

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**(COLLEGE OF HEALTH SCIENCES)**

**SCHOOL OF MEDICAL SCIENCES**

**DEPARTMENT OF COMMUNITY HEALTH**

**ABORTION IN BOSOMTWE DISTRICT, ASHANTI, GHANA: A CASE CONTROL  
STUDY AT ST. MICHAEL'S HOSPITAL, JACHIE – PRAMSO**

**BY:**

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POPULATION AND REPRODUCTIVE HEALTH**

**BY**

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**MARCH, 2009**

## DECLARATION

I hereby declare that this submission is my own work towards the MPH and that, to the best of my knowledge, it contains no materials previously published by another person nor material which has been accepted for the award of any degree of the University, except where due acknowledgement has been made in the text.

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## **DEDICATION**

This thesis is dedicated to my father, my husband and children.

## **ACKNOWLEDGEMENT**

I would like to express my sincere gratitude to the almighty God for seeing me through this programme especially this thesis.

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## **ABBREVIATIONS AND ACRONYMS**

DHA	-	District Health Administration
GHS	-	Ghana Health Service
GSS	-	Ghana Statistical Service
GDHS	-	Ghana Demographic and Health Survey
KNUST	-	Kwame Nkrumah University of Science and Technology
IA	-	Incomplete Abortion
ND	-	Normal Delivery
MDGs	-	Millennium Development Goals
MOH	-	Ministry of Health
SPSS	-	Statistical Package for the Social Sciences
UN	-	United Nations
WHO	-	World Health Organisation

## TABLE OF CONTENT

<b>CONTENT</b>	<b>PAGE</b>
<b>DECLARATION.....</b>	<b>i</b>
<b>DEDICATION.....</b>	<b>ii</b>
<b>ACKNOWLEDGEMENT.....</b>	<b>iii</b>
<b>ABBREVIATIONS AND ACRONYMS .....</b>	<b>iv</b>
<b>TABLE OF CONTENT.....</b>	<b>v</b>
<b>LIST OF TABLES .....</b>	<b>viii</b>
<b>LIST OF FIGURES .....</b>	<b>ix</b>
<b>ABSTRACT.....</b>	<b>x</b>
<b>CHAPTER ONE .....</b>	<b>1</b>
1.0 INTRODUCTION .....	1
1.1 BACKGROUND OF THE STUDY .....	1
1.2 PROBLEM STATEMENT.....	3
1.3 RATIONALE OF THE STUDY .....	5
1.4 RESEARCH QUESTIONS .....	6
1.5 OBJECTIVES.....	6
1.5.1 General Objectives.....	6
1.5.2 Specific Objectives .....	6
1.6 HYPOTHESIS .....	7
1.7 ORGANISATION OF WORK.....	7
<b>CHAPTER TWO .....</b>	<b>8</b>
2.0 RELATED LITERATURE REVIEW .....	8
2.1 INTRODUCTION .....	8
2.2 BRIEF HISTORICAL PERSPECTIVES OF ABORTION ISSUES .....	8
2.3 LEGAL ISSUES ABOUT ABORTION.....	9
2.4 PREVALENCE OF UNSAFE ABORTION .....	10
2.5 SOCIO-DEMOGRAPHIC BACKGROUND OF ABORTION CLIENTS .....	11

2.6	ECONOMIC CHARACTERISTICS OF ABORTION CLIENTS.....	12
2.7	REPRODUCTIVE HEALTH HISTORY OF ABORTION CLIENTS .....	13
<b>CHAPTER THREE .....</b>		<b>15</b>
3.0	METHODOLOGY .....	15
3.1	STUDY TYPE AND DESIGN.....	15
3.2	DISTRICT PROFILE .....	15
3.3	STUDY POPULATION .....	17
3.3.1	Case Definition .....	17
3.3.2	Definition of Controls .....	17
3.3.3	Exclusion criteria .....	17
3.4	STUDY VARIABLE .....	18
3.5.1	Dependent variable .....	18
3.5.2	Independent variables .....	19
3.5	SAMPLE SIZE DETERMINATION AND POWER.....	20
3.6	SELECTION OF PARTICIPANTS .....	20
3.7	DATA COLLECTION PROCEDURE AND TOOLS .....	21
3.8	PRE-TESTING .....	21
3.9	DATA ANALYSIS.....	22
3.10	ETHICAL CLEARANCE .....	22
3.11	LIMITATION ON THE STUDY .....	23
3.12	ASSUMPTION .....	23
<b>CHAPTER FOUR.....</b>		<b>24</b>
4.0	RESULTS .....	24
4.1	INTRODUCTION .....	24
4.2	BACKGROUND CHARACTERISTICS OF RESPONDENTS .....	24
4.3	DIFFERENCES IN SOCIO-DEMOGRAPHIC CHARACTERISTICS.....	25
4.4	DIFFERENCES IN ECONOMIC CHARACTERISTICS .....	26
4.5	DIFFERENCES IN REPRODUCTIVE HISTORY .....	28
4.5.1	Differences between cases and controls in terms of obstetrics history.....	28

4.5.2	Sexual History.....	30
4.5.3	Abortion experiences of cases and controls.....	32
4.6	DIFFERENCES IN EXPERIENCES WITH INDEX PREGNANCY.....	34
<b>CHAPTER FIVE .....</b>		<b>38</b>
5.0	DISCUSSION.....	38
5.1	DIFFERENCE ON SOCIO-DEMOGRAPHIC CHARACTERISTICS .....	38
5.2	DIFFERENCES IN ECONOMIC CHARACTERISTICS.....	41
5.3	REPRODUCTIVE HEALTH HISTORY DIFFERENCES .....	42
5.3.1	Obstetric history.....	42
5.3.2	Sexual history.....	43
5.3.3	Differences in abortion experience.....	44
5.4	DIFFERENCE EXPERIENCES WITH INDEX CASE .....	45
<b>CHAPTER SIX .....</b>		<b>47</b>
6.0	CONCLUSIONS AND RECOMMENDATIONS .....	47
6.1	CONCLUSIONS.....	47
6.1.2	Socio-demographic difference .....	47
6.1.3	Economic characteristics difference .....	47
6.1.4	Reproductive health history .....	47
6.2	RECOMMENDATIONS.....	48
<b>REFERENCES.....</b>		<b>50</b>
<b>APPENDICES.....</b>		<b>53</b>
APPENDIX A.....		53
APPENDIX B .....		56
APPENDIX C.....		62

## LIST OF TABLES

	<b>Page</b>
Table 3.1: Independent variables, operational definitions, means of measurement and objectives addressed.....	19
Table 4.1: Socio-demographic characteristics of cases and controls.....	26
Table 4.2: Economic background of cases and controls.....	28
Table 4.3: Obstetric history of cases and controls .....	30
Table 4.4: Sexual experiences of cases and controls .....	31
Table 4.5: Regression of sexual history on incidence of incomplete abortion (adjusted for age of respondents).....	32
Table 4.6: Abortion experience of cases and controls .....	33
Table 4.7: Regression of abortion experience on incidence of incomplete abortion (adjusted for age of respondent) .....	34
Table 4.8: Experience with index pregnancy for cases and controls .....	36
Table 4.9: Regression of experiences of index pregnancy on incidence of incomplete abortion (adjusted for age) .....	37

## LIST OF FIGURES

	<b>Page</b>
Figure 3.1: Schematic presentation of the study.....	18
Figure 4.1: Proportion of cases and controls (N=190).....	24
Figure 4.2: Type of employment of respondents (n=122).....	27
Figure 4.3 Experience of abortion among respondents (N=190).....	32

## ABSTRACT

Strategies for preventing unsafe abortion have been unyielding as a result of which many women die and develop complications from unsafe abortion including those resulting in induced abortion ending up as incomplete abortion. There is increase in incidence of death due to abortion at Bosomtwe district.

This study was an un-matched case-control study with the objective of assessing the specific differences in the socio-demographic, economic and reproductive health characteristic of incomplete abortion clients (cases) and normal delivery clients (controls) attending St. Michael's Hospital, Bosomtwe district. A comparative analysis of 61 cases and 129 controls revealed that, there is no significant difference in their age ( $p=0.61$ ), marital status ( $p=0.11$ ), educational level ( $p=0.63$ ) and their religious background ( $p=0.61$ ). There was also no difference in their occupation ( $p=0.52$ ), income earned ( $p=0.96$ ) and partners employment status ( $p=0.40$ ). There was a statistical difference in the reproductive history between the groups in terms of the number of children ( $p=0.000$ ), age of last child ( $p=0.000$ ), and number pregnancies lost ( $p=0.000$ ). Cases were 12.7 times more likely to have had abortion; 19.0 times more likely to have attempted to stop the index pregnancy; and 6 times more likely to have self induced the index pregnancy as a means of termination as compared to controls.

It is recommended that stakeholders, especially the district health directorate should use specific predictors for incomplete abortion among women to educate and encourage them to live a healthy reproductive life.

## **CHAPTER ONE**

### **1.0 INTRODUCTION**

#### **1.1 BACKGROUND OF THE STUDY**

Maternal mortality is one of the most tragic and serious health problems in the world. The rate at which women are dying is so alarming that, one of the Millennium Development Goals is targeted at reducing this phenomenon by three quarters by 2015. (UN, 2007). Current world rate of maternal mortality shows clearly that, this goal can never be achieved unless something drastic is done to reverse the current trend.

Worldwide, over 500,000 women and girls die of complications related to pregnancy and childbirth each year (WHO, 2007). Over 99% of those deaths occur in developing countries such as Ghana. But maternal deaths only tell part of the story because for every woman or girl who dies as a result of pregnancy-related causes, between 20 and 30 more will develop short- and long term disabilities, such as obstetric fistula, a ruptured uterus, or pelvic inflammatory disease. The death and the many complications that arise from pregnancy are related to several crude practices of pregnancy handling and management including abortion by women (WHO, 2007)

Globally, about 19 – 20 million abortions are performed by individuals who do not have the requisite skills or in environments lacking minimum medical standards, or both (Grimes and Creinins, 2004). According to the World Health Organization (WHO) estimates, over 97% of these abortions occur in developing countries. Unsafe abortions described as a silent

pandemic kills over 68,000 women annually and poses an urgent public-health and human-right concerns which continues to be neglected and relegated to the background. In Africa, it is estimated that unsafe abortion accounts for the high incidence of incomplete abortions. Over 4,200 unsafe abortions occur every year with a ratio of 14 unsafe abortions per 100 live births (WHO, 2007).

Over the past two decades, the world has galvanized some efforts in addressing the issue of poor maternal health care through the advocacy and provision of safe motherhood services including abortion. Spearheaded by the WHO, several protocols and strategies have been discussed and adopted to curtail the issues of abortion (Grimes and Creinin, 2004). These efforts have been beefed by strengthened and widespread advocacy for women empowerment in taking economic and political controls in matters relating to the health in general including pregnancy related issues.

In Ghana, incomplete abortion contributes significantly to the high incidence of maternal mortality. The country's maternal mortality rate of 540 deaths per 100,000 live births is very high (WHO, 2007). The Ministry of Health through its agencies including the Ghana Health Service and in collaboration with non-governmental agencies continues to address the issue relating to abortion. The debates have moved from discussing the dynamics and contextual issues of abortion to ensuring that a more the legal framework is maximizing to facilitate safe and friendly abortion services to all (GHS, 2007). Specifically there are focused services based on improving reproductive health issues and specifically educating women on abortion and providing services for those who desire or attempt to abort their pregnancies.

Ashanti region has adopted the MOH and GHS policies and protocols in the management of incomplete abortion. Management strategies in this regard include the provision of clinical and non-clinical services to susceptible women and those with conditions demanding such interventions. Non-clinical interventions which include health education continue to be general and not focused to the demands of the clients. Access to abortion services is provided in hospitals and by qualified personnel however there are challenges regarding equipment and personal availability and more importantly the readiness of hospital to de-stigmatise and provide comprehensive abortion services. These challenges are also indicated in the St Michael's Hospital in the Bosomtwe district in Ashanti

Bosomtwe district is one of the 27 districts in Ashanti region, Ghana, where St. Michael's recorded 289 cases of incomplete abortion (unpublished hospital records). The possible causes of these high cases of incomplete abortion in the district may have resulted from genetic factors, anatomic factors, endocrine factors, infectious factors and immunologic factors (Valley *et. al.*, 2006; Lindsey and Rivera, 2008). According to Valley *et al.*, 2006 incomplete abortion may have resulted from social, demographic and reproductive health factors. It was upon this high level of incomplete abortion that this study was born to determine the socio- demographic factor, economic factors and reproductive health history associated with incomplete abortion patients and those who deliver in Bosomtwe district.

## **1.2 PROBLEM STATEMENT**

Despite several efforts in curtailing the problems associated with abortion and particularly incomplete abortion, it is suspected that majority of women still die of incomplete abortion.

In fact, there is a general consensus that statistics about incidence of abortion in general and incomplete abortion in particular are inadequate. This is because it is presumed that majority of such cases occur outside health facilities and when even they occur in the hospital, the records are poorly managed. The implication is that not only the incidence may be underestimated but also the complications and deaths associated with the management of the cases. In addition, strategies informed and developed from the inadequate data do not seem to reduce the burden of incomplete abortion. Couple with the inadequacy of data related to incomplete abortion, is the question of the extent to which this inadequacy has misinformed programme planning and implementation. In addition, there seem not to be a focused attention on peculiar characteristics of women who patronise incomplete abortion procedures as compared to those who use health facilities for delivery purpose. This comparison could be presumed to sharpen evidence that could inform a well focused programme interventions for women who undergo incomplete abortion, majority of which could have been induced or results from a history of induced abortions.

