be due to the uterus emptying spontaneously or being induced. Incomplete abortions which are due to induced abortions usually occur if the induction is done unsafely. If it is

done safe in a registered medical facility equipped to offer such services, by a qualified and trained medical practitioner, the abortion induction is managed to ensure that the uterus is completely empty within a limited time without the onset of any complications or with the management of any complication.

Incomplete abortions are usually due to unsafe abortions or due to miscarriages. They can be managed either by the surgical removal of the remaining contents of the uterus or by inducing the uterus to completely empty itself of any product of conception with appropriate medication (Blum, Winikoff, Gemzell-danielsson, & Ho, 2007).

### **2.3 Unsafe Abortion**

Grimes et al, describe unsafe abortion as “*a preventive persistent pandemic*” (Grimes et al., 2006, p.1). The fact that it is preventive but persistent reflects on the level of success achieved with reducing its impact so far.

The WHO defines unsafe abortion as “*a procedure for terminating an unintended pregnancy carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both*” (Grimes et al., 2006, p.1)

This describes conversely, the procedure and the persons who should carry out the procedure and also where it should be carried out. This definition means that any abortion carried out by the wrong cadre of health personnel is an unsafe abortion even if it is in the setting of a health facility.

In Ghana the law also specifies the cadre of health worker to carry out an abortion as a Medical Practitioner and the conditions under which it should be carried out as when the woman is a female idiot, or the woman will suffer injury to her mental or physical health or risk her life or as a result of rape or incest or the child who develops out of the pregnancy will suffer from or develop serious abnormalities (Ahiadeke, 2001).

Abortions are also unsafe when they are carried out using materials that are not prescribed as useful for terminating a pregnancy within medical practice and by regulation. Even though the WHO definition for unsafe abortion and the law does not specify procedure for safe abortion, the fact that both mention trained personnel presupposes that there is the expectation that personnel offering abortion services should have knowledge about the art and the science of delivering the service by going through the required instructions to deliver the service. Hence the knowledge of the person, trained in the procedures of terminating a pregnancy, is important in ensuring that the service will be safe. The knowledge should be about the procedure of terminating a pregnancy and the materials needed to do so. If a pregnancy is terminated therefore without the requisite training on the procedure of terminating a pregnancy and the materials to use, by the pregnant woman or any other person who is not trained nor certified to deliver a training and regulatory institution then the abortion is unsafe. Therefore, a Pharmacist, Traditional birth attendant, Chemical seller, Community Health Nurse, friend or relative who gives misoprostol or any other medication abortion to a Woman to terminate a pregnancy is a provider of an unsafe abortion, even if the medication abortion drug is given in the right dose, because they are not certified to provide abortion services. Sundaram et al ( 2012, p.3) classified such providers as '*unsafe providers*'.

Additionally, the law and definition for unsafe abortions specify where the abortion should be done. Section 2 of the law specifies that the abortion should be done in a government hospital, private hospital or clinic or any facility registered under the private hospital and maternity Home Act, 1958 (Morhee & Morhee, 2006). The WHO definition of abortion on the other hand specifies that abortion should not be done in an environment that does not conform to minimal medical standards. The minimal medical standards of a facility where abortions can be done in Ghana have been defined by the law as classification or

registration as a government hospital, private hospital or clinic. Since the list of facilities specified by the law does not include Pharmacies and Chemical shops, giving out a drug in a Pharmacy over the counter for an abortion may be in contravention of the law, unless the drug is dispensed on a valid prescription from a Doctor.

The materials used to deliver unsafe abortion range from vaginal products, methods that cause abdominal trauma, injections to herbal concoctions and oral medications. Surveys done in New York before the legalization of abortion showed some primitive methods used as quinine douches, turpentine, insertion of knitting pins, use of potassium permanganate tablets which could cause corrosive injuries to the woman's vagina (Grimes et al., 2006). In Ghana, the use of herbs to terminate pregnancies is common especially in the rural areas. Insertion of cassava sticks and the drinking of herbal brews are common in other African Countries (Rasch, 2011).

#### **2.4 Consequences of Unsafe Abortion**

The 2007 Maternal Health Survey reported that 15% of women surveyed had induced an abortion at least once and one in three of them had done it more than once. (Ghana Statistical Service (GSS) et al., 2009). Ahiadeke et al (2001) reported 17 unsafe abortions per 1000 women of child bearing age and 27 abortions per 100 live births.

Despite the liberal nature of the current law on abortion in Ghana, unsafe abortions still are causing a lot of maternal deaths. In Ghana unsafe abortion is the most common cause of maternal mortality, accounting for 11% of maternal deaths (Initiative, 2007). The causes of mortality from unsafe abortions are mostly due to haemorrhage, infections and poisoning from the substances used to induce the unsafe abortion (Grimes et al., 2006). In Nigeria, 12-13% of maternal deaths are due to unsafe abortions. In Kenya a study based on verbal autopsies ascribed 31% of maternal deaths to unsafe abortions. Apart from the

deaths, others suffer effects and injuries such as uterine perforations, excessive bleeding, trauma to the genitalia, sepsis and renal failure (Rasch, 2011).

The consequences to the health infrastructure and budget of most countries, due to unsafe abortions are excessive especially in Africa. In Tanzania, about 25 % of all gynaecological admissions are due to complications of unsafe abortions. In Nigeria the cost of treating unsafe abortions complications is four times that of offering a safe abortion (Rasch, 2011).

### **2.5 Reasons for Inducing Abortion**

Women do not make the decision to abort their pregnancies lightly. There are deep seated reasons and a lot of thought before the decision to abort or not to abort is taken. It should also be mentioned that this is a continuing decision making process and may not be a decision taken within the first trimester of the pregnancy. For instance, a woman who initially has a perfect pregnancy that she wishes to carry to term, may decide to abort because of complications of her pregnancy or changes in her social context, economic or unemployment status and pressure from friends and relations, that makes carrying the pregnancy to term not a desirable option for her anymore. It is also not made based on one factor alone and there may a combination of several factors driving the decision to abort (Bankole, Singh, & Haas, 1998).

Invariably the main overarching reason for inducing an abortion is unintended pregnancy. Contraceptives can play a role to reduce the occurrence of unintended pregnancies. As reported by Bankole et al (1998), 39.5% of married women wanted to postpone child bearing and 34.2% wanted to stop child bearing. But 76% of women who wanted to postpone or stop child bearing were not using any contraceptive and 11.9% were using not very effective methods of family planning. The 2014 Ghana Demographic and Health Survey reports that 53% of the family planning needs of married women are not being

met. Only 39% of the unmet need for family planning is met by modern methods (GDH Survey, 2014). With this huge unmet need for family planning, unintended pregnancies are bound to happen which may lead to increased abortions.

The underlying reasons for inducing unsafe abortions are sociocultural, economic and psychological in nature. Stigma is a significant contributor to unsafe abortion in Ghana. Because of deep seated religious and cultural belief, abortion is a taboo in most tribes in Ghana and so it is difficult for most women especially in the rural areas where deep seated cultural believes thrive to seek abortion services in the open. And so to avoid the stigma associated with it they turn to clandestine means of acquiring abortion which in most instances turns out to be unsafe. Sometimes the potential 'shame' of bearing a child out of wedlock and not be accepted by the community in which they live drives unmarried women to seek abortions some of which invariably turn out to be unsafe (Tagoe-Darko, 2013). Also being unable to cater for a child due to economic reasons at the stage of their lives where they are pregnant may lead women to seek an abortion. This reason is especially prevalent in young adults who may be in school or where they have just started working or are single.

Also where partner support for the pregnancy is lacking, it may lead to an abortion. Male partner support is not just about accepting paternity of the pregnancy but also it is about economically supporting the woman to cater for the pregnancy and the baby when he/she is born. Marriage is an important determinant for male partner support. Out of wedlock, the male partner is able to choose whether to accept the pregnancy or not but is unlikely to do same when he is married to the woman, unless there is the suspicion of unfaithfulness or unfaithfulness is given as a reason by the male partner. In which case, because of societal stigma, the married woman may most probably seek to abort the pregnancy (Schwandt et al., 2013).

It is important to mention that some women who abort their pregnancies actually will have liked to keep it. Sometimes advice from friends and parents about the stigma that will ensue and about the economic pressures that the woman or her family may face if the pregnancy is carried to term leads women to seek an abortion (Aniteye & Mayhew, 2011) .

If the woman is breastfeeding or has a young child, she will consider aborting any additional pregnancy as a means of spacing her births. Within the Ghanaian context a woman breastfeeding is not expected to be pregnant. Failure to use effective contraception may lead to another pregnancy whilst the female partner is breastfeeding or where she is considered not yet ready to be pregnant again because of a recent child birth and may be ostracized within her community for reproducing too much. This may lead the couple to seek an abortion(Schwandt et al., 2013). In Ghana, the reasons given by women for having an abortion range from the need to space or limit child birth, delaying child birth in order to have time to acquire education which was stated by Women who were under 20 years of age during the time of their abortion and not being financial sound to cater for a child, which is the most stated reason. Some other reasons include partner not accepting responsibility for the abortion (Sundaram et al., 2012) (Ghana Statistical Service (GSS) et al., 2009)

## **2.6 Barriers to Safe Abortion Services**

Cost is a determinant for safe abortion, especially in situations where only one partner bears the cost of accessing safe abortion. Poor women are unable to afford safe abortions because of high costs charged by private providers in conditions where the service is restrictive or unavailable.

The cost of providing post abortion care services to a woman in Tanzania exceeds that of the health budget per head of population. The cost though of induced abortion is less than the cost of managing post abortion complications.

Lack of trained personnel to offer safe services also make safe services inaccessible and expensive. (Culwell & Hurwitz, 2013). Even where abortion is available the negative and judgemental attitude of providers towards women who seek abortion may be a barrier to safe abortion. Single, educated women living in urban areas are more likely to obtain a safe abortion. Women who have had abortions before are more likely to repeat it (Sundaram et al., 2012).

In countries where abortion is legally restrictive, access to safe abortion may be impeded. In fact, it has been shown that in countries where abortion is liberally regulated, abortion rates are low. Abortion rates generally are not determined by the legal status of abortion, but unsafe abortion rates specifically are. Where the law is restrictive, unsafe abortion rates are higher and women suffer more maternal mortality as a result.

Sometimes also where the services are less legally restrictive, the health services structure may not be ready or placed to offer safe abortion services. Poor logistical services may impede distribution or the ready availability at provider sites of vital health commodities needed for service provision. Health workers may not be trained to provide friendly services that will lead women to recommend the service to other women. They may even be unwilling to provide safe abortion services due to their own beliefs and values (Culwell & Hurwitz, 2013).

## 2.7 Medication Abortion

The use of drugs to terminate pregnancy is medication abortion. Mifepristone and misoprostol either alone or in combination have been widely used globally for induced abortions, for over 30 years. They are also safe for terminating abortions in the second and later trimesters. Misoprostol alone can be used to manage incomplete abortions whether due to induced or spontaneous abortions (Ganatra, Guest, & Berer, 2015). Mifepristone which is anti-progesterone disturbs and weakens the attachment of a foetus to the wall of the endometrium whilst misoprostol cause cervical dilatation and contraction to effect the expulsion of the contents of the uterus (Schaff et al., 1999).

Before medication abortion gained ground, the use of surgical methods such as dilatation and curettage and later manual vacuum aspiration kits were the method of choice for terminating pregnancies. In low resource areas where surgical facilities do not exist, medical abortion is a useful and effective means of terminating pregnancies (Ewart & Winikoff, 1998).

Studies in UK and France show that women for various reasons prefer medication abortion to surgical abortion with manual vacuum aspiration. Travelling to the clinic to take doses of the drug was the main reason why some preferred surgical abortion to medical abortion (Henshaw, Naji, Russell, & Templeton, 1993) . In a study in Scotland, 72% of women preferred medical abortion whilst 28% preferred manual vacuum aspiration, prior to abortion (Berer, 2005).

There are many dosage regimens of the medication abortion drugs, misoprostol and mifepristone or the combination of the two. These dosages have been researched into for the past three decades since the use of medical abortion came to the fore. Trials in France between 1983-87 using Mifepristone alone showed that in dosages of 200mg as a single

dose is less effective than using 600 mg or 800 mg as a single dose. Using a 400mg dose yielded results same as using doses between 200 and 600 mg dose, but using an 800mg dose did not give better results than the 600mg dose. Studies show that the 600mg dose of misoprostol gave efficacy rates between 76.9% and 82.1%. Following the administration of mifepristone with a low dose misoprostol yielded rates of up to 95% (Sitruk-Ware, 2006).

Studies by Schaff et al (1999) also showed that 200mg mifepristone followed 36-48 hours later by 400mcg of misoprostol vaginally was effective.

Other studies have shown that the failure rate when 400mcg of misoprostol is used after 200mg mifepristone is higher than when 800mcg of misoprostol is used after 200mg mifepristone. Though sublingual and vaginal administration had the same level of efficacies, the vaginal route had lower side effects. Also administering misoprostol sublingually induces stronger contractions of the uterus than vaginal administration(von Hertzen et al., 2010). The efficacy using the oral route decrease sharply when the pregnancy is over 7 weeks(von Hertzen et al., 2010). The effectiveness of the medication abortion drugs, mifepristone and misoprostol depends on the route of administration, the dosage, the dosage schedule and the gestational age of the pregnancy(Damalie et al., 2014).

It is common knowledge that mifepristone and misoprostol combination are available in Ghana as a combination drug known as Medabon, which is registered to be administered in a dosage regimen of 200mg mifepristone orally followed 24-48 hours later by 800mcg misoprostol, given in doses of 200mcg sublingually or vaginally. The use of misoprostol alone for abortion is also widespread in Ghana. In a study in Komfo Anokye Teaching Hospital in Kumasi, 60% of respondents indicated the use of misoprostol alone for

termination of their pregnancies, acquiring the drug over the counter from Pharmacies (Damalie et al.,2014).

The use of medication abortion can result in several complications depending on the age of the pregnancy, dosage of the drug used, type of drug used and the route of administration. Complications may arise depending also on whether the woman has given birth before or not. The skill of the person delivering the abortion is also a factor that affects whether complications may result or not (Damalie et al., 2014).

Apart from the combination drug of mifepristone and misoprostol (Medabon), misoprostol alone is available under the brand name Cytotec in Ghana and widely known as a drug for terminating pregnancies.

## **2.8 Use of Over the Counter Medication Abortion**

Availability and dispensing of OTC medication abortion is documented in various studies. Its acceptability to women as a method of abortion is also well documented. The difficulty in accessing abortion legally from trained providers and the cost of such abortions especially in restrictive environments where it is expensive and inaccessible drives most women to seek abortion from Pharmacies and Chemical shops purchasing medical abortion drugs over the counter.

Studies in India have shown that despite the fact that the Drug Controller of India has restricted medication abortion to prescriptions by Gynaecologists, it is available over the counter, even though Pharmacists knowledge on the dispensing of medication abortion drugs was found to be limited and impeded the correct use of medication abortion. Most of the Pharmacy Staff interviewed did not give any information on the dosage and usage

directions of the drug, expecting their clients to know. Demand for the drugs over the counter is driving its dispensing as such (Barua et al., 2015).

In another study in Bangladesh using mystery clients, only 7% of Pharmacy staff gave the correct dosage regimen of misoprostol for abortion to their clients. 65% wrongly gave vaginal and oral misoprostol together and more than 72% did not provide any counselling on possible complications whilst 94% percent gave no counselling on post abortion family planning and did not also give counselling in privacy. (Huda, Ngo, Ahmed, Alam, & Reichenbach, 2014).

Another study in India involving 128 patients showed various types of misuse of medical abortion medication. The patients in that study accessed the medication abortion over the counter and suffered various morbidities as a result of misuse of the drugs. 62.5% of the patients had incomplete abortions, 12.5% suffered severe anaemia and had the products of conception remaining in their uteruses removed by surgical methods and also required blood transfusion as a result of excessive bleeding from the misuse of the drugs. 7.5% had incomplete abortions with sepsis and 22.5% had failed abortions (Nivedita & Shanthini, 2015).

A study in Mexico showed that more than half of Pharmacy staff contacted in a mystery client survey provided no dosage information on the medical abortion drug they recommended. Only 6% who recommended the use of misoprostol mentioned an effective dosage regimen(Lara et al., 2006).

