**SCHOOL OF PUBLIC HEALTH**

**COLLEGE OF HEALTH SCIENCES**

**UNIVERSITY OF GHANA**

# POST ABORTION CARE SERVICES IN THREE HEALTH FACILITIES IN VOLTA REGION; GHANA

**BY**

**EVE IRENE PASSAH**

**(10359828)**

**JULY, 2017**

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**EVE IRENE PASSAH**

**(10359828)**

**A DISSERTATION SUBMITTED TO THE SCHOOL OF PUBLIC HEALTH, UNIVERSITY OF GHANA IN PARTIAL FULFILMENT FOR THE AWARD OF MASTER OF PUBLIC HEALTH (MPH) DEGREE**

**JULY, 2017**

## DECLARATION

I, MRS. EVE IRENE PASSAH declare that the dissertation hereby submitted to the University of Ghana, Legon for the degree of Masters in Public Health has not hitherto been submitted by me for a degree at this or any other university; that it is my work in design and in execution, and that all materials to the literature and works of other researchers contained herein has been accordingly referred to and recognized.

EVE IRENE PASSAH (MRS)

(Student)

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DATE: ……

PROFESSOR AUGUSTINE ANKOMAH

(Academic Supervisor)

……..

DATE: …….

## DEDICATION

This work is dedicated to my dearest husband Mr. Seth Yao Passah; my children Seth Makafui Passah, Emmanuel Semenyo Passah and Delight Dziedzorm Passah, my other children Emmanuel Dogbe, Cindy Mawunya Bawa and Priscilla Ayatey.

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I thank all individuals who in one way or the other contributed to a successful end.

## ABSTRACT

**Background:** Post Abortion Care (PAC) is extensively identified as a critical practice to address hitches related to miscarriage and incomplete abortion and reduce repeat abortions. The WHO has established that every service delivery site at every level of the health system should be equipped and have personnel trained to recognize abortion complications and to provide or refer women for prompt care, 24 hours a day. A health facility is said to be providing perfect post abortion care services when that facility is adhering to the five Essential Elements of PAC. These are; partnership between community members and healthcare providers, counseling, treatment of incomplete and unsafe abortions, contraceptive and family planning services and reproductive and other health services. But what have been observed is that, there are some real and consistent problems that interfere with the availability of perfect post abortion care and Volta Region is not an exception. The purpose of this study therefore, seeks to describe the Post Abortion Care Services in three health facilities in the Volta Region.

**Methods:** The study design was descriptive cross-sectional survey. A blend of purposive and simple random sampling technique was employed to select 207 health providers in three hospitals in the Volta Region. Structured questionnaires and a checklist were used to collect data. Data were analysed using STATA Version 14. Descriptive data analysis techniques i.e. frequencies, mean, standard deviation and bivariate logistic regression analyses were used to describe PAC services.

**Results:** Out of the 798 abortion cases recorded threatened abortion accounted for 47.4%, Dilatation and curettage formed 48.6% and 4% were cases of pre and post-menopausal symptoms, viable fetus, referrals and deaths. One tenth of the respondents were trained in

PAC and among these 30% who are doctors were practicing. It revealed that out of the facilities studied 83% did not adhere to PAC protocols as against only about 17% who complied. Of the three study areas, Ketu South showed significant difference ($p=0.002$), as well as Hohoe ($p<0.001$).The study found health care workers in Hohoe were more likely (3.3times)to adhere to the use of protocol compared to their counterparts in Ketu South. None of the hospitals were adhering to the five essential elements of PAC

**Conclusion:** Training of all categories of health providers on PAC and ensuring that all of them are practicing what they have learnt will enhance efficient and effective integration of and adherence to all the essential elements. Measures to improve on PAC Services should urgently be employed and to designate a room in the theatre and the gynaecological wards purposely for PAC.

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| | |
|---|---|
| AIDS | Acquired Immune Deficiency Virus |
| CBSV | Community-based Surveillance Volunteers |
| CHNs | Community Health Nurses |
| CHOs | Community Health Officers |
| CHPS | Community-based Health Planning and Services |
| D & C | Dilatation and Curettage |
| ENs | Enrolled Nurses |
| ERC/GHS | Ethical Review Committee of the Ghana Health Service |
| FP | Family Planning |
| GHS | Ghana Health Service |
| HIV | Human Immunodeficiency Virus |
| MOH | Ministry of Health |
| MVA | Manual Vacuum Aspiration |
| NGO | Non-Governmental Organization |
| PAC | Post Abortion Care |
| STDs | Sexually Transmitted Disease |
| TBA | Traditional Birth Attendants |
| VRHD | Volta Regional Health Directorate |
| WHO | World Health Organization |

# CHAPTER ONE

# INTRODUCTION

## 1.0 Background

This chapter presents the background information of the study, problem statement, followed by rationale or justification of the study, general and specific objectives, conceptual frame work and finally, the uniqueness of the study.

## 1.1 Background of the study

Worldwide, the major cause of maternal mortality and disability is unsafe abortion which accounted for 13% of pregnancy-related deaths. Also over 47,000 women die each year because of unsafe abortion and millions more face injuries, including hemorrhage, infection, chronic pain, secondary infertility and trauma to multiple organs (Barot, 2014). Post Abortion Care (PAC) is one of the cohesive service delivery models in public health world that combines emergency and preventive services for maternal and child survival and family planning (FP) (Barot, 2014). By preventing unintended pregnancy and subsequent abortions, PAC contributes to ending preventable child and maternal deaths and is therefore considered as a high-impact practice.

Universally, 75 million women need PAC services every year following safe or unsafe induced abortions and miscarriages (R et al., 1984). PAC is also extensively identify as a critical practice to address hitches related to miscarriage and incomplete abortion and reduce repeat abortions. Therefore PAC has been embraced as an important intervention to improve maternal health (Maureen & Corbett, 2003). Even though complications from abortion are rare where performed by skilled personnel, the WHO has established that,

"*every service delivery site at every level of the health system should be equipped and have personnel trained to recognize abortion complications and to provide or refer women for prompt care, 24 hours a day."* Specifically, healthcare providers needed to be trained, supported, and equipped with supplies to treat possible complications like incomplete abortions, failed abortions, infections, uterine perforations (Sundaram et al., 2014).

The essential elements of PAC are as follows;

- Partnerships between community members and healthcare providers will help in preventing unwanted pregnancies and unsafe abortion, mobilizing resources for women to receive appropriate and timely care for complications and ensuring that health services reflect and meet community expectations and needs.
- Counseling to recognize and respond to women's emotional and physical health needs and other concerns.
- Treatment of incomplete and unsafe abortion and complications that are potentially life-threatening.
- Contraceptive and FP services to help women avert unwanted pregnancies and space or limit their births.
- Reproductive and other health services that are preferably provided on-site or through referrals to other nearby facilities. (Sundaram et al., 2014; R et al., 1984).

The introduction of the PAC model is a call for modifications in provider attitudes and practices so that women can receive prompt and humane treatment. PAC is a model which can be offered at all levels of care and can be provided by a range of cadres of health workers. A study carried out by Kalu & Umeora revealed that in most health

facilities in Nigeria, some of the areas of service delivery in the PAC model have not been effectively implemented and integration of emergency post abortion care with other reproductive health services was poor (Kalu & Umeora, 2012).

Also, in the same study out of the 40 service providers who assessed the PAC project, 23 (67.5%) said that the Manual Vacuum Aspiration (MVA) room, equipment and the additional facilities were inadequate and only 19 (47.7%) care providers thought that the PAC current programme as implemented was satisfactory (Kalu & Umeora, 2012).

The government of Ghana in 2006 developed a broad-based reproductive health strategies that particularly addresses maternal morbidity and mortality associated with unsafe abortion (Sundaram et al., 2014). Further, research has established that Ghanaian and South African midwives have the required skills and experience to safely and effectively provide PAC in South Africa and Ghana. The Ghana government thus formulated a policy reform permitting midlevel care providers with midwifery skills to perform this service in Ghana (Voetagbe et al., 2010). In 2009, in order to ensure providers have the skills necessary to perform the service, MVA was also added to the national curriculum for midwifery education.

### 1.2 Problem Statement

WHO defines "an unsafe abortion as one performed by an individual without the necessary skills, or in an environment that does not conform to minimum medical standards, or both" (R, Turner, & Corbett, 1984).The major cause of maternal mortality and disability is unsafe abortion which accounted for 13% of pregnancy-related deaths worldwide. Unsafe abortion is the cause of death of over 47,000 women every year.

Many of these women face injuries which include hemorrhage, infection, protracted pain, secondary barrenness and trauma to several organs (Guttmacher Institute, 2016). In developing countries, 38 million abortions are performed annually of which 56% are unsafe. In Africa, almost all abortions are unsafe (97%) (Sundaram, Juarez, Ahiadeke, & Bankole, 2014).

In Ghana, maternal mortality is the second most widespread cause of death among women and more than one in 10 maternal deaths (11%) are the result of unsafe induced abortions. In addition, a substantial proportion of women who survive an unsafe abortion experience complications from the procedure. Many women are not aware that abortion is legal on fairly extensive grounds in Ghana so most of them turn to unsafe providers or do not obtain adequate post abortion care when it is needed (Adjei et al., 2015).

Volta Region since 2013 to 2015 has recorded and rated abortion among the ten top causes of admissions. It was at the 5$^{th}$ position with 2,017 cases forming 2.8% in 2013, the same 5$^{th}$ position with 2,076 cases forming 2.4% in 2014 and 8$^{th}$ position in 2015 with 1,923 forming 2.1%. Also, unsafe abortion was one of the direct causes of maternal mortality recorded in the Volta Region (RDHS, 2015). Even though PAC services are being provided in most facilities in the Volta Region, it is not known whether providers are trained, which categories were trained, whether the essential elements of the PAC model are adhered to and whether the services being provided are delivered in an integrated setup with well-equipped facilities.

The study therefore gathered information on the types and outcomes of abortion-related cases, categories of providers trained, whether the facilities were well equipped for the

service, and limitations or challenges in the PAC services in three health facilities of the Volta Region.

Data generated from this study provided useful information about PAC service provision in the Region and further served as a very useful guide to the Regional Health Management Team (RHMT) to improve strategies in the region to help reduce maternal morbidity and mortality.

### 1.3 Objectives

The main objective of the study is to describe the post abortion care services in the three health facilities in the Volta Region.

The specific objectives of the study were to:

1. Determine the types and outcomes of abortion cases recorded in the facilities.
2. Estimate the proportion of categories of service providers trained and providing post abortion care services in the Volta Region.
3. Determine factors related to adherence to protocol on post abortion care services.

### 1.4 Research Questions

1. What are the types and outcomes of abortion related cases recorded at these facilities?

2. What are the categories of staff trained in the provision of post abortion care?

3. What are the reasons why healthcare providers are not able to provide post abortion care to the fullest?

### 1.5 Justification of the study

Some unpublished work has been done on post abortion care services in Ghana but has been limited to hospitals in other regions. Therefore, the findings of this study could reveal hitherto unknown information related to the provision of Post abortion care services in the health facilities in general and the hospitals in the Volta Region in particular. This information could potentially help to inform policy makers, international organizations, non-governmental organizations, health experts and public health professionals to focus on the critical issues that will help to increase the current state of post abortion care services for women who will need this service.

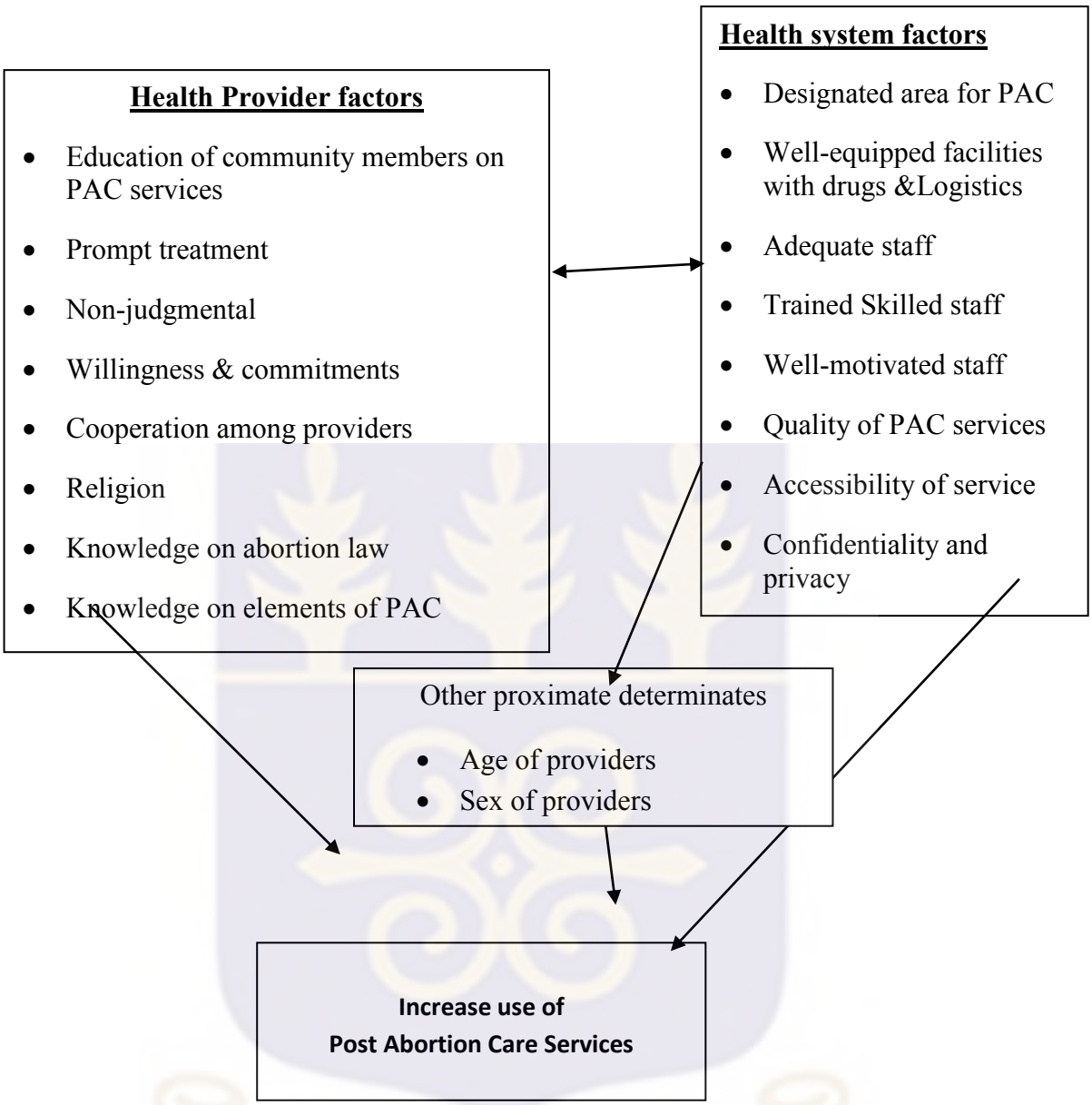



**Figure 1 Conceptual Framework on Post Abortion Care Services**

### 1.6 Conceptual Framework

This conceptual Framework on PAC Services describes the factors (dependent variables) influence the use of PAC services (independent variable).