In the Bosomtwe district such as pertained in most districts in Ghana, there has not been extensive evidence to establish the peculiar characteristics of incomplete abortion clients that might have contributed to their condition. Comparative observations of the social, demographic, cultural and obstetric factors that are different among incomplete abortion clients and persons who deliver in the St. Michael's hospital are unknown. The lack of such evidence provides a poor framework for planning and more focused intervention in the prevention of unintended abortions including incomplete abortion. This study therefore is

intended to examine the factors different in incomplete abortion clients as compared to normal delivery clients among attendants in the St' Michael's hospital.

### **1.3 RATIONALE OF THE STUDY**

According to WHO, Ghana has one of highest maternal mortality rates in the West African region, 540 deaths per 100,000 live births (WHO, 2007). The district profile of Bosomtwe district shows that the maternal mortality rate in 2004 was 4, in 2005 was 6 and to 9 in 2006. These figures shows that the district's maternal death increased from four (4) deaths in 2004, to 9 in 2006, indicating an over 200% increase. However, the shocking revelation is that all the deaths occurred at St. Michael's Hospital, Jachie-Pramso and a significant contribution to these deaths is incomplete abortion.

There is evidence that incomplete abortion is a major reproductive health problem and the causes of emotional and untold suffering for many women around the world (Benson, *et. al.*, 1996). In 2008, dilation and curettage (D&C) done in the district as a result of incomplete abortion was 289 cases, all performed at St. Michael's Hospital. In spite of this horrifying revelation, no published study has been done on this sensitive issue in the district. It was upon these facts that this study was born to bring to the limelight the existence of the problem of incomplete abortion to the populace of the district. Also, the study seeks to investigate the difference between incomplete abortion client and delivery client in terms of socio-demographic factors, economic factors and reproductive history.

## **1.4 RESEARCH QUESTIONS**

1. What is the difference in the socio-demographic characteristics between incomplete abortion clients and those who delivered in Bosomtwe district?
2. What is the difference in the economic characteristics between incomplete abortion clients and those who delivered in Bosomtwe district?
3. What is the difference in the reproductive health history between incomplete abortion clients and those who delivered at in Bosomtwe district?

## **1.5 OBJECTIVES**

### **1.5.1 General Objectives**

The aim of the study was to determine the differences in the socio-demographic, economic and obstetric factors between cases of incomplete abortion patients and clients with normal delivery in the Bosomtwe district.

### **1.5.2 Specific Objectives**

1. To establish the difference in socio-demographic characteristics between clients with incomplete abortion and normal delivery presenting at St. Michael's hospital, Bosomtwe district.
2. To identify the differences in the economic characteristics between clients with incomplete abortion and normal delivery presenting at St. Michael's hospital, Bosomtwe district.

3. To determine the differences in obstetric history between clients with incomplete abortion and those with normal delivery, presenting at St. Michael's hospital, Bosomtwe district
4. To make recommendations to stakeholder on the use of identified differences in designing programmes that would improve on the reproductive health of women in the district.

## **1.6 HYPOTHESIS**

Ho<sub>1</sub>: There is no difference in the socio-demographic characteristics between clients with incomplete abortion and those with normal delivery in Bosomtwe district

Ho<sub>2</sub>: There is no difference in the economic characteristics between incomplete abortion clients and those who delivered in Bosomtwe district.

Ho<sub>3</sub>: There is no difference in the reproductive health history between incomplete abortion clients and those who delivered in Bosomtwe district.

## **1.7 ORGANISATION OF WORK**

This report is organised in six chapters. Chapter covers the introduction covering the background of maternal health and incomplete abortion, problem statement, research questions and hypothesis. Chapter two reviews related literature based on the objective and hypothesis of the study. Chapter three describe the methodological issues including the study type, study area, variables to be measured, instruments used, data management and analysis and ethical issues. Chapter four and five covers results of the study and discussion respectively. Finally chapter six enlists specific recommendations to stakeholders based on the major findings made in the study.

## **CHAPTER TWO**

### **2.0 RELATED LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

Incomplete abortion is considered a major public health issue. The death of women coupled with several complications some of which are long term and permanent as a result of incomplete abortion cannot be underestimated. The complication of abortion and its socio-economic effects to women in general and especially young and active youth is of major concern. The general characteristics as observed by several studies (Ahiadeke, 2001; Adanu, 2005; Jewkes, *et. al.*, 2005; and Rosanna, Hess, 2007) suggest that detailed observations of differences in characteristic between incomplete abortion clients and those who delivered have not been well examined. This section of the study reviews studies done related to abortion and examine findings and methodological issues in the subject matter.

#### **2.2 BRIEF HISTORICAL PERSPECTIVES OF ABORTION ISSUES**

In over 5000 years ago, the Chinese Emperor Shen Nung, described the use of mercury for inducing abortion (Glenc, 1957). As far back as 1967, the World Assembly recognized abortion as a serious health problem, but about thirty years down the lane, not much was achieved in terms of solution. This necessitated for the 1987 conference on safe motherhood held in Nairobi where abortion among other health topics were discussed (Grimes *et. al.*, 2007). Following several of these discussions, the WHO has protocols and guidelines specifically for the management of unsafe abortion including those resulting into incomplete abortion. The use of misoprostol and its increase access has been recognised to have improved the outcome of abortion procedures as it has recorded between 87% -97% success

rate (Rogo, 2004). This method is now the preferred to the use of vacuum extraction. Until the use of this method the Alan Guttmacher Institute in New York conducted study on the traditional methods used for induced abortion and listed over 100 methods including the use of detergents, solvents, and bleach as methods used by women in developing countries (Allan Guttmacher Institute, 1999).

### **2.3 LEGAL ISSUES ABOUT ABORTION**

Legalisation of abortion in developed countries has been identified to have promoted access to safe abortion and contributed to high incidence in unsafe abortion in developing countries (Centre for Reproductive Rights, 2005). About 72 countries mostly in developing nations have prohibited and or allowed abortion only when it is to save a woman's life. From 1995 – 2005 only 12 countries joined countries with legal instruments related to abortion (Nune and Delph, 1997) suggesting the slow pace by which the varied women empowerment issues influences legalising abortion.

In Ghana, the abortion law as contained in article 33(5) and the Criminal code section 58 (2) suggests to some extent ambiguity yet criminal interpretation of the act of conducting abortion. This legal framework for abortion in Ghana generally could be said to be very liberal in most respect, but provides limits in assessing abortion information and services by clients who so desire without discrimination of stigmatisation. The Ministry of Health, MOH and Ghana has the responsibility of providing the policy framework within which the law can be implemented. However, the policy framework as entailed in the guidelines by the

MOH does not suggest promoting friendly and safe abortion services for women who have unintended pregnancies.

#### **2.4 PREVALENCE OF UNSAFE ABORTION**

The estimation of the prevalence of incomplete abortion in entire populations globally has been a challenge due to the sensitive nature of the subject matter. Estimates made are limited largely based on hospital records, which to a great extent is perceived as a tip of the iceberg. In such efforts to determine national estimates, Singh (2006) compiled related trends in thirteen developing countries including Egypt, Uganda, Nigeria, Bangladesh, Pakistan, Brazil, Columbia, Peru, Burkina Faso, Kenya and Ghana. Singh established that annual hospitalisation rate varies from a low of about 3 per 1000 women in Bangladesh to a high of about 15 per 1000 in Egypt and Uganda. Nigeria, Pakistan, and the Philippines have rates of 4-7 per 1000, and two countries in Latin America with recent data have rates of almost 9 per 1000. In the developing world as a whole, an estimated five million women are admitted to hospital for treatment of complications from induced abortions each year. This equates to an average rate of 5.7 per 1000 women per year in all developing regions, excluding China. By comparison, in developed countries complications from abortion procedures or hospitalisation are rare.

Ahiadeke, 2001 admitted that the estimates of the prevalence of induce abortion in particular has been difficult in Ghana, however after studying eight communities in four out of the 10 regions in the country and sampling 1,689 pregnant women, he puts estimates of induce abortion as the rate of abortion in the study areas was 17 induced abortions per 1,000 women

of childbearing age. There were 19 abortions per 100 pregnancies (or 27 abortions for every 100 live births) (Ahiadeke, 2001). Adanu in a hospital based survey estimated an induced abortion prevalence of 31% at Korle Bu Teaching Hospital, the largest hospital in the country's capital (Adanu, 2005).

## **2.5 SOCIO-DEMOGRAPHIC BACKGROUND OF ABORTION CLIENTS**

The age, educational, religious and marital background of respondents could affect the decision to abort pregnancies especially those unplanned or unintended. In a study in South Africa that examined, the epidemiological relevance of age to incomplete abortion, it was observed that women over 30 years (65.5%) were significantly less likely than those 21 – 30 years (75.2%) or under 21 years (76.4%) to have incomplete abortion (Jewkes, *et. al.*, 2005). This study even though informative compared the rates of types of abortion among ages groups of only abortion clients and did not considered matching such cases with similar ages among persons who deliver in the country. A study in Nigeria by Strahan (1999) showed that women in Nigeria admitted to the gynaecological ward of a hospital in Calabar, Nigeria during 1985-88, recorded 12,117 deliveries, 1421 spontaneous abortions and 147 women with induced abortion had a repeat induced abortion, 72% were under 20 years of age, 80.9% were single and 58.1% were students.

In Ghana, a hospital based survey conducted at Korle Bu Teaching hospital involving 150 women, the author noted that women who came to the hospital with complications of abortion were relatively younger, not married, of low social standing and less educated (Adanu *et.al.* 2005). In his study of induced abortion in southern Ghana, involving three

districts, Ahiadeke observed that out of the 18, 301 women studied, the incidence of induced abortion varied from religious background of the clients. The author indicated that Moslem women have reduced odds of having induced abortion (Ahiadeke, 2001). This observation may however be marred by the fact that in southern Ghana, majority of women are Christians unlike the northern part of the country. It is worthy to note that, both studies did not also compare the studied variables with women who delivered at the studied hospitals or communities. According to Ahiadeke, 2001, out of over 16,000 women studied, 27% of them who obtained an abortion had had no education, 40% had received a primary education, 17% had received a higher education and 15% had received an Islamic education.

## **2.6 ECONOMIC CHARACTERISTICS OF ABORTION CLIENTS**

Difference in economic backgrounds of women determines the extent to which decisions on management of unintended pregnancies are made. Having a job and earning regular and sustainable income could influence women decisions in keeping an unplanned pregnancy or terminating it. Women economic empowerment is embedded in the MDGs, and has been advocated for over the years with a single purpose among others to minimise unhealthy maternal experiences including prevention of unsafe abortion and use of family planning. Studies (Ahiadeke, 2001, Turpin *et.al.* 2002, Rosanna, 2007) demonstrate that the socio-economic status of women with incomplete abortion problem and the type of abortion experienced varies. In Gabon, a qualitative survey of stories of abortion revealed that the main reasons why women had incomplete abortion were lack of financial and partner support. The economic variable highlighted in the study of women with abortion in Komfo Anokye Teaching Hospital, Ghana, was occupation (Turpin *et.al.* 2002). The authors

reported that women who had abortion at the facility were traders, hairdressers, dress-makers, civil and public servants and farmers. In a community survey, it was revealed that the majority of the women (65%) worked outside their homes, and almost half of them were self-employed (Ahiadeke, 2001). This is a reflection of the observation that the incidence of all forms of abortion including incomplete abortion could cut across all professional or occupational backgrounds and consequently on income levels among women. Ahiadeke, 2001 elaborates that the major reasons which women in Ghana engaged in abortion included: Fifty-seven percent (57%), were that they did not want a child 26% cited financial constraints and 17% said that the pregnancy was unplanned. It was evident that women who were self employed had more incidence of abortion than that those unemployed (Ahiadeke, 2001). This defeats the perception that unemployed women had higher incidence of abortion than those employed.

## **2.7 REPRODUCTIVE HEALTH HISTORY OF ABORTION CLIENTS**

According to Ahaideka in his study in southern Ghana, more than a third of the women in the study had not given birth before, while one-quarter had two children. Less than one-fifth of women who had an abortion had one child. Almost half of the women (45%) had obtained their abortions before the seventh week of gestation, and 90% had done so before the 10th week. There were very few early second-trimester abortions (at 13-16 weeks), perhaps because of the cost and the risk involved. In addition, women who were unmarried had increased odds of obtaining an abortion (OR, 2.3). Parity of women could influence the incidence of abortion (Ahiadeke, 2001). As observed by Ahiadeke (2001), the odds of having an abortion increased for women who had four or more children (OR, 1.8), suggesting that

the more children a woman had, the more likely she was to obtain an abortion if she became pregnant again a view Adanu, and others differ. In a cross sectional study of 150 women in Korle-Bu Teaching hospital, Adanu and others recommended that for effective intervention, programmes to reduce induced abortion should focus on women with low economic standing (Adanu *et.al.* 2005).

In Egypt, 37% of women presenting for treatment of complications reported a previous miscarriage. In Romania, where modern method use of contraception is only 30%, the average women have three abortions per live birth (Laurel, 2001). In Georgia, with a contraceptive prevalence rate (CPR) of 20%, the average woman has two abortions per live birth (Laurel, 2001). In Nigeria, women seeking care for post abortion complications were more likely to have had a previous abortion than to have used contraceptive, only 5% had ever use contraceptive while 11% had had a previous abortion (Okonofu, 2004).