The standards and protocols on the provision of comprehensive abortion care services of the Ghana Health Service require Pharmacists to refer women who seek abortion from them to facilities where there are trained providers. The guidelines also require that women accessing abortion should be counselled about post abortion family planning in

order to prevent repeat abortions. A service which is not provided by Pharmacists and Pharmacy staff dispensing medical abortion drugs over the counter (Ghana Health Service, 2012). Incorrect dosage regimens, failure counsel on proper usage of the drug, refer to providers who can treat complications when they happen or even refer to such providers for safe abortion services all contribute to complications. A study in the United States showed that increasing gestational age decreases the success of medication abortion (Spitz, Bardin, Benton, & Robbins, 1998). Damalie et al also found that there is a direct relationship between gestational age and extent of morbidity (Damalie et al., 2014). The Ghana Health Service standards and protocols on the provision of comprehensive abortion care services has varying dosage regimen for first and second trimester abortion. The potential of Pharmacists if not educated on these dosages to give first trimester dosages for second trimester pregnancies exists and this will cause complications because of the increased chance that the termination will not be successful due to the higher gestational age of the pregnancy.

Even though bleeding after use of medication abortion is a normal evidence of the medication acting, bleeding severely than normal over an extended period after medication abortion could result in shock and sepsis. Severe bleeding after the use of medication abortion has been reported; In a study comparing the side effects, safety and complications of regimens of misoprostol and mifepristone, heavy bleeding was reported in up to 2.6% of the women studied and 0.25% of the women needed to be transfused with blood (Sitruk-Ware, 2006). Ashok et al (1998) have also reported that 1.5% of the women they studied had heavy bleeding as a complication whilst 0.15% of them needed blood transfusion in a study on effective regimen for first trimester abortion based on 2000 cases (Ashok, Penney, Flett, & Templeton, 1998).

Some documented complications of over the counter (OTC) medication abortion include anaemia, severe bleeding, infection, sepsis and retained products of conception (Nivedita & Shanthini, 2015). Damalie et al (2014) reported severe bleeding as a morbidity seen in women with post abortion complications and also found that there is a higher incidence of it in women (60%) who use over the counter medication abortion (misoprostol) than women who did not use medication abortion. The differences in the levels of severe bleeding reported in the various studies may lie in the differing doses of the drugs used to induce abortion, routes of administration and the age of the pregnancy.

In our part of the world where anaemia is an issue, severe bleeding after over the counter medication abortion will only make a bad situation worse for women with anaemia who use over the counter medication abortion. The Ghana Demographic and Health Survey, 2014, reports that 42% of Ghanaian women are anaemic whilst 32% are mildly anaemic (Ghana Statistical Services, 2014). Hence as the risk of severe bleeding in women who take over the counter medication abortion is real with consequences which may be exacerbated if they are anaemic, rather than provide over the counter medication abortion, referral to facilities where safe abortion can be provided and complications of severe bleeding managed properly would be a better option.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Study Type**

This is a cross-sectional study which seeks to show the extent of exposure of women with incomplete abortions to the use of over the counter medication abortion and also whether there is any significant association between exposure to over the counter medication abortion and presence of complicated incomplete abortions. It will also help in defining the demographic and social characteristics of women who use over the counter medication abortion.

#### **3.2 Study Location**

Data were collected from 5 government medical facilities in Accra, La General Hospital, Tema General Hospital, Ga West Municipal Hospital, Achimota Hospital and Korle Bu Teaching Hospital. The plan to obtain data from private medical facilities as well was shelved because of difficulties in obtaining the necessary permissions from them.

Korle-Bu Teaching Hospital has a bed capacity of 2000. It is the third largest hospital in Africa and the national referral Centre in Ghana. It has 17 clinical and diagnostic departments and units including the Department of Obstetrics and Gynecology.

It has an average daily attendance of 1,500 patients and about 250 patient admissions. The Department of Obstetrics and Gynecology manages Post abortion care cases referred from other facilities including the hospital's polyclinic, at the Chenard ward of the gynecology unit of the department, which houses a manual vacuum aspiration (MVA) room where uterine evacuations are done in managing post abortion cases. The Achimota Hospital is one of the four government hospitals in the Accra metropolis. It serves communities such

as Achimota, Dome, Legon. It has a family planning unit (which houses an MVA room) equipped by the NGO, IPAS and Midwives trained by the same NGO in the provision of safe abortion care and the management of incomplete abortion. Ga West Municipal Hospital is the district hospital for the Ga West Municipality. It is located in Amasaman and serves Amasaman, the district capital Ablekuma, Pokuase and Obom. It has also has an MVA room, equipped and managed by Midwives trained by the NGO, IPAS to provide safe abortion and manage incomplete abortion care services. La General Hospital is also one of the hospitals in the Accra Metropolis. It serves towns in the eastern part of the city such as Labadi, Osu, Teshie, and Labone. It also has an MVA room in the family planning unit, equipped and managed by Midwives trained by the NGO, IPAS where incomplete abortion cases are managed. Additionally, the La General Hospital has an Obstetrics and Gynecology Unit with a ward where incomplete abortion cases are managed, especially those that come in during the weekends when the family planning unit is not fully opened.

Tema General Hospital is the main referral hospital in the Tema Metropolis. It serves the Tema metropolis, Ashaiman, Manhean, Kpone and Tema New Township. The hospital has an Obstetrics and Gynecology Unit that manages incomplete abortion cases. Such cases are managed in an MVA room within the Gynecology ward. The various hospitals were selected because they have facilities for the management of incomplete abortion cases and receive cases from various towns around them. Additionally, they have staff who have been trained in the provision of safe abortion care services by the NGO, IPAS.

### **3.3 Variables**

#### **3.3.1 Main Independent Variable**

Use of Over the Counter Medication Abortion

Over the counter medical abortion refers to medication registered and known to be widely available in Ghana for use in the termination of pregnancies or the evacuation of the uterus. There are 2 such commonly known medications, which are Medabon, a combination of mifepristone and misoprostol and Cytotec which contains misoprostol.

#### **3.3.2 Main Dependent Variable (outcome)**

Presence of Complicated incomplete abortions (severe bleeding)

Complicated Incomplete abortion means that part of the products of conception is still retained in the uterus which leads to complications such as severe bleeding which could cause shock. Severe bleeding is defined as change of 2 sanitary pads hourly for 2 consecutive hours

#### **3.3.3 Other independent variables of interest**

- Uptake of FP.
- Educational status of women.
- Information on correct dosage/usage of medication abortion
- Referral information on possible facilities for complications after over the counter abortion use.
- Income of women
- Income of their partners.
- Religion and cultural beliefs about abortion
- Person respondent lives with

- Access to safe abortions
- Knowledge of family planning
- Previous history of induced abortions

### **3.4 Study Population**

The population for this study consisted of women reporting to the 5 medical facilities with incomplete abortions. Those who used the medication abortion drugs Cytotec (Misoprostol) and Medabon (Combination pack of Misoprostol and Mifepristone) which they procured without a prescription from a Doctor/Midwife to induce their abortions were classified as having used OTC medication abortion. The rest of the respondents were classified as having not used OTC medication abortion.

#### **3.4.1 Inclusion Criteria**

Women with incomplete abortions reporting to the 5 facilities under study.

#### **3.4.2 Exclusion criteria**

Women who report to the 5 facilities who have vaginal bleeding due to causes other than incomplete abortions.

### **3.5 Sampling Method**

Consecutive sampling was used. Women who reported to the various facilities with incomplete abortions were selected until the sample size was achieved. They were interviewed as and when they came into the gynecology wards after being treated in the gynecology theatres of Tema General Hospital, La General Hospital and Achimota Hospital or before undergoing a manual vacuum aspiration (MVA) procedure at the MVA rooms of Ga West Municipal Hospital, La General Hospital, Korle Bu Teaching Hospital

and Achimota Hospital. Their consents to take part in the study were obtained, after reading and explaining the information in the consent form to them and getting their consents indicated by their signing or thumb printing of the volunteer agreement form. For those not educated, the consent form and volunteer agreement form were read to them in the presence of a witness who also signed the volunteer agreement form whilst the respondent thumb printed the volunteer agreement form.

The questionnaires completed from the various facilities each day were collected the next morning and tallied. The total sample size of 367 was shared among the facilities selected in the proportion of each facility's average caseload of incomplete abortions over the past 3 months. The data was collected over a 2 month period.

### **3.6 Data Collection and Tools**

La General Hospital, Ga West Municipal Hospital, Achimota Hospital and Korle Bu Teaching Hospital have Manual Vacuum Aspiration rooms where Midwives and in some instances Physicians treat women who report to those facilities with incomplete abortions. With the consent of the Heads of the facilities and also that of the Head of the Obstetrics and Gynecology Units of the 4 listed facilities, the Midwives trained by the facilities to manage incomplete abortions were responsible for the collection of the data. Additionally, for La General Hospital, Tema General Hospital and Achimota Hospital have gynecology wards, where some incomplete abortion cases are sent after being treated at the theatre. Two national service personnel working at those facilities were recruited to collect data from women admitted to these wards. Data were also collected from Tema General Hospital. That hospital has a gynecology ward where women reporting with incomplete abortions are sent after treatment at the gynecology theatre. With the consent of the matron on the ward who is a Midwife, a trained research Assistant collected data from women

with incomplete abortions who were sent to the ward after being treated at the gynecology theatre. The Midwives at the MVA rooms and the research Assistants were trained by the Principal investigator on the process to be followed in administering the questionnaire. The questions on the questionnaire were also explained during the training.

A structured questionnaire, as is shown in appendix 3 was used and this was administered to women who had incomplete abortions who reported at the various selected facilities.

All respondents were asked whether they used any medication abortion or had any procedure before the loss of the pregnancy or whether they had not used anything to induce the abortion. These questions were to identify those women who had spontaneous abortions and those who had induced abortions. Further questions were asked to find from those women who had induced abortions what they used for their abortions. Those who mentioned that they used medication were asked questions about the type of medication they used and whether they had a prescription for it from a Doctor or they got it directly from a Pharmacist/chemical seller. Those who admitted that they used medication or tablets to induce the abortion but did not know the name of the medication were shown samples of Cytotec (misoprostol) and Medabon, the combination of misoprostol and mifepristone which are the known medication abortion drugs available in Ghana and asked to indicate which of them they used. The questionnaire also had questions to find what other means were used in inducing abortion, if an orthodox medication was not used. The questionnaire also had questions about the characteristics; social and demographic of the women who reported with induced abortions in the selected facilities. Additionally, questions were asked to all the women about how long they had bled and also how many pads they changed each hour on the day they reported to the hospital to determine if they fit the definition for severe bleeding in women with incomplete abortion.

### **3.7 Pretest**

Pretesting of the questionnaire was done at the Ga West Municipal Hospital. The reason for the pretest was to find out how adequately the questionnaire was able to elicit answers from respondents and how long it took to administer one questionnaire averagely, in order to make adjustments if required for the actual research study. One change was made in the questionnaire and this was a question asking respondents who used medication abortion drugs obtained from a pharmacy/chemical shop whether they had a prescription from a doctor.

### **3.8 Data Analysis Plan**

Data were sorted and entered into an excel template. Data was then entered into Stata version 13.1. Descriptive statistics, frequency tables, graphs and pie charts was used to describe the demographic and social characteristics of respondents by summarizing them into proportions and percentages and frequencies. The prevalence of over the counter medication abortion in women with incomplete abortion was derived by matching the number of women who used over the counter medication abortion and had complicated incomplete abortions with the total number of women who reported with incomplete abortions. A two by two table was used to determine the proportion of women reporting to the 5 facilities with incomplete abortions who had severe bleeding with the use of over the counter medication abortion.

Chi-square test was used to find if there is any significant association between the use of over the counter mediation abortion and severe bleeding. The chi square test was also used to determine the association between all the other categorical independent variables and the presence of severe bleeding. Significant determinants of the use of over the counter medication abortion was also determined using the chi square statistic. The Student t-test

was used to determine the presence of differences between numeric variables such as the ages of the different sub-groups for analysis

Odds ratio was determined to measure the association between exposure to over the counter medication abortion and severe bleeding.

A significant level was set at p value less than 0.05.

### **3.8 Ethical Considerations**

Ethical clearance was obtained from the Ghana Health Service, Ethical Review Committee and a letter from approving the study proposal was obtained from them. Clearance was also obtained from all the Heads of the health facilities used as research sites.

Consent was also sought from all respondents before proceeding to administer the questionnaire. No names or addresses were recorded on the questionnaire and confidentiality was ensured to all the respondents in the process of administering the questionnaire.

Before administering the questionnaire, the process to be followed was explained and a request was made to the respondent whether she was comfortable enough for the process to begin before starting it. It was made clear to the respondent that her personal details will not be recorded in order to increase confidence that they cannot be linked with what they say. It was also explained to each respondent that the interview will be stopped as soon as someone comes in and if they feel comfortable speaking in the presence of the visitor they should indicate so, otherwise it will be assumed that they prefer not speaking until the visitor leaves. This was to assure them further that what they said was to be kept private even in the process of interviewing them. During the interview, the voice of the researcher was kept low to the hearing of the patient only. They were informed of their right not to

participate in the study or refuse to answer any question they are not comfortable with. They were also informed about what the study will be used for and how the data taken from them would be handled to ensure it does not get into the wrong hands

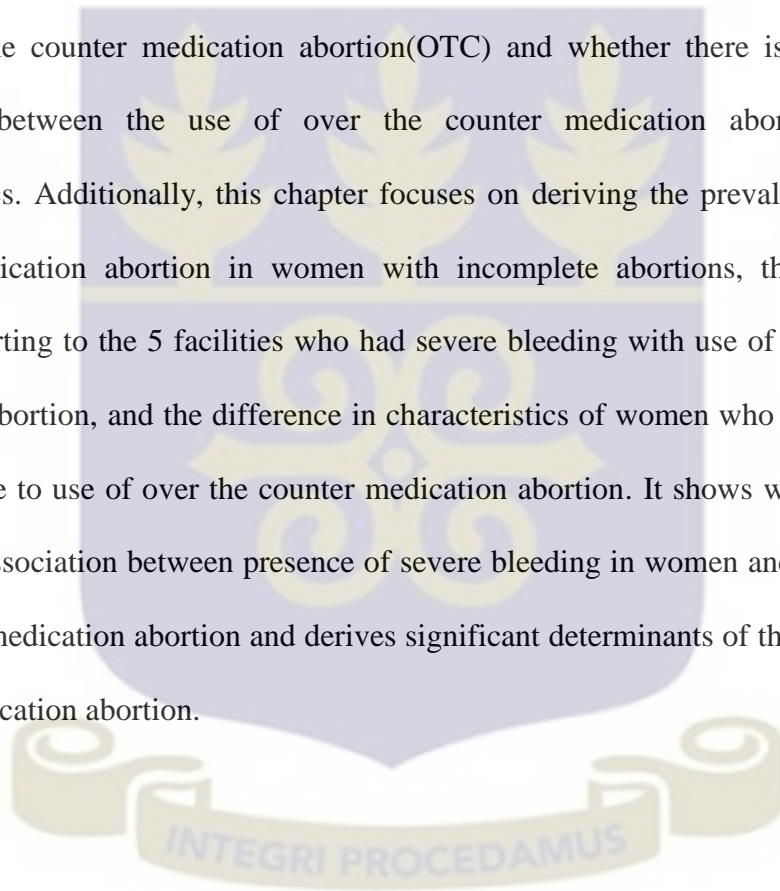


## CHAPTER FOUR

### RESULTS

#### 4.1 Introduction

This chapter presents the findings of respondents who are women who presented with incomplete abortions in the 5 health facilities used as research sites. It covers the socio demographic characteristics of all respondents, the baseline characteristics of women who used over the counter medication abortion(OTC) and whether there is any significant association between the use of over the counter medication abortion and those characteristics. Additionally, this chapter focuses on deriving the prevalence of over the counter medication abortion in women with incomplete abortions, the proportion of women reporting to the 5 facilities who had severe bleeding with use of over the counter medication abortion, and the difference in characteristics of women who have incomplete abortions due to use of over the counter medication abortion. It shows whether there is a significant association between presence of severe bleeding in women and the use of over the counter medication abortion and derives significant determinants of the use of over the counter medication abortion.



## 4.2 Socio-Demographic Characteristics of Respondents

### 4.2.1 Age of Respondents

Respondents stated their individual ages on the questionnaire. The mean age of respondents was 25.7 years ( $\pm 6.19$ ), the minimum age was 15 years and the maximum age 45 years. The most occurring age among the respondents was 24 years, with a frequency of 35. The least occurring ages were 15 years and 45 years both with frequencies of 2.

After grouping the ages of respondents, the age group with the highest frequency was 20-24 years and the age group with the least frequency was 40-49 years (Table 4.1).