The conceptual framework for PAC is an integrated network of health care services which include treatment, counselling, reproductive and other services should be available to women in order to meet their physical and psychological and social needs. Family planning services are also offered during service provision to ensure the provision of appropriate guidance for women who wish to become pregnant again, and to prevent new episodes of abortion. An important aspect of PAC is also the linkage of providers to the community members.

### 1.6.1 Health Provider Factors

Cooperation among providers at the facility will help put logistics and other things needed in the provision of the service. Because of stigmatization even though abortion and PAC service is legal in many circumstances, it discourages healthcare providers from providing abortion services which then dissuade women from seeking services through the medical system (K et al., 2013). Non-judgmental, willingness and commitment on the part of providers will go a long way to improve PAC services as women (Rehnström Loi, Gemzell-Danielsson, Faxelid, & Klingberg-Allvin, 2015). Also, most health care providers are ignorant about the laws pertaining to abortion in Ghana hence knowledge on the elements of Abortion Law will be a wakeup call for health providers to embrace the provision of PAC services (Adjei et al., 2015). Other factors which can promote the use of the service is information about community members. Clients with information of the service become confident to access the service and when the community members are sensitized on referral system, easy accessibility to PAC facilities and availability of medicine to treat PAC complications, the clients will have confidence to go for PAC

services. Community members will also mobilize for resources to help women receive suitable and prompt care for complications of abortion.

### 1.6.2 Health System Factors

When there is a designated area for service provision, management of the facility will see the need to equip the area for service delivery which will enhance the utilization of the service (Kumbi, Solomon, 2008). There will be quick and effective management of post abortion complications if there are well trained and skilled providers. Counseling and provision of full range of family planning methods will enhance clients‟ confidence in the system and also these clients will encourage their friends or family members who may be in need of these services to visit the facility thus increasing patronage of the service (Melkamu, Betre, & Tesfaye, 2000).

In conclusion there are other proximate determinants such as age and sex of providers can impact on the provision of PAC service.

## 1.7 Conclusion

This chapter gave a background to the study, stated the research problem, set out the research objectives and questions and the conceptual framework. The next chapter reviews related literature in order to contextualize the present study.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.0 Introduction

In this chapter, the literature on opinions of PAC service was reviewed. The review outlined works carried out by others in the study area. Similarly it identifies certain gaps in current or earlier PAC practices. The chapter provided important comprehensive theories which underpinned related study to direct imminent research. Literature was reviewed broadly, by using research database sources from the internet: Pubmed, Science direct, Medline and Annual Reports from the Ghana Health Service. The literature was organized on key concepts related to the specific objectives of the study. First, the types and outcomes of abortion-related cases recorded, followed by categories of providers who were trained, then availability of service and factors hindering service provision. There was limited literature on PAC services globally including Ghana.

## 2.1 General Overview of Post Abortion Care Services

Annually 8.5 million women encounter harms according to the most estimates, from unsafe abortions that needed medical care. Out of the 8.5 million women only three million received treatment (Paul, Gemzell-Danielsson, Kiggundu, Namugenyi, & Klingberg-Allvin, 2014). In developing countries about 98% of all abortions are unsafe. Because most of such affected nations strictly limit legal abortion, that culminate in females‟ dependence on secretive methods (Kinaro, Mohamed Ali, Schlangen, & Mack, 2009)- Complications from spontaneous and unsafe self-induced abortions pose a severe worldwide risk to women‟s wellbeing and lives. About 46 million induced abortions are

carried out every year out of which about 20 million are unsafe, with about 95% occurring in the developing countries. Furthermore, unsafe abortion accounts for an estimated 13% of pregnancy related death representing approximately 67,000 women every year (Paul et al., 2014). The practice of unsafe abortion as in many other cases results in long-term complications such as pelvic inflammatory disease, chronic pain, tubal obstruction and secondary sterility.

Maternal mortality is the second most common cause of death among women in Ghana. More than one in 10 maternal deaths (11%) are the result of unsafe induced abortions. Additionally, a considerable fraction of women who survive an unsafe abortion experience complications. This suffering is more tragic since it is unnecessary because some women are uninformed of the legal support of abortion on fairly broad grounds in Ghana. So many women turn to unskilled providers or do not obtain enough post abortion care when it is needed (Sedgh, 2010)

In Ghana, abortion is criminalized under Act 29, section 58 of the Criminal code of 1960, which was amended by PNDCL 102 of 1985. But, section 2 of this law provides that abortion may be carried out by a registered medical practitioner when the pregnancy is as the result of rape or incest, in order to protect the mental or physical health of the mother, or when there is a malformation of the fetus (Graff & Amoyaw, 2009). The government of Ghana in 2006 developed a broad-based reproductive health strategies that particularly addresses maternal morbidity and mortality associated with unsafe abortion (Sundaram et al., 2014). Further, research has established that Ghanaian and South African midwives have the required skills and experience to safely and successfully provide post-abortion care in South Africa and Ghana. The Ghana government thus formulated a policy which

permitted midlevel care providers with midwifery skills to perform this service in Ghana. In 2009 in order to ensure providers have the skills necessary to perform the service, Manual Vacuum Aspiration (MVA) was added to the national curriculum for midwifery education to train additional providers in this life-saving technique (Graff & Amoyaw, 2009).

### 2.1.1 Post Abortion Care

Post abortion care comprises a set of interventions to respond to the needs of women who have miscarried or induced an abortion. Ultimately, curative and public health experts define post abortion care services as a complete package of public health interventions outside those focused basically around emergency medical treatment. Post Abortion Care (PAC) is one of the only cohesive service delivery models in the whole public health world that combines emergency and preventive services for maternal and child survival and family Planning (FP) (Barot, 2014). By preventing unintended pregnancy and subsequent abortions, PAC contributes to ending preventable child and maternal deaths and is therefore considered as a high-impact practice. Research statistics have shown that about 75 million women worldwide require PAC services annually consequent to safe or unsafe induced abortions and miscarriages (Barot, 2014).

PAC is also widely identified as a crucial practice to address complications regarding miscarriages, incomplete abortions and to lessen recurrence of abortions. As such, PAC has been embraced as a crucial intervention to improve maternal health.

Even though complications from abortion are uncommon when performed by skilled health providers, WHO has established that all service delivery sites at every level of the

health system should be equipped and have personnel trained to recognize abortion complications and to provide or refer women for prompt care. Specifically, healthcare providers should be equipped with the training, support, and supplies to treat potential complications such as incomplete abortions, failed abortions, infections and uterine perforations (Sorhaindo & Morris, 2016).

### 2.1.2 Categories of providers for PAC services

Unsafe abortion continued to be a significant contributor to the worldwide burden of maternal mortality and morbidity even though safe, modest and effective evidence-based interventions exist. A gradually important public health strategy in addressing the health system shortage of specialized health care professional is the involvement of varied range of health care providers through a scheduled and controlled task shifting and task sharing. This, safeguard a balanced optimization of the available health workforce, improve fairness in access to health care services for women who need them (Kumbi, Melkamu, & Eneneh, 2008). According to the 2013 WHO *report on the global health workforce pointed out that in many situations, midwives, professional nurses and auxiliary nurses are still not utilized sufficiently* (Paul et al., 2014). The variety of health providers which are considered for the various tasks include Obstetricians & Gynaecologists, general medical practitioners, clinicians including physician assistants, nurses, midwives, professional nurses and auxiliary nurses. Others include trained herbal doctors, pharmacists, chemical sellers, community or village health worker/volunteers, and trained TBAs.

### 2.1.3 Definition of task-shifting and task-sharing

Task-shifting is defined as "the delegation of specific tasks to less specialized health workers". Task-sharing on the other hand is "a partnership in which different levels of providers do similar work, rather than having less qualification providers take over provision completely" (Paul et al., 2014).

### 2.1.4 Health Providers Roles

Different cadres of healthcare providers at various levels perform a span of tasks or roles in the healthcare delivery system and in the communities. These are;

#### 2.1.4.1 Community level

Traditional birth attendants, Community-based health volunteers, traditional healers and community members play a significant role by identifying complications of abortion, and refer timely to the CHPS zones or health centres. They also give health education on unsafe abortion, family planning and provide some selected services.

#### 2.1.4.2 Primary Care Level

The following categories; CHOs/CHNs, ENs, midwives, physician assistants and pharmacists can be found at this level to provide physical and pelvic examination, diagnose, resuscitate and control bleeding and pain. They can also provide family planning counselling and services. If trained staff and appropriate equipment are available, the following additional activities can be performed: initiation of essential treatments, including antibiotic therapy, intravenous fluid replacement, and oxytocic,

uterine evacuation (first trimester), pain control including simple analgesia and sedation and also health education and referral (World Health Organization, n.d; Sjöström, Kallner, Simeonova, & Madestam, 2016; WHO, 1994)

#### 2.1.4.3 First Referral or District Level

General Medical officers with other healthcare providers at the primary level are found at this level providing care, evacuating the uterine cavity for 1st and 2nd trimester pregnancies. They also cross-match and transfuse blood, treat most abortion complications, give local and general anesthesia, perform laparotomy and diagnose and refer severe complications such as septicemia, peritonitis and renal failure (WHO, 2015)

#### 2.1.4.4 Regional and Tertiary Level

All staff and activities listed for the district level can be found at this level in addition to obstetrician and gynaecologists and other allied specialists. Activities that can be performed include outpatient or inpatient gynecological conditions, evacuation of the uterus, treatment of severe complications including specific care such as bowel injury, tetanus, renal failure, gas gangrene, sepsis, septic shock, coagulopathy. Also some services such as complete laboratory diagnostic, X-rays, ultrasonography, laparoscopy, intensive care and laparotomy including hysterectomy are carried out (WHO, 2015)

### 2.1.5 Challenges in the implementation of Post Abortion Care services

As Kalu & Umeora indicated in their study of Experiences with Provision of Post-Abortion Care in a University Teaching Hospital in South-East Nigeria, found some

challenges that thwart the accessibility of perfect post abortion care. The challenges include; cost, quality, access, supplies, provider training, stigma, lack of treatment protocols and policy guidelines (Kalu & Umeora, 2012)

- Service delivery challenges include;

Problems of access to abortion services: Abortion complications will develop when poor and rural women lack access to safe abortion care and where abortion is legally restricted. These cause women to self-induced abortions, rather than obtain abortion from trained providers. Lack of well-equipped facilities and unreliable sources of equipment, contraceptives and essential drugs will also create problem with access.

- No improvement the provision of contraceptive methods. In many countries the use of modern contraceptives is low, even though it has become increasingly accessible. It has been projected that 120–165 million women, including 12–15 million unmarried women globally, want to prevent or space their pregnancies but are not using a method so many of them will resort to unsafe abortion. Also, approximately six million unintended pregnancies would occur every year even if all contraceptive users were to use methods without any hitch (Darney, Simancas-mendoza, et al., 2014).
- Inadequate infection prevention and pain management practices.
- Low-quality, inaccessible and unsustainable services.
- Not able to meet the rising anticipation that community collaborations and counseling can increase accessibility and utilization of reproductive health services, improve the quality of clinical interventions and even prevent health problems from occurring.

- The restrictions placed on midlevel providers to perform uterine evacuation and policies that prohibit midlevel providers from offering treatment for abortion complications result in reduced services (Zemene, G.,Feleke, A., Alemu, A., Yitayih, G., & Fantahun, A., 2014)
- Lack of infrastructure to make PAC services widely available even though most health facilities provide treatment for abortion complications as part of emergency obstetric care (Graff & Amoyaw, 2009)
- The perception of healthcare providers on unsafe abortion as not being a "core" safe motherhood issue because it is as a result of unwanted pregnancy and not related to childbirth (Rehnström Loi et al., 2015)
- Challenges to programs offering post abortion care due to social, religious, policy and legal restrictions on abortion and contraception.
- Most health facilities often relying on resource-intensive uterine evacuation methods or Dilation and Curettage (D&C) preventing them from offering services at every level of health care (Graff & Amoyaw, 2009)
- Many women want to avoid feeling stigmatized or mistreated when they show up for care (Zemene et al, 2014)
- The economic burden that the women might perceive, especially on themselves as individuals and family at large.

### 2.1.6 Ways to ease challenges in implementing Post Abortion Care Services

Integration of post abortion care and family planning services in health care systems as a means of breaking the cycle of repeated unwanted pregnancy and improving the overall

health status of women and the need for PAC services to be high-quality, locally accessible and sustainable by the health care system are some of the ways to mitigate these challenges.

- The costs of post abortion care can be lessened in part by ensuring that health care facilities that provide treatment utilize the most current standard of care. According to a WHO protocol this is less expensive than traditional treatment. Such treatment protocols are defined through national guidelines (World Health Organization, n.d.). A study conducted in Colombia in 2010, found that post abortion care services are significantly more expensive at higher medical facility levels with an average cost of $200 per patient than $45 at primary specialized level facilities. This was largely because of the former"s reliance on D&C, which is a more expensive and invasive procedure (Darney, Simancas-Mendoza, et al., 2014)
- The coverage and quality of post abortion care should be massively enhanced by using misoprostol or MVA, and non-specialized providers such as Midwives and Physician Assistants encouraged and trained to provide services (Sjöström et al., 2016) According to Barot, in 1991, a WHO technical working group recognized vacuum aspiration as a vital component of care at the first referral level. Manual Vacuum Aspiration it said to have a distinctive efficacy rate of more than 98% and lower rates of the four most common uterine evacuation complications as compared with sharp curettage. It is also an accessible and affordable procedure which enables midlevel providers and other health professionals in primary- level facilities who do not have operating theaters and electricity to offer uterine

evacuation onsite. Providing MVA at these also creates an opportunity for providers to offer reproductive and other health services (Barot, 2014)

- Research has demonstrated the benefits of contraceptive services in preventing abortion by reducing the number of unwanted pregnancies (Barot, 2014) A conference held in 1993 in Bellagio, Italy advocated that a range of contraceptive methods, accurate information, sensitive counseling and referral should be made available and accessible in all facilities to all women who have undergone abortion. The group further urged that at a minimum, women should leave abortion-care facilities understanding their immediate return to fertility, that there are ways to prevent future unwanted pregnancies and where to obtain contraceptive methods, if they so desire. (Paul et al., 2014).
- Linking emergency abortion treatment and comprehensive reproductive health services is one of the ways to lessen these challenges. In many developing countries, a woman‟s first or only contact with a recognized health care system may be when she visits a facility for post abortion care. This visit creates an opportunity for providers to evaluate her health needs and to offer appropriate reproductive health and other services.
- The need for governments and non-governmental organizations to strengthening their commitment to women‟s health will go a long way to mitigate such challenges. Also, dealing with the health impact of unsafe abortions as a major public health concern because unsafe abortions threaten the lives of many women and it is primarily the poorest and youngest who take these risks.