The failure of women to plan their families (i.e., to have the number of children they want when they want them) results in unnecessary suffering and costs to the woman and her family and preventable costs to the national health system. In Ukraine, where the modern method CPR is 38%, 60% of women failed to receive contraceptive counselling after abortion (Laurel et al, 2001). Failure to provide information, education and communication (IEC) and family planning services broadly throughout a country is a lost opportunity for preventing unnecessary suffering and costs. Failure to do the same after treatment of abortion complications is a second lost opportunity (Laurel et al, 2001)

## **CHAPTER THREE**

### **3.0 METHODOLOGY**

#### **3.1 STUDY TYPE AND DESIGN**

The was an analytical study with an unmatched case-control design that assessed the differences in characteristics relating to social, economic and obstetric history between clients with incomplete abortion and those with normal delivery at St Michael's hospital, Jachie -Pramso. Thus women who underwent incomplete abortion procedure were cases and those who delivered normally were chosen as controls. The study was conducted between August and October 2008 in the Bosomtwe district.

#### **3.2 DISTRICT PROFILE**

The study was conducted within Bosomtwe District which is one of the 27 districts in Ashanti Region of Ghana. It covers about 681.7995 sqkm, which is 2.8% of the total area of Ashanti Region. Bosomtwe district shares common borders with Atwima, Ejisu-Juaben and Kumasi Metropolis to the north, Asante-Akim North on the east, and Amansie-East and West on the south. This district is the proud home of Lake Bosomtwi which is the largest natural lake in Ghana serving as a tourist attraction to many tourists from all walks of life.

According to 2008 district profile, it has a population of 93,497 with a WIFA (women in their reproductive age) population of 21,691 distributed over three sub-districts. The sub-districts are Kuntunase, Jachie-Pramso and Amakom. There are 63 communities in the district with Kuntunase being the district capital which is about 28km from Kumasi the

regional capital. Most of the people in the districts belong to Akan tribe and minority ethnic groups include Northerners and Gas.

The main economic activities are farming and fishing. The vegetation of the district is mainly tropical rain forest with plantain, cassava and maize being the major crops produced. Literacy is still relatively low in the district, social institutions are predominantly traditional and the people are conservative. Modernizing influences are increasing with all the three (3) sub districts having telecommunication systems and most of the 63 communities connected to the national electricity grid with portable drinking water existing in most communities. There is increase access to radio stations to the populace of the districts.

Apart from the road network from Kumasi to the district capital, Kuntense and to the lake which is a second class road, most of the roads in the districts are un-tarred. However, the two largest hospitals are located on this second class road.

The district has two hospitals at Jachie-Pramso and Kuntense and eight health centres at Jachie, Tetrefu, Trabuom, Kwanwoma, Piase and Ahenema Kokoben. There are seven clinics and three maternity homes. The district hospital is Kuntense hospitals with the other hospital being St. Michael's Hospital. This hospital is a mission hospital established by the Catholic in Jachie Pramso. It is the biggest hospital in the district with adequate staff, facilities, equipment and materials. It renders services including obstetrics and gynaecology services.

### **3.3 STUDY POPULATION**

The study population was all women in their reproductive age (15 – 49 years) who have experienced the problem of incomplete abortion and sought medical care at St. Michael's Hospital and those who were on admission for delivery.

#### **3.3.1 Case Definition**

A woman, who aged 15-49 years, lives in Bosomtwe district and has attended St Michael's Hospital between August and October, 2008 with a diagnosis of incomplete abortion, defined by the WHO as the partial expulsion of the products of conception before 20<sup>th</sup> week of gestation.

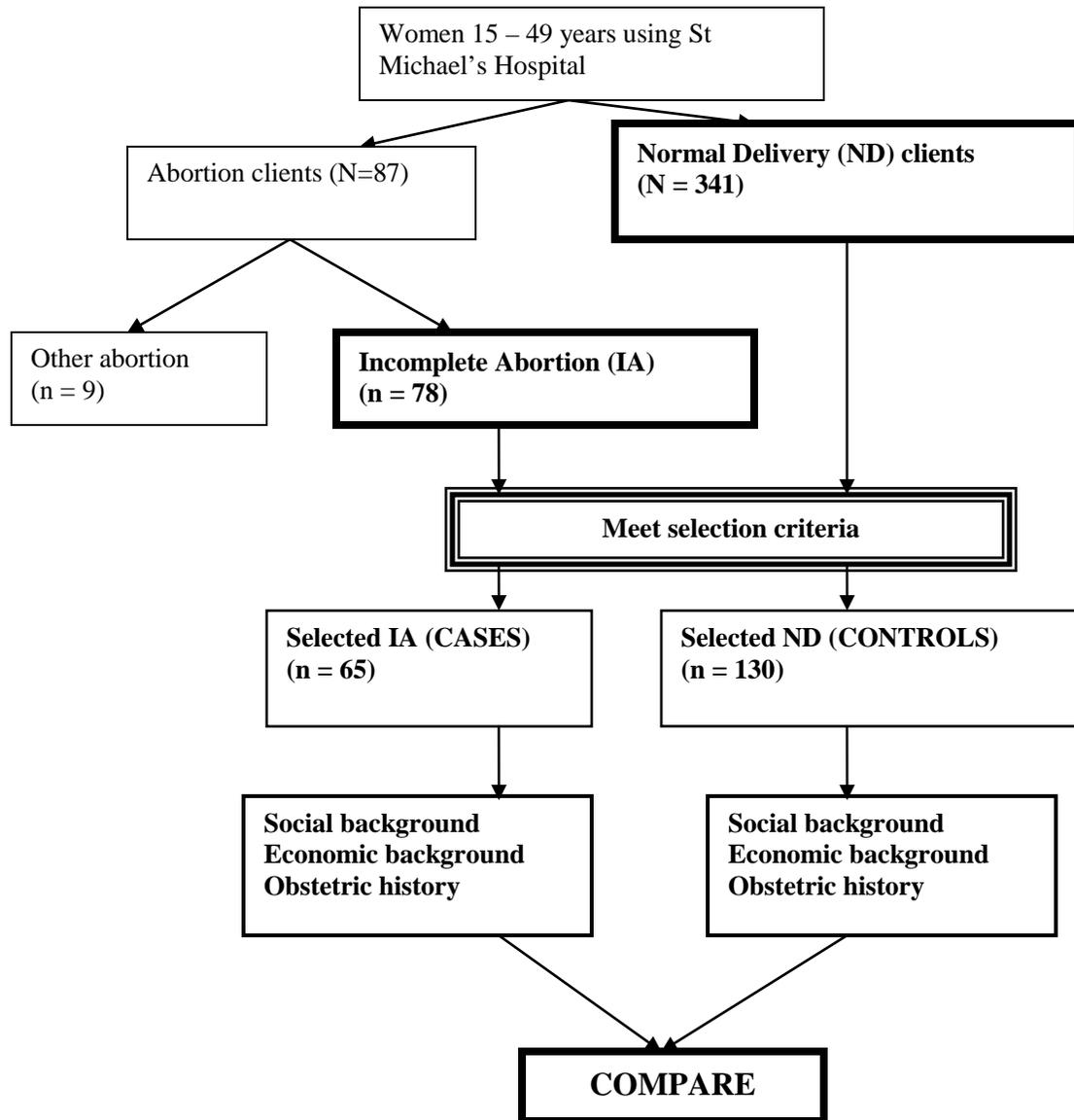
#### **3.3.2 Definition of Controls**

A woman who aged 15-49 years, lives in Bosomtwe district and uses St Micheal's hospital between August and October, (2008) for normal delivery purposes.

#### **3.3.3 Exclusion criteria**

- All women with pregnancy greater than 20 weeks of gestation.
- Women who delivered still birth
- Women who are less than 15 and more than 49 years
- Women from other districts
- Women with threatened abortion

**Figure 3.1: Schematic presentation of the study**



Source: Author’s construct

### 3.4 STUDY VARIABLE

The key variables that were studied are;

#### 3.5.1 Dependent variable

Incomplete abortion

Normal delivery at St Michael’s hospital

### 3.5.2 Independent variables

**Table 3.1: Independent variables, operational definitions, means of measurement and objectives addressed**

INDEPENDENT VARIABLES	OPERATIONAL DEFINITION	SCALE OF MEASUREMENT	OBJECTIVES ADDRESSED
Age	Age at last birthday	Interval	1
Marital status	Expressed in terms of single, married, widowed, divorced, separated and co-habiting as at the time of conception	Nominal	1
Parity	Children alive	Interval	1
Educational level	Highest educational level attained	Ordinal	
Religion	As reported by respondent (e.g. Christian, Islam)	Nominal	1
Level of family support	Family's behaviour towards pregnant woman (e.g. in support, not aware)	Nominal	1
Illegitimacy	Partner accepting responsibility	Nominal	1
Personal income	Amount of money received monthly	Interval	2
Occupation	Work perform daily e.g. student,, house wife, farmer	Nominal	2
Working history	The various work done during the year	Nominal	2
Age at first intercourse	As reported by respondent	Interval	3
Total no. of pregnancy	As reported by respondent	Interval	3
No. of pregnant loses	As reported by respondent	Interval	3
No. of live birth	As reported by respondent	Interval	3
No. of induced abortion	As reported by respondent	Interval	3
Family planning method used before pregnancy	As reported by respondent	Nominal	3

*Source: Author, 2008*

### **3.5 SAMPLE SIZE DETERMINATION AND POWER**

Using Power and Sample (PS) software version 3.0, the sample size of 65 cases and 130 controls was estimated based on a type I error of 0.05, 95% confidence interval, relative risk of 2 between controls and cases and powered at 89%. This was based on a recruitment time of 3 months.

### **3.6 SELECTION OF PARTICIPANTS**

#### **Selection of Controls**

Using the sampling frame prepared out of patients who reported daily for delivery, two controls were selected without replacement for each case obtained. However, criteria for controls were considered in the selection. Primarily, all women whose code number appeared on the sampling frame and was still on admission at the time a case or cases were reported were entered into a draw, out of which two control per case were selected. However, priority was given to controls who fell within the same age group with case(s) and who delivered on the same day as the case was reported. This was done when there was more than two of such controls so as to allow for balloting to be done in selecting the controls.

#### **Selection of Cases**

Census method was used to select 61 cases during the period of the study. All women presenting with incomplete abortion each day and met the selection criteria were included in the sampling frame and automatically qualifies to be interviewed. Provided they consented to participate in the study.

### **3.7 DATA COLLECTION PROCEDURE AND TOOLS**

- The sampling frame was from list of all women presenting with incomplete abortion and women on admission for delivery. During the period of the study, hospital records were reviewed each morning to obtain the women to be added to the frame. However instead of names, subjects were giving code numbers which were used in the sampling frame. Two separate sampling frames were developed with one for the cases and the other for the controls. Code numbers such as IA0010808, IA0020808, and IA0030808 (Appendix A) were assigned to the cases, and code numbers such as ND0010808, ND0020808, and ND0030808 were assigned to the control (Appendix B).
- The data collection tool used was a questionnaire which contained mostly closed and few open ended questions to interview both cases and controls. The questionnaire was pre-tested on 5 cases and 10 controls at the Komfo Anokye Teaching Hospital in the first week of August. Modifications were done to the questionnaire which was used for the main study. The questionnaire which was designed to elicit information on social demographic factors, economic factors and reproductive health history, and their association with incomplete abortion as well as normal delivery clients (Appendix C).

### **3.8 PRE-TESTING**

A pilot study was conducted after training the nurses who served as research assistants on the questionnaires and objectives of the study. The study instrument was tested by both the researcher and the research assistants in early August at Komfo Anokye Teaching Hospital. During the one week exercise, all women presenting with incomplete abortion and those on

maternity admission for delivery were interviewed. At the end of the pilot study corrections and amendments were made to the data collection tool.

### **3.9 DATA ANALYSIS**

Responses contained in cleaned interview guide were entered into a data entry template in Statistical Package for the Social Sciences (SPSS) version 15.0.1. Data entered were validated before analysis done. Both descriptive and inferential analyses were employed in comparing the social, economic and obstetric backgrounds of cases and controls. Odds ratios, Chi squared and p-values were used to test the hypotheses on differences in the socio-demographic characteristics, economic characteristics and reproductive history between cases and controls. Graphical presentation such as tables and pie charts are presented in the results chapter to illustrate these findings.

### **3.10 ETHICAL CLEARANCE**

Ethical clearance for the study was obtained initially from Kwame Nkrumah University of Science and Technology. In addition to this, clearance was also obtained from the District Health Administration, the Regional Health Services and the Administration of St. Michael's Hospital. Once all these approval has been granted, verbal consent was obtained from the subjects in the study .Interviewers collecting the data were females who were specially trained to deal with sensitive issues of abortion and went about their work professionally. They assured respondents of privacy and confidentiality as such names and addresses were not included in the questionnaire. Respondents were also informed that participation in the study was voluntary and that their treatment would not be related to whether or not they agree to participate.

### **3.11 LIMITATION ON THE STUDY**

The major limitation of the study was that only women who patronize St. Michael's Hospital were considered in the study. This therefore does not give a true representative sample of the population of women in their reproductive age in the district. It would have been more appropriate to do a community-based study. However, considering the sensitive nature of the study it will be difficult to trace these women into the community to be interviewed. In spite of all these setbacks, the results obtained can be applicable to the whole district.

### **3.12 ASSUMPTION**

It was assumed that the respondents understood the questions asked and that their answers were accurate and a true reflection of their experiences. It was also assumed that the responses provided reflects the views of persons who have had such experiences in the district.