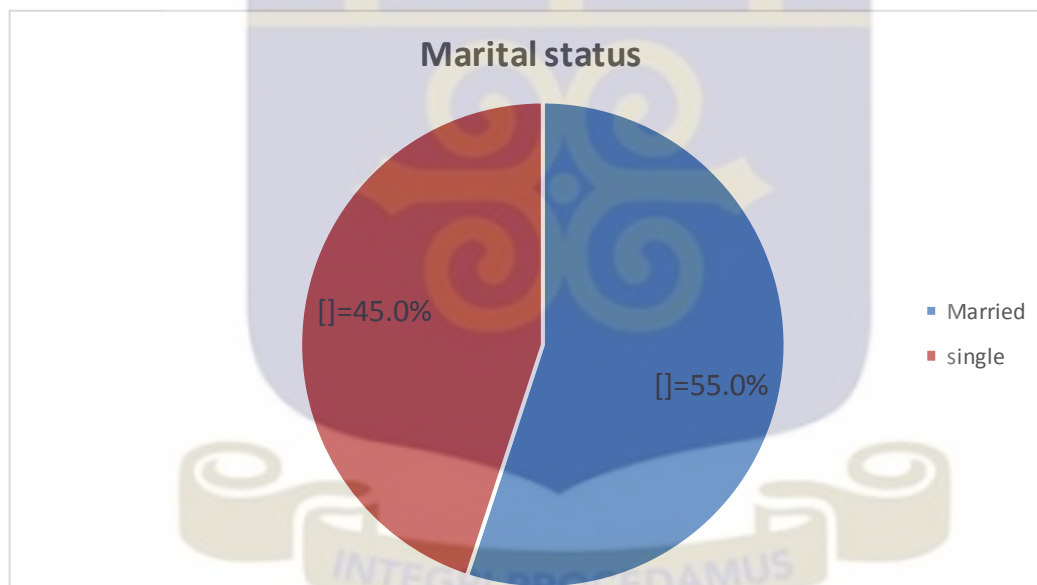
**Table 4.1: Distribution of respondents according to age**

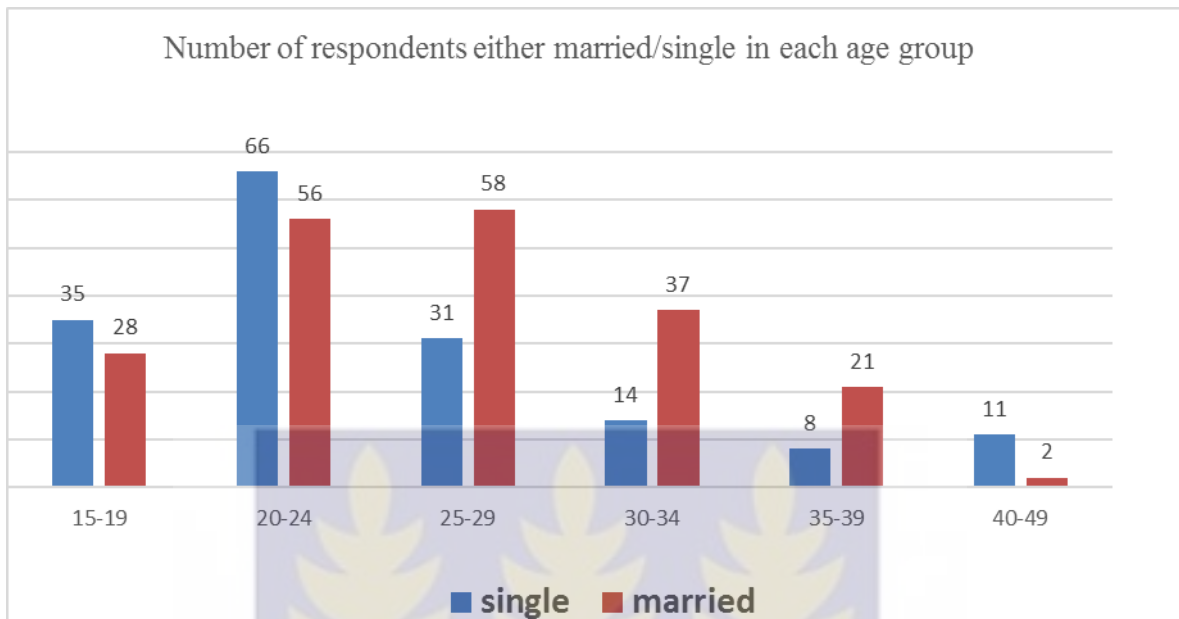
Age Group	Frequency	Percentage
15-19	63	17.2
20-24	122	33.2
25-29	89	24.3
30-34	51	13.9
35-39	29	7.9
40-49	13	3.5
Total	367	100

#### 4.2.2 Marital Status of Respondents

Respondents who were married made up 55% of the total number of respondents (Figure 4.1). Comparing age group of respondents to marital status showed that age group 20-24 years had about the highest proportion of both married and single respondents (Figure 4.2). That age group may be the most sexually active and are probably within the class where education may inhibit the desire to keep a pregnancy. The early reproductive age group 15-19 years showed an appreciable proportion of respondents either married or single. That is the age group which will most probably be in school and not gainfully employed and may not have the desire to keep a pregnancy to term.

**Figure 4.1: Pie chart showing distribution of respondents according to marital status**



**Figure 4.2: Number of respondents either married or single in each age group.**

#### 4.2.3 Educational Status of Respondents

The largest proportion of respondents, about 50%, had secondary education. Those with no education had the lowest proportion of 14.2%. (Table 4.2)

**Table 4.2: Distribution of respondents according to educational status**

Educational Status	Frequency	percentage
No Education	52	14.2
Primary	64	17.4
Secondary	175	47.7
Tertiary	76	20.7
Total	367	100

#### 4.2.4 Occupational Status of Respondents

Two thirds of all respondents had some form of employment or were engaged in some activity related to employment. The 'Self-employed (Artisans/Traders)' formed the highest proportion of respondents within this class. Unemployed respondents formed

about a third of respondents. The class ‘Other’ consisted of apprentices and students who were engaged in some activity, but not necessarily earning money.

**Table 4.3: Distribution of respondents according to occupation**

<b>Occupation</b>	<b>Frequency</b>	<b>Percentage</b>
Self employed	174	47.6
Professional	50	13.7
Other(student)	28	7.7
Unemployed	113	31.0
Total	365	100

#### **4.2.5 Religion of Respondents**

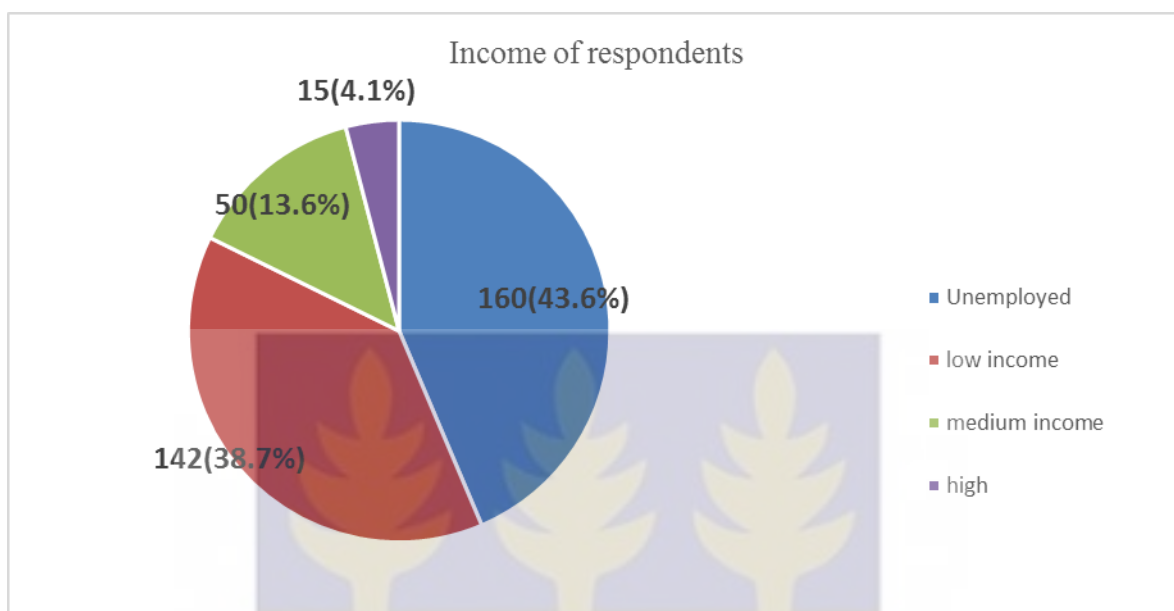
Most of the respondents were Christians (83.8%). Muslims and Other respondents who were Traditionalists or of other religions formed only about 16% of respondents.

**Table 4.4: Distribution of respondents according to religion**

<b>Religion</b>	<b>Frequency</b>	<b>Percentage</b>
Christian	306	83.8
Muslim	52	14.3
Others	7	1.9
Total	365	100

#### 4.2.6 Income of Respondents

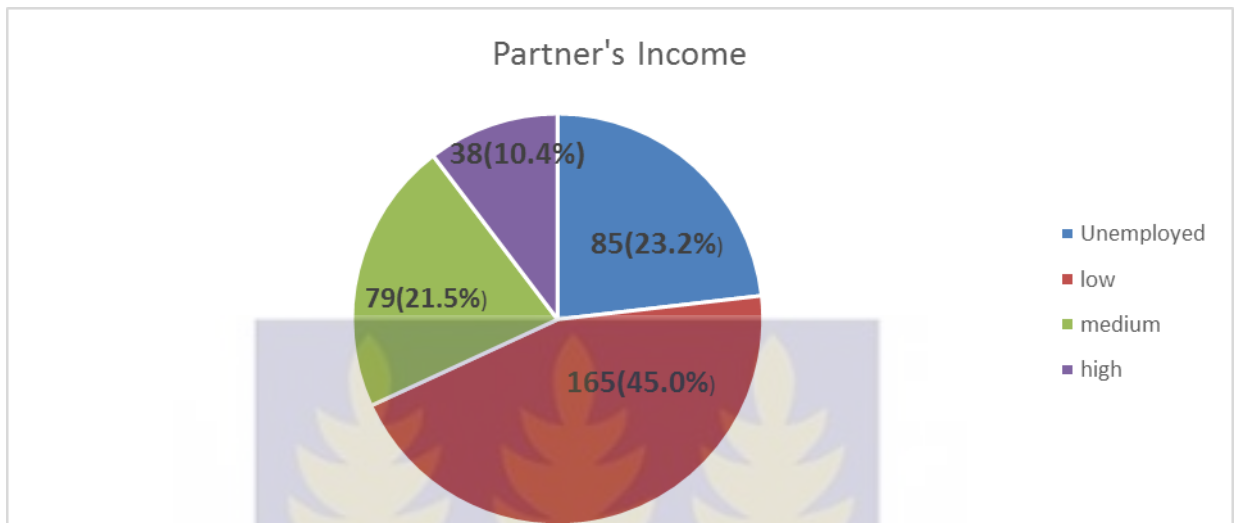
Figure 4.3: Pie Chart showing distribution of respondents according to income



The unemployed class earned no money, the low income group earned less than GHC1000, the medium income group earned between GHC1000-GHC2000, the high income group earned GHC2000-GHC4000. More than 80% of all the respondents either earned no money or were of the low income group. The medium and high income earners were the lowest proportion and constituted about 18% of all the respondents.

#### 4.2.7 Income of Respondent's Partners

**Figure 4.4: Pie Chart showing distribution of respondents according to their partner's income**



The unemployed class earned no money, the low income group earned less than GHC1000, the medium income group earned between GHC1000-GHC2000, the high income group earned GHC2000-GHC4000. The majority of Partners of the respondents were mostly within the low and no income group (68%). There was an appreciable proportion of respondents who were in the medium and high income group (31%).



#### 4.2.8 Abortifacients used by Respondents

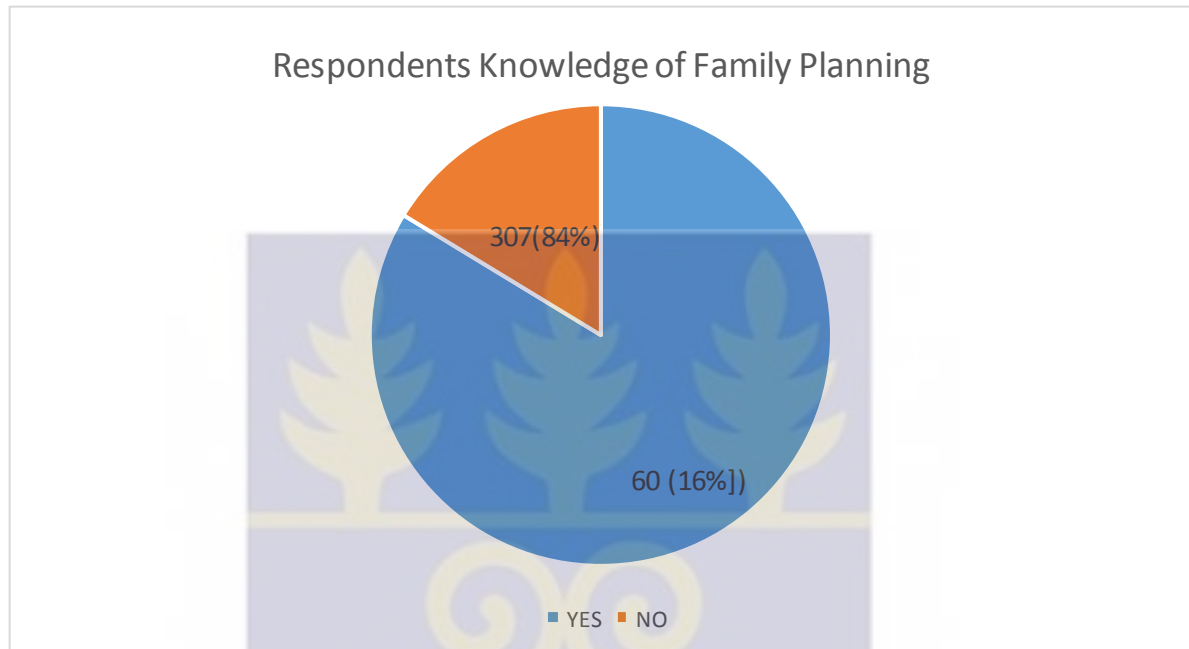
**Table 4.5: Abortifacients used by respondents**

Name	Frequency	Percent
Cytotec	112	40.3
Herbs	59	21.2
Medabon	56	20.2
Sugar Solution	24	8.6
Alcohol	6	2.2
Don't Know	7	2.5
Others	14	5.0
Total	278	100

About 60% of the respondents used the medication abortion drugs Cytotec and Medabon. Others used herbs, mostly 'Abgeve tonic', which interestingly has been labelled 'not recommended for use by pregnant women' by the manufacturer. Other abortifacient used included alcohol concoctions and concentrated sugar solution. The class 'Others' consisted of those respondents who used abortifacients common to them only, such as chloroquine tablets, mentioned by one respondent.

#### 4.2.9-Knowledge of Family Planning

**Figure 4.5-Pie chart showing distribution of respondents according to their knowledge of modern family planning methods.**

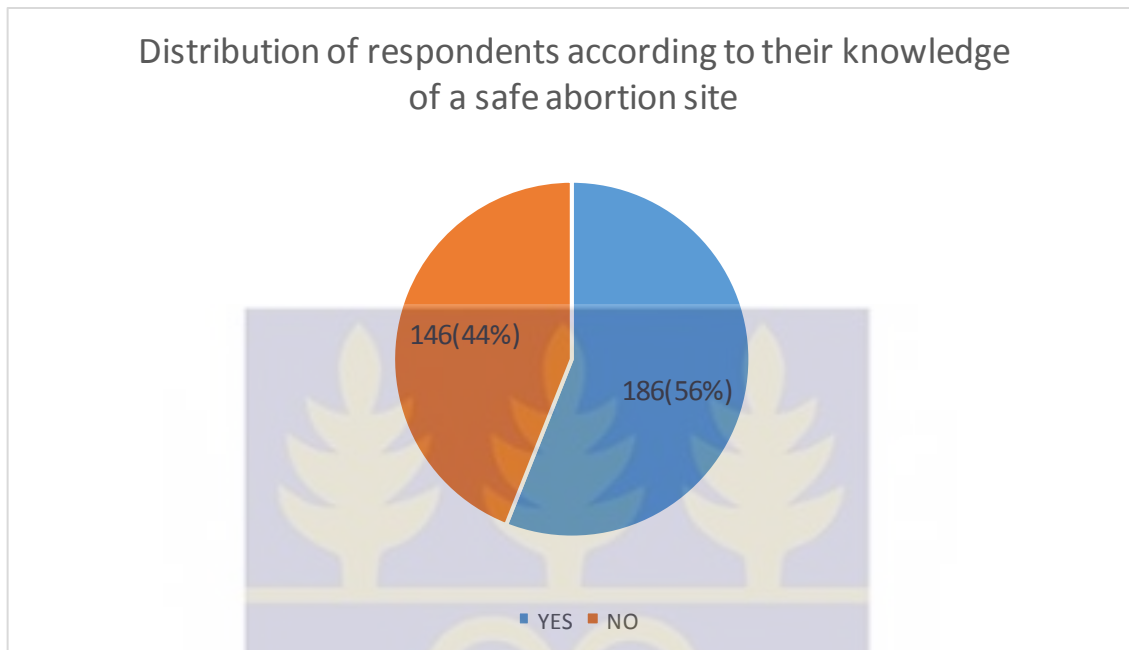


The majority of respondents knew at least one method of modern contraception.