- Reinforcement and support for women‟s right to post abortion care through health education and sensitization of both providers and community members on health care devoid of stigma or unfair treatment irrespective of age, marital status or whether the service they demand are abortion-related or not (Barot, 2014).

## 2.2 Essential Elements of Post Abortion Care Model

The essential elements of PAC model, was introduced and approved by the PAC Consortium in May 2002. By shifting the focus from a facility-based medical treatment to a public health approach this model of five essential elements respond to women‟s wider sexual and reproductive health needs (R et al., 1984).

### 2.2.1 Community and Service Provider Partnerships

This element of the model identifies community members‟ vital role in treatment, prevention and advocacy efforts. In order to achieve universal local access to sustainable, high-quality post abortion care and related health services, community leaders, members, advocacy groups, TBAs, traditional healers must work in partnership with officially trained healthcare providers.

The mechanisms of this partnership include the following:

Health education to community members to increase contraceptive use and thereby helping the women to prevent unwanted pregnancy, space births and reduce unsafe abortion. Health education in the communities and resource mobilization by communities members have been recognized as strategies to combat unsafe abortion, increase access to and quality of post abortion care programmes, and improves women‟s reproductive

health and lives. This also ensure that health services reflect and meet community expectations and needs. (World Health Organization, n.d.). These are done through the following;

- community members participation in decision making on availability, accessibility and cost of services;
- educating community members about obstetric emergencies and appropriate care-seeking behaviors;
- community members mobilizing their own resources, including transportation, to ensure that women experiencing obstetric emergencies receive timely care;
- Community members playing the advocacy role for holistic, human rights–based reproductive health policies and services that meet their expectations, priorities and needs.
- Planning for sustainability of the programme (Maureen R. Corbett, 2003)

### 2.2.2 Reproductive and Other Health Services

These are service that can be provided preferably at where the woman is having the PAC, or through referrals to other nearby facilities e.g. health centres, maternity homes and even hospital. This help women to have clearer understanding of thoughts and the decisions they make about pregnancy, abortion, treatment and future reproductive health. With the provision of these services, providers will have the time to listen and ask the women questions. This help the providers to better understand and respond to issues such as experiences with sexually transmitted infections including HIV, violence induced

trauma or the effects of female genital cutting that can affect women‟s health care needs, (Maureen R. Corbett, 2003;PAC Consortium, 2002)

### 2.2.3 Treatment

This was the major element of the original model. It was the focus of many post abortion care activities. Treatment remains a critical part of care, as in many cases, women who had an incomplete spontaneous or unsafe induced abortion need uterine evacuation and other medical intervention. The revised model includes post abortion care which does not always involve complications and that complications are not always life-threatening but may be in the absence of swift and appropriate medical attention. It further recognizes that safe, effective treatment involves the use of vacuum aspiration wherever possible and includes standard infection prevention precautions, informed consent, appropriate pain management, sensitive physical and verbal patient contact, and follow up care (WHO, 2015;Voetagbe et al., 2010)

### 2.2.4 Family Planning and Contraceptive Services

Family planning services are needed by most women receiving post abortion treatment. Therefore, the model highlights the importance of overcoming barriers to offering family planning and contraceptive services during the same visit and at the same place as post abortion treatment. An effective strategy for preventing unwanted pregnancies and unsafe abortion, and for helping women achieve their reproductive goals is making available a wide range contraceptive methods including emergency contraception to all women of reproductive age. Post abortion clients should leave a treatment facility with family

planning method. Therefore in other to achieve these, different methods should be available and adequate. Providers must also be knowledgeable about which methods are appropriate for women following treatment.

### 2.2.5 Counseling

Counseling in general when effective, enriches the understanding of women. Thus increasing their confidence and their ability to participate in health care activities. It also help them to understand the psychosocial circumstances surrounding their past and future reproductive health. Client centered counseling on the other hand, ensures that women, rather than their providers, make voluntary choices about their treatment, contraceptive methods and other choices. PAC counseling provides an opportunity for the healthcare provider to help women explore their feelings about abortion, assess their coping abilities, manage anxiety and make informed decisions(World Health Organization, n.d; PAC Consortium, 2002)

Counseling therefore is a vital part of care which move post abortion services from being curative to being preventive. Healthcare providers can also determine when women need special care.

Counseling aimed at;

- soliciting and affirming feelings of women and providing expressive provision, anytime they visit the health facilities after an abortion.
- confirming that women obtain precise and proper information about their situations, investigation results, choices of treatment and need for follow-up care.
- Making sure that after the procedure women will seek and know when to seek for are in order to prevent complications.

## 2.3 Conclusion

In this chapter, relevant literature was reviewed. The literature review suggests that despite the introduction and the endorsement of the Essential Elements of PAC model, most countries including Ghana have not considered the implementation of all the essential elements of PAC. This gap call for the need for the present research project

# CHAPTER THREE

# METHODOLOGY

## 3.0 Introduction

This chapter gave a brief explanation of the study design, study area, study population, sample size, sampling method, data collection, data management and analysis, ethical consideration and the limitations of the study.

The main purpose of this study was to describe the PAC services in health facilities in the Volta Region. So, a descriptive cross-sectional study was considered.

## 3.1 Study Design

The study design is a descriptive cross-sectional one using both quantitative and qualitative methods to collect data.

The study was carried out in three facilities in the Volta Region of Ghana. This design was the method of choice, because it provide information about the naturally occurring health status, behavior, attitudes or other characteristics (Sitko, 2013). This type of study design is also particularly important in situations where there exists little or no information.

Data was collected from 5th June to 28th June 2017. The first part of this descriptive study was a review of outpatient register and the admission register of women who had safe and unsafe abortion and have received PAC in the facilities from 1st of January to 31st December 2015. To confirm the correctness of the data obtained from the registers, the researcher assistants went through the registers themselves and extracted all the

materials needed. A structured questionnaire which is the second part of the study was administered face-face to health providers which include questions on the following topics:

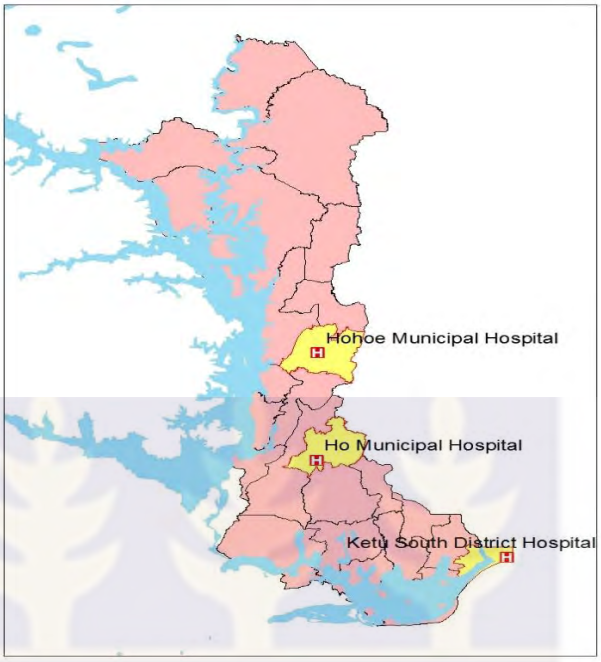
- Knowledge on Abortion Law in Ghana
- Trained in PAC services
- Provision of PAC service, If yes, what is/are your motivation for providing the service? If No, what is/are inhibiting factors to providing the service?

Data was also collected on the availability of relevant equipment, supplies and other logistics, the type of PAC services the facility is providing and also gathered information from the outpatients and in- patients" data on type of abortions and the outcomes of those abortions.

### 3.2 Study Area

The study was conducted in three public health facilities namely Hohoe, Ho and Ketu-South Municipal Hospitals in the Volta Region.

Figure 2: Map of Volta Region showing Hohoe, Ho and Ketu South Municipal Hospitals




### 3.2.1 Profile of the Volta Region

The Volta Region is one of Ghana‟s ten administrative regions. It is located at the eastern part of the country sharing boundaries in the north with Northern Region, the south with the Gulf of Guinea, in the west with Eastern Region and the Volta Lake and east with the Republic of Togo. The region occupies a surface land area of about 20,570 square kilometres representing 8.6% of the total land mass of Ghana.

#### 3.2.1.1 Demographic Characteristics

Based on the 2010 National Population and Housing Census, the population of the region in the year 2015 was 2,396,397, with an annual average growth rate of 2.4%. The regional specific population targets for under one year children and women in fertility age (WIFA) were 72,483 (4%) and 570,510 (24.4%) respectively.

The average population density of the region was 114 persons per square kilometer. However, the density diminishes as one moves from the south towards the north of the region. In relation to rural-urban composition of the population, 33.7% live in rural areas. The most populated districts are Hohoe and Ho Municipal areas, each accounting for 12.37% of the region‟s population. On the other hand, the three least populated districts are Kadjebi (2.8%), Jasikan (2.79%) and South Dayi (2.20%). Also, most urbanized areas can mostly be found in the south of the region with Keta Municipal area being the most urbanized with more than half (53.31%) of its population living in urban areas whilst the Ketu South District has 46.55% of its population living in urban areas mainly because of Land Port of Aflao.

### 3.2.1.2 Economic Activities

Almost 54% of the population is economically active while the economically inactive population constitutes 46.18%, with more females (54.87%) unemployed than males. 95.13% employed. The unemployed (i.e. those without work but are seeking and available for work) constitute 4.87%. Of those who are unemployed the majority are first time job seekers (86.61%). Students and persons in fulltime education form a large proportion (65.16%) of the economically inactive population.

### 3.2.1.3 Employment Status

Data on employment status indicates that the majority of the economically active population (75.23%) is self-employed which is the highest in the country. Self-employed

without employees dominate with 72.41% over self-employed with employees (2.82%). Employees constitute only 11.27% while contributing family workers make up 9.78%.

#### 3.2.1.4 Health Delivery System

The region has 515 health facilities which include 28 hospitals which provide various types of services at all the levels.

### 3.3 Study Population

The target population of the study was 403 health care providers in the three hospitals.

Table 1: Categories of healthcare providers in the three hospitals in the Volta Region

| Facilities/Categories | Doctors | Physician Assistants | Midwives | Nurses | Total |
|---|---|---|---|---|---|
| **Ho** | 5 | 2 | 36 | 117 | 160 |
| **Hohoe** | 4 | 7 | 41 | 124 | 176 |
| **Ketu-South** | 4 | 2 | 21 | 40 | 67 |
| **Total** | **13** | **11** | **98** | **281** | **403** |

#### 3.3.1 Inclusion criteria

1. Being employed in one of the hospitals listed above
2. Being a nurse, a midwife, physician assistant or a doctor who are actively participating in PAC

### 3.3.2 Exclusion Criteria

All staff who are not employed in the hospitals listed, those who are neither a nurse, a midwife, physician assistant nor a doctor and those who were not actively participating in PAC were excluded.

### 3.4 Sample Size Determination

In order to determine an appropriate sample size for the study, Cochran (1977) statistical formula for estimating sample size population was used. The formula is denoted as follows:

: $n= \{z^2p\ (1-p)\}/d^2$

Where:

$n_\circ$ = minimum sample size required for the study;

z = the desired confidence level (95% level of confidence or 1.96 in this particular study);

d= 5%, expressed as decimal;

p= 50% or 0.5 expected proportion (i.e. p cannot be estimated).

$n_\circ= \{(1.96)^2 \text{ x } (0.5) \text{ x } (0.5)/ (0.05)^2 =384$

Final sample size using the finite population formula; $n =n_\circ/1+ (n_\circ\text{-}1/N)$ was used so that the sample size was a representative of the population of providers in the 3 hospitals.

n= 384/1+ (384-1/403) = 197

A 5% non- response rate was expected i.e. 197*0.05 =9.85

So, adding the 5% non- response rate, the final sample size for the study was **207.**

### 3.5 Sampling Methods

To obtain the sample size, purposive sampling method was employed to select the three hospitals. The reason being that two of the facilities i.e. Hohoe and Ho Municipal areas are the most populated in the region each accounting for 12.37% of the regional population. Ketu South Municipal on the other hand has 46.55% of its population living in urban areas mainly because of cross border activities in Aflao. (RDHS, 2015). After this, the total number of doctors, midwives, professional nurses and physician assistants in the three hospitals were collected. The sample size was distributed among the three facilities proportionately. The number of providers to be interviewed in each hospital was the total number of all nurses, midwives, doctors and physician assistants divided by the total number of all nurses, midwives, doctors and physician assistants in the three hospitals, multiplies by the sample size. Then in each of the facility, the sample size of each category of providers was determined proportionately. This was done by calculating the total number of a category of providers in the hospital divided by the total number of all categories of providers, multiplied by the sample size of that hospital.

So for;

**Ho hospital**

Sample size (the hospital) = 160/403*207=**83**.