## CHAPTER FOUR

### 4.0 RESULTS

#### 4.1 INTRODUCTION

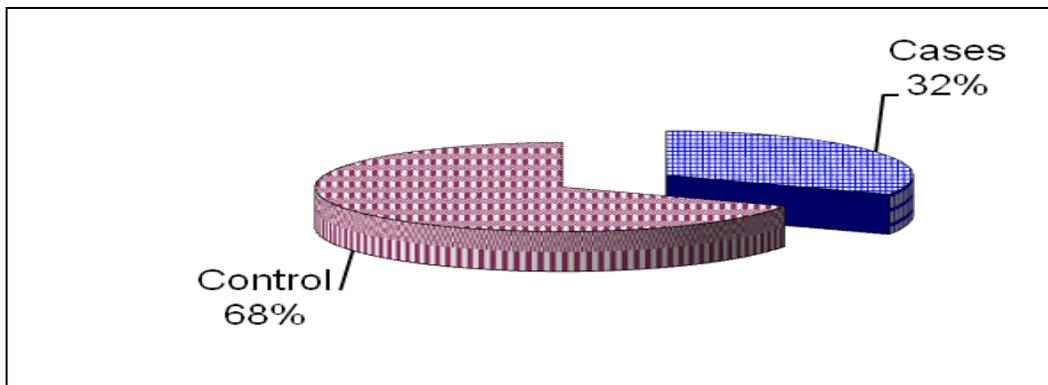
The findings of the study are presented in this chapter. It is based on the objectives of the study. The results are presented in tables and graphs. The differences in between the two groups were statistically determined.

In the period of data collection, a total sampling resulted in the recruitment of 65 cases and 130 controls. However, in the course of data administration four (4) cases and one (1) control voluntarily withdrew leaving 61 cases and 129 controls for analysis.

#### 4.2 BACKGROUND CHARACTERISTICS OF RESPONDENTS

Figure 4.1 is a graphical presentation of the number of cases and controls. Out of the 190 participants enrolled, 61 representing 32% were cases and the rest, 68%, controls.

**Figure 4.1: Proportion of cases and controls (N=190)**



*Source:* Field Data, 2008

### **4.3 DIFFERENCES IN SOCIO-DEMOGRAPHIC CHARACTERISTICS**

Whereas 19.7% of the cases were less than 19 years, 12.4% of the control fell under the same age group. Over sixty percent (68.9%) of the cases were not married as compared with 56.6% of the controls. Formal education formed 90.2% and 92.2% for both cases and controls respectively.

There was no significant difference in their ages (chi square = 2.73;  $p=0.61$ ), marital status (chi square = 2.60; OR = 0.59; 95% C.I. = [0.31, 1.12];  $p=0.11$ ), type of family they lived with (chi square = 0.14; OR = 1.14; 95% C.I. = [0.57, 2.30];  $p=0.71$ ) and educational level (chi square = 0.23; OR = 0.77; 95% C.I. = [0.26, 2.22];  $p=0.63$ ). In addition, there was no statistically difference in terms of their religious background (OR = 0.78; 95% C.I. = [0.15, 5.19];  $p=0.61$ ), years of living in the district (chi square = 8.67;  $p=0.37$ ) and ethnic background (chi square = 5.27;  $p=0.26$ ).

**Table 4.1: Socio-demographic characteristics of cases and controls**

<b>Variable</b>	<b>Cases N= 61 (%)</b>	<b>Control N = 129 (%)</b>	<b>Chi square or F- test (p-value)</b>	<b>OR [95% C.I.]</b>
<b>Age</b>				
> 19	12 (19.7)	16 (12.4)	2.73	-
20 – 24	13 (21.3)	39 (30.2)	(0.61)	2.25 (0.75, 6.65)**
25 – 29	18 (29.5)	38 (29.5)		1.58 (0.56, 4.40) **
30 – 34	9 (14.8)	18 (14.0)		1.50 (0.44, 5.19) **
35+	9 (14.8)	18 (14.0)		1.50 (0.44, 5.19) **
<b>Marital status</b>				
Married	19 (31.1)	56 (43.4)	2.60	-
Not married	42 (68.9)	73 (56.6)	(0.11)	0.59[0.31, 1.12]**
<b>Live with/within</b>				
Nuclear family	46 (75.4)	94 (72.9)	0.14	-
Extended family	15 (24.6)	35 (27.1)	(0.71)	1.14 [0.57, 2.30]**
<b>Educational level</b>				
Formal	55 (90.2)	119 (92.2)	0.23	
No formal	6 (9.8)	10 (7.8)	(0.63)	0.77 [0.26, 2.22]**
<b>Religion</b>				
Christian	58 (95.1)	124 (96.1)	(0.61)	0.78 [0.15, 5.19]**
Islam	3 (4.9)	5 (3.9)		
<b>Lived there for:</b>				
Since birth	12 (19.7)	25 (19.4)	8.67	-
< 5 years	26 (42.6)	65 (50.4)	(0.37)	1.2 [0.47, 2.93]**
5 – 10 years	15 (24.6)	24 (18.6)		0.77 [0.27, 2.18]**
11 years and above	8 (13.1)	15 (11.6)		0.90 [0.26, 3.17]**
<b>Ethnicity</b>				
Akan	57 (93.4)	106 (82.1)	5.27	-
Ewe	0 (0.0)	3 (2.3)	(0.26)	
Ga-Adagme	0 (0.0)	2 (1.6)		
Northerner	4 (6.6)	18 (14.0)		2.4 [0.74, 10.25]**

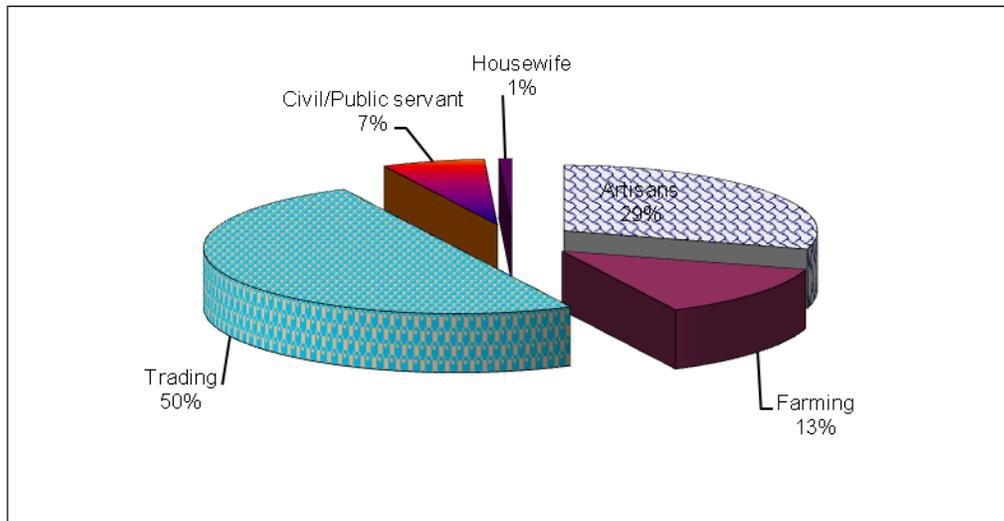
NB: - = referent; \*\* = p>0.05

Source: Field Data, 2008

#### **4.4 DIFFERENCES IN ECONOMIC CHARACTERISTICS**

Out of the 190 respondents, 122 were employed. Figure 4.2 shows the type of employment the respondents were engaged in. Forty nine percent were trading, 13% farming and 30% in artisanship.

**Figure 4.2: Type of employment of respondents (n=122)**



*Source:* Field Data, 2008

There was no difference in the occupational status (chi square= 0.49; OR = 1.25; 95% C.I = [0.67, 2.35]; p=0.52), income earned per month (chi square = 0.42; p=0.96), partners employment status (chi square= 0.71; OR = 1.95; 95% C.I. = [0.40, 9.47]; p=0.40) and partners monthly income (chi square = 10.55; p=0.95) between cases and controls. In relation to rating of economic livelihood, there was no difference (chi square = 5.28; p=0.25) of rating between the groups.

Over sixty percent (60.7%) of the cases and 65.9% of the controls were employed. Fifty one percent (51.4%) and 47.1% of cases and controls respectively earned less than 100 Ghana cedis monthly. The partners of cases, 96.7%, and controls, 93.8%, were all employed. Over seventy percent (78.7%) of cases and 83.7% of controls respectively did not know how much their partners earned. In relation to economic rating 13.1% and 17.1% of cases and controls respectively considered their status as poor.

**Table 4.2: Economic background of cases and controls**

Variable	Cases N= 61 (%)	Control N = 129 (%)	Chi square or F- test (p-value)	OR [95% C.I.] (p-value for chi square trend)
<b>Occupation</b>				
Unemployed	24 (39.3)	44 (34.1)	0.49	-
Employed	37 (60.7)	85 (65.9)	(0.52)	1.25[0.67, 2.35]**
<b>Monthly income</b>				
< 100	19 (51.4)	40 (47.1)	0.42	(p = 0.49)
100 – <200	2 (5.4)	6 (7.1)	(0.96)	
200 – 300	2 (5.4)	7 (8.2)		
Above 300	14 (37.8)	32 (37.6)		
<b>Partner's occupation</b>				
Unemployed	2(3.3)	8 (6.2)	0.71	-
Employed	59 (96.7)	121 (93.8)	(0.40)	1.95 [0.40, 9.47]
<b>Monthly income</b>				
< 100	5 (8.2)	4 (3.1)	10.55	(p=0.99)
100 – <200	3 (4.9)	3 (2.3)	(0.95)	
200 – 300	3 (4.9)	2 (1.5)		
Above 300	3 (4.9)	4 (3.1)		
Don't know	48 (78.7)	108 (83.7)		
<b>Rating of livelihood</b>				
Poor	8 (13.1)	22 (17.1)	5.38	-
Fair	45 (73.8)	74 (57.4)	(0.25)	0.50 [0.21, 1.55]**
Average	7 (11.5)	27 (20.9)		1.40 [0.37, 5.32]**
Very good	1 (1.6)	5 (3.9)		1.81 [0.16, 96.58]**
Excellent	0 (0.0)	1(0.8)		

NB: - = referent; \*\* = p>0.05

Source: field data, 2008

## 4.5 DIFFERENCES IN REPRODUCTIVE HISTORY

### 4.5.1 Differences between cases and controls in terms of obstetrics history

Even though there was not a significant difference as far as number of pregnancies (chi square = 1.13; p=0.89) and incidence of still births (chi square = 0.22; p=1.00) were concerned, there was a statistically significant difference in terms of the number of children (chi square = 30.14; p=0.000), age of last child (chi square = 123.29; p=0.000), and number pregnancies lost (chi square = 36.68; p=0.000). Women with one to three children were 8.51 times (95% C.I. [3.39, 22.2] p=0.00) more likely to have had incomplete abortion than

nulliparous women. Women with 4-6 children were 5.83 times (95% C.I. [1.768, 19.62];  $p=0.00$ ) more likely to have had an incomplete abortion.

Among the cases and controls 9.8%, 7.8% respectively have had 8 or more number of pregnancies. Whereas 41.0% of the cases did not have children, 7.8% of the controls also did not have children. Among those who had children, the age of the last child was 3 or more years for 44.4% and 0.8% of cases and controls respectively. About ten percent (9.8%) of the cases did not have a case of lost pregnancy before the index pregnancy as compared to 49.6% of the controls. Three pregnancy loses was recorded in 4.9% and 3.1% for cases and controls respectively. Still births had not been experienced by 91.8% and 89.9% of cases and controls respectively. About two percent (1.6%), of cases and 2.3% of controls recorded three or more cases of still births as shown in Table 4.3.

**Table 4.3: Obstetric history of cases and controls**

Variable	Cases N= 61 (%)	Control N = 129 (%)	Chi square or t-test (p-value)	OR [95% C.I.] (p-value for chi square trend)
<b>Pregnancy</b>				
Once	16 (26.2)	32 (24.8)	1.13	-
2 – 4 times	29 (47.5)	62 (48.1)	(0.89)	1.06 [0.40, 2.38]**
5 – 7 times	10 (16.4)	25 (19.4)		1.25 [0.44, 3.64]**
8 and above	6 (9.8)	10 (7.8)		0.83 [0.22, 3.33]**
<b>Number children</b>				
None	25 (41.0)	10 (7.8)	30.14	-
1 – 3	27 (44.3)	92 (71.3)	(0.00)	8.51 [3.39, 22.2]*
4 – 6	9 (14.8)	21 (16.3)		5.83 [1.768, 19.62]*
Above 6	0 (0.0)	6 (4.7)		
<b>Age of last child</b>				
	(n=36)	(n=119)		
< 1 year	3 (8.3)	116 (97.5)	123.29	-
1 – 2 years	17 (47.2)	2 (1.7)	(0.00)	0.00 [0.00, 0.02]*
3 and above	16 (44.4)	1 (0.8)		0.00 [0.00, 0.02]*
<b>Pregnancy loses</b>				
None	6 (9.8)	64 (49.6)	36.68	-
One	19 (31.1)	35 (27.1)	(0.00)	0.17 [0.05, 0.51]**
Two	30 (49.2)	23 (17.8)		0.07 [0.02, 0.20]**
Three	3 (4.9)	4 (3.1)		0.13 [0.02, 1.10]**
Four and above	3 (4.9)	3 (2.3)		0.13 [0.02, 1.10]**
<b>Still births</b>				
None	56 (91.8)	116 (89.9)	0.22	(p = 0.68)
One	3 (4.9)	7 (5.4)	(1.00)	
Two	1 (1.6)	3 (2.3)		
Three and above	1 (1.6)	3 (2.3)		

Source: Field Data, 2008

#### 4.5.2 Sexual History

The first sexual experience of the cases, 77.0% and controls 63.6% was at the age of 15 – 19 years. At an early age of 10 – 14 years, 4.9% and 4.7% of cases and controls respectively had also had their first sexual experience. The age of first sexual experiences between the two groups was statistically significant (chi square= 4.06; p=0.00). There was also a statistically significant difference in the incidence of unwanted pregnancy between cases and control (chi

square = 20.34; p=0.00). While over 90.0% of the cases had had unwanted pregnancy before, 62.0% of the controls also had had unwanted pregnancies. The cases were 8.7 times more likely to have had unwanted pregnancies than the controls (OR = 8.7; 95% C.I. [2.9, 25.5]). There was no difference in terms of reasons that accounted for having or not having unwanted pregnancy (p=0.64). Among the reasons for the cases and controls respectively were: having too many children 5.3% and 2.5%; to continue education 28.1% and 35.8% and cannot care for the child 17.5% and 9.9%.