#### 4.2.10 Knowledge of Safe Abortion Sites

**Figure 4.6: Pie chart showing distribution of respondents according to their knowledge of a safe abortion site.**



This pie chart reflects whether knowledge of a site for safe abortion services on its own had much influence on whether respondents will access services there or induce an abortion. More than 50% of them knew where they could have gone to have safe abortions and they adduced various reasons on subsequent questions as to why they did not use the facilities for safe abortion that they knew.



#### 4.2.11 Reasons for not going to Site of Safe Abortion

**Table 4.6: Table of respondents reasons for not accessing safe abortion services from known sites**

Reasons	Frequency	Percent
Don't want anyone to know	53	32.0
Expensive	45	27.1
Shy	35	21.1
Don't Know anyone there	12	7.2
Unfriendly Staff	12	7.2
Far away	6	3.6
Others	3	1.8
Total	166	100

The various reasons why respondents did not access safe abortion from sites they are aware of range from stigma related reasons such as 'don't want anyone to know' (53%) to issues about cost (27.1%) and attitude of staff in facilities they know that offer abortion services. (7.2%).



### 4.3 Characteristics of Respondents Who Used OTC Medication Abortion

**Table 4.7: Characteristics of Respondents who used OTC Medication Abortion/ did not use OTC Medication Abortion**

Characteristics		No Over the Counter Medication Abortion	Over the Counter Medication Abortion
<b>Prevalence</b>	N=367	218 (59.40%)	149 (40.60%)
<b><u>Education</u></b>			
Uneducated		43(19.8)	9(6.0)
Primary		46(21.2)	18(12.1)
Secondary		88(40.6)	86(57.7)
Tertiary		40(18.4)	36(24.2)
	$\chi^2=22.87$ P <0.0001		
<b><u>Age Group</u></b>			
15-19		33(15.2)	30(20.1)
20-24		65(30.0)	57(38.4)
25-29		55(25.4)	34(22.8)
30-34		38(17.5)	13(8.7)
35-39		23(10.5)	5(3.4)
40-49		3(1.4)	10(6.7)
	$\chi^2=21.32$ , P=0.001		
<b><u>Religion</u></b>			
Christian		183(84.4)	122(83.0)
Muslim		30(13.8)	22(15.0)
Others		4(1.8)	3(2.0)
	$\chi^2=0.17$ , P=0.943		
<b><u>Occupation</u></b>			
Self-employed-Trader/Artisan		113(52.3)	60(40.5)
Professional		29(13.4)	21(14.2)
Other (Student)		11(5.0)	17(11.5)
Unemployed		63(29.3)	50(33.8)
	$\chi^2=7.87$ , P=0.049		
<b><u>Marital Status</u></b>			
Single		70(32.3)	95(63.8)
Married		147(67.7)	54(36.2)
	$\chi^2=35.40$ , P<0.0001		
<b><u>Income of Partner</u></b>			
High Income (GHC 2000- >4000)		29(13.4)	9(6.0)
Medium income (GHC 1000-1999)		31(14.3)	48(32.2)
Low Income (GHC <1000)		122(56.2)	43(28.9)
No Income		35(16.1)	49(32.9)
	$\chi^2= 42.20$ , P<0.0001		

Characteristics	No Over the Counter Medication Abortion	Over the Counter Medication Abortion
<b><u>Income of Respondent</u></b>		
High Income (GHC 2000- >4000)	15(6.9)	0(0.0)
Medium income (GHC 1000-1999)	27(12.4)	25(20.3)
Low Income (GHC <1000)	102(46.8)	38(30.9)
No Income	74(33.9)	60(48.8)
	$\chi^2=36.17, P<0.0001$	
<b><u>Knowledge of Safe Abortion sites.</u></b>		
No	98(51.9)	48(33.6)
Yes	91(48.1)	95(66.4)
	$\chi^2=11.05, P=0.001$	
<b><u>Referral information given</u></b>		
No	133(81.1)	125(83.9)
Yes	31(18.9)	24(16.1)
	$\chi^2 =0.42 P=0.0516$	

The prevalence of over the counter medication abortion in women with incomplete abortions was determined as 40.6%. This represents the burden of over the counter medication abortion use in women with incomplete abortions.

There were statistically significant associations between over the counter medication abortion use and various variables as shown in table 4.7.

Table 4.7 shows that the majority of respondents in the two groups who used OTC medication abortion and those who did not use OTC medication abortion had secondary education, 40.6% in the no OTC medication abortion group and 57.7% in the OTC medication abortion group. The lowest proportion of respondents who used OTC medication abortion were uneducated and the lowest proportion of respondents who did not use OTC medication abortion had tertiary education. For respondents who were uneducated or had primary education, about 17% and 28% respectively used OTC medication abortion, whilst for those who had secondary and tertiary education, 49% and 47% respectively used OTC medication abortion. These differences in the educational

status of the respondents who used OTC medication abortion and those who did not were significant ( $\chi^2=22.87$ ,  $P<0.0001$ ).

The proportions of the age groups in the two groups, no OTC and OTC medication abortion group, increased from the age group 15-19 years and peaked at the age group 20-24 years and then reduced gradually till the age group 40 -49 years. Less than 30% of respondents aged 30-34 years (25%) and 35-39 years (18%) used OTC medication abortion compared to the other age groups. The age group 20-24 years had the highest proportion in the 2 groups under comparison, OTC medication abortion group (38.4%) and no OTC medication abortion group (30%). These associations between the age group of respondents and use of OTC medication abortion were significant ( $\chi^2=21.32$ ,  $P=0.001$ )(Table 4.7).

The majority of respondents in both groups under comparison were self-employed (Trader/Artisan), 52.3% in the no OTC medication abortion group and 40.5% in the OTC medication abortion group. Students formed the minority in both groups, 5% in the no OTC medication abortion group and 11.5% in the OTC medication abortion group. The unemployed formed the second largest proportion of respondents in each group followed by the professional class. The Self Employed had the lowest proportion, 34.7% using OTC medication abortion. These associations in the occupational status of respondents who used OTC medication abortion or did not use OTC medication abortion were significant ( $\chi^2=7.87$ ,  $P=0.049$ ) (Table 4.7).

The proportion of married respondents (67.7%) was more than twice the proportion of singles (32.3%) in the no OTC medication abortion group whilst in the OTC medication abortion group the proportion of singles was higher (63.8%) than that of married respondents (36.2%). About 57.6% of all respondents who were single used OTC

medication abortion whilst 26.9% of all respondents who were married used OTC medication abortion. These associations between the marital status of respondents and use of OTC medication abortion were significant ( $\chi^2=35.40$ ,  $P<0.0001$ ) (Table 4.7).

The highest proportion of respondents (46.8%) in the no OTC medication had low income whilst respondents with no income had the highest proportion (48.8%) in the OTC medication abortion group. There was no respondent with high income who used OTC medication abortion whilst for those who did not use OTC medication abortion the lowest proportion also were in the high income group. Only 27% of respondents with low income used OTC medication abortion, the lowest proportion among the various income groups apart from those with high income which had no respondent using OTC medication abortion. These associations between the income of respondents and OTC medication abortion use were significant ( $\chi^2=36.17$ ,  $P<0.0001$ ) (Table 4.7).

Respondent Partners who earned low income were of the highest proportion (56.2%) in the no OTC medication abortion group whilst those who earned no income were of the highest proportion (32.9%) in the OTC medication abortion group. The lowest proportion of partners of respondents in both groups earned high incomes. Only 26% of respondent's partners with low income and 23.7% of them with high income used OTC medication abortion, the lowest proportions among the various income groups of respondent partners. These associations between the Income of partners of respondents and use of OTC medication abortion were significant ( $\chi^2=42.20$ ,  $P<0.0001$ ) (Table 4.7),

Respondents living with their husbands had the highest proportion in the no OTC medication abortion group (42%) whilst those living with their parents (32.9%) were the highest proportion. in the OTC medication abortion group. Those living with their partners (6%) and those living alone (5.4%) had the lowest proportions in the no OTC and OTC

medication abortion groups respectively. Only about 27% of those living with their husbands and 17.5% of those living alone used OTC medication abortion, the lowest proportions among the various type of partner groups. These associations between the kind of partner the respondents were living with and the use of OTC medication abortion was significant ( $\chi^2=36.75$ ,  $P<0.0001$ ) (Table 4.7).

A higher proportion of respondents who did not use OTC medication abortion (58.4%) had a previous history of abortion whilst a higher proportion of respondents who used OTC medication abortion (63.8%) had no previous history of abortion. For those who had a previous history of abortion, twice their proportion (68%) were in the no OTC medication abortion group compared to the OTC medication abortion group (32%). The associations between repeat abortions and the use of OTC medication abortion were significant ( $\chi^2=16.63$ ,  $P<0.0001$ ) (Table 4.7).

About 32.9% of respondents who did not know of a safe abortion site used OTC medication abortion. About 51% of those who knew of a safe abortion site used OTC medication abortion. In all the majority of respondents who used OTC medication abortion (66.4%) knew of a safe abortion site and about equal proportions of those who did not use OTC medication abortion either knew or did not know of a safe abortion site. These associations between knowledge of a safe abortion site and use of OTC medication abortion were significant ( $\chi^2=11.05$ ,  $P=0.001$ ) (Table 4.7).

#### 4.4 Over the Counter Medication Abortion and Severe Bleeding

**Table 4.8: Cross tabulation of exposure to OTC medication abortion and severe bleeding**

Type of Medication abortion	Severe bleeding	Not Severe bleeding
OTC	141(95.9)	6(4.1)
Not OTC	189(87.1)	28(12.9)
Total	330(100)	34(100)

$\chi^2 = 8.05, P=0.005$

Severe bleeding occurred in 95.9 % of women who used OTC medication abortion whilst for those who did not use OTC medication abortion, severe bleeding occurred in 87.1% of them.

**Table 4.9: Logistic Regression of severe bleeding with OTC medication abortion use**

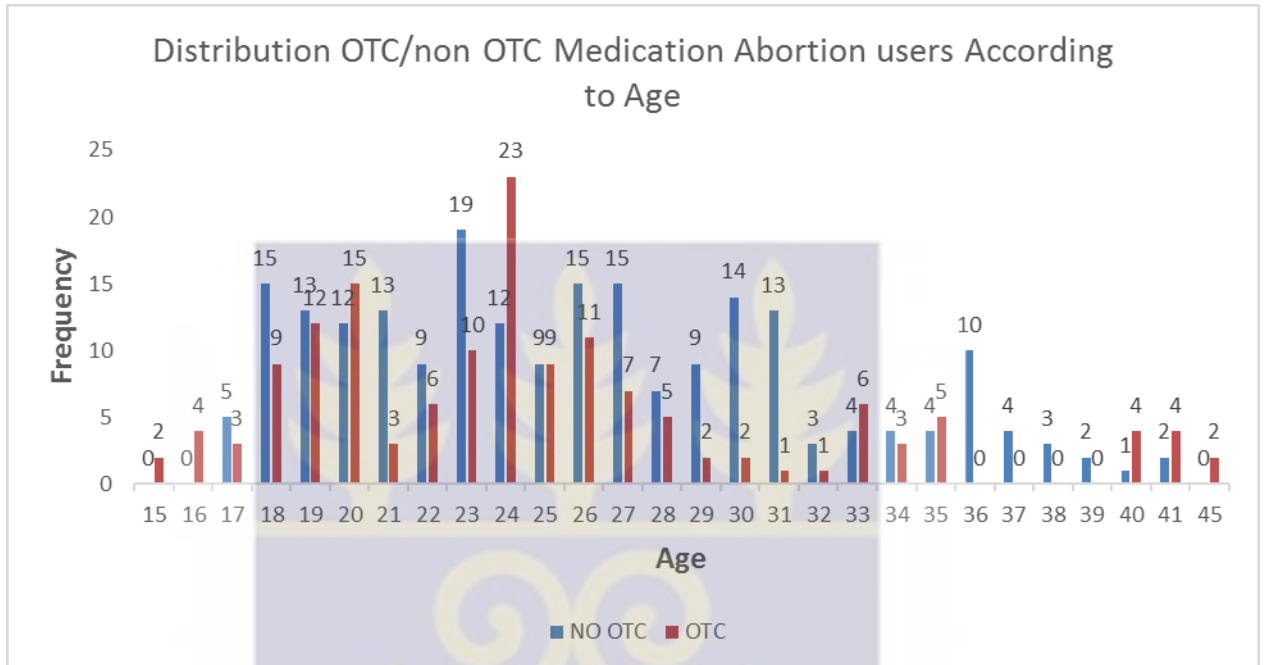
Variable	Severe bleeding		OR (95% CI)	P-Value
	Yes	No		
OTC	141(95.9)	6(4.1)	3.48(1.40, 8.63)	0.007
Not OTC	189(87.1)	28(12.9)	1	

Using logistic regression, women who used over the counter medication abortion have 3.5 times increase in the odds of experiencing severe bleeding compared to women who did not use over the counter medication abortion. ( $\chi^2$  3.48 P=0.007). The association between over the counter medication abortion and severe bleeding was significant.

#### 4.4.1 Differences between mean age of OTC Medication Abortion users and non

##### OTC Medication Abortion users

**Figure 4.7: Distribution of OTC medication abortion users and non OTC medication abortion users according to Age**

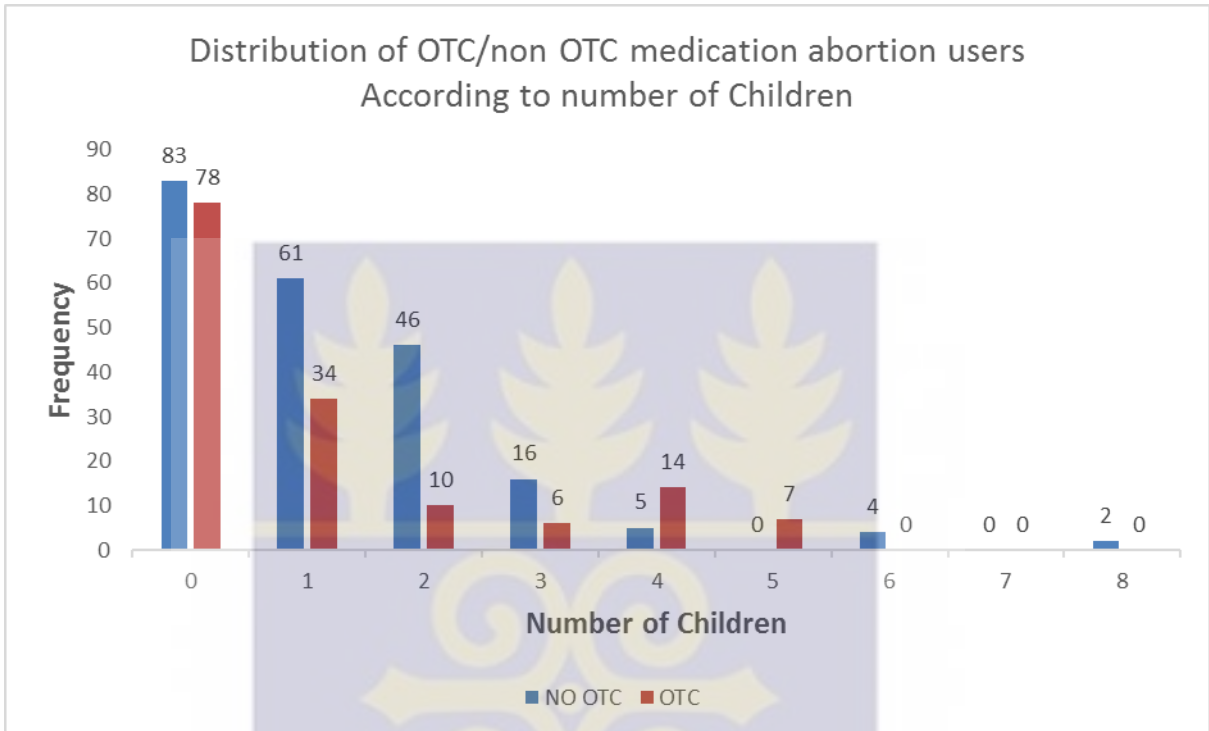


The number of respondents increases from the lower ages 15-19 years and peaks at age 23 years for the no OTC group and 24 years for the OTC group. It then decreases till the age of 45 years.