Sample size of doctors= 5/160*82 = **3**

Sample size of midwives = 36/160*82 = **19**

Sample size of nurses = 117/160*82 = **60**

Sample size of physician assistants = 2/160*82 = **1**

**Hohoe Hospital**

Sample size (the hospital) = 176/403*207 =**90**

Sample size of doctors= 4/176*90 = **2**

Sample size of midwives = 41/176*90 = **21**

Sample size of nurses = 124/176*90 = **63**

Sample size of physician assistants = 7/176*90 = **4**

**Ketu-South Hospital**

Sample size (the hospital) =67/403*207 =**34**

Sample size of doctors= 4/67*34 = **3**

Sample size of midwives = 21/67*34 = **11**

Sample size of nurses = 40/67*34= **60**

Sample size of physician assistants = 2/67* = **1**

After all these, a simple random sampling was employed to draw the required number to be interviewed by writing "Yes" or "No" to all the names of all nurses, midwives, Physician Assistants and doctors who are actively participating in PAC in each hospital

on a piece of paper. The papers were folded one after the other and were put in a container, the container was shaken and each one was picked without replacement. This random sampling process gave all the categories of providers an equal chance of being selected for the study. Within each facility every selected provider was interviewed but where an eligible provider was unwilling to take part in the study, the next provider was selected. This process continued until the required number of respondents was obtained in each of the facilities.

The study was conducted in three public health facilities namely Hohoe, Ho and Ketu-South Municipal Hospitals in the Volta Region.

### 3.6 Data Collection Methods and Instruments

A structured questionnaire was designed and administered through face-to- face interview by the researchers. To avoid any misinterpretations of questions, the questionnaires was pre-tested in one of the remaining hospitals in the region. This helped to evaluate respondents‟ understanding of the questions. Questions that were found to be ambiguous were rephrased to ensure greater accuracy. Five research assistants were trained. The training involved discussion of the research objectives, the questions and the procedure for obtaining consent from respondents. The need to ensure privacy and confidentiality was also highlighted. During the training, each of them were made to administer some questionnaires and challenges that were observed were adequately addressed.

### 3.7 Quality Assurance

The reliability of the data was ensured based on the following measures. First**,** research assistants were employed and trained for the study. Second, data was collected and checked to ensure accuracy and completeness. Third, errors detected were discussed with the research assistants and appropriate corrections were made. Fourth, errors or mistakes that were detected in the questionnaires which could not be corrected were excluded from the study. Finally, the questionnaires were marked to prevent double entry.

### 3.8 Variables

Two main variables were considered in this study: outcome or dependent variable and independent variable.

Outcome or Dependent Variable

The outcome variable for this study was post abortion care services which is a five-composite variable comprising; treatment, counselling, family planning and contraceptive use, community and service provider partnerships and reproductive and other health services.

Independent Variables

A number of independent variables were considered in the study. These are;

1. Demographic factors: age, religion and category of providers

2. Facility-based factors: trained PAC providers, providing PAC, knowledge about abortion law and essential elements of PAC, limitation or challenges in provision of PAC, availability of staff, equipment and area designated for PAC, types and outcomes of abortion.

### 3.9 Data Entry and Processing

Questionnaires that were administered were retrieved, cleaned, coded and entered into Microsoft Excel and then the data was exported to STATA Version 14 for analysis.

### 3.10 Data Analysis

Descriptive statistic such as frequencies, mean and standard deviation were used to analyze outcome variables.

Data collected was checked for consistency and completeness, coded and entered with Microsoft Excel and later exported to STATA version 14.0 for the analysis.

Data was analyzed for frequency distribution, proportion and percentages for qualitative variables, mean, SD, for quantitative variables. Results was calculated based on 95% Confidence intervals (alpha=0.05) and tests using measures of association such as odds ratio and chi square. A text result of P-value <0.05 was considered statistically significant. The results of the study were presented in tables, graphs, charts and interpretations of findings have been made accordingly.

Univariate and multivariate analysis was conducted on some independent variables such as age, hospital location, education, work experience, sex, training and knowledge on PAC and category of staff. Adherence to PAC was considered as the dependent variable.

It was defined based on the practice of all five essential elements of PAC. Health workers practicing all five elements were considered to be adhering to PAC whiles health workers practicing less than five elements were considered not to be adhering to PAC protocol.

### 3.11 Ethical consideration

Ethical approval was sought from the Ethics Review Committee of the Ghana Health Service in Accra (ref. appendix c). In addition, a letter of introduction from the School of Public Health, University of Ghana was obtained and sent to the Regional Health Directorate to ask permission to conduct the study in the region. This letter was copied to the various Municipal Health Directorates as well as the hospitals.

In addition, providers who agreed to participate, an informed consent was obtained from them after the objectives and the methodology of the study have been explained to them after which a written consent form was signed.

Participation in this study was entirely voluntary. Participants were given the option to withdraw from the study at any time even if administration of questionnaire has started without any adverse consequence. Participants were assured of anonymity, privacy and confidentiality throughout the study and of the fact that the work is purely for academic purposes. The privacy of each participant was assured. Their names were not included in the questionnaire and where their names and signatures appeared on the consent forms, they were detached from the questionnaire and kept under lock and key. Also, only a participant was interviewed at a time in a convenient place devoid of auditory and visual

interruption or disturbance. They were informed that the electronic and hard copy of the data (questionnaires) will be thrown away after seven to ten years of study.

The participants in the study were also told the potential risk of the time they were spending in answering the questions of taking part in this study. They were also informed about the benefits of providers rendering quality, efficient and timely services to clients who might need them and also help to inform policy makers, international organizations, non-governmental organization, health experts and public health professionals to focus on the critical issues that will help to increase the current state of Post abortion Care services for women who will need this service.

### 3.12 Conclusion

This chapter presented the methods employed in the study. The chapter focused on the study design, study population, sampling, data collection and data analyses methods. In the next chapter, the results of the study are presented.

# CHAPTER FOUR

# RESULTS

## 4.0 Introduction

This chapter presents the results generated from the data collected. The results consist of the socio-demographic characteristics of the respondents, knowledge on PAC, types and outcomes of abortion cases recorded in the facilities. The results consist of proportion of categories of service providers trained and were providing post abortion care (PAC) services in the three health facilities in the Volta Region. Factors influencing adherence to protocol on PAC services was also included in this chapter.

**Table 2:** Socio-Demographic Characteristics of Respondents

| Variable | Ketu-South Hospital N=34 | | Ho Hospital N=83 | | Hohoe Hospital N=90 | | Total N=207 | |
|---|---|---|---|---|---|---|---|---|
| **Mean age(SD)** | **33.5(10.2)** | | | | | | | |
| | **N** | **%** | **N** | **%** | **N** | **%** | **N** | **%** |
| **Age(years)** | | | | | | | | |
| 20-29 | 14 | 41.2 | 25 | 30.1 | 57 | 63.3 | 96 | 46.4 |
| 30-39 | 14 | 41.2 | 39 | 47.0 | 18 | 20.1 | 71 | 34.3 |
| 40-49 | 2 | 5.9 | 8 | 9.6 | 3 | 3.3 | 13 | 6.3 |
| >50 | 4 | 11.8 | 11 | 13.3 | 12 | 13.3 | 27 | 13.0 |
| **Sex of respondents** | | | | | | | | |
| Male | 9 | 26.5 | 27 | 32.5 | 33 | 36.7 | 69 | 33.3 |
| Female | 25 | 73.5 | 56 | 67.5 | 57 | 63.3 | 138 | 66.7 |
| **Highest level of education** | | | | | | | | |
| JHS/Middle School | 3 | 8.8 | 5 | 6.0 | 8 | 8.9 | 16 | 7.7 |
| SHS/O'Level | 24 | 70.6 | 66 | 79.5 | 68 | 75.5 | 158 | 76.4 |
| Tertiary | 7 | 50.6 | 12 | 14.5 | 14 | 15.6 | 33 | 15.9 |
| **Category of respondents** | | | | | | | | |
| Nurses | 20 | 58.8 | 60 | 72.3 | 62 | 68.9 | 142 | 68.6 |
| Midwives | 11 | 32.4 | 19 | 22.9 | 22 | 24.4 | 52 | 25.1 |
| Doctors/Physician assistants | 3 | 8.8 | 4 | 4.8 | 6 | 6.7 | 13 | 6.3 |
| **Post basic qualification** | | | | | | | | |
| None | 29 | 85.3 | 76 | 91.6 | 89 | 98.9 | 194 | 93.7 |
| Post basic qualification | 5 | 14.7 | 7 | 8.4 | 1 | 1.1 | 13 | 6.3 |
| **Religion** | | | | | | | | |
| Christianity | 32 | 94.1 | 77 | 92.8 | 88 | 97.8 | 197 | 95.2 |
| Muslim | 2 | 5.9 | 6 | 7.2 | 2 | 2.2 | 10 | 4.8 |
| **Work experience** | | | | | | | | |
| 1-5 years | 25 | 73.5 | 54 | 65.1 | 71 | 78.9 | 150 | 72.5 |
| 6-10 years | 6 | 17.7 | 20 | 24.1 | 8 | 8.9 | 34 | 16.4 |
| >10 years | 3 | 8.8 | 9 | 10.8 | 11 | 12.2 | 23 | 11.1 |

### 4.1 Socio-demographic Characteristics of the Respondents

All the 207 respondents engaged in, giving a response rate of 100%. Table 4.2 shows the background characteristics of the respondents. Majority (46.4%) of the respondents were aged 20-29 years, followed by 30-39 years (34.3%) whiles the least (6.3%) were in the 40-49 year group. The mean age of the respondents was 33.5 years (SD=± 10.2). The majority of respondents (66.7%) were females. Also, the majority 76.4% of the respondents attained SHS or O,Level and the least of 7.7% attained JHS or middle school. Nurses 68.6% were in the majority of categories of staff who participated in the study. Also, about 93.7% of the respondents did not have any post basic qualifications. The majority (95.2%) of the respondents were Christians and 72.5% have been working in the current facility for about 1-5 years.

**Table 3**: Types of abortion cases in Hohoe, Ho and Ketu South hospitals in 2015

| **Facility** | **HO** | | **Hohoe** | | **Ketu South** | | **TOTAL** | |
|---|---|---|---|---|---|---|---|---|
| Types | **n** | **%** | **n** | **%** | **n** | **%** | **n** | **%** |
| Threatened | 116 | 14.5 | 195 | 24.4 | 67 | 8.4 | 378 | 47.4 |
| Incomplete | 49 | 6.1 | 101 | 12.7 | 26 | 3.3 | 176 | 22.1 |
| Complete | 80 | 10.0 | 86 | 10.8 | 12 | 1.5 | 178 | 22.3 |
| Missed | 20 | 2.4 | 6 | 0.8 | 7 | 0.9 | 33 | 4.1 |
| Inevitable | 6 | 0.8 | 10 | 1.3 | 4 | 0.5 | 20 | 2.5 |
| Induced/septic | 5 | 0.6 | 1 | 0.1 | 7 | 0.9 | 13 | 1.6 |
| Facility Total | 276 | 34.6 | 399 | 50.0 | 123 | 15.4 | 798 | 100 |

## 4.2 Types and outcomes of abortion cases recorded in the three hospitals

### 4.2.1 Types of abortion cases recorded

In all the three health facilities, threatened abortion that is the fetus is still in the uterus and the pregnancy is still continuing, but there is a possibility that the pregnancy can terminate naturally before the pregnancy reaches 20 weeks or the pregnancy will definitely end was the most recorded type of abortion cases (47.4%). The second highest recorded case (22.3%) was incomplete abortion (this is the state where some product of conception begins to come out) followed by induced/septic abortion (22.1%) and the least was inevitable abortion (1.6%). Among all the three health facilities Hohoe was found to record 24.4%, Ho 14.5% and Ketu South 8.4% of the threatened abortion cases. Hohoe recorded 12.7%, Ho 6.1% and Ketu South 3.3% of incomplete abortion. Out of all the spontaneous complete abortion cases seen, Hohoe recorded 10.8%, Ho recorded 10% and Ketu South recorded 2.5% of Spontaneous complete abortion.

**Table 4:** Outcome of abortion cases in Hohoe, Ho and Ketu South hospitals in 2015

| Facility | HO | | Hohoe | | Ketu South | | TOTAL | |
|---|---|---|---|---|---|---|---|---|
| Outcome | n | % | n | % | n | % | n | % |
| Spontaneous | 60 | 7.5 | 70 | 8.8 | 24 | 3.0 | 154 | 19.3 |
| False Pregnancy | 4 | 0.5 | 2 | 0.3 | 0 | 0 | 6 | 0.8 |
| D&C | 138 | 17.4 | 234 | 29.4 | 76 | 9.6 | 448 | 56.1 |
| Viable fetus | 62 | 7.8 | 86 | 10.8 | 20 | 2.5 | 168 | 21.1 |
| MVA | 3 | 0.4 | 0 | 0 | 0 | 0 | 3 | 0.4 |
| Referral | 0 | 0 | 3 | 0.4 | 1 | 0.1 | 4 | 0.5 |
| Death | 2 | 0.3 | 1 | 0.1 | 0 | 0 | 3 | 0.4 |
| Others*** | 7 | 0.9 | 3 | 0.4 | 2 | 0.3 | 12 | 1.5 |
| FACILITY TOTAL | 276 | 34.3 | 399 | 50.2 | 123 | 15.5 | 798 | 100 |

*** Others: - pre & post-menopausal, total hysterectomy, absconders and those who were discharged against medical advice.

### 4.2.2 Outcomes of abortion cases recorded in Ho, Hohoe and Ketu Hospitals

Table 4 shows the outcomes of the abortion cases recorded in these facilities with majority 56.1% being Dilatation & curettage (D&C), viable fetus was 21.1% followed by 19.3% having spontaneous abortion and 1.6% of the outcomes were others. There were 0.4% death recorded in all the facilities. Hohoe Municipal Hospital was found to have the highest outcome of pregnancy which was 29.4% Dilatation and curettage followed by

17.4% in Ho Municipal Hospital and Ketu South recorded 9.6%. MVA 0.4% was recorded only in Ho Hospital.