**Table 4.4: Sexual experiences of cases and controls**

Variable	Cases N= 61 (%)	Control N = 129 (%)	Chi square or t-test (p-value)	OR [95% C.I.] (p-value for chi square trend)
<b>Age at first sex</b>				
< 10 years	0 (0.0)	1 (0.8)	4.06	
10 – 14	3 (4.9)	6 (4.7)	(0.00)	
15 – 19	47 (77.0)	82 (63.6)		
20 – 24	9 (14.8)	32 (24.8)		
25 and above	2 (3.3)	8 (6.2)		
<b>Had unwanted pregnancy</b>				
Yes	57 (93.4)	80 (62.0)	20.34	8.7
No	4 (6.6)	49 (38.0)	(0.00)	[2.9, 25.5]
<b>Reason</b>				
Have too many children	3 (5.3)	2 (2.5)	5.45	
To continue education	16 (28.1)	29 (35.8)	(0.64)	
Can't care for a child	10 (17.5)	8 (9.9)		
Man did not accept it	4 (7.0)	3 (3.7)		
Was not married	4 (7.0)	4 (4.9)		
Was too young	13 (22.8)	19 (23.5)		
Was unemployed	7 (12.3)	16 (19.7)		

Source: field data, 2008

**Table 4.5: Regression of sexual history on incidence of incomplete abortion (adjusted for age of respondents)**

Variable	R <sup>2</sup>	F-test	p-value
Age at first sex	0.01	2.42	0.12
Had unwanted pregnancy	0.10	21.74	0.00
Reason why pregnancy was unwanted	0.01	0.96	0.33

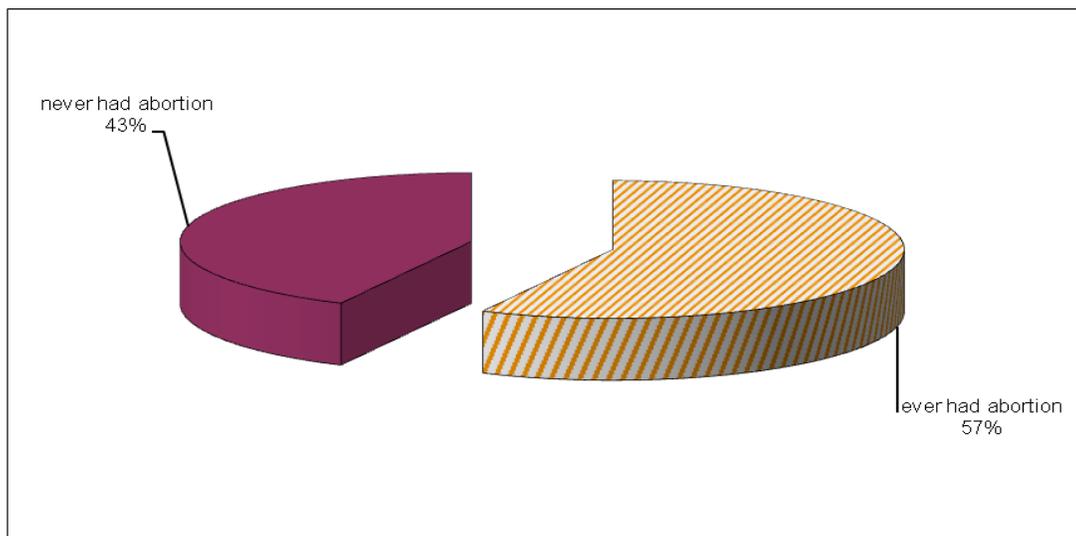
Source: field data, 2008

Indication of having an unwanted pregnancy could account for a 10% variability ( $R^2 = 0.10$ ; F-test = 21.74,  $p = 0.00$ ) in the incidence of incomplete abortion among the women when their ages are adjusted.

#### 4.5.3 Abortion experiences of cases and controls

Over half (57%) of the respondents had ever had abortion while the rest, 43%, had never had abortion as shown in figure 4.3.

**Figure 4.3 Experience of abortion among respondents (N=190)**



Source: Field Data, 2008

Table 4.5 reflects the abortion experiences of cases and controls. The cases, 90.2% and controls, 41.9% had previous incidence of abortion. The incidence of previous abortion was statistically significant ( $p=0.00$ ) between the groups. The odds of abortion among the cases were 12.7 times more than that in the controls. There was no difference ( $p=0.59$ ) in the types of abortion experienced by both groups. Over eighty percent (81.8%) of the cases and 77.8% of the controls had experienced an induced abortion. The methods used for induced abortion for cases and controls respectively included: taking of pharmaceutical drugs 51.1% and 50.0%, done at the hospital 15.6% and 38.1%; and inserted medicines 17.8% and 7.1%.

**Table 4.6: Abortion experience of cases and controls**

<b>Variable</b>	<b>Cases N= 61 (%)</b>	<b>Control N = 129 (%)</b>	<b>Chi square or t-test (p-value)</b>	<b>OR [95% C.I.]</b>
<b>Ever had abortion</b>				
Yes	55 (90.2)	54 (41.9)	39.51	12.7
No	6 (9.8)	75 (58.1)	(0.00)	[5.1, 31.7]
<b>Type of abortion</b>				
	(n=55)	(n=54)		
Spontaneous	10 (18.2)	12 (22.2)	0.27	0.77
Induced	45 (81.8)	42 (77.8)	(0.59)	[0.3, 1.9]
<b>If induced, method used</b>				
Used enema	1 (2.2)	1 (2.4)	11.01	
Took in toxic solution	1 (2.2)	1 (2.4)	(0.35)	
Teas and herbal remedies	5 (11.5)	0 (0.0)		
Pharmaceutical drugs	23 (51.1)	21 (50.0)		
Inserted medicines	8 (17.8)	3 (7.1)		
Done at hospital	7 (15.6)	16 (38.1)		

Source: Field Data, 2008

Adjusting for the age among the women, ever had abortion ( $R^2 = 0.18$ ; F-test = 42.08;  $p = 0.00$ ) and method used for induced abortion ( $R^2 = 0.48$ ; F-test = 4.28 and  $p = 0.04$ ) accounted for the incidence of incomplete abortion among the women.

**Table 4.7: Regression of abortion experience on incidence of incomplete abortion (adjusted for age of respondent)**

Variable	R <sup>2</sup>	F-test	p-value
Ever had abortion	0.18	42.08	0.00
Type of abortion	0.01	1.20	0.27
Method used of induced abortion	0.48	4.28	0.04

Source: Field Data, 2008

#### 4.6 DIFFERENCES IN EXPERIENCES WITH INDEX PREGNANCY

Table 4.8 depicts the social and decisional experiences of cases on controls on the index pregnancies. The partners of cases, (65.6%) and controls (89.1%) accepted the index pregnancy respectively. The difference between the two groups was significant (p=0.00). Family support for the index pregnancies was indicated by 62.3% of the cases and 87.9% of the controls.

The cases, (9.8%) and 9.3% of the controls tried to prevent the index pregnancy. This intention was not different in both groups (chi square = 0.01, OR = 1.06, 95% C.I> [0.1, 0.5]); p=0.91). The method used to prevent the index pregnancy was not different (p=0.58) in both groups. The use of natural contraceptive 33.3% and 16.7%; and oral contraceptives 33.3% and 50.0% reflected in cases and controls respectively. The reasons why the methods could not prevent the pregnancies were attributed to stoppage of its use for a while by cases, 83.3% and 83.3% of controls.

Among those who did not attempt to prevent the pregnancy, 78.5% of the cases and 37.6% of the controls wished they had avoided the index pregnancy. The wish to have avoided the

pregnancy was statistically significant ( $p=0.00$ ). The cases were 5.94 times more likely to have wished to avoid the index pregnancy. Having wished to have avoided the index pregnancy but could not, 63.9% of the cases and 8.5% of the controls considered stopping the pregnancy. The cases were 19.0 times more likely to have considered stopping the pregnancy than the controls. This intention was significant ( $p=0.00$ ). The intended action to stop the pregnancy was abortion at hospital 7.7% and 36.4% for cases and controls respectively whilst for self inducing the pregnancy was 92.3% for cases and 63.6% for controls. These intentions were translated to action when 80.7% of cases and 4.0% of controls attempted to abort the pregnancy. The cases were 100 times more likely to make this attempt and this was statically significant ( $p=0.00$ ). The methods used were drugs in 78.7% and 83.3% of cases and controls respectively.

Over seventy percent (70.5%) of the cases and 47.3% of the controls would like to use a family planning method. The interest to use the FP method was different between the groups ( $p=0.02$ ).

**Table 4.8: Experience with index pregnancy for cases and controls**

Variable	Cases N= 61 (%)	Control N = 129 (%)	Chi square or t-test (p- value)	OR [95% C.I.]
<b>Partner accepted pregnancy</b>				
Accepted	40 (65.6)	115 (89.1)	15.31	0.23
Did not accept it	21 (34.4)	14 (10.9)	(0.00)	[0.1, 0.4]
<b>Family supported</b>				
Yes	38 (62.3)	113 (87.6)	16.25	0.23
No	23 (37.7)	16 (12.4)	(0.00)	[0.1, 0.5]
<b>Tried to prevent this pregnancy</b>				
Yes	6 (9.8)	12 (9.3)	0.01	1.06
No	55 (90.2)	117 (90.7)	(0.91)	[0.3, 2.9]
<b>If yes, method</b>	(n=6)	(n=12)		
Natural contraceptive	2 (33.3)	2 (16.7)	3.87	
Oral contraceptive	2 (33.3)	6 (50.0)	(0.58)	
Vaginal contraceptive	1 (16.7)	0(0.0)		
Condom	0(0.0)	1 (8.3)		
Injectable contraceptives	1 (16.7)	2 (16.7)		
Herbs	0 (0.0)	1 (8.3)		
<b>Why did the method fail</b>				
Stop for a while	5 (83.3)	10 (83.3)	0.00	1.00
Don't know	1 (16.7)	2 (16.7)	(1.00)	[0.1, 13.8]
<b>If no, wished to avoid it</b>	(n=55)	(n=117)		
Yes	43 (78.2)	44 (37.6)	24.64	5.94
No	12 (21.8)	73 (62.4)	(0.00)	[2.8, 12.5]
<b>Considered stopping this pregnancy</b>				
Yes	39 (63.9)	11 (8.5)	65.57	19.0
No	22 (36.1)	118 (91.5)	(0.00)	[8.4, 42.7]
<b>What intended to be done</b>				
Self induced	36 (92.3)	7 (63.6)	5.86	6.86
Abortion at hospital	3 (7.7)	4 (36.4)	(0.02)	[0.9, 52.6]
<b>Any attempt made by you or someone to stop this pregnancy</b>				
Yes	46 (80.7)	5 (4.0)	114.19	100.36
No	11 (19.3)	120 (96.0)	(0.00)	[33.06, 304.6]
<b>If yes, method</b>				
Took in toxic solution	1 (2.1)	0 (0.0)	2.42	
Teas and herbal remedies	1 (2.1)	0 (0.0)	(1.00)	
Pharmaceutical drugs	37 (78.7)	5 (83.3)		
Inserted medicines	7 (14.9)	1 (16.7)		
Done at hospital	1 (2.1)	0 (0.0)		
<b>Like to use FP method</b>				
Yes	43 (70.5)	61 (47.3)	10.01	
No	14 (23.0)	60 (46.5)	(0.02)	
Have to ask partner	4 (6.4)	8 (6.2)		

Source: Field Data, 2008

Variation in experiences of the women on the index cases explained the incidence of incomplete abortion among the cases when age was adjusted. As indicated in table 4.9 below, partners acceptance of index pregnancy ( $R^2 = 0.05$ , F-test = 10.70;  $p=0.00$ ), getting family support ( $R^2 = 0.04$ , F-test = 8.41,  $p = 0.00$ ) and having intentions to terminated the index pregnancy ( $R^2=0.29$ ; F-test = 79.10;  $p=0.00$ ) were significant predictors for the incidence of induced abortion in the district.

**Table 4.9: Regression of experiences of index pregnancy on incidence of incomplete abortion (adjusted for age)**

<b>Variable</b>	<b>R<sup>2</sup></b>	<b>F-test</b>	<b>p-value</b>
Partner accepted pregnancy	0.05	10.70	0.00
Family supported pregnancy	0.04	8.41	0.00
Attempted to prevent this pregnancy	0.00	0.00	0.98
Wished to avoid index pregnancy	0.01	0.11	0.65
Considered stopping this pregnancy	0.29	79.10	0.00
Means of stopping this pregnancy	0.00	0.00	0.96

*Source:* Field Data, 2008

## CHAPTER FIVE

### 5.0 DISCUSSION

#### 5.1 DIFFERENCE ON SOCIO-DEMOGRAPHIC CHARACTERISTICS

Majority of the cases and controls were of the age 20 – 29 years. This is a highly sexual active age group who may engage in sexual relations most often unprotected and the result is unintended or unplanned pregnancies. For the cases, obviously such pregnancies may not be desirable at all and hence usually induced. About 20% (19.7%) of the cases were below 20 years as compared to 12.4% among the controls. This observation was also deduced in South Africa by Jewkes and other in 2005. Ideally, at less than 20 years, most teenagers are suppose to be in school or if not, on apprenticeship and therefore may not be prepared socially (Jewkes, *et. al.*, 2005) and financially to be responsible for pregnancy yet sexual desires may have to be satisfied. Even though the cases were relatively younger than the controls, there was no significant difference as far as the ages of the cases and controls are concerned. This is suggestive that, age may not be a predictor for incomplete abortion.