Two sample t-test for ages of the two sub-groups, showed that the mean age for those who did not use OTC medication abortion was  $26.10 \pm 5.93$  and for those who used medication abortion it was  $24.98 \pm 6.49$ , the 2-sided P value was 0.0879. The difference between the mean ages of the two groups was not significant.

#### 4.4.2 Differences between mean number of Children of OTC Medication Abortion users and non OTC Medication Abortion users

**Figure 4.8: Distribution of OTC medication abortion users and non OTC medication abortion users according to their number of children.**



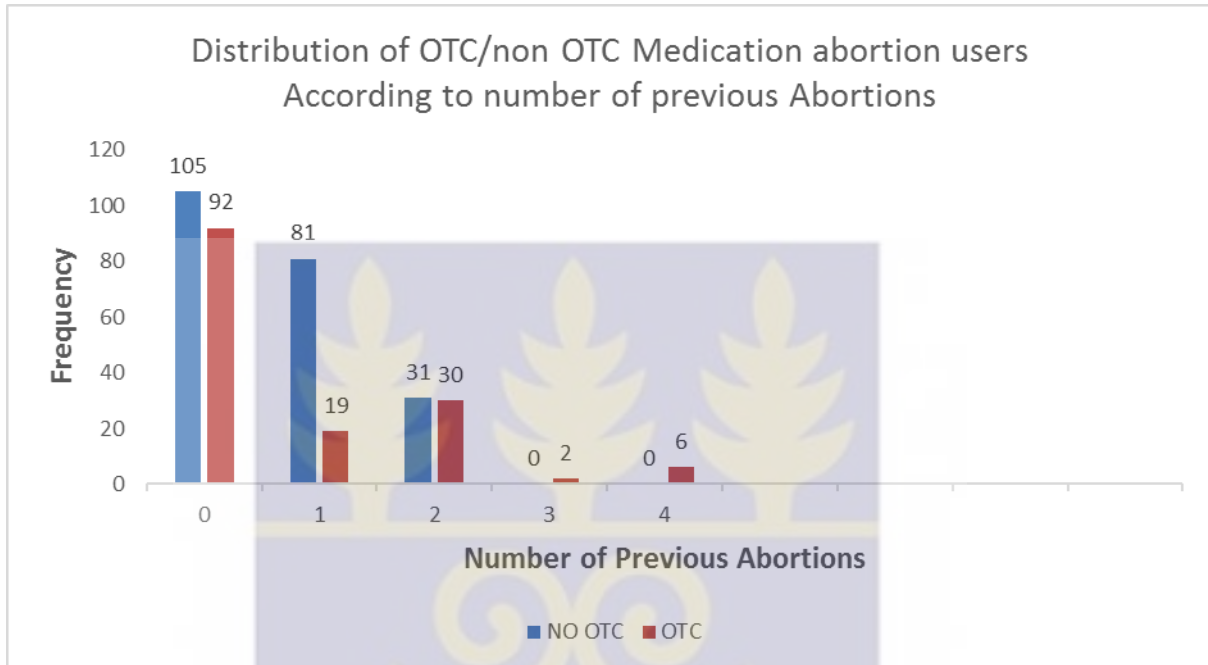
Respondents who did not have any children have the highest frequencies for both groups. The number of respondents with incomplete abortions decreases as the number of children increases. Generally, respondents who did not use OTC medication abortion have more children than those who used OTC medication abortion.

Two sample t-test for the number of children of the two groups, showed that the mean number of children for those who did not use OTC medication abortion was  $1.20 \pm 1.40$  and for those who used medication abortion it was  $1.09 \pm 1.54$ , the 2-sided P value was 0.4841. The difference between the mean number of children was not significant.

#### 4.4.3 Differences between the mean number of Previous Abortions by OTC

##### Medication Abortion users and non OTC Medication Abortion users

**Figure 4.9: Distribution of OTC medication abortion users and non OTC medication abortion users according to number of previous abortions**



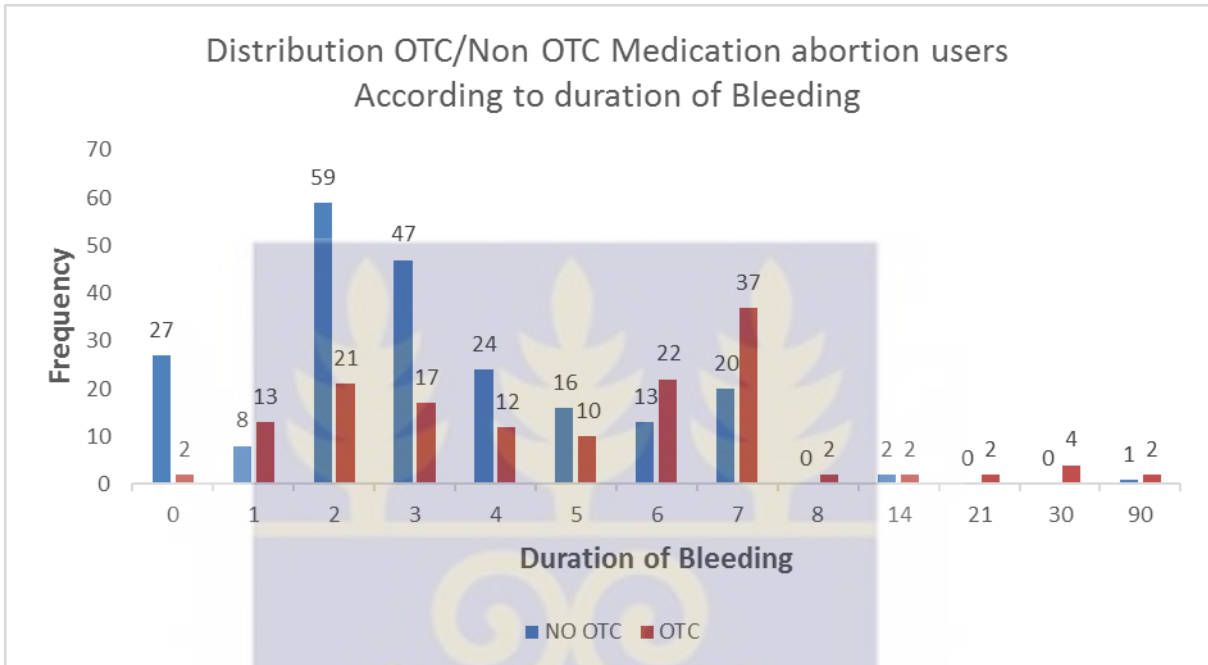
There were more respondents with previous history of abortions in the no OTC medication abortion group than in the OTC medication abortion group. The number of respondents generally decreases as the number of previous abortions increases.

Two sample t-test for ages of the two sub-groups, showed that the mean number of previous abortions for those who did not use OTC medication abortion was  $0.66 \pm 0.72$  and for those who used medication abortion it was  $0.73 \pm 1.08$ , the 2-sided P value was 0.4406. The difference between the mean number of previous abortions was not significant.

#### 4.4.4 Differences between the mean duration of Bleeding of OTC Medication

Abortion users and non OTC Medication Abortion users.

**Figure 4.10: Distribution of OTC medication abortion users and non OTC medication abortion users according to duration of bleeding**



There were more respondents who used OTC medication abortion and bled for longer periods for 7 days and more compared to those who did not use OTC medication abortion whilst there were more respondents who did not use OTC medication abortion and bled for shorter periods.

Two sample t-test for ages of the two sub-groups, showed that the mean duration of bleeding for those who did not use OTC medication abortion was  $3.59 \pm 6.30$  and for those who used medication abortion it was  $6.62 \pm 11.02$ . The 2-sided P value was 0.0009. The difference between the mean duration of bleeding for the two groups was significant.

**4.5 Predictors of the use of OTC Medication Abortion****Table 4.10: Table of odds ratios for various variables associated with use of OTC medication abortion.**

<b>CHARACTERISTICS</b>	<b>UNADJUSTED ODDS RATIO (95% CI)</b>	<b>P VALUE</b>	<b>ADJUSTED ODDS RATIO (95% CI)</b>	<b>P VALUE</b>
<b>Education</b>				
Uneducated	1		1	
Primary	1.87(0.76,4.60)	0.170	2.98(0.60,14.76)	0.01
Secondary	4.67(2.15,10.16)	<0.0001	3.94(0.84,18.50)	0.052
Tertiary	4.30(1.84,10.03)	0.001	4.42(2.61,7.51)	0.009
<b>Occupation</b>				
Unemployed	1		1	
Self-Employed-Trader/Artisan	0.67(0.41,1.08)	0.105	4.92(14.09,17.19)	<0.0001
Professional	0.91(0.47,1.79)	0.79	97.8(2.09,45.80)	0.021
Other (Student)	1.95(0.84,4.53)	0.122	3.76(0.40,3.51)	0.240
<b>Marital Status</b>				
Single	1		1	
Married	0.27(0.17,0.42)	<0.0001	0.14(0.05,0.43)	0.001
<b>Income of respondent</b>				
No Income	1		1	
Low Income (<GHC1000)	0.26(0.15,0.45)	<0.0001	0.03(0.03,0.26)	0.001
Medium income (GHC 1000-1999)	0.65(0.33,1.27)	0.206	0.02(0.02,0.30)	0.004
High Income (GHC 2000- >4000)	1.42(0.96,2.12)	0.002	2.30(0.34,1.67)	0.001
<b>Income of Partner</b>				
No Income	1		1	
Low Income (GHC <1000)	0.13(0.48,0.35)	<0.0001	0.10(0.011,0.86)	0.04
Medium income (GHC 1000-1999)	0.51(0.18,1.44)	0.205	0.74(0.56,9.73)	0.82
High Income (GHC 2000- >4000)	0.11(0.03,0.38)	<0.0001	0.28(0.09,8.17)	0.46
<b>Person respondent lives with</b>				
Alone	1		1	
Husband	1.77(0.75,4.19)	0.19	3.19(0.86,11.78)	0.08
Partner	5.12(1.75,14.96)	0.003	27.40(2.05,36.70)	0.01
Parents	6.65(2.77,15.99)	<0.0001	45.90(10.50,19.40)	<0.0001
Other relatives	5.23(2.18,12.53)	<0.0001	23.04(1.45,36.62)	0.03
<b>Previous history of abortion</b>				
No	1		1	
Yes	0.41(0.26,0.63)	<0.0001	0.32(0.12,0.86)	<0.0001
<b>Knowledge of safe abortion site</b>				
No	1		1	
Yes	2.13(1.36,3.34)	0.001	1.74(0.50,5.96)	0.38
<b>Referral information given</b>				
No	1		1	
Yes	0.82(0.46,1.48)	0.52	0.84(0.60,1.09)	<0.0001
<b>Age Group</b>				
15-19	1			
20-24	0.90(0.52,1.77)	0.65	0.04(0.40,1.63)	<0.0001
25-29	0.96(0.52,1.77)	0.91	2.29(0.34,15.18)	0.408
30-34	0.68(0.35,1.30)	0.25	8.83(0.80,9.73)	0.078
35-39	0.38(0.17,0.84)	0.02	42.60(2.19,8.28)	0.008
40-49	0.63(0.28,1.42)	0.27	14.67(7.25,9.69)	0.002

To measure the strength of the association between various variables and over the counter medication abortion use, unadjusted and adjusted analysis was run using logistic regression, between the independent variable, use of over the counter medication abortion and those independent variables with showed significant degrees of associations with over the counter medication abortion.

Women with secondary education have about 5 times increase in the odds of the use of OTC medication abortion, compared to women who are uneducated and women with tertiary education have about 4 times increase in the odds of the use of OTC medication abortion compared to women who are uneducated. Adjusting for all the other variables showed that women with secondary education had about 4 times an increase in the odds of using OTC medication abortion and women with tertiary education had 4 times increase in the odds of using medication abortion compared with women who were uneducated.

Unadjusted analysis did not show any significantly strong associations between occupation and the use of OTC medication abortion, whilst adjusting for other variables showed that Self-employed women had about 5 times increase in the odds of using medication abortion and Professional women had about 98 times increase in the odds of using medication abortion compared to women who were unemployed.

Unadjusted analysis showed that married women had about 3.7 times decrease in the odds of over the counter medication abortion use compared to a single woman and adjusted analysis showed that a married woman had a 7 times decrease in the odds of over the counter medication abortion use compared to a single woman.

Unadjusted analysis showed that low income women had about a 3.8 times decrease and high income women have a 1.4 times increase in the odds of the use of over the counter medication abortion compared to women who earned no income. Adjusted analysis

showed that low income women had about a 33 times decrease, medium income women have about a 50 times decrease and high income women had about a 2.3 times increase in the odds of OTC medication abortion use compared to women who earned no income.

Unadjusted analysis showed that women whose partners earned low income had about 7.7 times decrease and those whose partners earned high income had about 9 times decrease in the odds of OTC medication abortion use compared to women whose partners earned no income. Adjusted analysis showed that women whose partners had low income had a 10 times decrease in the odds of use of OTC medication abortion compared with women whose partners earned no income.

Adjusted analysis showed that women living with their partners had a 5 times increase in the odds of OTC medication abortion use and women living with their parents had about a 6.7 times increase in the odds of OTC medication abortion use and those living with their other relatives have a 5 times increase in the odds of medication abortion use compared to those living alone. Adjusted analysis showed that women living with their partners had a 27 times increase, women living with their parents had a 46 times increase and women living with other relatives had a 23 times increase in the odds of using medication abortion compared to women living alone.

Women who had a previous history of abortion had a 2.4 times decrease in the odds of the use of OTC medication abortion compared to women who had their first abortion. On adjusted analysis, women who had a repeat abortion had a 3.1 times decrease in the odds of using OTC medication abortion. Compared to women having their first abortion.

Unadjusted analysis showed that Women who knew of a site for safe abortion had a 2 times increase in the odds of using OTC medication abortion compared to women who did

not know any such site. Adjusted analysis however did not show any significant degree of association with OTC medication abortion.

Women who were given referral information to facilities they could get help from in case of complications after the use of OTC medication abortion did not show any significant degree of association with OTC medication abortion use compared to women who were not given any referral information, after unadjusted analysis. Adjusted analysis however showed a 1.2 times decrease in the odds of such women using OTC medication abortion compared to women who did not receive any referral information.

Women of the age group 35-39 years showed a 2.6 times decrease in the odds of using medication abortion compared to women of the age group 15-19 years, after unadjusted analysis. On adjusted analysis, women with age group 20-24 years showed a 25 times decrease, those in the age group 35-39 years showed a 42 times increase and those of the age group 40 -49 years showed a 14.7 times increase in the odds of using medication abortion compared to women of the age group 15-19 years.

There were therefore significant and positive associations between Self-employed/Artisan, professional, women living with partners and parents, women of age group 35-39 years and 40-49 years, women with secondary and tertiary education and the use of OTC medication abortion. There were significant but negative associations between married women, women with low income and high income, women whose partners had low income, women with previous history of abortion, women of age 20-24 years and the use of medication abortion.