### 4.3 Proportion of categories of service providers trained and providing PAC

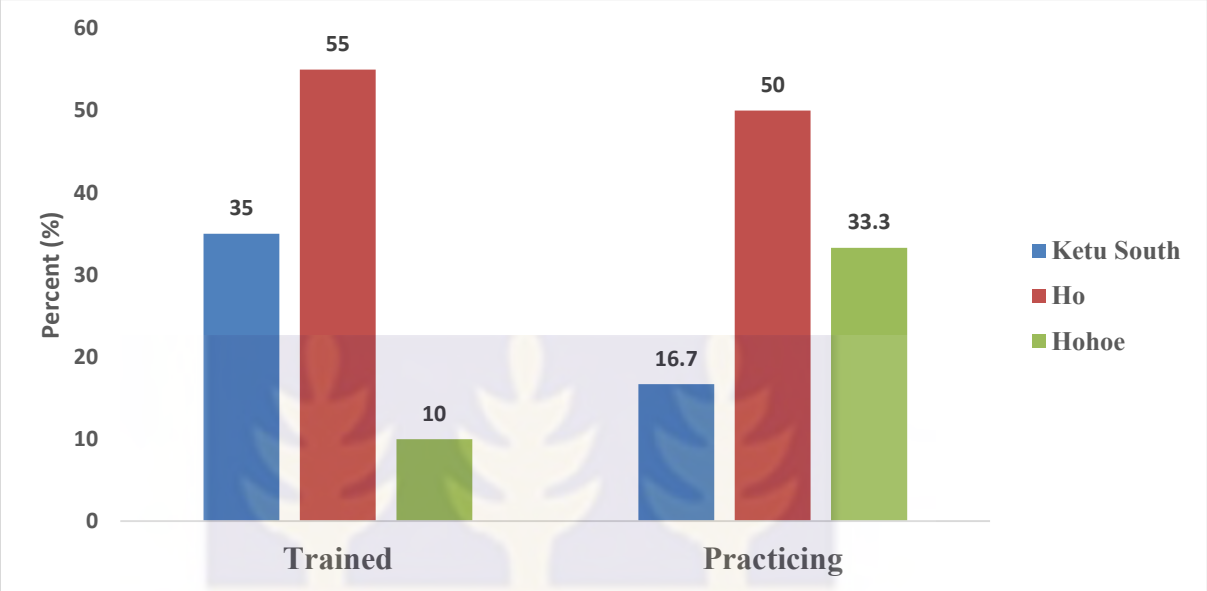
#### 4.3.1 Proportion of providers trained in PAC

Out of the 207 respondents only 20 (9.7%) of the healthcare providers received training on PAC and as many as 90% did not have any training.

#### 4.3.2 Proportion of categories of service providers who were trained and providing PAC

Thirty percent of healthcare providers out of the 20 who were trained in all the three health facilities i.e. Ho, Hohoe and Ketu South to perform PAC, were practicing whiles 70% were not.

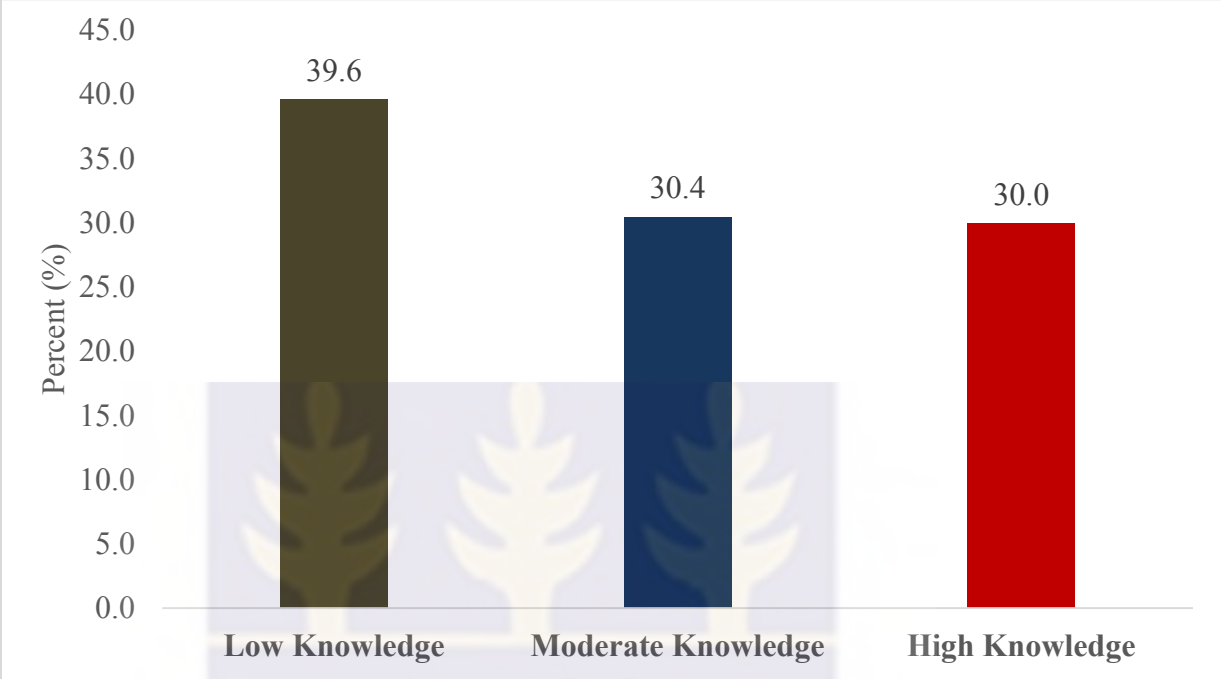
**Figure 3:** Proportion of trained healthcare providers practicing PAC in Hohoe, Ho and Ketu South Hospitals




### 4.4.3 Proportion of trained healthcare providers practicing Post Abortion Care in Ketu South, Ho and Hohoe

Out of the 20 respondents trained, 35% were in Ketu-South, 55% in Ho and 10% in Hohoe. It further shows that, out of the respondents who were practicing 16.7% were in Ketu-South, 50% in Ho and 33.3% in Hohoe (Figure 3).

**Figure 4:** Knowledge level of healthcare providers on PAC

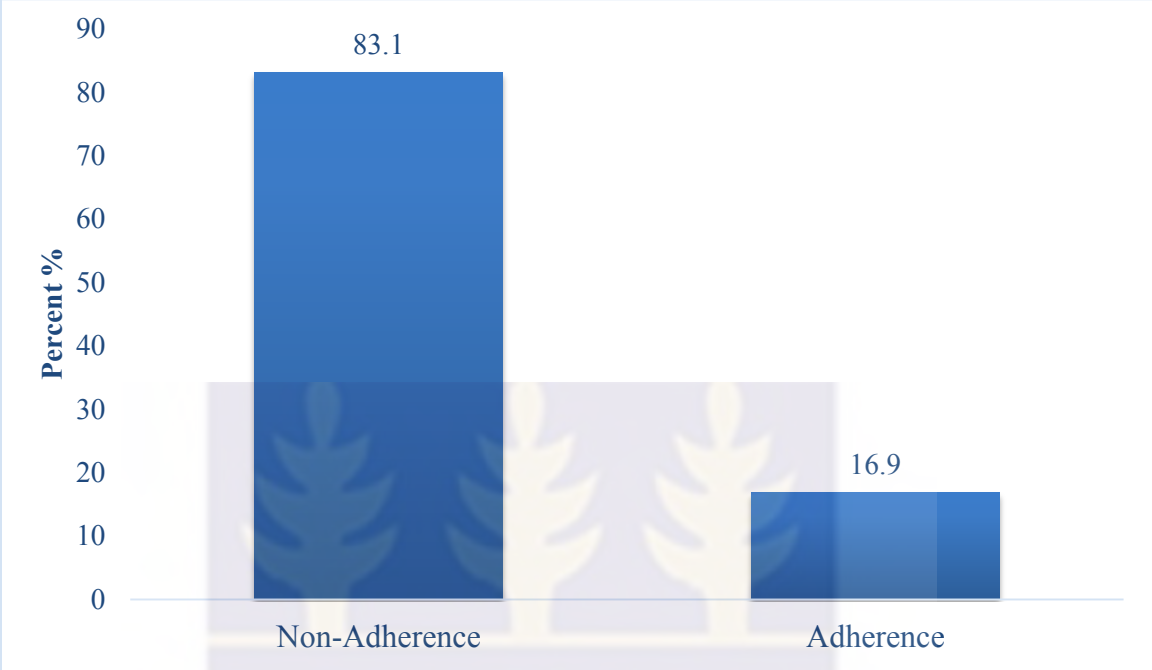



### 4.5 Knowledge level of health workers on Post Abortion Care

An eight item based question was used to assess respondent‟s knowledge on PAC. One mark was given to correct response whiles zero was given to wrong response. The minimum possible score ranged from "0" to "8". Respondents who scored zero to two were classified as having low knowledge whiles respondents getting a score between "3" and "5" were classified as having moderate knowledge on PAC. High knowledge was classified as respondents getting a score above 5 that is ranging from "6" to "8".

39.6% of healthcare providers surveyed had low knowledge on PAC. 30.4% had moderate knowledge and 30.0% had high knowledge.

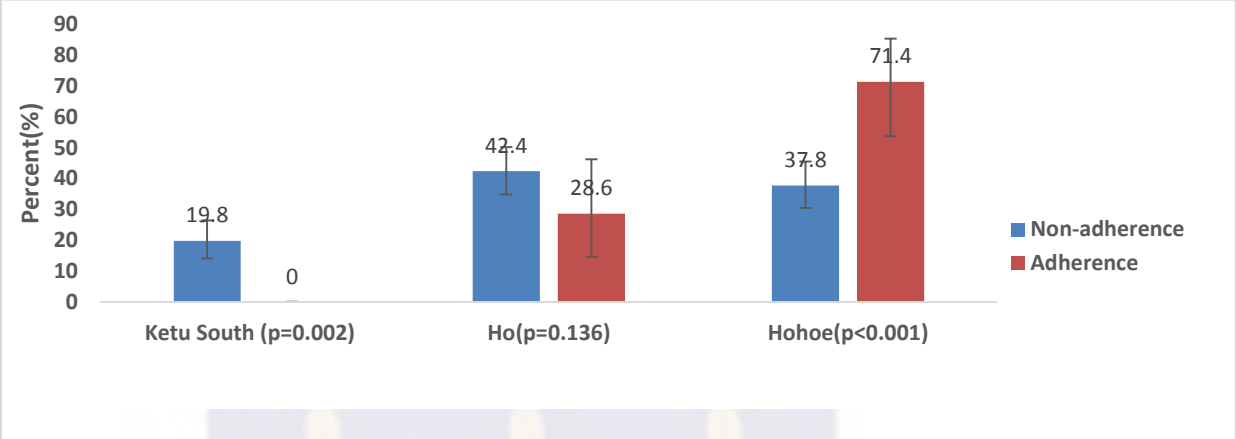
**Figure 5:** Adherence to PAC protocol




**4.5.1 Factors related to Adherence to Protocol on Post Abortion Care Services.**

Among the 207 respondents, as high as 83.1% said the facilities were not adhering to the PAC protocols. Only 16.9% of the health facilities adhere to PAC protocols.

**Figure 6:** Comparison of Non-adherence and Adherence to Post Abortion Care




### 4.5.2 Comparison of Non-Adherence and Adherence to Post Abortion Care

Figure 6 shows adherence and non-adherence to protocol in the three hospitals. In Hohoe, majority of the health workers adhere to PAC protocols compared to non-adherence. There was a statistically significance between adherence and non-adherence with p-value<0.001. In Ho, there was no significant difference between adherence and non-adherence since there was no overlapping as p-value determined (p=0.136) was less than 0.05. In Ketu South, there was a statistical difference between adherence and non-adherence to protocol with a p-value of 0.002.

### 4.5.3 Checklist to assess adherence to the five essential elements of PAC protocol in Ketu South, Ho and Hohoe hospitals

As depicted in Table 5 none of the hospitals adhered to the protocols on the essential elements of PAC. In Ketu South Hospital, Treatment and counseling were the elements that the facility was carrying out in both the theatre and gynaecological wards. At the Ho Hospital theatre, treatment and counseling were being employ whiles at the gynaecological ward in addition to the above other reproductive health services were

being carried out. Hohoe hospital has being implementing four of the five elements namely treatment, counseling, other reproductive health services and Family Planning.

**Table 5:** Checklist to assess adherence to the five essential elements of Post Abortion Care protocol

| | | Essential Elements | | | | |
|---|---|---|---|---|---|---|
| **Hospital** | **Unit/department** | **Treatment** | **Counseling** | **Family Planning** | **Other reproductive health services** | **Community-Provider Partnership** |
| Ketu | Theatre | Yes | Yes | No | No | No |
| South | Gynaecological ward | Yes | Yes | No | No | No |
| Ho | Theatre | Yes | Yes | No | No | No |
| | Gynaecological ward | Yes | Yes | No | Yes | No |
| Hohoe | Theatre | Yes | Yes | No | No | No |
| | Gynaecological ward | Yes | Yes | Yes | Yes | No |

### 4.5.4 Association between some background characteristics and protocol adherence

Out of the 207 health workers, majority (142 representing 68.6%) were nurses. There was no association between health workers age and adherence to PAC protocols ($\chi^2$ =0. 2.06, p=0.559, α=0.05). There was also no association between educational level and categories of health workers in the various hospitals and adherence to PAC ($\chi^2$ =0. 2.32,

p=0.314, α=0.05) and ($\chi^2$ =1.91, p=0.384, α=0.05) respectively. However, knowledge of health workers on PAC was found to be significantly associated with adherence to protocol ($\chi^2$ =30.24, p=<0.001, α=0.05). There was no statistical significance between working experience of health workers and adherence to protocol ($\chi^2$ =0.77, p=0.680, α=0.05).