Intentions of carrying pregnancies to term may be re-enforced if one is intimately and legally associated with the partner. Marital status of the cases and controls therefore is presumed to influence decisions by women to desire to be pregnant in the first place, and secondly carry it to term. In this study, majority of women among both cases and controls were unmarried. Women of such category may be uncomfortable with having to being pregnancy yet unmarried (Adanu *et al.* 2005). The social stigma (Ahiadeke, 2001) and the stress associated with comments that may be made by close and distant associate affect such women

negatively. In some instance, parents and relatives may provide the support and ignore the social expectation of getting married before given birth. In such case, women would assess the risk benefit of terminating the pregnancies as against the desire of having children. With a strong family support the later may be chosen. Interesting is the observation that some of the cases were married yet had incomplete abortion. Obviously several causes could lead to a planned and desirable pregnancy turning out as incomplete however, induce abortion has been identified as significant contributor to incomplete abortion (Lindsay and Rivera, 2008). This is suggestive that despite being married, some of the cases may have not desired to be pregnant and could have induced their pregnancies. It was worthy to note, that irrespective of the marital status of the cases and controls; this background character does not influence the experiencing of incomplete abortion.

Living in an external family poses greater demands socially and economically on women considering the number of mouths to feed and fend for. Among cases and controls, most of them lived in nuclear family considered a relatively smaller size than extended family. This provides relative manageable family size, which really may not affect incidence of incomplete abortion yet this size does not inform a significant difference between the social characteristics between cases and controls.

The educational status of women is considered an empowerment tool. In fact advocates for women have propagated this objective over the years, and has even reflected in the list of MDGs. The rationale, supposedly, is that a well informed woman will be able to take correct decisions relative to the social and economic circumstances to the benefit. In the context of

this study, the sexual life styles, desires and plans is best informed when the women is presumably educated (Ahiadeke, 2001). Even though, this presumption is projected in many established circles e.g. UN and AU among others, the form and level of education required for a woman to empowered to that extent has not been examined. There is no definition as to the extent of formal or informal education (i.e. primary or tertiary) that makes women empowered to take control of their reproductive rights. Again the general presumption is that having a classroom education, (i.e. formal education) can put the woman at a better position in making sexual decisions. Evidence from this study shows that even though majority of both cases and controls have some formal education, that is not a determinant of incidence of incomplete abortion. This presupposes that the incidence of incomplete abortion could affect all women irrespective of the educational background. That is to say that irrespective of the level of education of the women, having an experience of incomplete abortion may have been influenced by other factors other than what they have learnt from the classroom. These could be related to protection of pride and respect either by being married before having children or doing so to prevent economic demands by dependants.

Even though several authors (Ahiadeke, 2001, Turpin *et.al.* 2002, Rosanna, 2007) have given many descriptive statistics on the socio-demographic characteristics of incomplete clients, there is rare evidence of difference as compared to women who undergo normal delivery. This study has shown that the socio-demographic characteristics between women with incomplete abortion and those with normal delivery are the same.

## 5.2 DIFFERENCES IN ECONOMIC CHARACTERISTICS

The occupational background of the respondents was mainly trading, farming and artisanship. Generally these types of jobs are perceived to be among the low to middle class persons (Turpin *et.al.* 2002) and in rural settings such as Bosomtwe district could be said not to generate regular income. Majority of the cases and controls were employed with about a third in both groups not being employed. The fact that their occupational background did not predict the incidence of incomplete abortion among the women suggests that other factors could have accounted for it. Even among those employed their income levels also did not differ. This could be suggestive that in a rural district such as Bosomtwe district, due to the low income levels, women experience of normal delivery or incidence of incomplete abortion is not dependant of they amount of money that earn monthly. Moreover it is usually presumed that if a woman's partner is gainfully employed, he can provide the necessary economic support to the women to go through the pregnancy experiences to term. In this study the contrary has been observed, where irrespective of the employment status of the partner, it does not predict the incidence of incomplete abortion among women. Interesting is the fact that even among partners employed, the women did not know how much they earned. Again, this observation did not have any significant influence on the incidence of incomplete abortion.

This study has therefore demonstrated that the assumption that there may be a difference in the economic background of women who have incomplete abortion as compared to those who have normal deliveries may not be real. Indeed there is no difference in the occupational characteristics of amongst women in both groups and or their partners.

## **5.3 REPRODUCTIVE HEALTH HISTORY DIFFERENCES**

### **5.3.1 Obstetric history**

The number of pregnancies, number of children, age of first child and the number of pregnancy losses including those through abortion could influence the decision to induce an index pregnancy resulting in incomplete abortion (Ahiadeke, 2001). The increasing number of pregnancies may affect decision to induce abortion if such experience has resulted in increasing number of children and therefore dependants. It could also increase frequency of incomplete abortion due to uterine incompetence as a result of its inability to establish implantation and or growth of foetus due to wear and tear from previous abortion experiences. There was no difference in the number of pregnancies in both cases and controls had had. However, the number of children they had is a significant ( $p=0.00$ ) predictor of having incomplete abortion and this was similarly observed by Ahiadeke 2001 even though his study was a cross-sectional survey and therefore not comparative. This is suggestive that as the number of children increases per woman, she may have strong intention to seek for or induce subsequent unplanned or undesired pregnancies ending up in incomplete abortion. The trends and distribution of the number of children in both groups suggest that the cases had a relatively smaller number of children than the controls. Indeed whereas over 80% of the controls as compared to 59% of the cases had children, over 40% of the cases did not have children. Thus, the exposure to have incomplete abortion could have been based on the implication of having the child for a particular reason that could be social or economic yet not significant as earlier discussed. The deduction therefore is that since most of the cases had had no children, the increasing number of children amongst them may

not be a factor but rather because the index pregnancies may have been wanted but for obstetric incompetence of the reproductive tract or unwanted.

The incidence of incomplete abortion is also significantly influenced by the number of pregnancy losses by women. As shown in this study, whereas over 90% of the cases had had previous pregnancy losses, only about 50% of the controls had had same. The increasing incidence of previous abortion has been a contributory factor in the incidence of infertility recently (Strahan, 1999; Laurel, 2001). In fact, as earlier mentioned, the incidence of incomplete abortion among the cases, could have been accounted by reproductive problems faced by the women as a result of the complications or effects created by the increased pregnancy losses amongst the cases. Previous pregnancy losses and increasing number of pregnancy losses for a woman is a strong predictor of having incomplete abortion. Among women who had had children, the interval of birth between the last child and the index pregnancy could also be a predictor for induce abortion. For the cases, probably due to the previous experience of lost pregnancies, the attempt to have additional children is high yet ends up in incomplete abortion. This is not to impute that the intervals between the last child and the index pregnancies is long considering that over 55% in both cases and controls, it was less than three years.

### **5.3.2 Sexual history**

The age of first sex if early could expose a woman to a high number of unplanned pregnancies. Early sexual exposure even though usually secretive and sensitive, in this study have shown to be a predictor in ascertaining exposure to incomplete abortion or not. More of

the cases had their first sexual experience between 15 – 19 years than the controls and implicitly and as demonstrated in the results of this study majority of the controls had the sexual exposure at a later age as compared to the controls. The early sexual exposure could explain the significant difference in the incidence of unwanted pregnancies between the cases and controls. In fact as a result of early sexual exposure of cases among other factors, they were 8.7 times more likely to have unwanted pregnancies than controls. What is missing is the fact that the attributions for unwanted pregnancies were not peculiar to cases and hence were not predictors of incidence or exposure to incomplete abortion.

### **5.3.3 Differences in abortion experience**

Incidence of abortion in the district is very high. In this study the prevalence can be put at 43% among the women. Previous abortion experience among cases and controls were significant predictors for incomplete abortion. The cases were 12.7 times more likely to have had experience of previous abortion however, the type of abortion experienced did not differ among the groups. It can be inferred that the increasing exposure to abortion alone contributed to incapability of the cases to carry their pregnancies to term. Thus, induced abortion that usually results in complication in subsequent pregnancies such as occurrence of incomplete abortion, occurs equally in both cases and controls. Both cases and controls that had exposures to induced abortions used similar means including the use of enema, toxic solutions, and herbal concoctions. Minority of both cases and controls used the hospital to induce abortions. Recently the issue of safe abortion services and the need to promote abortion friendly facilities continue to be discussed. The discussion has been embedded in issues related to morality and religion and to some extent the fear of abuse of such

opportunity. Irrespective of the moral or religious positions, what is factual is that women continue to use dangerous and harmful substance to induce abortion as a result of unwanted pregnancies. Indeed the consequence is a contributory factor to the increase in infertility cases.

#### **5.4 DIFFERENCE EXPERIENCES WITH INDEX CASE**

Majority of the women had no intentions of preventing the index pregnancies. This buttresses the general low rate of use of family planning especially modern types. Just about 10% of both cases and controls used some form of family planning method to prevent the index pregnancy. The use of contraceptives is known to prevent pregnancies, but usually fail because of poor use as a result of poor compliance as shown in this study. Both cases and controls had poor attitude to the consistency of use of family planning methods. Those who used obviously did not want the pregnancy yet the use or non use does not affect exposure to incomplete abortion. There use of herbs as a family planning method, as identified amongst the controls, and as observed by many authors (Ahiadeke, 2001, Turpin *et.al.* 2002, Rosanna, 2007) is crude and could be dangerous to the health of women.

Having realised that they were pregnant, majority of the cases considered stopping the pregnancy as compared to the controls. Indeed the cases were 19 times more likely to harbour such considerations than the controls. The reason is obvious that first of all they did not plan to get pregnant and secondly that the pregnancy was therefore unwanted. In addition, the cases were 5.94 times more likely to have wished that they avoided the pregnancy in the first place but it was too late. What is of great concern is the means by

which their intentions of stopping the pregnancy are implemented. Self induction of abortion has been known to have caused a lot of preventable death and is a significant contributor in maternal mortality in most developing countries. Such option as mainly suggested by cases in this study, depends on the use of crude and mostly toxic methods. Their desperation to abort the pregnancies results from a reflection of the burden of the impending child on them. The implication of the findings of this study with reference to the above issue suggest that oral admission (Rosanna, 2007) of desiring or not desiring to have an index pregnancy is a strong predictor of women intention to stop the pregnancy and more likely done through self-induction. Cases were 6.86 times more likely to use self induction as a mean of preventing the unwanted pregnancies. It is not surprising therefore when it was observed from records of the cases that most of them had self induced their pregnancies resulting in incomplete abortion. Attempts to terminate the pregnancy are further reinforced more by efforts made by others persons. Over 80% of the cases as compared to four percent (4%) of the controls indicated that other persons intended to assist in one way or the other to terminate the pregnancy.

This study has therefore shown that the social and economic background of cases and controls does not influence the exposure to incomplete abortion. However, their reproductive history, more particularly experiences with previous pregnancies, and the index pregnancies are strong predictors of incomplete abortion and possibly induced abortion.

## CHAPTER SIX

### 6.0 CONCLUSIONS AND RECOMMENDATIONS

#### 6.1 CONCLUSIONS

The following conclusions are drawn based on the hypothesis made in this study.

##### 6.1.2 Socio-demographic difference

There was no difference in the age ( $p=0.61$ ), marital status ( $p=0.11$ ), educational status ( $p=0.71$ ) and years of staying in the district ( $p=0.37$ ) between cases and controls. Thus there was no variation in the socio-demographic characteristics between cases and controls which could account for the incidence of incomplete abortion.

##### 6.1.3 Economic characteristics difference

There was no difference in the employment status ( $p=0.52$ ), income earned ( $p=0.96$ ), partners occupation ( $p=0.40$ ), partners monthly income ( $p=0.95$ ) and the rating of livelihood of the women ( $p=0.25$ ). Thus none of the economic characteristics of the women influence incomplete abortion status in the district.

##### 6.1.4 Reproductive health history

The number of children ( $p=0.00$ ), age of the last child ( $p=0.00$ ) and number of pregnancy losses ( $p=0.00$ ) among the cases and controls were significantly differently and influenced the incidence of incomplete abortion. There is evidence that having unwanted pregnancy accounts for 10%; having had a previous abortion 18%; and an experience of induced

abortion (48%) explained the incidence of incomplete abortion among the cases. Cases were 12.7 times more likely to have had previous abortion.

## **6.2 RECOMMENDATIONS**

### **DISTRICT ASSEMBLY**

The district assembly should:

- Use the results of this study to guide and facilitate efforts needed by other agencies including Non-Governmental Organisation (NGO) to provide focused interventions on prevention of abortion. The predictors identified in this study could developing indicators required in assessing and financing reproductive health programmes focused on reducing abortion.
- Educate Assemblymen and Unit Committee members on the predictors of incomplete abortion among women in the district and assist them to self develop socially acceptable means (e.g. use of community safe motherhood groups) to prevent abortion generally and incomplete abortions.

### **DISTRICT HEALTH DIRECTORATE**

The district health management team should:

- Organise a seminar to inform its service providers and other stakeholders of the predictors of incomplete abortion among women in the district. Highlights should be on the fact that all women could be at risk and one cannot use their socio-demographic or economic standing to determine the possibility of an abortion related intention or behaviour.

- Re-strategies the education efforts in preventing abortion generally and incomplete abortion in particular such that it would take into account individual differences based on the predictors identified. For instances, women who have incomplete abortion were more likely to have induced it hence, women who deliver with previous history of abortion could be educated and counselled on the use of family planning methods.
- Encourage and assist women who use their facilities for deliveries and abortion services to prevent the occurrence of unwanted pregnancies which stand a higher chance of being induced and could cause severe complications
- Inform and empower nurses and health educators in the district by providing them resources in terms of funds and learning aids, that could be use to enable users of the facility appreciate the complications related to incomplete abortion on their health and that of their dependants.