**4.6 Association between various Variables and Severe Bleeding****Table 4.11- Cross Tabulation of various variables against severe bleeding**

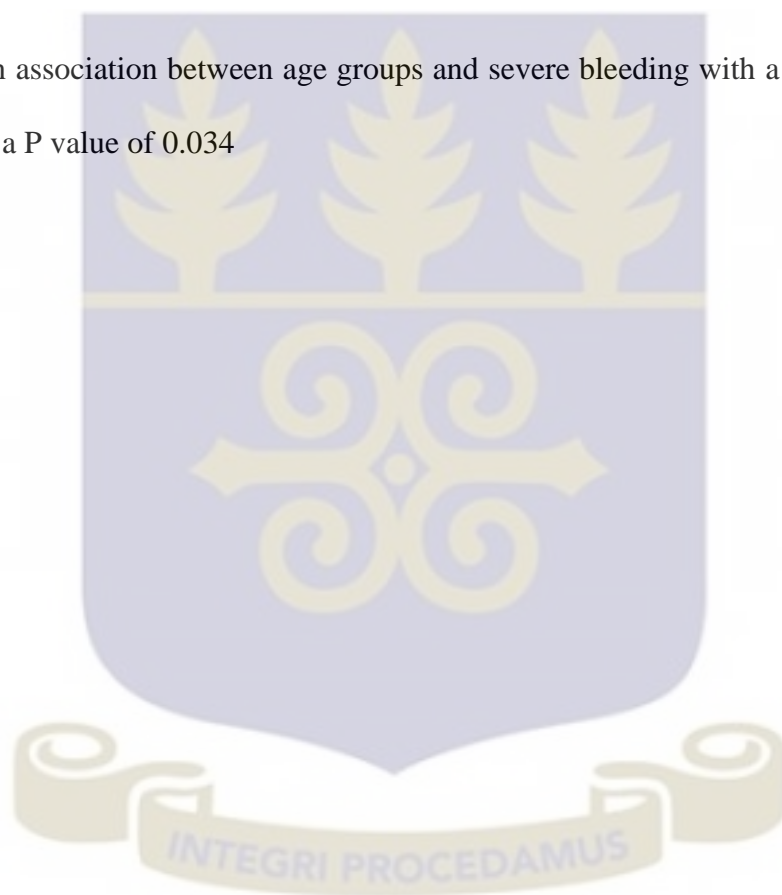
<b>Variable</b>	<b>Not Severe</b>	<b>Severe</b>
<b><u>Occupation</u></b>		
Self employed	14(41.2)	168(48.6)
Professional	12(35.3)	36(10.9)
Other(Student)	0(0.0)	28(8.6)
Unemployed	8(23.5)	105(31.9)
$\chi^2=17.77$ $P<0.0001$		
<b><u>Marital Status</u></b>		
Married	26(76.5)	176(53.2)
Single	8(25.5)	155(46.8)
$\chi^2=6.77$ $P=0.009$		
<b><u>Income of Respondent</u></b>		
No Income	3(10.0)	99(35.7)
Low Income	23(76.7)	115(41.5)
Medium Income	3(10.0)	49(17.7)
High Income	1(3.3)	14(5.1)
$\chi^2=13.95$ $P=0.005$		
<b><u>Income of Partner of Respondent</u></b>		
No Income	2(7.4)	19(6.8)
Low Income	20(74.1)	149(53.8)
Medium Income	4(14.8)	77(27.8)
High Income	1(3.7)	32(11.6)
$\chi^2=4.78$ $P=0.188$		
<b><u>Referral Information</u></b>		
No	17(100)	239(81.3)
Yes	0(0.0)	15(18.7)
$\chi^2=3.86$ $P=0.049$		
<b><u>Age Group</u></b>		
15-19	6(17.7)	114(34.4)
20-24	8(23.5)	73(22.0)
25-29	16(47.0)	73(22.0)
30-34	2(5.9)	49(14.8)
35-39	2(5.9)	27(8.2)
40-49	0(0.0)	11(3.3)
$\chi^2=12.09$ $P=0.034$		

There was an association between occupation of respondents and severe bleeding with a chi square value of 17.7 and a P value of less than 0.0001

There was an association between the marital status of respondents and severe bleeding with a chi square value of 6.77 and a P value of 0.009.

There was an association between Income of respondents and severe bleeding with a chi square value of 13.95 and a P value of 0.005.

There was an association between age groups and severe bleeding with a chi square value of 12.09 and a P value of 0.034



## CHAPTER FIVE

### DISCUSSION

#### 5.1 Summary of Objectives

The aim of this study was to determine the prevalence of over the counter medication abortion in women with incomplete abortions, reporting to five facilities in Greater Accra Region. It was also to determine the proportion of women reporting to those facilities who had severe bleeding with incomplete abortions, with the use of over the counter medication abortion.

The study aimed also to determine if there was a significant association between presence of severe bleeding in women and the use of over the counter medication abortion and finally to determine if there are differences in characteristics between women who have incomplete abortions due to use of over the counter medication abortion and those who use other means of abortion.

#### 5.2 Descriptive Statistics of Women with Incomplete Abortions

##### 5.2.1 Age

The mean age of respondents was 25.7 years ( $\pm 6.192$ ). A study to define the characteristics of women with abortion complications reporting to Korle-bu Teaching Hospital, reported the minimum age of the respondents as  $27.7 \pm 6.8$  (Adanu, Ntummy, & Tweneboah, 2005).

The minimum age was 15 years and the maximum 45 years. The age group 20-24 years had the highest frequency of 122 and the age group 40-49 had the lowest frequency of 13 incomplete abortions.

Abortion rates were generally higher among women 20-24 years old and lower among women less than 20 years and those in their 40s. This is probably a reflection of the fact that women aged between 20-24 years are in their sexual prime and very active sexually. However as asserted by Bankole et al (1999), women who get pregnant at the early parts and at the end years of their reproductive life are more likely to abort. At the early part of their reproductive life most women are unmarried, and may be engaged in schooling so may want to delay childbirth. At later stages of their reproductive life most women will have had the children they planned for and may not want any pregnancy (Bankole et al., 1998).

### **5.2.2 Marital Status**

55% of respondents were married and 45% of respondents were not married (Figure 4.1). Normally a woman's marital status affects her abortion decision and so the expectation is that a larger proportion of the sample will be single, as single women are more likely to seek an abortion (Bankole et al., 1998). However, the sample of respondents include 51 women who had miscarriage, and were married (compared to 6 who were single and had miscarriage) and reported to the facilities with incomplete abortion. This may have increased the proportion of respondents who were married compared to those who were not. Other studies have also confirmed that the proportion of married women among spontaneous abortion cases are higher than the proportion of single women (Schwandt et al., 2011).

The age group 20-24 years had the highest number of singles, 66 women and the age group 35-39 had the lowest number of singles, women. The age group 25-29 years had the highest number of women who were married, 58 women and the age group 40-49 had the lowest number of women who were married, 8 women. The lower number of married

women at the older age group of 40-49 years may be a reflection of the lower number of women of that age group among the respondents (11 women). It may also be a reflection also of the fact that women of that age group have lower levels of abortion because pregnancy is most likely to be in the context of marriage at that age and so respondents within that age bracket are bound to be the least. However, others have reported that, within that age group pregnancies have a higher chance of being aborted because the woman will have had the number of children she desires.(Bankole et al., 1998). This may be so in the later ages of that age group, from 45 years to 49 years.

### **5.2.3 Educational Status**

Respondents who did not have any formal education made up 14.2% of the respondents whilst 17.44% of the respondents had only primary education.

The highest number of respondents had secondary education, 47.68% whilst the second highest number of respondents had tertiary education, 20.2%. Adanu et al (2005) reported that 20% of the respondents in their study had no formal education whilst 44.2% were educated beyond the primary level.

In further analysis of the data by cross tabulating level of education with where the source of the abortion was from, showed that 70% of those who had no formal education had their abortion by taking some concoction/herbal medication at home, 39% and 17% of those who had primary school education had their procedure at home and by taking medication abortion from a pharmacy respectively, 45% of those who had secondary education took medication from a pharmacy or chemical shop whilst 25% of them took some alcoholic concoction/herbal medication from home. For those with tertiary education, 50% of them took medication from a pharmacy/chemical shop and 32% went to a hospital for the abortion. Interestingly this 32% also represents 69% of those who procured their abortion from a hospital.

This shows that a larger number of the respondents who had tertiary education either procured their abortion from a hospital or from a pharmacy and a larger proportion of those who had secondary education took medication from a pharmacy/chemical shop or procured their abortion from home, those in primary or with no formal education mainly procured their abortion from home.

This may be due to the fact that those with tertiary education may be more knowledgeable about the consequences of unsafe abortion, availability of safe abortion from hospital or clinics, their right to safe abortion care or may have partners who are also educated and may have the resources for them to access abortion from a hospital. Those with Secondary education may have come from a school environment where a discreet source of abortion suited them and may have left school with the knowledge of over the counter medication abortion form pharmacies and chemical shops. Those with primary education may lack adequate information and may be less knowledgeable to know about their right to safe abortion care and where to get abortions and so may rely on relatives and home brewed concoctions to induce abortion.

#### **5.2.4 Employment Status**

The proportion of respondents who were unemployed was 30.96%. About 47.7% of the respondents were also self-employed (Artisans/Traders), 13.7% were professionals and 7.7% of them were doing other things as work or were students. Other studies have also shown a large portion of unemployed or those engaged in low income economic activity among women with abortion complications (Adanu et al., 2005). The large proportion of unemployed and self-employed women and the smaller proportion of professionals may confirm the importance of economic reasons and poverty in a woman's decision to abort or keep a pregnancy (Bankole et al., 1998).

### **5.2.5 Religion of Respondents**

About 84% of the respondents were Christians, 14.5% were Muslims and about 2% were of traditional religion. This may be a reflection of the fact that the majority of Ghanaians are Christians, 71% of the total population whilst Muslims are about 9% (Census, 2012) and therefore the sample will reflect that majority, unless there was a bias due to where the sample was taken. The facilities from where the data were taken, serve all person from within their catchment areas and beyond, without any bias.

### **5.2.6 Income Status of Respondents and their Partners**

About 43.6% of respondents and 23.2% of their Partners were unemployed and earned no income. 38.7% of respondents and 45% of their partners were within the low income category earning less than GHC1000 per month. 13.6% of respondents and 21.5 % of their partners were within the medium income category earning from GHC1000 to GHC1999.

There were 4.09% of respondents and 10.4% of their partners who were within the high income group earning from GHC2000 to greater than GHC4000. The higher numbers of respondents who were either unemployed or of the low income class who had incomplete abortions compared to the lower numbers of respondents in the middle and high income group who had incomplete abortions, may be a reflection of the relation between poverty and abortion decision.

### **5.2.7 Knowledge of Family Planning**

83.7% of respondents knew at least one method of modern contraception, but only 59% had used any family planning method before. Adanu et al (2005) reported a knowledge of contraceptive rate of 79% and a usage rate 31% in their study to compare the characteristics of women with induced and spontaneous abortions. In 2008, about 28% of sexually active but unmarried women and 17% of married women were using modern

contraceptives and 35% of married women and 20% of sexually active but not married women had need for contraceptives that were unmet. This led to over 37% of pregnancies being unintended (Initiative, 2007). Unintended pregnancies may lead to abortion some of which may be unsafe. The respondents who had induced their abortions obviously needed family planning since they did not want their pregnancies, but they were not using it. This reflects the gap between the need for family planning and actual usage. The reasons mostly given by women for not using family planning includes side effects and perceived health risks (Sundaram et al., 2012).

### **5.3 Characteristics of Respondents who used over the Counter Medication Abortion and those who use other Means of Abortion (Table 4.9).**

#### **5.3.1 Age Group**

Even though there was no difference between the mean ages of those who used ( $26.10 \pm 5.93$ ) and did not use ( $24.98 \pm 6.49$ ) medication abortion, the highest proportion of respondents were within the age group 20-24 years for both OTC medication and non OTC medication abortion group. The age groups at the later stages of the respondent's reproductive life (40-49 years) had the lowest proportions.

This may be a reflection of the fact that abortion is most predominant among women of the age group 20-24 years, because they are more sexually active, and likely to be pregnant. It may also be a reflection of the fact that at older stages of their reproductive life, women are less likely to keep a pregnancy because they will have had the number of children they desire by that age (Bankole et al., 1998). There was no significant difference between the mean ages of those who used medication abortion and those who did not

### **5.3.2 Marital Status**

Damalie et al (2014) found that misoprostol users, for abortion induction, were likely to be single. Majority of respondents (67.7%) were married in the non OTC medication abortion group, whilst majority of respondents (63.8%) were single in the OTC medication abortion group. Married women have about half the odds of aborting a pregnancy compared to women who are not married because of stigma associated with having a child out of wedlock in most communities in Ghana, and the difficulties in raising a child alone if there is inadequate support from a partner who the woman is not married to (Sundaram et al., 2012)

This may account for the higher proportions of single women among respondents who used OTC medication abortion, whilst those who did not use OTC medication the fact that their numbers included women who miscarried (most of whom are married) may account for the higher proportions of married women among them.

### **5.3.3 Educational Status**

Medication abortion use was lower among respondents with lower levels of education, illiterates and primary level, than among respondents with higher levels of education, secondary and tertiary. Studies show that a higher proportion of misoprostol users for induced abortion have higher education than non-misoprostol users (Damalie et al., 2014). Knowledge about availability of medication abortion is more likely to be available to educated than non-educated women.

Damalie et al (2014), found that a higher proportion of respondents within their misoprostol users group and their non-misoprostol users group had at least basic education, in their study comparing morbidities in misoprostol users to non-misoprostol users, for abortion.

Cross tabulation of level of education against where abortion was procured show that 33% of respondents with tertiary education had their abortion initiated in a hospital, whilst only 4.5% and 3.1% of respondents with secondary and primary education respectively went to a hospital for their abortion. This may account for the least proportion of respondents with tertiary education in the OTC medication abortion users group.

The least proportion of respondents who did not use OTC medication abortion were uneducated. Uneducated women may have little information about medication abortion or where to access safe abortion and are most likely to resort to the use of other means of abortion.

#### **5.3.4 Occupation**

Generally, the proportions of those unemployed or self-employed (Artisan and Traders) were more than 70% for the OTC and non OTC groups. These are people who either earned no incomes or earned lower incomes and as such for economic reasons and to escape the stigma of not catering for their child well may not want to take a pregnancy to term. Damalie et al found that misoprostol users (for induced abortions) are less likely to be engaged in income earning ventures/employment(Damalie et al., 2014)

A higher proportion of respondents who were Students (11.5%) used OTC medication abortion than non OTC medication abortion (5%).Whilst a higher proportion of respondents who were Professionals (14.2%) used medication abortion than those who did not use medication abortion (13.4%). The Professionals who did not use medication abortion included 13 Professionals who had their abortions in a hospital, otherwise the difference will have been more significant (Considering the fact that the number of Professionals who did not use medication abortion were 29 in number).

Educated and Professional persons are more informed and may be better placed to know about the availability and use of medication. The two groups of persons may also not be ready to keep a pregnancy because those in school may be put more priority into finishing their education whilst the Professionals may prioritise their careers, especially at the beginning and if they are not married when supporting a child more take a toll on their time which they may need to build their careers.

### **5.3.5 Income of Respondent/Income of Partner**

The highest proportions of respondents in the OTC medication abortion and the no OTC medication abortion group were in the in the no income and low income categories, 77.4% for the no OTC group and 80 % for the OTC group. This trend is the same for the partners of the respondents. Those in the low income and no income category of the no OTC medication abortion group together made up 72.3% of respondents whilst those in the low income and no income category of the OTC medication abortion group formed 62% of respondent's partners.

This may be related to the fact that abortion is more common in lower income earners than in higher income earners because of economic reasons. Low income earners may not have the necessary resources to cater for a pregnancy and children. Studies have also show that misoprostol users are more likely not to be engaged in income earning ventures (Gbagbo, Amo-adjei, & Laar, 2015) (Damalie et al., 2014).

### **5.3.7 Person Respondent lives with**

The highest proportion for the no OTC medication abortion group lived with their husband (42%) while the highest proportion for the OTC medication abortion group lived with their parents (32.9%) and other relatives (29.5%).

The lowest proportion for the no OTC medication abortion group were living with their partner (6%) while the lowest proportion for the OTC medication abortion group were living alone (5.4%).

The higher proportion of the no OTC medication abortion being married may be explained by the fact that some of the respondents had miscarriages and were married (25% of respondents who were married) and therefore were put in the no OTC medication abortion group. Also a further 34% of respondents who were married had their procedure by taking a concoction at home and so formed part of the no OTC medication abortion group. Medication abortion users were found to be single and less likely to be income earners (Damalie et al., 2014). Such persons are more likely to be living with their parents or other relatives and may not want to take any medication at home because they live with their parents or relatives and rather will opt for a more discreet source of abortion.

### **5.3.8 Previous History of Abortion**

A higher proportion of respondents in the no OTC medication abortion group had previous abortions (58.4%) whilst a higher proportion of respondents in the OTC medication abortion group were having their first abortion (63.8%). There is no apparent explanation for this trend, except may be the fact that medication abortion may now be the preferred abortifacient (as evidenced by the relative higher number of women who used medication abortion compared to other abortifacients in this study) and so women having their first abortions may use that instead of the 'older' abortifacients like herbs and sugar solution which will be used by women who have a history of previous abortions and may have used the older abortifacients before.