**Table 6:** Association between some background characteristics of healthcare providers and protocol adherence

| Characteristic | Non- | Adherence | Total | $\chi^2$ | p- |
|---|---|---|---|---|---|

| | adherence N=172 (%) | N=35 (%) | N=207(%) | | value |
|---|---|---|---|---|---|
| **Age (years)** | | | | 2.06 | 0.559 |
| 20-29 | 76(44.2) | 20(57.1) | 96(46.4) | | |
| 30-39 | 62(36.0) | 9(25.7) | 71(34.3) | | |
| 40-49 | 11(6.4) | 2(5.7) | 13(6.3) | | |
| >50 | 23(13.4) | 4(11.4) | 27(13.0) | | |
| **Sex** | | | | 2.90 | 0.088 |
| Male | 53(30.8) | 16(45.7) | 69(33.3) | | |
| Female | 119(69.2) | 19(54.3) | 138(66.7) | | |
| **Education** | | | | 2.32 | 0.314 |
| JHS/Middle school | 15(8.7) | 1(2.9) | 16(7.7) | | |
| SHS/ O Level | 128(74.4) | 30(85.7) | 158(76.3) | | |
| Tertiary | 29(16.9) | 4(11.4) | 33(15.9) | | |
| **Staff category** | | | | 1.91 | 0.384 |
| Nurses | 119(69.2) | 23(65.7) | 142(68.6) | | |
| Midwives | 44(25.6) | 8(22.9) | 52(25.1) | | |
| Doctors/PAs | 9(5.2) | 4(11.4) | 13(6.3) | | |
| **Religion** | | | | 0.36 | 0.550 |
| Christianity | 163(94.8) | 34(97.1) | 197(95.2) | | |
| Islam | 9(5.2) | 1(2.9) | 10(4.8) | | |
| **Work experience** | | | | 0.77 | 0.680 |
| 1-5 years | 123(71.5) | 27(77.2) | 150(72.5) | | |
| 6-10 years | 30(17.4) | 4(11.4) | 34(16.4) | | |
| >10 years | 19(11.1) | 4(11.4) | 23(11.1) | | |
| **Training on PAC** | | | | 2.23 | 0.135 |
| Trained | 19(11.1) | 1(2.9) | 20(9.7) | | |
| Not trained | 153(88.9) | 34(97.1) | 187(90.3) | | |
| **Practice of PAC** | | | | 1.26 | 0.262 |
| Practicing | 6(3.5) | 0(0.0) | 6(2.9) | | |
| Not practicing | 166(96.5) | 35(100) | 201(97.1) | | |
| **Knowledge on PAC** | | | | 30.24 | <0.001 |
| Low knowledge | 77(44.5) | 5(14.3) | 82(39.6) | | |
| Moderate knowledge | 57(33.1) | 6(17.1) | 63(30.4) | | |
| High knowledge | 38(22.1) | 24(68.6) | 62(30.0) | | |

**Table 7:** Factors influencing adherence to protocol by healthcare providers

| Characteristic | Non- | Adherence | Total | COR (95% CI)p-value | AOR (95% CI)p-value |
|---|---|---|---|---|---|

| | adherence N=172 (%) | N=35 (%) | N=207( %) | | |
|---|---|---|---|---|---|
| **Hospital Location** | | | | | |
| Ketu South | 34 (19.8) | 0 (0.0) | 34 (16.4) | | |
| Ho | 73 (42.4) | 10 (28.6) | 83 (40.1) | 2.28 (0.58, 5.15) 0.118 | 2.65 (0.25, 5.56) 0.073 |
| Hohoe | 65 (37.8) | 25 (71.4) | 90(43.5) | 3.29 (0.46, 6.12) 0.023 | 3.57 (0.71, 6.44) 0.015 |
| **Age (years)** | | | | | |
| 20-29 | 76(44.2) | 20(57.1) | 96(46.4) | | |
| 30-39 | 62(36.0) | 9(25.7) | 71(34.3) | 0.55 (0.23, 1.30) 0.173 | |
| 40-49 | 11(6.4) | 2(5.7) | 13(6.3) | 0.69 (0.14, 3.37) 0.648 | |
| >50 | 23(13.4) | 4(11.4) | 27(13.0) | 0.66 (0.21, 2.13) 0.488 | |
| **Sex** | | | | | |
| Male | 53(30.8) | 16(45.7) | 69(33.3) | | |
| Female | 119(69.2) | 19(54.3) | 138(66.7) | 0.53 (0.25, 1.11) 0.091 | |
| **Education** | | | | | |
| JHS/Middle school | 15(8.7) | 1(2.9) | 16(7.7) | | |
| SHS/ O Level | 128(74.4) | 30(85.7) | 158(76.3) | 3.52 (0.45, 27.66) 0.232 | |
| Tertiary | 29(16.9) | 4(11.4) | 33(15.9) | 2.07 (0.21, 20.19) 0.532 | |
| **Staff category** | | | | | |
| Nurses | 119(69.2) | 23(65.7) | 142(68.6) | 0.94 (0.39, 2.26) 0.891 | |
| Midwives | 44(25.6) | 8(22.9) | 52(25.1) | 2.29 (0.65, 8.10) 0.195 | |
| Doctors/Pas | 9(5.2) | 4(11.4) | 13(6.3) | | |
| **Religion** | | | | | |
| Christianity | 163(94.8) | 34(97.1) | 197(95.2) | | |
| Islam | 9(5.2) | 1(2.9) | 10(4.8) | 0.53 (0.06, 4.34) 0.556 | |
| **Work experience** | | | | | |
| 1-5 years | 123(71.5) | 27(77.2) | 150(72.5) | | |
| 6-10 years | 30(17.4) | 4(11.4) | 34(16.4) | 0.61 (0.19, 1.87) 0.384 | |
| >10 years | 19(11.1) | 4(11.4) | 23(11.1) | 0.96 (0.30, 3.05) 0.943 | |
| **Training on PAC** | | | | | |
| Trained | 19(11.1) | 1(2.9) | 20(9.7) | | |
| Not trained | 153(88.9) | 34(97.1) | 187(90.3) | 4.22 (0.55, 32.63) 0.167 | |
| **Practice of PAC** | | | | | |
| Practicing | 6(3.5) | 0(0.0) | 6(2.9) | | |
| Not practicing | 166(96.5) | 35(100) | 201(97.1) | | |
| **Knowledge on PAC** | | | | | |
| Low knowledge | 77(44.5) | 5(14.3) | 82(39.6) | | |
| Moderate knowledge | 57(33.1) | 6(17.1) | 63(30.4) | 0.47 (0.72, 1.65) 0.442 | 0.52 (0.68, 1.73) 0.397 |
| High knowledge | 38(22.1) | 24(68.6) | 62(30.0) | 2.19 (1.19, 3.19) <0.001 | 2.31 (1.28, 3.35) <0.001 |

### 4.5.5 Factors influencing adherence to Post Abortion Care protocol in Hohoe, Ho and Ketu South Hospitals

Adherence to PAC protocol generally entails the practice of the five essential elements. These are; treatment after safe and unsafe abortions, counselling, provision of contraception and family planning, partnership between community members and health providers and provision of other reproductive health activities. In this study, adherence to protocol was therefore defined as health workers practicing all the five essential elements. On the other hand, non-adherence was defined as health workers practicing only one, two, three or four of the essential elements and not all the five essential elements.

**Univariate logistic regression**

In the univariate logistic regression, only hospital location and knowledge on PAC were statistically associated with protocol adherence. Health providers in the Hohoe Municipality were 3.29 times more likely to adhere to protocol compared to providers in the Ketu South hospital [COR=3.29 (95% CI: (0.46, 6.12); p=0.023]. This was statistically significant. However, health providers in Ho were also more likely to adhere to PAC protocols but this was not statistically significant [COR=2.28 (95% CI: (0.58, 5.15); p=0.0118]. Health care providers between the ages of 20-29 were 0.55 times less likely to adhere to PAC protocol likewise health care providers above 50 years who were also 0.66 times less likely to adhere to PAC protocol [COR=0.55 (95% CI: (0.23, 1.30); p=0.173] and [COR=0.66 (95% CI: (0.21, 2.13); p=0.488] respectively. These were however not statistically significant. Female health workers are also 0.53 times less likely to adhere to PAC protocols compared to male workers [COR=0.53 (95% CI: (0.25, 1.11);

p=0.091]. Also, health worker‟s level of education was also linked to adherence of PAC protocol but, this was not statistically significant. Health workers with SHS/O level and tertiary level of education were 3.52 and 2.07 times more likely to adhere to PAC protocols [COR=3.52 (95% CI: (0.45, 27.66); p=0.232] and [COR=2.07 (95% CI: (0.21, 20.19); p=0.532] respectively. Midwives are 0.94 times less likely to adhere to PAC protocol compared to nurses, however this was not statistically significant [COR=0.94 (95% CI: (0.39, 2.26); p=0.891]. Also, doctors/PAs are 2.29 times more likely to adhere to PAC protocols compared to nurses [COR=2.29 (95% CI: (0.65, 8.10); p=0.195]. This was also not statistically significant. In the univariate logistic regression, work experience was considered. Health workers with 6-10 years working experience are 0.61 times less likely to adhere to protocols compared to health workers with 1-5 years‟ work experience [COR=0.61 (95% CI: (0.19, 1.87); p=0.384]. This was also not statistically significant. Health workers who were not trained on PAC system were 4.22 times more likely to adhere to the PAC protocols compared to those who were trained, but not statistically significant [COR=4.22 (95% CI: (0.55, 32.63); p=0.167]. Health workers‟ knowledge on PAC was also considered in the univariate logistic regression. In this model, health workers with high knowledge on PAC are 2.19 times more likely to adhere to protocol compared to workers with low knowledge on PAC [COR=2.19 (95% CI: (0.71, 6.44); p=<0.015].

**Multivariate logistic regression**

Multivariate logistic test was conducted to determine some factors associated with health providers" adherence to PAC protocol. Hospital location and knowledge on PAC have been observed to be a major factor in adhering to PAC protocol. Health workers in the Hohoe Municipality were 3.57 times more likely to adhere to protocol compared to health workers in the Ketu South district [COR=3.57 (95% CI: (0.71, 6.44); p=<0.015]. Also, health workers who have high knowledge on PAC are 2.31 times more likely to adhere to PAC protocols compared to workers with low knowledge. This was statistically significant. [COR=2.31 (95% CI: (1.19, 3.19); p=<0.001]. This was statistically significant.

**Table 8:** Availability of essential equipment, apparatus and drugs at the theatre and gynaecological ward of Hohoe, Ho and Ketu South hospitals

| | **Ketu South Theatre** | **Ketu South Gynecological Ward** | **Ho Theatre** | **Ho Gynecological Ward** | **Hohoe Theatre** | **Hohoe Gynecological Ward** |
|---|---|---|---|---|---|---|
| **Antiseptics** | | | | | | |
| Chlorhexidine | Yes | Yes | Yes | Yes | Yes | Yes |
| Iodine | No | No | Yes | Yes | Yes | No |
| Iodophors (Povidone iodine) | Yes | Yes | Yes | Yes | Yes | Yes |
| **Disinfectants** | | | | | | |
| Bleach | Yes | Yes | Yes | Yes | Yes | Yes |
| Formalin | No | No | No | Yes | No | No |
| Cidex (Activated Glutaraldehyde Solution) | No | No | No | No | No | No |
| **Equipment** | | | | | | |
| IUD kit | Yes | Yes | Yes | No | Yes | Yes |
| MVA kit | Yes | Yes | Yes | Yes | Yes | Yes |
| D&C kit | Yes | No | Yes | Yes | Yes | Yes |
| Operating table | Yes | No | Yes | Yes | Yes | Yes |
| Instrument trays | Yes | Yes | Yes | Yes | Yes | Yes |
| Instrument table | Yes | Yes | Yes | Yes | Yes | Yes |

| | | | | | | |
|---|---|---|---|---|---|---|
| Revolving Chair | Yes | No | Yes | Yes | Yes | Yes |
| Screens | Yes | Yes | Yes | Yes | Yes | Yes |
| Linens | Yes | Yes | Yes | Yes | Yes | Yes |
| Drapes | Yes | Yes | Yes | Yes | Yes | Yes |
| Syringes & needles various sizes | Yes | Yes | Yes | Yes | Yes | Yes |
| **Essential drugs** | | | | | | |
| Misoprostol | Yes | Yes | Yes | Yes | No | Yes |
| Local anesthesia | Yes | Yes | Yes | No | Yes | Yes |
| Atropine | Yes | No | Yes | No | Yes | Yes |
| Valium | Yes | Yes | Yes | Yes | Yes | Yes |
| Lidocaine | Yes | Yes | Yes | NA | Yes | Yes |
| Acetylsalysalic acid | Yes | NA | NA | NA | NA | NA |
| Ibuprofen | NA | NA | NA | NA | NA | NA |
| Pethidine (any suitable substitute) | NA | NA | NA | NA | NA | NA |
| Antibiotics | NA | NA | NA | NA | NA | NA |
| **Examination room** | | | | | | |
| Functional sink | Yes | Yes | Yes | Yes | Yes | Yes |
| Adequate lighting | Yes | Yes | Yes | Yes | Yes | Yes |
| Source water | Yes | Yes | Yes | Yes | Yes | Yes |
| BP apparatus | Yes | Yes | Yes | Yes | Yes | Yes |
| Thermometer | Yes | Yes | Yes | Yes | Yes | Yes |
| Gloves | Yes | Yes | Yes | Yes | Yes | Yes |
| Android/goop | Yes | Yes | Yes | Yes | Yes | Yes |
| **Oxytocics,** | | | | | | |
| Ergometrine injection | No | Yes | Yes | Yes | Yes | No |
| Ergometrine tablet | No | No | No | No | No | No |
| Oxytocin | Yes | Yes | Yes | Yes | Yes | Yes |
| | | | | | | |
| **Intravenous Infusions** | | | | | | |
| Aqua pro | Yes | Yes | Yes | Yes | Yes | Yes |
| Sodium lactate (Ringers) | Yes | Yes | Yes | Yes | Yes | Yes |
| Glucose 5%,10% &50% | Yes | Yes | Yes | Yes | Yes | Yes |
| Glucose Saline | Yes | Yes | Yes | Yes | Yes | Yes |
| Normal Saline | Yes | Yes | Yes | Yes | Yes | Yes |
| Potassium chlorite | Yes | Yes | Yes | Yes | Yes | Yes |
| **Blood products** | | | | | | |
| Dried human plasma & all types (groups) of blood | NA | NA | NA | NA | NA | NA |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Record keeping and Treatment Protocols** | | | | | | |
| Is there a Record on admissions and discharges | Yes | Yes | Yes | Yes | Yes | Yes |
| Are patients information completed in the registers | Yes | Yes | Yes | Yes | Yes | Yes |
| Is there a system for filing and retrieval of clients' records? | Yes | Yes | Yes | Yes | Yes | Yes |
| Can records be retrieved easily? | No | No | No | No | Yes | Yes |
| Are there service delivery guidelines/protocols on PAC | No | No | No | No | No | No |
| Is there a mechanism for reviewing complicated cases including maternal deaths? | NA | Yes | NA | Yes | NA | Yes |
| **Room area** | | | | | | |
| Is there a mechanism for reviewing complicated cases including maternal deaths? | Yes | Yes | Yes | Yes | Yes | Yes |
| An appropriate place for the disposal of medical waste | Yes | Yes | Yes | Yes | Yes | Yes |
| Multi-purpose operating theatre | Yes | NA | Yes | NA | Yes | No |
| Isolated operating room for treatment of | Yes | NA | Yes | NA | No | Yes |

| | | | | | | |
|---|---|---|---|---|---|---|
| incomplete abortion | | | | | | |
| Recovery | Yes | NA | Yes | NA | Yes | No |
| Laboratory | Yes | No | NA | NA | Yes | No |
| Clients toilet | No | Yes | No | Yes | No | Yes |
| **Contraceptive Methods** | No | No | No | No | No | No |
| Combined pills | No | No | No | No | No | Yes |
| Progestin-only pills | No | No | No | No | No | Yes |
| Condoms | No | No | No | No | No | Yes |
| Injectables | No | No | No | No | No | Yes |
| Implants | No | No | No | No | No | No |
| IUD | No | No | No | No | No | No |

### 4.6 Availability of essential equipment, apparatus and drugs at the theatre and gynecological ward of Ketu South, Ho and Hohoe hospital

In providing PAC, hospitals need to be fully equipped with essential logistics, equipment and drugs. Therefore, the availability of the following were assessed at the theaters and gynaecology wards of the hospitals.