## **COMMUNITY LEADERS**

Community leaders should:

- Use this finding to assist their people make better reproductive health choices and promote the use of preventive methods including the use of modern contraceptives to prevent unwanted pregnancies that usually lead to incomplete abortion.
- Organise women groups and community durbars to inform women of the risk associated with self-induced abortions.
- Engage churches and mosque to assist to educate the community on promoting better reproductive health practices particularly prevention of unwanted pregnancies.

## REFERENCES

- Adanu R. M. K., Ntummy, M. N. E., and Tweneboah E. (2005). Profile of women with abortion complications in *Ghana Trop Doct*; 35:139-142
- Ahiadeke, C. (2001). Incidence of induced abortion in Southern Ghana. *International Family Planning Perspectives*, 27(2), 96-101, 108.
- Alan Guttmacher Institute. (1999). Sharing responsibilities: women, society and abortion worldwide. New York: The Alan Guttmacher Institute.
- Benson, J., Nicholson, L.A., Gaffikin L., Kinoti, S.N. (1996). Complications of unsafe abortion in sub-Saharan Africa: a review. *Health Policy and Planning*; 11(2): 117-131
- Ghana Health Service - Bosomtwe District Health Directorate. (2008) Bosomtwe District Health Profile, Ghana. Unpublished
- Center for Reproductive Rights. The world's abortion laws 2005 poster. Available at <http://bookstore.reproductiverights.org/worablaw20.html> (accessed January, 2009)
- Cook, R.J. and Dickens B.M. (1985). Ghana Criminal Code (29), 1960, SS58-59, amendment, and Abortion laws in African commonwealth countries, *Journal of African Law*, 1981, 25(2):60-79.
- Glenc, F. (1974). Induced abortion—a historical outline. *Pol Tyg Lek* ; 29.
- Ghana Health Services*. (2007). Annual Report. Accra, Ghana.
- Grimes, D.A., Benson, J., Singh, S., Romero, M., Ganatra, B., Okonofua, S.E., Shah, I.H., (2006). Unsafe abortion: the preventable pandemic. *The Lancet Sexual and Reproductive Health Series*.

Grimes, D.A. and Creinin, M.D. (2004) Induced Abortion: An Overview for Internists. *Annals of Internal Medicine* 140 (8): 620-626

*Ghana Statistical Service, Ghana Health Service* (2003). Ghana Demographic Health Survey Report. Macro Int IMC, USA

Jewkes, R., Rees, H., Dickson, K., Brown H, Levin J. (2005). The impact of age on the epidemiology of incomplete abortions in South Africa after legislative change. *BJOG*. 112(3):355-9.

Laurel, C. (2001) Global evaluation of USAIDS post-abortion care programme. USA.

Lindsey, J.L., Rivera, V.R. (2008) Obstetrics and Gynaecology-General Gynaecology: Missed Abortion. Emedicine specialist-Medscape USA.

Nunes F.E, Delph Y.M. (1997). Making abortion law reform work: steps and slips in Guyana. *Reprod Health Matters*; 9: 66–76.11

Okonofua FE, Odimegwu C, Ajobor H, Daru PH, Johnson A. (2004). Assessing the prevalence and determinants of unwanted pregnancy and induced abortion in Nigeria. *Stud Family Planning* 30: 67–77.

Rogo K. (2004). Improving technologies to reduce abortion-related morbidity and mortality, *Int J Gynaecol Obstet*. Vol. 85, Suppl 1, 73-82

Rosanna, F. Hess, D.N.P. (2007) Women's Stories of Abortion in Southern Gabon, *Africa Journal of Transcultural Nursing*, Vol. 18, No. 1, 41-48

Turpin, C., Danso, K., & Odoi, A. (2002). Abortion at Komfo Anokye teaching hospital. *Ghana Medical Journal*, 36(2), 60-64.

Singh, S. (2006) Hospital admission for complications of unsafe abortion *The Lancet*, Vol 368, (9550 ), 1848 - 1849

Strahan, T. W. (1999) Pregnancy-Related Deaths of African Women (II). *Association for Interdisciplinary Research in Values and Social Change*, Vol. 13, No. 3

St. Micheal's Hospital (2008). Hospital Records. Jachie- Pramso. Unpublished

United Nations. (2007). The Millennium Development Goals Report. NY. USA.

Valley, V.T., Jackson-Williams, L. and Fly, C.A. (2006). Obstetrics and Gynaecology- General Gynaecology: Abortion Incomplete. *Emedicine specialist-Medscape*, USA. Available at (<http://emedicine.medscape.com/article/795085-overview> date accessed: 02/01/09)

WHO, 2007. Unsafe Abortion – Global and regional estimates of the incidence of unsafe abortion and associated mortality in 2003. Geneva

## APPENDICES

### APPENDIX A

#### SAMPLING FRAME FOR THE SELECTION OF CASES

<b>CODE NO.</b>	<b>NEW NO. ASSIGN</b>	<b>AGE</b>	<b>REMARKS</b>
1A 010808	01	26	SELECTED AND INTERVIEWED
1A 020808	02	20	SELECTED AND INTERVIEWED
1A 030808	03	25	SELECTED AND INTERVIEWED
1A 040808	-	27	SELECTED BUT WITHDREW
1A 050808	04	35	SELECTED AND INTERVIEWED
1A 060808	05	21	SELECTED AND INTERVIEWED
1A 070808	06	30	SELECTED AND INTERVIEWED
1A 080808	07	26	SELECTED AND INTERVIEWED
1A 090808	08	22	SELECTED AND INTERVIEWED
1A 100808	19	28	SELECTED AND INTERVIEWED
1A 110808	10	29	SELECTED AND INTERVIEWED
1A 120808	11	33	SELECTED AND INTERVIEWED
1A 130808	12	23	SELECTED AND INTERVIEWED
1A 140808	13	17	SELECTED AND INTERVIEWED
1A 150808	14	18	SELECTED AND INTERVIEWED
1A 160808	15	20	SELECTED AND INTERVIEWED
1A 170808	16	40	SELECTED AND INTERVIEWED
1A 180808	17	25	SELECTED AND INTERVIEWED
1A 190808	-	24	SELECTED BUT WITHDREW
1A 200808	18	27	SELECTED AND INTERVIEWED
1A 210808	19	24	SELECTED AND INTERVIEWED
1A 220808	20	38	SELECTED AND INTERVIEWED
1A 230808	21	26	SELECTED AND INTERVIEWED
1A 240908	22	19	SELECTED AND INTERVIEWED
1A 250908	23	29	SELECTED AND INTERVIEWED

1A 260908	24	26	SELECTED AND INTERVIEWED
1A 270908	25	29	SELECTED AND INTERVIEWED
1A 280908	-	17	SELECTED BUT WITHDREW
1A 290908	26	30	SELECTED AND INTERVIEWED
1A 300908	27	22	SELECTED AND INTERVIEWED
1A 310908	28	32	SELECTED AND INTERVIEWED
1A 320908	29	19	SELECTED AND INTERVIEWED
1A 330908	30	27	SELECTED AND INTERVIEWED
1A 340908	31	18	SELECTED AND INTERVIEWED
1A 350908	-	31	SELECTED BUT WITHDREW
1A 360908	32	21	SELECTED AND INTERVIEWED
1A 370908	33	25	SELECTED AND INTERVIEWED
1A 380908	34	30	SELECTED AND INTERVIEWED
1A 390908	35	41	SELECTED AND INTERVIEWED
1A 400908	36	19	SELECTED AND INTERVIEWED
1A 410908	37	28	SELECTED AND INTERVIEWED
1A 420908	38	39	SELECTED AND INTERVIEWED
1A 430908	39	23	SELECTED AND INTERVIEWED
1A 440908	40	37	SELECTED AND INTERVIEWED
1A 450908	41	24	SELECTED AND INTERVIEWED
1A 460908	42	28	SELECTED AND INTERVIEWED
1A 470908	43	37	SELECTED AND INTERVIEWED
1A 481008	44	27	SELECTED AND INTERVIEWED
1A 491008	45	29	SELECTED AND INTERVIEWED
1A 501008	46	21	SELECTED AND INTERVIEWED
1A 511008	47	45	SELECTED AND INTERVIEWED
1A 521008	48	19	SELECTED AND INTERVIEWED
1A 531008	49	24	SELECTED AND INTERVIEWED
1A 541008	50	36	SELECTED AND INTERVIEWED
1A 551008	51	20	SELECTED AND INTERVIEWED

1A 561008	52	30	SELECTED AND INTERVIEWED
1A 571008	53	35	SELECTED AND INTERVIEWED
1A 581008	54	17	SELECTED AND INTERVIEWED
1A 591008	55	22	SELECTED AND INTERVIEWED
IA601008	56	21	SELECTED AND INTERVIEWED
IA611008	57	18	SELECTED AND INTERVIEWED
IA621008	58	23	SELECTED AND INTERVIEWED
IA631008	59	24	SELECTED AND INTERVIEWED
IA641008	60	20	SELECTED AND INTERVIEWED
IA651008	61	21	SELECTED AND INTERVIEWED

**APPENDIX B****SAMPLING FRAME FOR THE SELECTION OF CONTROLS**

<b>CODE NO.</b>	<b>NEW NO. ASSIGN</b>	<b>AGE</b>	<b>REMARKS</b>
ND0010808	001	28	SELECTED AND INTERVIEWED
ND 0020808	002	22	SELECTED AND INTERVIEWED
ND 0030808	-	17	NOT SELECTED
ND0040808	003	24	SELECTED AND INTERVIEWED
ND 050808	-	35	NOT SELECTED
ND 0060808	004	31	SELECTED AND INTERVIEWED
ND 0070808	005	27	SELECTED AND INTERVIEWED
ND 0080808	006	21	SELECTED AND INTERVIEWED
ND 0090808	007	25	SELECTED AND INTERVIEWED
ND 0100808	008	29	SELECTED AND INTERVIEWED
ND 0110808	009	21	SELECTED AND INTERVIEWED
ND 0120808	010	35	SELECTED AND INTERVIEWED
ND 0130808	011	27	SELECTED AND INTERVIEWED
ND 0140808	011	19	SELECTED AND INTERVIEWED
ND 0150808	012	36	SELECTED AND INTERVIEWED
ND 0160808	013	21	SELECTED AND INTERVIEWED
ND 0170808	014	24	SELECTED AND INTERVIEWED
ND 0180808	015	17	SELECTED AND INTERVIEWED
ND 0190808	016	27	SELECTED AND INTERVIEWED
ND 0200808	017	23	SELECTED AND INTERVIEWED
ND 0210808	018	21	SELECTED AND INTERVIEWED
ND 0220808	019	28	SELECTED AND INTERVIEWED
ND 0230808	-	40	NOT SELECTED
ND 0240808	-	21	NOT SELECTED
ND 0250808	020	25	SELECTED AND INTERVIEWED
ND 0260808	021	24	SELECTED AND INTERVIEWED

ND 0270808	-	22	NOT SELECTED
ND 0280808	022	37	SELECTED AND INTERVIEWED
ND 0290808	-	19	NOT SELECTED
ND 0300808	023	21	SELECTED AND INTERVIEWED
ND 0310808	024	30	SELECTED AND INTERVIEWED
ND 0320808	025	28	SELECTED AND INTERVIEWED
ND 0330808	026	20	SELECTED AND INTERVIEWED
ND 0340808	-	34	NOT SELECTED
ND 0350808	-	29	NOT SELECTED
ND 0360808	027	38	SELECTED AND INTERVIEWED
ND 0370808	028	29	SELECTED AND INTERVIEWED
ND 0380808	-	32	SELECTED AND INTERVIEWED
ND 0390808	029	24	SELECTED AND INTERVIEWED
ND 0400808	-	23	NOT SELECTED
ND 0410808	030	27	SELECTED AND INTERVIEWED
ND 0420808	031	23	SELECTED AND INTERVIEWED
ND 0430808	032	32	SELECTED AND INTERVIEWED
ND 0440808	033	22	SELECTED AND INTERVIEWED
ND 0450808	034	21	SELECTED AND INTERVIEWED
ND 0460808	-	27	NOT SELECTED
ND 0470808	-	31	NOT SELECTED
ND 0480808	035	20	SELECTED AND INTERVIEWED
ND 0490808	-	40	NOT SELECTED
ND 0500808	036	21	SELECTED AND INTERVIEWED
ND 0510808	-	24	NOT SELECTED
ND 0520908	-	29	NOT SELECTED
ND 0530808	037	22	SELECTED AND INTERVIEWED
ND 0540808	-	32	NOT SELECTED
ND 0540908	038	34	SELECTED AND INTERVIEWED
ND 0560908	039	23	SELECTED AND INTERVIEWED

ND 0570908	040	24	SELECTED AND INTERVIEWED
ND 0580908	-	36	NOT SELECTED
ND 0590908	041	33	SELECTED AND INTERVIEWED
ND 0600908	042	21	SELECTED AND INTERVIEWED
ND 0610908	043	45	SELECTED AND INTERVIEWED
ND 0620908	-	35	NOT SELECTED
ND 0630908	044	22	SELECTED AND INTERVIEWED
ND 0640908	-	25	NOT SELECTED
ND 0650908	045	31	SELECTED AND INTERVIEWED
ND 0660908	046	23	SELECTED AND INTERVIEWED
ND 0670908	047	29	SELECTED AND INTERVIEWED
ND 0680908	-	33	NOT SELECTED
ND 0690908	048	24	SELECTED AND INTERVIEWED
ND 0700908	049	27	SELECTED AND INTERVIEWED
ND 0710908	050	29	SELECTED AND INTERVIEWED
ND 0720908	051	20	SELECTED AND INTERVIEWED
ND 0730908	052	21	SELECTED AND INTERVIEWED
ND 0740908	053	28	SELECTED AND INTERVIEWED
ND 0750908	054	26	SELECTED AND INTERVIEWED
ND 0760908	055	23	SELECTED AND INTERVIEWED
ND 0770908	056	26	SELECTED AND INTERVIEWED
ND 0780908	-	18	NOT SELECTED
ND 0790908	057	22	SELECTED AND INTERVIEWED
ND 0800908	058	38	SELECTED AND INTERVIEWED
ND 0810908	-	41	NOT SELECTED
ND 0820908	059	22	SELECTED AND INTERVIEWED
ND 0830908	-	39	NOT SELECTED
ND 0840908	060	21	SELECTED AND INTERVIEWED
ND 0850908	061	27	SELECTED AND INTERVIEWED
ND 0860908	062	30	SELECTED AND INTERVIEWED

ND 0870908	063	29	SELECTED AND INTERVIEWED
ND 0880908	064	20	SELECTED AND INTERVIEWED
ND 0890908	-	22	NOT SELECTED
ND 0900908	065	31	SELECTED AND INTERVIEWED
ND 0910908	068	40	SELECTED AND INTERVIEWED
ND 0920908	069	25	SELECTED AND INTERVIEWED
ND 0930908	070	26	SELECTED AND INTERVIEWED
ND 0940908	-	39	NOT SELECTED
ND 0920908	-	17	SELECTED AND INTERVIEWED
ND 0930908	071	25	SELECTED AND INTERVIEWED
ND 0940908	072	31	SELECTED AND INTERVIEWED
ND 0950908	073	27	SELECTED AND INTERVIEWED
ND0960908	074	32	SELECTED AND INTERVIEWED
ND 0970908	075	29	SELECTED AND INTERVIEWED
ND 0980908	076	23	SELECTED AND INTERVIEWED
ND 0990908	-	35	NOT SELECTED
ND 1000908	077	30	SELECTED AND INTERVIEWED
ND 1010908	078	27	SELECTED AND INTERVIEWED
ND 1020908	079	29	SELECTED AND INTERVIEWED
ND 1030908	080	37	SELECTED AND INTERVIEWED
ND 1040908	081	30	SELECTED AND INTERVIEWED
ND 1050908	082	24	SELECTED AND INTERVIEWED
ND 1060908	083	27	SELECTED AND INTERVIEWED
ND 1070908	084	18	SELECTED AND INTERVIEWED
ND 1080908	085	26	SELECTED AND INTERVIEWED
ND 1090908	-	30	NOT SELECTED
ND 1100908	-	26	SELECTED BUT WITHDREW
ND 1110908	086	42	SELECTED AND INTERVIEWED
ND 1120908	087	28	SELECTED AND INTERVIEWED
ND 1130908	089	29	SELECTED AND INTERVIEWED

ND 1140908	-	33	NOT SELECTED
ND 1150908	-	29	NOT SELECTED
ND 1160908	-	42	NOT SELECTED
ND 1171008	090	36	SELECTED AND INTERVIEWED
ND 1181008	-	38	NOT SELECTED
ND 1191008	091	34	SELECTED AND INTERVIEWED
ND 1201008	092	37	SELECTED AND INTERVIEWED
ND 1211008	093	25	SELECTED AND INTERVIEWED
ND 1221008	-	29	NOT SELECTED
ND 1231008	094	32	SELECTED AND INTERVIEWED
ND 1241008	-	19	NOT SELECTED
ND 1251008	095	24	SELECTED AND INTERVIEWED
ND 1261008	-	20	NOT SELECTED
ND 1271008	-	22	NOT SELECTED
ND 1281008	096	31	SELECTED AND INTERVIEWED
ND 1291008	097	29	SELECTED AND INTERVIEWED
ND 1301008	098	30	SELECTED AND INTERVIEWED
ND 1311008	-	38	NOT SELECTED
ND 1321008	099	20	SELECTED AND INTERVIEWED
ND 1330908	100	27	SELECTED AND INTERVIEWED
ND 1341008	-	43	NOT SELECTED
ND 1351008	-	17	NOT SELECTED
ND 1361008	101	40	SELECTED AND INTERVIEWED
ND 1371008	102	29	SELECTED AND INTERVIEWED
ND 1381008	103	28	SELECTED AND INTERVIEWED
ND 1391008	-	40	NOT SELECTED
ND 1401008	-	37	NOT SELECTED
ND 1411008	104	33	SELECTED AND INTERVIEWED
ND 1421008	-	19	NOT SELECTED
ND 1431008	105	25	SELECTED AND INTERVIEWED

ND 1451008	106	21	SELECTED AND INTERVIEWED
ND 1461008	107	26	SELECTED AND INTERVIEWED
ND 1471008	-	36	NOT SELECTED
ND 1481008	108	32	SELECTED AND INTERVIEWED
ND 1491008	-	35	NOT SELECTED
ND 1501008	109	39	SELECTED AND INTERVIEWED
ND 1511008	110	17	SELECTED AND INTERVIEWED
ND 1521008	111	18	SELECTED AND INTERVIEWED
ND 1531008	112	17	SELECTED AND INTERVIEWED
ND 1541008	113	20	SELECTED AND INTERVIEWED
ND 1551008	114	21	SELECTED AND INTERVIEWED
ND 1561008	115	18	SELECTED AND INTERVIEWED
ND 1571008	116	27	SELECTED AND INTERVIEWED
ND 1581008	-	29	NOT SELECTED
ND 1591008	117	19	SELECTED AND INTERVIEWED
ND 1601008	118	29	SELECTED AND INTERVIEWED
ND 1611008	119	18	SELECTED AND INTERVIEWED
ND 1621008	120	19	SELECTED AND INTERVIEWED
ND 1631008	121	28	SELECTED AND INTERVIEWED
ND 1641008	-	31	NOT SELECTED
ND 1651008	122	18	SELECTED AND INTERVIEWED
ND 1661008	123	17	SELECTED AND INTERVIEWED
ND 1671008	124	32	SELECTED AND INTERVIEWED
ND 1681008	-	42	NOT SELECTED
ND 1691008	125	27	SELECTED AND INTERVIEWED
ND 1701008	126	34	SELECTED AND INTERVIEWED
ND 1711008	127	19	SELECTED AND INTERVIEWED
ND 1721008	128	19	SELECTED AND INTERVIEWED
ND 1731008	129	17	SELECTED AND INTERVIEWED

**APPENDIX C**

**QUESTIONNAIRE**

**KWAME NKURUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF MEDICAL SCIENCES**

**DEPARTMENT OF COMMUNITY HEALTH**

**DIFFERENCES IN CHARACTERISTICS BETWEEN INCOMPLETE ABORTION CLIENTS AND  
NORMAL DELIVERY CLIENTS AT BOSOMTWE DISTRICT OF ASHANTI REGION, GHANA – A  
CASE CONTROL STUDY AT ST. MICHAEL’S HOSPITAL, JACHIE – PRAMSO**

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**INTRODUCTION**

My name is **Christiana Naa Momo Lokko**, Mph student of Kwame Nkrumah University of Science and Technology. I am working on a project to help improve care of women who have problems with pregnancy.

I am inviting all women who are treated for incomplete abortion and those who have just delivered to join in this study that involves interview. The interview includes questions on socio-demographic factors, economic factors and reproductive health history.

It is very important to understand that everything you say will be confidential and your name will not appear on any publicly seen document. Your participation in this study will help any woman in this community and elsewhere receive better service in the future when they come to the hospital with problems related to their pregnancy.

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Name of Interviewer:..... Date / Time Interview:.....

Code Number:

--	--	--	--	--	--	--	--	--	--	--

**SECTION A: SOCIO-DEMOGRAPHIC FACTORS**

- 1. Patient status
  - 1. Incomplete abortion
  - 2. Delivered
  
- 2. Age of patient:
  - 1. 10-14
  - 2. 15-19
  - 3. 20-24
  - 4. 25-29
  - 5. 30-34
  - 6. 35-39
  - 7. 40-44
  - 8. 45-49
  
- 3. Marital status:
  - 1. Single
  - 2. Married
  - 3. Separated
  - 4. Divorced
  - 5. Widowed
  - 6. Cohabitation
  
- 4. What is the composition of your household?
  - 1. Living with Nuclear family
  - 2. Living with partner alone
  - 3. Living within Extended family
  - 4. Living alone
  - 5. Living with partner and children
  - 6. Others (specify):.....
  
- 6. What is your educational level?
  - 1. Primary
  - 2. J.H.S./Mid
  - 3. SHS/Sec
  - 4. Tech/Comm./Voc
  - 5. Tertiary (polytechnic, training college and University)
  - 6. Non-formal education
  - 7. None
  
- 7. How many children do you have?
  - 1. None
  - 2. 1-3
  - 3. 4-6
  - 4. Above 6

8. What is your religion?

1. Christian

2. Islam

3. Traditional Religion

4. Other (specify):.....

10. To which ethnic group do you belong?

1. Akan

2. Ewe

3. Ga-Adagme

4. Northerner

5. Other (specify):.....

**SECTION B: ECONOMIC FACTORS**

1. What is your main economic activity (occupation)?
  1. Unemployed
  2. Farming
  3. Trading
  4. Artisan
  5. Apprenticeship / student
  6. Government worker
  7. Housewife
  8. Other (specify):.....
  
2. What is your monthly personal income (GH¢)?
  1. 30 to 50
  2. 50 to 100
  3. 101 to 150
  4. 151 to 200
  5. 201 to 250
  6. 251 to 300
  7. Above 300
  8. No income
  
3. What is your partner's main occupation?
  1. Unemployed
  2. Farming
  3. Fishing
  4. Trading
  5. Labourer
  6. Driver
  7. Artisan
  8. Apprentice
  9. Government worker
  10. Other (specify) .....
  
4. What is your partner's monthly income (GH¢)?
  1. 30 to 50
  2. 50 to 100
  3. 101 to 150
  4. 151 to 200
  5. 201 to 250
  6. 251 to 300
  7. Above 300
  8. Don't know

5. In general how would you rate your livelihood (economic wise)? Using scale of 5, 1 being poor and 5 being excellent.

1. Poor

2. Fair

3. Average

4. Very Good

5. Excellent

## SECTION C: REPRODUCTIVE HEALTH HISTORY

1. How many times have you been pregnant in your life?
  1. Once
  2. Twice – four times
  3. Five – seven times
  4. Eight or more times
  
2. How many children do you have now?
  1. None
  2. 1 – 3
  3. 4 – 6
  4. Above 6
  
3. What is the age of your last child?
  1. Under one year
  2. One to two
  3. Three and above
  
4. How many pregnancy loses have you had?
  1. None
  2. One
  3. Two
  4. Three
  5. Four and above
  
5. How many still births have you had?
  1. None
  2. One
  3. Two
  4. Three and above
  
6. How many miscarriage have you had?
  1. None
  2. One
  3. Two
  4. Three and above
  
7. How old were you when you first had sexual intercourse?
  1. Below 10yrs
  2. 10 – 14 yrs
  3. 15 – 19 yrs
  4. 20 – 24yrs
  5. 25-29 yrs+

8. Thinking back on your life, were you ever pregnant when you did not want to be?  
 1. Yes                      2. No
9. If yes, why would you not want to have a child then?  
 1. Because I have too many children  
 2. Because I want to continue my education or finish learning a trade  
 3. Because I can't cater for a child then  
 4. Because the man did not accept the responsibility                        
 5. Because I was not married  
 6. Because I was too young  
 7. Because I was unemployed  
 8. Other (specify).....
10. Have you had abortion before?  
 1. Yes                      2. No
11. If yes, which type of abortion?  
 1. Spontaneous                      2. Induced abortion
11. If induced, what was the action?  
 1. Self induced abortion                      2. Abortion at hospital
12. If self induced, specified the method used  
 1. Use enema  
 2. Took in toxic solution  
 3. Took in teas and herbal remedies  
 4. Took in pharmaceutical drugs  
 5. Using trauma                        
 6. Medicines placed in the vagina or cervix  
 7. Insert foreign bodies into the uterine through the cervix  
 8. Intramuscular injection  
 9. Other (specify)
13. Thinking about this pregnancy did your partner accept the responsibility?  
 1. Yes                      2. No
14. Was your family in support of this pregnancy?  
 1. Yes                      2. No
15. About this same pregnancy, were you or your partner using something to avoid or delay getting pregnant in the month you became pregnant?  
 1. Yes                      2. No

16. If yes, what method(s) was it?  
 1. Natural contraceptives  
 2. Oral contraceptives   
 3. Vaginal contraceptive  
 4. Condom  
 5. Injectables contraceptives
17. If yes, why do you think the method failed?  
 1. Stop for awhile                      2. Don't know
18. If no, would you have wished to avoid this pregnancy?  
 1. Yes                      2. No
19. Did you or someone else **consider** doing something to stop this pregnancy?  
 1. Yes                      2. No
20. If yes, specify what you thought of doing  
 1. Abortion at hospital  
 2. Self induced abortion (specify).....   
 3. Other (specify).....
21. Did you or someone else actually **do** something to stop this pregnancy?  
 1. Yes                      2. No
22. If yes, specify the method used?  
 1. Use enema  
 2. Took in toxic solution  
 3. Took in teas and herbal remedies  
 4. Took in pharmaceutical drugs   
 5. Using trauma  
 6. Medicines placed in the vagina or cervix  
 7. Insert foreign bodies into the uterine through the cervix  
 8. Intramuscular injection  
 9. Other (specify)
23. Would you like to use any of the family planning methods to prevent pregnancy now?  
 1. Yes   
 2. No  
 3. I have to ask my husband first  
 4. Other (specify).....

**THANK YOU FOR YOUR ATTENTION!!! TIME ENDED.....**