There was a significant association between previous history of abortions and use of OTC medication abortion ( $P < 0.0001$ ). There was also no significant difference between the

mean number of previous abortions for those who did not use OTC medication abortion ( $0.66 \pm 0.72$ ) and for those who used medication abortion ( $0.73 \pm 1.08$ ). P value =0.4406). In Ghana, women who have a history of previous abortions have two times the odds of having repeat abortions. Generally women having repeat abortions and may have increased motivations to prevent an unwanted pregnancy and may know where to get a safe abortion (Sundaram et al., 2012).

Studies have shown a relation between repeat abortions and sexual or physical violence suffered by women at the hands of their partners. Additionally, it has linked repeat abortions with the use of contraception at some point in a woman's life even though such contraceptive use is inconsistent (Sedgh et al., 2013). The scope of this study was short of determining the factors that predict repeat abortions in women, however the fact that there is a relation between repeat abortions and inconsistent use of contraceptives was understandable.

Most abortions are due to unintended pregnancies which can be prevented by the consistent use of contraception.

One other issue to consider is the fact that a good proportion of respondents in both groups had previous histories of abortions, and still went on to have another abortion. This may reflect the complexities of the abortion decision and also may be a reflection of gaps in the health delivery system, especially the reproductive health aspect of it, which is unable to convince women who have undergone abortions to use family planning to prevent any repeat abortions, or make them available and accessible to these women and hence ensure its consistent use to prevent unwanted pregnancies and repeat abortions.

The decision to abort for most women is well thought of and not taken lightly. There are for most times a myriad of deep seated reasons and a lot of thought behind the decision (Bankole et al., 1998).

Most of the reason are sociocultural, economical and psychological. Religious and cultural inhibitions about the impropriety of abortion has led many women to undergo unsafe abortions clandestinely even if repeatedly, to escape the stigma associated with it. Lack of support from partners, the shame of having children out of wedlock, the desire to pursue educational and professional goals all influence the decision about abortion by women (Aniteye & Mayhew, 2011) (Tagoe-Darko, 2013).

As long as women are exposed to these social and economic problems they may consider abortion as an option. How to get them away from these issues will involve interventions not just in health, but also in women's education, enhancing their economic status and improving their family life situation. Adolescents and most at risk women will need extra care that helps them through their unique situations during pregnancy.

It may be important also to set up a reproductive health service that is accessible to most women and able to provide counselling to pregnant women as they work through their pregnancies and help them to identify their best options in either keeping or aborting their pregnancies. Additionally, providing family planning that best meets their needs will help in preventing repeat abortions.

### **5.3.9 Knowledge of Safe Abortion Site**

A higher proportion of those who used OTC medication abortion knew where they will be able to obtain safe abortion (66%), whilst a lower proportion of respondents who did not use OTC medication abortion knew of a site for safe abortion (48%). Those who used OTC medication abortion were generally more educated than those who did not and so

may have more knowledge about safe abortion. Knowledge of a site for safe abortion may not necessarily mean the woman will access safe abortion from that site, as various aspects of the service may make it impossible or inaccessible to the woman. It helps to bring to the fore other aspects of safe abortion care, apart from instituting the service that must be improved if such services are to be patronized by women instead of other sources of abortion services which may turn out to be unsafe.

#### **5.3.10 Referral Information given to Respondent in case of complications**

There was no difference between the group that did not use OTC medication abortion and the group that used OTC medication abortion. Referral information is important as this helps in the woman knowing what to do in case of complications. Giving information on what to expect when medication abortion is used and the signs of complications in addition to information on facilities that the woman should go to in case of any such complications may be helpful in getting the woman to access care in time.

#### **5.3.11 Abortifacients used by Respondents**

The abortifacients used by respondents range from medication abortion such as Cytotec used by 56% of the respondents and Medabon, used by 40.29% to herbal concoctions including 'Agbeve tonic' (21.2%) which is indicated to be used for menstrual pains and piles and registered by the Food and Drugs Authority. It is common knowledge that Cytotec and Medabon are routinely available over the counter in Ghana even though they are prescription only medicines.

Abortifacients such as concentrated sugar solution, alcoholic beverages were also used. 8.6% of respondents used concentrated sugar solution whilst 2.14% used alcoholic beverages.

It is worrying that after all the efforts by Ghana Health Service to provide safe abortion services through non- governmental Agencies such as Ipas and Marie Stopes International, the use of abortifacients such as herbal concoctions, alcoholic beverages and sugar solution still persist.

It is interesting to note that a higher proportion of respondents knew where they will be able to obtain safe abortion (56%). For those who knew of a safe abortion site, 45% did not go there because it was expensive to obtain safe abortion services from that site. 21% were shy, 32% cited the fact that they 'did not want anyone to know' they have had an abortion whilst 7% cited unfriendly attitude of staff as the reason for not going to the site of safe abortion. If abortion services are going to be accessible, then the issues that hinder their accessibility such as unfriendly attitude of staff, stigma and cost of services must be adequately addressed. If some of the reasons are perceptual, then the Ghana Health Service and NGOs involved in safe abortion care have work to do to make women aware of the availability of safe abortion services.

#### **5.4 Determinants of the use of over the Counter Medication Abortion**

The prevalence of OTC medication abortion in women presenting with incomplete abortions was determined as 40.6%. Studies have shown about 60% misoprostol use in women presenting with abortion complications in Kumasi (Damalie et al., 2014). The Ghana Maternal Health survey reported a rate of 5-16% in 2007. This shows that medication abortion, especially accessed over the counter, has become the new trend in abortifacients used for induced abortions.

Over the counter medication abortion has associations with education level of women ( $\chi^2=22.89$   $P<0.0001$ ), occupation of women ( $\chi^2=7.87$   $P<0.049$ ), marital status of women ( $\chi^2=35.40$   $P<0.0001$ ), income of women ( $\chi^2=33.51$   $P<0.0001$ ) and the partners ( $\chi^2=42.20$

$P < 0.0001$ ), age of women ( $\chi^2 = 21.32$   $P = 0.001$ ), the kind of person a woman lives with ( $\chi^2 = 36.75$   $P < 0.0001$ ), whether a husband, relative, partner or the woman lives alone. It also has associations with whether the woman has a previous history of abortions ( $\chi^2 = 16.63$   $P < 0.0001$ ) and also knows of a site for safe abortion ( $\chi^2 = 11.05$   $P = 0.001$ ).

Medication abortion is not cheap, pharmacies and chemical shops take advantage of the desperation of women seeking abortion to price it higher. Educated women who earn higher income may be able to afford than non-educated women. Non-educated women may also be able to afford it if their partners provide part of the cost or subsidy it. Educated women may also have better information about its availability and use than non-educated women.

The age at which a woman becomes pregnant can determine if she will seek an abortion or not. Women at the beginning and towards the end of their reproductive life have a higher tendency to abort their pregnancies. At the beginning of the reproductive age, most women are still dependent and in school and may not be earning any income to take care of a child and so prefer aborting any pregnancy rather than carry it to term. At the later ages of their reproductive life, women most have the full complement of children they planned for and so any pregnancy may be aborted (Bankole et al., 1998).

The person a woman lives with may influence her decision to get an abortion. If the person is a husband, he may make the abortion decision as head of the family, or even finance it. If it is a parent or relative, fear of being found out as pregnant in situations where the woman is still dependent on the parent may drive her to seek an abortion. If the woman knows of a site for safe abortion, the cost of an abortion, attitude of staff at the site may all influence her decision to have an abortion there or not.

Previous history of abortions may influence a woman's abortion decision based on her experiences with her past abortions compared to what she feels carrying the pregnancy to term might cost her. The preference for OTC medication abortion may lie in its easy accessibility, discretion at the pharmacy and chemical shop where you have only one Pharmacist present with one or two attendants.

Over the counter medication abortion users are more likely to have secondary and tertiary education, professionals or self-employed and less likely to be married. They are likely to be living with their parents or a partner. They are less likely to have a history of repeat abortions. They are less likely to be of age 20-24 years, and likely to be of age 35-39 years or older between 40-49 years.

### **5.5 Medication Abortion and Severe Bleeding**

It was determined that 96% of women reporting to the five facilities with incomplete abortions had severe bleeding with the use of over the counter medication abortion compared to 87.1% in those who did not use OTC medication abortion. This also represents the burden of severe bleeding amongst women with incomplete abortion due to the use or non use of medication abortion. Using logistic regression, women who used over the counter medication abortion have 3.5 times increase in the odds of experiencing severe bleeding compared to women who did not use over the counter medication abortion (Odds ratio 3.48 P=0.007).

The mean duration of bleeding for those who did not use OTC medication abortion was  $3.59 \pm 6.30$  and for those who used medication abortion it was  $6.62 \pm 11.02$  (P value =0.0009), which was statistically significant and therefore those who used OTC medication abortion bled for longer periods than those who used other forms of abortion.

Bleeding after use of medication abortion is a normal evidence of the medication acting. Severe bleeding after the use of medication abortion has been reported in several studies. Heavy bleeding was reported in up to 2.6% of the women studied and 0.25% of the women in that study needed to be transfused with blood in a study comparing the side effects, safety and complications of regimens of misoprostol and mifepristone (Sitruk-Ware, 2006). Ashok et al (1998) have also reported that 1.5% of the women they studied had heavy bleeding as a complication whilst 0.15% of them needed blood transfusion in a study on effective regimen for first trimester abortion based on 2000 cases.

Some documented complications of over the counter (OTC) medication abortion include anaemia, severe bleeding, infection, sepsis and retained products of conception (Nivedita & Shanthini, 2015). Damalie et al (2014) reported severe bleeding as a morbidity seen in women with post abortion complications and also found that there is a higher incidence of it in women (60%) who use over the counter medication abortion (misoprostol) than women who did not use medication abortion. The differences in the levels of severe bleeding reported in the various studies may lie in the different doses of the drugs used to induce abortion, routes of administration and the age of the pregnancy.

The significantly higher mean duration of bleeding in those who used OTC medication abortion should be of concern. It may be because these respondents did not use the correct dosages conforming to the gestational age of their pregnancies or were not adequately informed about how medication abortion works and what to do when the extent of bleeding is severe or the duration of bleeding is prolonged, it may also be due to the absence of adequate health services for these women to reach out to, in their times of need. In Ghana where 42% of women are anaemic, (Ghana Statistical services, 2014), depending on the severity of the bleeding, prolonged bleeding after use of medication abortion can easily lead to death if it is not treated early or women report to facilities late.

This brings to light the importance of ensuring that medication abortion information is made available to those dispensing it so that those using it are properly informed about its effect and the correct way to use it and also to ensure that such women are given information on where to go in case of complications.

A study in Bangladesh using mystery clients showed that only 7% of Pharmacy staff gave the correct dosage regimen of misoprostol for abortion to their clients and 65% wrongly gave vaginal and oral misoprostol together and more than 72% did not provide any counselling on possible complications whilst 94% percent gave no counselling on post abortion family planning and did not also give counselling in privacy. (Huda et al., 2014).

82% of those who used OTC medication abortion in this study were given the wrong dosage of either Cytotec(Misoprostol) or Medabon (Mifepristone and Misoprostol), even though 73% of them got their medication from a Pharmacy and 27% from a Licensed Chemical Shop. This may be a reflection of the lack of knowledge of Pharmacists or Pharmacy attendants in Ghana on the correct dosage for abortion, of the two medication abortion drugs.

Studies in India involving 128 patients showed that women accessing medication abortion over the counter suffered various morbidities as a result of misuse of the drugs. 62.5% of the patients had incomplete abortions, 12.5% suffered severe anaemia and had the products of conception remaining in their uteruses removed by surgical methods and also required blood transfusion as a result of excessive bleeding from the misuse of the drugs.77.5% of respondents suffered severe bleeding (Nivedita & Shanthini, 2015).

Even though bleeding after use of medication abortion is a normal evidence of the medication acting, bleeding severely than normal over the extended period that medication abortion acts could result in shock and sepsis. Severe bleeding after the use of medication

abortion has been reported; In a study comparing the side effects, safety and complications of regimens of misoprostol and mifepristone lower levels of heavy bleeding was reported in up to 2.6% of the women studied and 0.25% of the women needed to be transfused with blood (Sitruk-Ware, 2006). Ashok et al (1998) have also reported that 1.5% of the women they studied had heavy bleeding as a complication whilst 0.15% of them needed blood transfusion in a study on effective regimen for first trimester abortion based on 2000 cases.

Damalie et al (2014) reported severe bleeding as a morbidity seen in women with post abortion complications and also found that there is a higher incidence of it in women (60%) who use over the counter medication abortion (misoprostol) than women who did not use medication abortion. The differences in the levels of severe bleeding reported in the various studies may lie in the differing doses of the drugs used to induce abortion, routes of administration and the age of the pregnancy, and issues related to the structure and accessibility of medical services and needs to be investigated. There were associations found between age group of respondent ( $\chi^2=12.09$   $P<0.0001$ ), income of respondent ( $\chi^2=13.95$   $P=0.005$ ), marital status ( $\chi^2=6.77$   $P=0.009$ ), occupation of respondent ( $\chi^2=17.77$   $P<0.0001$ ) and severe bleeding. Damalie et al (2014) found that using misoprostol was likely to result in severe morbidities which include haemorrhage in teenagers compared to women who are older and single women compared to married women.

The standards and protocols on the provision of comprehensive abortion care services of the Ghana Health Service require Pharmacists to refer women who seek abortion from them to facilities where there are trained providers. The guidelines also require that women accessing abortion should be counselled about post abortion family planning in order to prevent repeat abortions. This service is usually not provided by Pharmacists and

Pharmacy staff dispensing medical abortion drugs over the counter. In this study 91% of those who used OTC medication abortion were not given any advice on family planning.

A study in the United States showed that increasing gestational age decreases the success of medication abortion (Spitz et al., 1998). Damalie et al (2014) also found that there is a direct relationship between gestational age and extent of morbidity. The Ghana Health Service standards and protocols on the provision of comprehensive abortion care services has varying dosage regimen for first and second trimester abortion. Since Pharmacists are not trained to determine the gestational age of a pregnancy, the potential exists for those dispensing medication abortion over the counter to give the wrong dosage that does not conform with the gestational age of a pregnancy and this may cause complications such as severe bleeding because of the increased chance that the termination will not be successful.



## CHAPTER SIX

### CONCLUSION AND RECOMMENDATION

#### 6.1 Conclusion

This study was to determine the prevalence of over the counter medication abortion (OTC) in women with incomplete abortion and also to determine the proportion of women reporting to the five facilities under study with severe bleeding after the use of over the counter medication abortion.

Furthermore, the study was to find if there was any significant association between the presence of severe bleeding in women reporting with incomplete abortions and over the counter medication and also the difference in characteristics of women who have incomplete abortions due to use of over the counter medication abortion and those who use other means of abortion.

The study found that the prevalence of over the counter medication abortion in women with incomplete abortion was 40.6%. It also found that 95.9% of those who used OTC medication abortion had severe bleeding (compared to 87.1% of those who did not use OTC medication abortion) which was statistically significant ( $\chi^2=8.0354$   $P=0.005$ ).

Women who use over counter medication abortion have three and a half times increase in the odds of severe bleeding compared to women who do not use medication abortion. They also have a longer duration of bleeding compared to those who use other means of abortion.

There were differences in the characteristics of those who used OTC medication abortion and those who did not. Over the counter medication abortion users are more likely to have at secondary and tertiary education, professionals or self-employed and less likely to be

married. They are likely to be living with their parents or with a partner. They are less likely to have a history of repeat abortions. They are less likely to be of age 20-24 years, and likely to be 35-39 years or 40-49 years and less likely to be aged between 15-19 years.

## **6.2 Recommendations**

Medication abortion is available in Ghana and routinely dispensed over the counter by Pharmacists and Chemical sellers to women.

This study has found a significant association between the use of over the counter medication abortion and incomplete abortions and the abortion complication severe bleeding.

Most women eventually will look for medical help when they are bleeding too much after an unsafe abortion. However, it is important to state that a significant number of respondents who used OTC medication abortion were neither told what to do when in pain, bleeding too much or in case of infections. In situations where essential medical facilities or personnel needed to manage abortion complications are unavailable, as exists in some rural settings in Ghana, fatalities can occur.

It is recommended that the Food and Drugs Authority institutes measures to monitor the dispensing of medication abortion over the counter and correct it. NGOs and Ghana Health Service involved in safe abortion care must make the effort to train Pharmacists in their roles in the provision of safe abortion care as stipulated in the Standards and Protocols for the provision of comprehensive abortion care.

Finally, Safe abortion services available in Ghana must be publicized in ways that the society finds acceptable, considering the social stigma attached to abortion and religious beliefs/teachings about the impropriety of abortion. Safe abortion providers must well

trained and equipped to provide services in a friendly and compassionate manner in order not to drive women who need such services away.



## REFERENCES

- Adanu, R. M. K., Ntumy, M. N., & Tweneboah, E. (2005). Profile of women with abortion complications in Ghana. *Tropical Doctor*, 35(3), 139–42.  
<http://doi.org/10.1258/0049475054620725>
- Ahiadeke, C. (2001). Incidence of induced abortion in southern Ghana. *International Family Planning Perspectives*, 27(2), 96–101. [http://doi.org/10.1016/S0968-8080\(99\)90166-0](http://doi.org/10.1016/S0968-8080(99)90166-0)
- Aniteye, P., & Mayhew, S. (2011). Attitudes and Experiences of Women Admitted to Hospital with Abortion Complications in Ghana. *African Journal of Reproductive Health*, 15(March), 47–56. Retrieved from <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&D=medl&AN=21987937>
- Ashok, P. W., Penney, G. C., Flett, G. M., & Templeton, a. (1998). An effective regimen for early medical abortion: a report of 2000 consecutive cases. *Human Reproduction (Oxford, England)*, 13(10), 2962–2965.
- Bankole, a, Singh, S., & Haas, T. (1998). Reasons why women have induced abortions: evidence from 27 countries. *International Family Planning Perspectives*, 24(3), 117–127. <http://doi.org/10.2307/3038208>
- Barua, A., Mistry, R., & Weekly, P. (2015). Medical Abortion in India □ : Role of Chemists and Providers, 43(36), 6–12.
- Berer, M. (2005). Medical abortion: Issues of choice and acceptability. *Reproductive Health Matters*, 13(26), 25–34. [http://doi.org/10.1016/S0968-8080\(05\)26204-3](http://doi.org/10.1016/S0968-8080(05)26204-3)
- Blum, J., Winikoff, B., Gemzell-danielsson, K., & Ho, P. C. (2007). Treatment of incomplete abortion and miscarriage with misoprostol, 186–189.  
<http://doi.org/10.1016/j.ijgo.2007.09.009>

Census, H. (2012). SUMMARY REPORT OF FINAL RESULTS Ghana Statistical Service.

Culwell, K. R., & Hurwitz, M. (2013). Addressing barriers to safe abortion. *International Journal of Gynecology & Obstetrics*, 121(2013), S16–S19.

<http://doi.org/10.1016/j.ijgo.2013.02.003>

Damalie, F. J., Dassah, E. T., Morhe, E. S., Nakua, E. K., Tagbor, H. K., & Opare-Addo, H. S. (2014). Severe morbidities associated with induced abortions among misoprostol users and non-users in a tertiary public hospital in Ghana. *BMC Women's Health*, 14(1), 90. <http://doi.org/10.1186/1472-6874-14-90>

Ewart, W. R., & Winikoff, B. (1998). Toward safe and effective medical abortion. *Science (New York, N.Y.)*, 281(5376), 520–521.

Ganatra, B., Guest, P., & Berer, M. (2015). Expanding access to medical abortion: challenges and opportunities. *Reproductive Health Matters*, 22(44), 1–3. [http://doi.org/10.1016/S0968-8080\(14\)43793-5](http://doi.org/10.1016/S0968-8080(14)43793-5)

Gbagbo, F. Y., Amo-adjai, J., & Laar, A. (2015). ORIGINAL RESEARCH ARTICLE Decision-Making for Induced Abortion in the Accra Metropolis , Ghana, 19(March), 34–42.

Ghana Statistical Service (GSS), Ghana Health Service (GHS), & Macro International. (2009). Ghana Maternal Health Survey (2007).

Grimes, D. a., Benson, J., Singh, S., Romero, M., Ganatra, B., Okonofua, F. E., & Shah, I. H. (2006). Unsafe abortion: the preventable pandemic. *Lancet*, 368(9550), 1908–1919. [http://doi.org/10.1016/S0140-6736\(06\)69481-6](http://doi.org/10.1016/S0140-6736(06)69481-6)

- Henshaw, R. C., Naji, S. a, Russell, I. T., & Templeton, a a. (1993). Comparison of medical abortion with surgical vacuum aspiration: women's preferences and acceptability of treatment. *BMJ (Clinical Research Ed.)*, 307(6906), 714–717. <http://doi.org/10.1136/bmj.307.6906.714>
- Huda, F. A., Ngo, T. D., Ahmed, A., Alam, A., & Reichenbach, L. (2014). Availability and provision of misoprostol and other medicines for menstrual regulation among pharmacies in Bangladesh via mystery client survey. *International Journal of Gynecology & Obstetrics*, 124(2), 164–168. <http://doi.org/10.1016/j.ijgo.2013.07.037>
- Initiative, a G. H. (2007). Fact sheet, (February). [http://doi.org/10.1016/S0002-8223\(97\)00353-2](http://doi.org/10.1016/S0002-8223(97)00353-2)
- Johnson, B. R., Ndhlovu, S., Farr, S. L., & Chipato, T. (2002). Reducing unplanned pregnancy and abortion in Zimbabwe through postabortion contraception. *Studies in Family Planning*, 33(2), 195–202. <http://doi.org/10.2307/3181173>
- Kapp, N., Whyte, P., Tang, J., Jackson, E., & Brahmi, D. (2013). A review of evidence for safe abortion care. *Contraception*. <http://doi.org/10.1016/j.contraception.2012.10.027>
- Lara, D., Abuabara, K., Grossman, D., & Díaz-Olavarrieta, C. (2006). Pharmacy provision of medical abortifacients in a Latin American city. *Contraception*, 74(5), 394–399. <http://doi.org/10.1016/j.contraception.2006.05.068>
- Mayhew, S. (2015). Women ' s Health and Action Research Centre ( WHARC ).
- Morhee, R., & Morhee, E. (2006). Overview of the law and availability of abortion services in ghana. *Ghana Medical Journal*, 40(3), 80–86. <http://doi.org/10.4314/gmj.v40i3.55256>
- Moucheraud, C., Worku, A., Molla, M., Finlay, J. E., Leaning, J., & Yamin, A. (2015). Consequences of maternal mortality on infant and child survival: a 25-year

longitudinal analysis in Butajira Ethiopia (1987-2011). *Reproductive Health*, 12(Suppl 1), S4. <http://doi.org/10.1186/1742-4755-12-S1-S4>

Nivedita, K., & Shanthini, F. (2015). Is It Safe to Provide Abortion Pills over the Counter? A Study on Outcome Following Self-Medication with Abortion Pills. *Journal of Clinical and Diagnostic Research* : JCDR 9(1), QC01–4. <http://doi.org/10.7860/JCDR/2015/11626.5388>

Rasch, V. (2011). Unsafe abortion and postabortion care - An overview. *Acta Obstetricia et Gynecologica Scandinavica*. <http://doi.org/10.1111/j.1600-0412.2011.01165.x>

Schaff, E. a, Eisinger, S. H., Stadius, L. S., Franks, P., Gore, B. Z., & Poppema, S. (1999). Low-dose mifepristone 200 mg and vaginal misoprostol for abortion. *Contraception*, 59(1), 1–6. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10342079>

Schwandt, H. M., Creanga, A. A., Adanu, R. M. K., Danso, K. A., Agbenyega, T., & Hindin, M. J. (2013). Pathways to unsafe abortion in Ghana: the role of male partners, women and health care providers. *Contraception*, 88(4), 509–517. <http://doi.org/10.1016/j.contraception.2013.03.010>

Schwandt, H. M., Creanga, A. A., Danso, K. A., Adanu, R. M. K., Agbenyega, T., & Hindin, M. J. (2011). A comparison of women with induced abortion, spontaneous abortion and ectopic pregnancy in Ghana. *Contraception*, 84(1), 87–93. <http://doi.org/10.1016/j.contraception.2010.10.011>

Sedgh, G., Singh, S., Shah, I. H., Ahman, E., Henshaw, S. K., & Bankole, A. (2013). Induced Abortion. *Obstetric Anesthesia Digest*, 33(1), 15–16. <http://doi.org/10.1097/01.aoa.0000426072.79456.73>

Shah, I., & Ahman, E. (2009). WOMEN ' S HEALTH WOMEN ' S HEALTH Unsafe Abortion : Global and Regional Incidence , Trends , Consequences , and

Challenges.

Shwekerela, B., Kalumuna, R., Kipingili, R., Mashaka, N., Westheimer, E., Clark, W., & Winikoff, B. (2007). Misoprostol for treatment of incomplete abortion at the regional hospital level : results from Tanzania, 1363–1367. <http://doi.org/10.1111/j.1471-0528.2007.01469.x>

Sitruk-Ware, R. (2006). Mifepristone and misoprostol sequential regimen side effects, complications and safety. *Contraception*, 74(1), 48–55. <http://doi.org/10.1016/j.contraception.2006.03.016>

Spitz, I. M., Bardin, C. W., Benton, L., & Robbins, A. (1998). Early pregnancy termination with mifepristone and misoprostol in the United States. *The New England Journal of Medicine*, 338(18), 1241–7. <http://doi.org/10.1056/NEJM199804303381801>

Sundaram, A., Juarez, F., Bankole, A., & Singh, S. (2012). Factors Associated with Abortion-Seeking and Obtaining a Safe Abortion in Ghana. *Studies in Family Planning*, 43(4), 273–286. <http://doi.org/10.1111/j.1728-4465.2012.00326.x>

Tagoe-Darko, E. (2013). “Fear, Shame and Embarrassment”: The Stigma Factor in Post Abortion Care at Komfo Anokye Teaching Hospital, Kumasi, Ghana. *Asian Social Science*, 9(10), 134–141. <http://doi.org/10.5539/ass.v9n10p134>

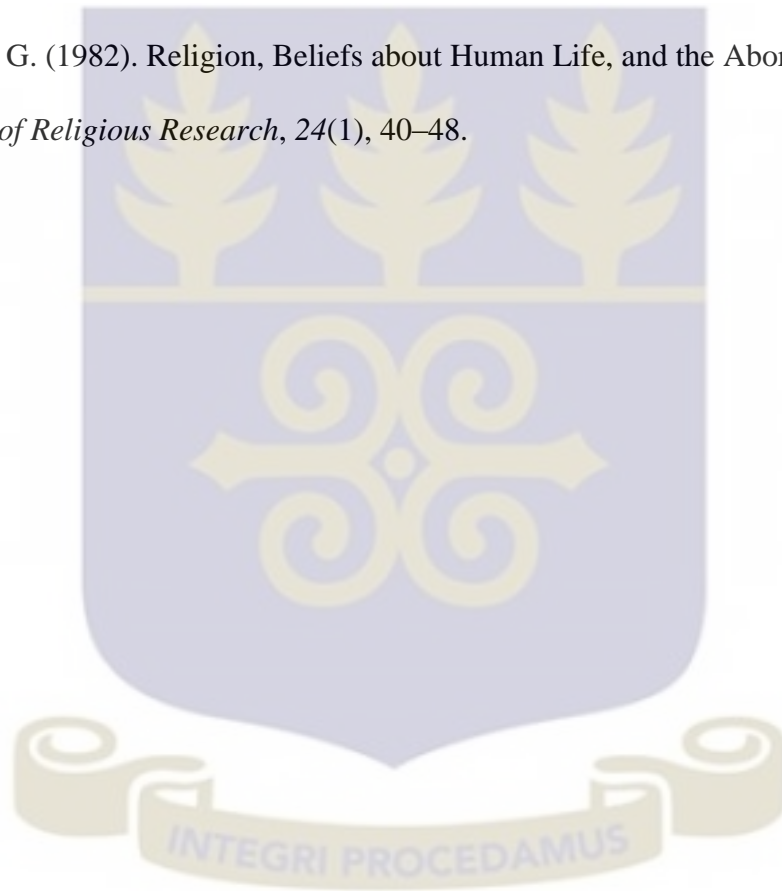
Tamang, A., Puri, M., Lama, K., & Shrestha, P. (2015). Pharmacy workers in Nepal can provide the correct information about using mifepristone and misoprostol to women seeking medication to induce abortion. *Reproductive Health Matters*, 22(44), 104–115. [http://doi.org/10.1016/S0968-8080\(14\)43785-6](http://doi.org/10.1016/S0968-8080(14)43785-6)

von Hertzen, H., Huong, N., Piaggio, G., Bayalag, M., Cabezas, E., Fang, A., ...

Peregoudov, A. (2010). Misoprostol dose and route after mifepristone for early medical abortion: a randomised controlled noninferiority trial. *BJOG: An International Journal of Obstetrics & Gynaecology*, 117(10), 1186–1196.  
<http://doi.org/10.1111/j.1471-0528.2010.02636.x>

WHO (2008). Unsafe abortion: global and regional estimates of the incidence of unsafe abortion and associated mortality in 2008. -- 6th ed. (n.d.).

Williams, D. G. (1982). Religion, Beliefs about Human Life, and the Abortion Decision. *Review of Religious Research*, 24(1), 40–48.



## APPENDICES

### APPENDIX 1: Participant Information Sheet

Title: Prevalence of over the counter Medication abortion in women with incomplete abortions reporting to 5 facilities in GAR

Principal Investigator: Henry Affum Bruce

Qualification: MPH Student

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#### General Information about Research

Medication abortion accessed over the counter is used by women in Ghana to terminate pregnancies. Studies elsewhere have linked the use of over the counter medication abortion with the occurrence of complications such as severe bleeding. The study therefore seeks to find the prevalence of over the counter medication abortion in women who have incomplete abortions and determine if over the counter medication abortion use is important in the occurrence of severe bleeding in women with incomplete abortions. This would help bring to the fore the importance that proper training of Pharmacists and Chemical sellers who dispense medication abortion over the counter may have on preventing unsafe abortion complications in women.

#### Possible Risks and Discomforts

Study participants will be asked to fill questionnaire which will take about 15 minutes to complete.

#### Possible Benefits

There will be no benefit to respondents, in cash or in kind. The information derived from this study may help in the fight against unsafe abortions and its impact on women's health and mortality.

#### Data Storage and usage

Data collected will be used for research purposes only. Soft copies will be stored in password-protected folders and hard copies will be kept under lock and key. Only the researcher and supervisor will have access to all forms of data collected. Questionnaires will be kept for a period of 12 months, by which time all processes relating to this study would have been completed.

#### Participant Protection

All information from respondents will be treated as confidential information and will not be reported to any security Agency even if that statement shows implicates the respondent in a criminal act.

#### Voluntary participation/ withdrawal

Participation in the study is absolutely voluntary. Members in the study population have the rights refuse to partake in the study even though they qualify. Participants can refuse to answer a question or withdraw in the process without any consequences.

## Ethical Approval

This study has been approved by the Ethical Review Board of Ghana Health Service. You may contact Hannah Frimpong on 050 7041223 for further information and inquiries.



## **Appendix 2: Consent Form**

I am conducting research into how using medication abortion acquired over the counter (without a prescription from a Doctor) affects the occurrence of complications. Accepting to be interviewed is completely voluntary and you are at liberty to refuse to be interviewed. If you accept to be interviewed and at any time during the interview you do not want to continue you can indicate that and the interview will be stopped. You are at liberty to refuse to answer any specific question during the interview.

The information you provide will be strictly treated as confidential and will not be disclosed to anyone. All the answers you will give me cannot be traced to you, because I will not record your name and your phone number or take a picture of you at any time or ask for any personal information that can be traced to you. The information you give me will be available to me and my Supervisor only but will be grouped with information from other women who I interview.

The study will help manage how medication abortion is made available through Pharmacies to ensure that women who access medication abortion are better advised on how to use it or how to have safer abortions.

### **Volunteer Agreement**

All the information contained in the participant information sheet, which describes the benefits, risks, and procedures for the research entitled “Prevalence of over the counter medication Abortion in Women with incomplete abortions reporting to 5 facilities in GAR” have been explained to me. I am satisfied with all the responses given me. Therefore, I agree to participate as a volunteer.

.....

.....

Date

Signature (Thumprint)

Volunteer

If volunteers cannot read the forms themselves, a witness must sign here:

I was present while the benefits, risks, and procedures, were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research

.....

.....

Date

Signature (Thumbprint) of Witness

I certify that the nature and purpose, the potential benefits, and possible risks, associated with participating in this research have been explained to the witness above.

.....

.....

Date

Signature (Thumprint) of Volunteer.



**Appendix 3: Questionnaire**