Table 8 shows antiseptics and disinfectants except cidex were available in all the areas of the hospitals and also there was no iodine seen in Ho and Hohoe gynaecological wards. In terms of equipment, the study seeks to assess the availability of IUD Kits, MVA kit, D&C kit, operating table, instrument tray, instrument table, revolving chair, screens, linens, drapes and syringes & needles in both theatre and gynecological wards of the hospitals. All the equipment were available in all the areas except Ho which lacked IUD Kits. Also, there was no revolving and operating table in Ketu South gynecology ward at the time of the survey. With reference to some essential drugs, misoprostol was available in all the facilities except Hohoe theatre. In the same analysis, results have showed that,

local anesthesia and Atropine was available in all facilities in the three hospitals except, Ho gynecological ward. In all the hospitals, no antibiotic was found in the theatre and the gynaecological wards. None of the facility was having Ergometrine tablet at the time of the survey. However, all the facilities have oxytocic, various intravenous infusions. Blood and blood products were not available at the time of the survey.

All the facilities were equipped with the necessary apparatus in their examination room. At the time of the survey, all the facilities had functional sink, adequate light, water source, Blood Pressure Apparatus, thermometer, gloves and android or gooseneck lamp. All the facilities have separate room for assessment. Also, all two areas in the three hospitals have waste disposal method. Regarding record keeping and treatment protocols, there were following records and systems; admission & discharge on clients, filling and retrieval of records on clients in all the areas of the hospitals. However, except Hohoe hospital retrieval of records were not easy at the other two hospitals. There were mechanisms to review complicated cases including maternal mortalities in all the gynaecological wards of the three hospitals. Table 8 shows that none of the hospitals have IE&C materials appropriate for clients and no service delivery guidelines or protocols on PAC. Contraceptive methods such as combined and progestin-only pills, condoms, and injectable were only available at Hohoe gynaecological ward.

### 4.7 Conclusion

This chapter presented the results of the study which revealed that knowledge of health workers on PAC was significantly associated with adherence to protocol. However, provision of PAC was low. These findings are discussed in detail with some recommendations made in the next chapter.

# CHAPTER FIVE

# DISCUSSION

## 5.0 Introduction

This chapter discusses the main findings, consistency with previous research works and explanation of findings of the study. It also highlight the implication, strength and limitations of the study and conclusion.

The socio-demographic characteristics of respondents.

The study results indicate that 46.4% respondents were aged 20-29 years and majority of respondents 72.5% have been working in the current facility for about 1-5 years. Also majority 66.7% were females. A study conducted in South Eastern Nigeria on awareness and practice of post abortion Care services among health care Professionals shows similar results of 29.5%, respondents in 20-29 years age group but dissimilar in the sex of respondents 52.6% in their case for males (Adinma, Ikeako, Adinma, Ezeama, & Ugboaja, 2010) There is a strong indication that with such characteristic of respondents training them to perform tasks will yield a positive results (Akintade, 2010)

This study examined the types and outcomes of abortion cases in three hospitals in the Volta Region. The results show current study report that 798 cases of abortion for the year 2015. Out of this, threatened abortion accounted for 47.4%. In most studies in PAC, the researchers did not found threatened abortion as an indicator for PAC but rather induced/ septic abortions (Darney, Simancas-Mendoza, et al., 2014 ;Ababa, 2014)

Comprehensive PAC is a widely used approach which should be available to all women who might be in need of it. Moreover, within this approach the use of simple methods such as MVA and misoprostol to treat will lessen or reduce cost of supplies and will be preferred by clients as well as providers since it is safer and convenient (Billings, D.L., & Benson, J., 2005)

The study also indicated that D&C accounted for 56.1% outcomes of abortion cases as it was used as a method to complete threatened, incomplete, inevitable and induced abortions. According to a study carried out by Zaidi et al., (2014), instead of using D&C to remove retained product of conception, MVA or misoprostol were used. Another study also concluded that MVA is safe, quick to perform, and less painful than D&C. The study also recommended that the MVA should be for the management of incomplete abortion (Forna, 2010)

Due to scarcity in human resource in the health care system especially medical doctors, the need to train mid-level healthcare providers especially Physician Assistants, midwives and nurses to carry out this simple MVA but safe and effective procedure on post abortion clients cannot be overemphasized. More so, these cadre of health providers are mostly found in the rural communities where these services are most needed and that at these places there is no need for sophisticated equipment and logistics to perform this procedure (Brookman-Amissah et al., 1999)

Findings from the current study also indicate that 9.7% of study participants were trained to conduct post abortions care and out of this 6 indicated they were practicing. This could be attributed to insufficient number of providers trained on abortion and specifically in

PAC. This also confirm a study conducted in Ebonyi State University Teaching hospital in South-East Nigeria where out of the 40 respondents who were healthcare providers 80% had knowledge on PAC services but only 13% had training (Collins, 2012)

Maternal mortality was ranked the second most common cause of death among Ghanaian women. These deaths could be attributed to wide range of issues including unsafe abortion, inadequate knowledge on pregnancy related complications and inadequate Antenatal Care (ANC) attendance. In addition, unsafe abortion is predicated to be a major determinant of maternal mortality in sub-Saharan Africa (Adjei et al., 2015). According to the 2007 Ghana Maternal Health Survey (GMHS), unsafe abortion is the second largest of maternal mortality (GSS, 2007). One in 10 maternal deaths are due to unsafe induced abortion (GSS, 2009). In this regard, it is important for hospitals and health facilities to follow rules, regulations and Standard Operating Procedures (SOPs) which is officially referred to as protocol in addressing issues and complications relating to abortion.

This study also sought to identify some factors influencing adherence to PAC protocol. In this study, health facilities with health workers having high knowledge on PAC were 2.31 times more likely to adhere to protocols compared to health workers with low knowledge on PAC. This is because increase in knowledge creates sense of awareness on the importance, reasons and understanding on PAC, thus increasing the likelihood to adhere to protocol as these could save lives of millions. This result was in consistence with a study conducted in Afghanistan (Ansari et al., 2015) where after using the multivariate logistic test it was found out that training of health providers was significantly associated with knowledge and skills on PAC. Also, hospital location was

found to be a determinant of protocol adherence. Health workers in Ho and Hohoe were about 2.65 and 3.57 times more likely to adhere to protocol compared to health workers in Ketu-South. Plausible reason could be directed towards distance of these health facilities as they are located and the perceived quality of care clients were receiving or the availability of the service ( Zinszer, K., Charland, K., Kigozi, R., Dorsey, G., Kamya, M.R., & Buckeridge, D.L., 2014)

WHO Maternal Health and Safe Motherhood Program, division of Family Health, Clinical Management of Abortion complications", a practical guide that spells out the required equipment, logistics and other resources for an ideal PAC service (WHO, 1994). Results on the checklist on the availability of essential equipment and logistics shows that all the hospitals have basic equipment and other resources to provide PAC. A study conducted on PAC quality status in Ethiopia had similar results ( Tesfaye, G., & Olijira, L., 2013) There is also the need to have a separate room for PAC service in the gynaecological wards. Our results show that two of the hospital do not have a special area designed to provide PAC services. Non-availability of guidelines and protocols needed to guide service delivery was a big gap identified in this survey. In Sneha Barot"s policy review on implementing PAC programs in developing world; he stated that there were some interrelated problems identified including lack of treatment guidelines and protocols in the provision of PAC service delivery.(Barot, 2014)

**5.2 Implication of the study**

Adherence to the PAC protocol and provision of all the essential elements by the health delivery system and healthcare providers is a wakeup call for all stakeholders in maternal health to put their hands together to reduce maternal mortality. This study indicated that

providers were not trained to provide the service and even the very few who are trained are not adhering to the PAC protocol.

First of all, since community members are needed in the care and management of post abortion cases and also in overcoming hurdles in obstetric emergencies and use of contraception, poor or lack of partnership between community members and healthcare providers will thwart all effort to reduce maternal morbidity and mortality.

Secondly, counseling assist in making sure that the needs and concerns of women are recognized and assessed so that appropriate and effective services provided during the care and management. So therefore without counseling, addressing women‟s concern cannot be achieved.

Thirdly, to help women achieve their reproductive goal, provision and availability, a wide range of modern contraceptive methods are needed. Family planning on the other hand help in preventing unwanted pregnancy and subsequently reducing maternal morbidity and mortality.

Provision of other reproductive services are needed to enhance effective PAC services. Reproductive health services such as screening for STL/HIV, cancer and medical conditions that may aggravate an existing disease. Diagnosis, treatment or management of cases.

Lastly treatment is one of the essential elements of the PAC since most of the cases are life threatening and needed prompt and effective care and management.

### 5.3 Strengths and limitation of the study

This study has provided important baseline information regarding the pattern of PAC Services in the three hospitals in the Volta Region. In addition, the findings provide insight for program administrators and supervisors on how to implement the essential elements of PAC. Nonetheless, the study has some limitations. First, since this was a cross-sectional study design, it was not possible to assess cause and effect relationship. Related to this, it was not possible to carry out a comprehensive quality PAC. Future research could look at comprehensive quality PAC in which different aspects of care will be assessed based on clients satisfaction, providers technical competencies through interview and observation of direct service delivery and also the facility set up assessment in these facilities. Secondly, the study was carried out in Ho, Hohoe and Ketu South Municipal Hospitals in the Volta Region and might not represent the whole region thus results may not be generalized to other hospitals in the region. Lastly, due to the nature of the study which involved some sensitivity matters and self-reporting, information bias in the selection of respondents or approach use to collect data for the study could be presented which may have affected reliability or dependability of the results.

### 5.4 Conclusion

This chapter discussed the results of this study. The results suggest only few healthcare providers have been trained and were providing PAC. Adherence to the PAC protocol was associated with knowledge of respondents. It was also found out that trained

respondents were 4.22 times less likely to adhere to protocols to those not trained but was not statistically significant. The findings and the discussions in the chapter highlight the need for corrective interventions to improve adherence and provision of PAC among the study population. The next chapter provides conclusions drawn from the results and proposes specific recommendations to help redress the situation.

# CHAPTER SIX

# CONCLUSION AND RECOMMENDATION

## 6.1 Conclusion

This study was conducted in three health facilities namely Ho, Hohoe and Ketu South Municipal Hospitals in the Volta Region to describe Post Abortion Care Services. The study sampled four categories of healthcare providers working in these facilities for at least one year. A total of 207 healthcare providers were interviewed using structured questionnaires. The results of the study have indicated that only a few number of healthcare providers were trained in PAC making adherence to the essential elements of PAC services a problem. Based on these findings, this study concludes that threatened abortion is the most (47.4%) recorded abortion cases. The majority of cases ended in dilatation and curettage. A third (30%) of health workers studied had high knowledge on post abortion care. Knowledge of health workers on post abortion care is significantly associated with adherence to the protocol. PAC is essentially needed at all delivery sites to promote the wellbeing of women in their reproductive age who might end up having their pregnancies either coming out spontaneously or self-induced. Therefore, measures to improve on Post Abortion Care Services should urgently be employed.

## 6.2 Recommendations

Based on the findings from this study and the fact that PAC contributes to ending preventable child and maternal deaths by preventing unintended pregnancy and subsequent abortions which have to be implemented to the full, and also as it is considered as a high-impact practice, the following recommendations are made.

1. Ghana Health Service/Ministry of Health:

   a. There is the need to train all categories of healthcare providers at every service delivery site and at every level of the health system on PAC so that they would be able to recognize abortion complications and to provide or refer women for prompt care.

   b. In order to provide an effective, reliable, safe and quality care, protocols and Standard Operation Procedures (SOPs) manuals on PAC should be available in all health facilities.

   c. Resources are the most important factor in implementing PAC so therefore all facilities should be resourced adequately with the appropriate and necessary logistics, equipment and drugs to work to reduce any unpleasant occurrences.

2. Management

   In order to overcome the restrictions placed on midlevel providers to perform uterine evacuation and policies that prohibit midlevel providers from offering treatment for abortion complications, management at all levels of the health delivery system should ensure providers are trained and practice what they have learnt from training workshops.

3. Healthcare providers

   Healthcare providers should be conscious of the fact that the clients are becoming well-informed and aware of issues concerning their health, hence the need to be watchful of their roles and strictly adhere to protocols and SOPs.

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# APPENDICES

## APPENDIX A: INFORMED CONSENT FORM

**Project Title: Post Abortion Care services in three (3) facilities in Volta Region**

**General information about the study**

This is a research study being undertaken as a requirement in the University of Ghana, School of Public Health, Legon to attain a master‟s degree in Public Health. This study is to help gain a better understanding of how Post Abortion Care is being carried out in three facilities in Volta Region. Despite a lot of studies has been done on Post Abortion Care globally and few in Ghana, none of such studies have been done in the Volta Region where unsafe abortion and its complications is a direct cause of maternal mortality. The purpose of this study is to describe Post Abortion Care services in three facilities in the Volta Region.

The duration of the study will be less than a year. Findings during this period will enable us identify and describe post abortion care practices in the three facilities in the Volta Region and to address gaps that lead to non-adherence to the protocol on the provision of the service its consequences on women who might need this service.

**Procedures**

Health providers in these categories; Doctors, Midwives, Physician Assistants and Nurses will be used as participants of this study. If you are eligible and agree to participate, you will be required to complete a structured questionnaire. We will ask you questions about your demographic background, knowledge about PAC, some issues on the PAC practices and your health facility. Each respondent is expected to use about 25-30 minutes each to complete the questionnaire.

**Possible Risks and Discomforts**

The study may involve some risks such as discomfort during the process answering intimate questions due to the nature of the topic. Some of the questions focus directly on your personal life, and the facility which you are free to ignore any questions you are not comfortable with.

**Possible Benefits**

There is no direct benefit to the participants of this study. But the findings of this study will help us to put in some intervention on the provision of all the essential elements of PAC which will generally improve the health and wellbeing in the Volta Region, in Ghana and Africa as a whole.

**Voluntary Participation and Right to Refuse**

Your participation in this study is voluntary. During the filling of the questionnaire, you can choose to ignore any questions that you are uncomfortable with and also you are at permitted to withdraw from the study at any time. You will be given opportunity to ask questions for clarification. However, we will encourage you to participate and complete the questions since your opinions are very important to us.

**Confidentiality**

If you decide not to take part in the study even though we would be glad if you take part, neither you nor the study will be affected or suffer. We will keep all the information you will provide private and confidential. Also the data will be stored in a locked cabinet and access will be limited to only the researcher and research supervisor. We will not need your name and any identity for the study.

We assure you that your name shall not appear or be mentioned in any report that might come out from this study.

**Compensation**

There is no compensation for participating in this study.

**Participant voluntary consent**

I _____, declare that the above document describing the purpose, procedures as well as risks and benefits of the research titled "Post Abortion Care in three facilities in the Volta Region" has been thoroughly explained to me in English language**. I have been clearly informed that there is no compensation for this study.** I have been given the opportunity to ask any questions about the research and answered to my satisfaction. I hereby voluntarily agree to participate as a subject in this study.

Signature of Participant …… Date…….

**University of Ghana**

**School of Public Health**

**APPENDIX B: QUESTIONNAIRE**

**Project Title: Post Abortion Care Services in 3 Health Facilities of the Volta Region**

**Participant instructions**

Do not write your name; Write your responses, tick only one correct response and multiple responses where applicable. Only Nurses, Midwives Physician/Medical Assistants and doctors are eligible for this study.

| | |
|---|---|
| Respondent code: ☐☐☐ | Name of research assistant… |
| Date of interview: (dd/mm/yy)<br>_____/_____/_____ | Hospital Code ☐☐ |

I. SOCIO-DEMOGRAPHIC BACKGROUND

1. How old are you?
2. Sex of respondent a. Male [ ] b. Female [ ]
3. Highest level of education: a. JHS/Middle School [ ] b. SHS/O level [ ] c. e. Tertiary [ ] f. Other, please specify…….
4. What category of staff do you be long? a. Nurse [ ] b. Midwife [ ] c. Physician/ Medical assistant [ ]. d. Doctor [ ]
5. Any post basic qualification? a. Yes [ ], please specify…… b. No [ ]
6. Religious affiliation. a. Christianity [ ] b. Islamic [ ] c. Traditional [ ]

   d. Other, please specify……
7. How many years have you been working in this facility?

II. KNOWLEDGE ON POST ABORTION CARE

8. Do you know Ghana‟s Law on Abortion? a. Yes [ ] b. No [ ]
9. If yes, what does the law state? (Tick as many as applied) a. Can be performed by a registered medical practitioner [ ] b. In a registered premises (government & private) as hospital or clinic [ ] c. In a place approved for that purpose by the law [ ]

d. If the pregnancy results from rape [ ] e. incest [ ] f. The defilement of a mentally handicapped woman [ ] g. Mental retardation [ ] h. Pregnancy continuation would affect adversely the well-being of the mother (mentally and physically) [ ] i. Abnormality of the fetus [ ] j. If there is substantial risk that the child, if born, might suffer from or later develop a serious physical abnormality or disease [ ]

10. Have you heard about PAC? a. Yes [ ] b No [ ]

11. If yes, what is it about? (Tick as many as applied)

a. Treatment after unsafe abortion [ ] b. Treatment after Spontaneous abortion [ ] c. Treatment after safe abortion [ ] d. Treatment after any other type of abortion [ ] e. Counselling [ ] f. Provision of contraception and family planning [ ] g. Partnership between community members and health providers [ ] h. Provision of other reproductive health activities.

## III. PROVISION OF PAC

12. Do you know where in your facility PAC is being provided?

a. Yes [ ] b. No [ ]

13. If yes, where? (Tick as many as applied) a. OPD [ ] b. Theatre [ ] c. Gyneacological ward [ ] d. Family Planning Clinic [ ] e. Public Health Unit [ ] f. Other specify ……

14. Do you think that providing PAC will saves women lives? a. Yes [ ] b. No [ ]. c. Don't know [ ] d. Other specify ……

15. In your opinion what elements of essential PAC services are being provided in this facility? a. Treatment after Safe and unsafe abortions [ ] b. Counselling c. Provision of contraception and family planning [ ] d. Partnership between community members and health providers [ ] e. Provision of other reproductive health activities [ ].

16. What is/are the reason(s) for providing the element(s) you have mentioned in 15 above?

……

……

……

……

……

17. In completing uncompleted abortions which of the following method(s) do you use in this facility? a. Dilatation and Curettage (D&C) [ ] b. Misoprostol [ ] c. Manual Vacuum Aspiration [ ] d. Any other please specify…….

18. What is/are the reason(s) for using the method(s) you have mentioned in 17 above?

……

……..

……

……..

……

…….

……

……

IV. PRACTICING PAC

19. Who performs MVA on clients who needs it in this facility? a. Nurses [ ] b. Midwives [ ]

c. PAs /MAs [ ] d. Doctors [ ]

20. Have you been trained in PAC? a. Yes [ ] b. No [ ] (If yes, answer question 21 and 22. if No skip questions 21 and 22.

21. Have you been practicing it after training? a. Yes [ ] b.No [ ] ( if yes skip question 22. If No, answer question 22.

22. Why are you not practicing?

……..

## V. CHECKLIST TO ASSESS AVAILABILITY OF ESSENTIAL ITEMS FOR PAC SERVICE

Date of Visit:

Name of Facility:

Number of Beds: Total _____ Obstetrics _____ Gynecology

Staff Interviewed:

1. **Record keeping and Treatment Protocols**

| AREA OF ASSESSMENT | YES | NO |
|---|---|---|
| Is there a Record on admissions and discharges | | |
| Are patients information completed in the registers | | |
| Is there a system for filing and retrieval of clients' records? | | |
| Can records be retrieved easily? | | |
| Are there service delivery guidelines/protocols on PAC | | |
| Is there a mechanism for reviewing complicated cases including maternal deaths? | | |

**2. Rooms, Equipment, and Commodity Storage**

| ROOM/AREA | AVAILABLE | NOT AVAILABLE |
|---|---|---|
| Separate room for the processing of equipment | | |
| An appropriate place for the disposal of medical waste | | |
| Multi-purpose operating room | | |
| Isolated operating room for treatment of incomplete abortion | | |
| Recovery area | | |
| Laboratory | | |
| A toilet for waiting patients | | |
| IEC material appropriate for clients | | |
| **Examination Room** | | |
| Functioning sink | | |
| Adequate lighting | | |
| An adequate supply of water/running water | | |
| Stethoscope/Sphygmomanometer | | |
| Thermometer | | |
| Gloves various sizes | | |

| | | |
|---|---|---|
| Instruments for Gynecology Exam | | |
| Gooseneck or Android Lamp | | |
| **Equipment** | | |
| IUD insertion/removal kits | | |
| MVA equipment | | |
| D & C equipment | | |
| Operating table | | |
| Instrument trays<br><br>Instrument table | | |
| Revolving stool | | |
| Screens (for privacy) | | |
| Linens | | |
| Drapes | | |
| Syringes and needles various sizes | | |
| **Essential Drugs** | | |
| Misoprostol | | |
| Anaesthetics, Local | | |
| Atropine | | |
| Diazepam/Valium | | |
| Lidocaine 1%, without epinephrine | | |
| Acetylsalicylic acid | | |
| Ibuprofen | | |

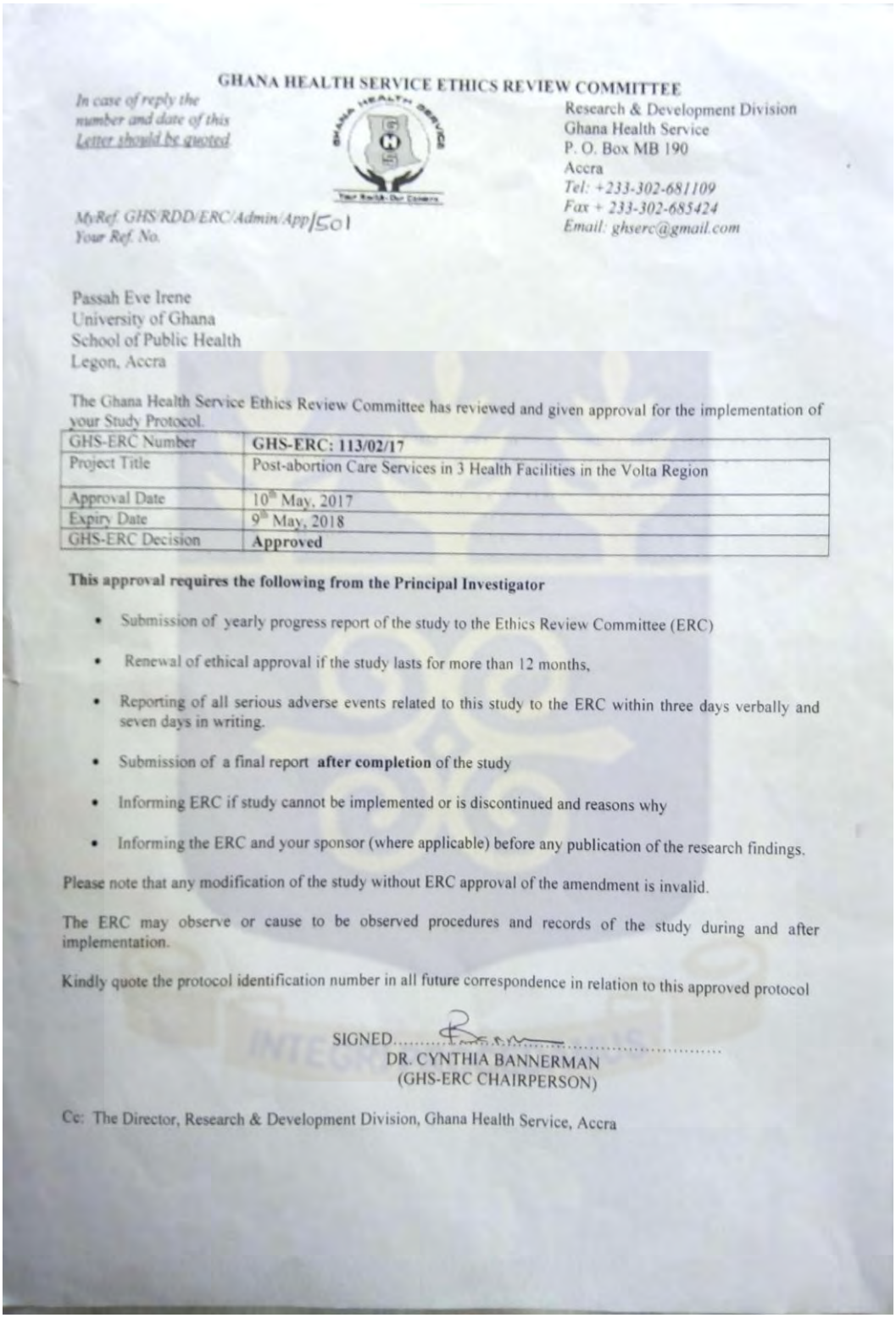
| | | |
|---|---|---|
| Pethidine (or suitable substitute) | | |
| **Antibiotics** | | |
| Amoxicillin | | |
| Benzyl penicillin | | |
| Crystalline Penicillin | | |
| Chloramphenicol | | |
| Metronidazole | | |
| Azithromycin | | |
| Erythromycin | | |
| Gentamycin | | |
| **Oxytocic** | | |
| Ergometrine injection | | |
| Ergometrine tablets | | |
| Oxytocin injections | | |
| **Intravenous Solutions** | | |
| Water for injections | | |
| Sodium lactate (Ringer's) | | |
| Glucose 5%, 10% and 50% | | |
| Glucose with isotonic saline | | |
| Potassium chloride | | |
| Sodium chloride | | |
| **Blood Products** | | |

| | | |
|---|---|---|
| Dried human plasma, all types(groups) of blood | | |
| **Antiseptics** | | |
| Chlorhexidine 4% (Hibitane, Hibiscrub) | | |
| Iodine preparations, 1–3% | | |
| Iodophors | | |
| **Disinfectants** | | |
| Sodium hypochlorite 5–10% (liquid bleach) | | |
| Formaldehyde 8% (Formalin) | | |
| Glutaraldehyde 2% (Cidex) | | |
| **Contraceptive Methods** | | |
| Combined Pills | | |
| Progestin Only Pills | | |
| Condoms | | |
| IUDs | | |
| Injectables | | |
| Norplant | | |

## VI. ADHERENCE TO ESSENTIAL ELEMENTS OF PAC

| **Elements** | **Ho Hospital** | | **Hohoe Hospital** | | **Ketu-South Hospital** | |
|---|---|---|---|---|---|---|
| **Site** | Theatre | Gynae. Ward | Theatre | Gynae. Ward | Theatre | Gynae. Ward |
| Treatment | | | | | | |
| Counseling | | | | | | |
| Reproductive and other health services | | | | | | |
| Family Planning and Contraceptive services | | | | | | |
| Community and Provider-Partnership | | | | | | |

## APPENDIX C: ETHICAL APPROVAL LETTER



GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

*In case of reply the number and date of this Letter should be quoted*

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
*Tel: +233-302-681109*
*Fax + 233-302-685424*
*Email: ghserc@gmail.com*

*MyRef. GHS/RDD/ERC/Admin/App/501*
*Your Ref. No.*

Passah Eve Irene
University of Ghana
School of Public Health
Legon, Accra

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol.

| | |
|---|---|
| GHS-ERC Number | **GHS-ERC: 113/02/17** |
| Project Title | Post-abortion Care Services in 3 Health Facilities in the Volta Region |
| Approval Date | 10th May, 2017 |
| Expiry Date | 9th May, 2018 |
| GHS-ERC Decision | **Approved** |

**This approval requires the following from the Principal Investigator**

- Submission of yearly progress report of the study to the Ethics Review Committee (ERC)
- Renewal of ethical approval if the study lasts for more than 12 months,
- Reporting of all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.
- Submission of a final report **after completion** of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings.

Please note that any modification of the study without ERC approval of the amendment is invalid.

The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

Kindly quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....
DR. CYNTHIA BANNERMAN
(GHS-ERC CHAIRPERSON)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra