SCHOOL OF PUBLIC HEALTH, COLLEGE OF HEALTH SCIENCES,

UNIVERSITY OF GHANA, LEGON

INDUCED ABORTION AND CONTRACEPTIVE USE IN THE HOHOE MUNICIPALITY OF GHANA

BY

KENNEDY TETTEY COFFIE BRIGHTSON

A DISSERTATION SUBMITTED IN PART FULFILLMENT FOR THE AWARD OF THE

MASTER OF PUBLIC HEALTH (MPH) DEGREE

APRIL, 2009

DECLARATION

I declare, that except for the other peoples investigations which have duly been acknowledged, this work is the result of my own original research, and that this dissertation either in whole or in part has not been presented elsewhere for another degree.

KENNEDY TETTEY COFFIE BRIGHTSON…….

ACADEMIC SUPERVISORS:

PRIMARY: PROF. CLEMENT AHIADEKE ……..

SECONDARY: DR. GLORIA QUANSAH ASARE……

DEDICATION

In the name of the almighty God I dedicate this dissertation to my darling wife Natalya, my two wonderful children Anton and Lydia and my late mother Rose.

ACKNOWLEDGEMENT

A difficult work like this would not have been easy without the technical and moral support of some individuals and institutions.

I am particularly grateful to the Ministry of Health who gave me sponsorship to pursue this course.

I am sincerely thankful to my academic supervisors, Prof. Clement Ahiadeke and Dr. Gloria Quansah-Asare, who painstakingly edited this work and provided numerous suggestions for the writing up of this dissertation.

My gratitude also goes to Dr. Moses Aikins, who always made time for my work.

I am greatly indebted to my field supervisor, Dr. Margaret Kweku, who took me through every page of my work; data collection, data entry and data analysis.

I am also grateful to Dr. Margaret Kweku's assistant, Miss. Mawuenya Gbegbey.

My profound gratitude goes to Mrs. Eve Passah, the Acting Hohoe Municipal Director of Health Services for her immense support during my field residency period.

I heartily appreciate all those who helped in diverse ways to make my stay pleasant, particularly, the entire administration and staff of the Hohoe Municipal Hospital, not forgetting the entire staff of the West African Onchocerciasis Research Centre.

ABSTRACT

BACKROUND: Induced abortion has been reported to be the third most significant cause of maternal mortality globally. Whereas the prevalence in the developed countries is declining due to an increased use of contraceptives, the same cannot be said about developing countries. In Ghana 60% of all those who seek for abortion services are below the age of 30years.

In the Hohoe municipality of Ghana, more than two-thirds of all maternal deaths recorded in 2006 were due to the complications of unsafe abortion. This study aimed at finding any correlation between induced abortion and contraceptive use in the Hohoe Municipality. The objectives that were looked at include sources of contraceptives, factors that influence contraceptive use, mode of induced abortion and reasons for induced abortion.

METHOD: The study design was case-control which was conducted in the Hohoe municipality of the Volta region of Ghana. A purposeful sample of 429 women in their reproductive ages was recruited. These comprised 206 women (case group) who were admitted to the hospital for complications of induced abortion and also antenatal clients who have a history of induced abortion. These were compared with a control group comprising women who were attending antenatal or postnatal clinics and have never obtained induced abortion. Facility-based interviews were conducted using structured questionnaires. Other respondents who had been discharged were traced.

Data Analysis

The data were processed and analyzed with the statistical software stata 9. Proportions were generated for the variables under study and then compared among the cases and the controls. The mean ages were calculated using t-test. The explanatory variables and potential confounders were regressed for using logistic regression analysis. This was done to compare the effect of some baseline variables on contraceptive use and having number of children less than four. P-values were used to determine the statistical significance of the outcomes. Odd ratios were used to compare some variables on induced abortion.

FINDINGS

The study found that 68% of women who obtained induced abortion were above 25 years of age and that they use contraceptives mainly when their children are too young. They were also highly educated (Senior Secondary and above) and prefer getting their contraceptive services from pharmacy shops rather than Family Planning Clinics, nonetheless 74% of women use the services of the Family Planning Clinic for their contraceptive needs. Highly educated women are 2 times more likely to be among those who obtain induced abortion than those who do not (p=0.031), this is statistically significant. Contraceptives were used to avoid pregnancy more than for any other reason. Contraceptive failure rate among users was 15%, however these women have low odds for induced abortion (OR: 0.8) compared to those who did not have contraceptive failure, but also obtained induced abortion. Whereas 38% women do not use contraceptives because of the fear of side effects, 24% had no reason for not using contraceptives and 10% thought they were too young to use contraceptives.

Women who do not use contraceptives for fear of side effects were about three times more likely to have an induced abortion compared to the controls. Women with regular salary have high odds for induced abortion (OR: 2 p=0.031), this is statistically significant.

Women who obtain induced abortion are 3.3 times more likely to be higher salary earners than those who do not ($p<0.001$), this is also significant. The use of contraceptives is not influenced by such variables as age, wage level, religion and education.

The main reason why women obtained induce abortion was to enable them pursue education. About a quarter of women induce abortion because they were not married at the time of pregnancy. By the age of 20years most women had obtained induced abortion for their first pregnancies. About 27.7% these induced abortions are unsafe. Modes of induction included drinking of concoction (Coffee, granulated sugar, Paracetamol, Ergometrine, Chloroquine, ground red ants, Guinness, ground rotten fish), insertion of "kportikporti" into the cervix through the vagina and also insertion of "kportikporti" leaves into the vagina.

CONCLUSION: Induced abortion, though a major problem in the Hohoe Municipality is mostly obtained by the highly educated under safe conditions. Although contraceptives knowledge is high (97%), its use is irregular and is intended for the purpose of avoiding pregnancy when a child is too young. Private facilities were preferred for accessing contraceptive services by the highly educated. Young females, low wage earners and non-salaried female workers were likely to induce abortion using unsafe modes. Contraceptive use among this group of women is low.

Table of Contents

Definition of Terminologies

Abortion: Termination of pregnancy before the foetus is viable (WHO, 1992).

Contraceptives: Any agent or measure used to prevent conception.

Culture: The total, generally organized way of life, including values, norms, institutions and artifacts, that is passed on from generation to generation by learning alone.

CHPS: Community Health Planning and Services.

Fertility: The realization of the reproductive potential of a woman.

Induced abortion: The termination of pregnancy for either medical (therapeutic) or wishful reasons.

Marriage: Any union between two or many individuals in which the couple has gone through all the procedures recognized in the society for the purposes of sexual intercourse, rising of a family or companionship.

Morbidity: The state of being diseased or conducive to disease.

Mortality: Death.

Peritonitis: Inflammation of the peritoneum caused by bacterial infection.

Unmet need for contraception: The state in which a fecund woman does not intend to give birth soon, within two years or never, but does not use any form of contraception.

Unsafe abortion: A procedure for terminating an unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking the minimal medical standards, or both (WHO,1992).

Key words: Induced Abortion, contraceptive use, Hohoe municipality

LIST OF ABBREVIATIONS

WHO: World Health Organization.

HIV: Human immune-deficiency virus.

AIDS: Acquired immune deficiency virus.

PID: Pelvic Inflammatory Disease.

DCE: District Chief Executive.

CHAPTER ONE

INTRODUCTION/ BACKGROUND

Induced abortion is the intentional termination of pregnancy before the twenty-eighth ($28^{th)}$ week of gestation. An induced abortion may be elective or therapeutic or clandestine. Elective abortions are mostly based on the woman's own choice. Practically therapeutic abortions are done with the intent of saving the life of the woman carrying the pregnancy (James et al, 2006). There are numerous reasons why women go in for induced abortions. Key among these factors include financial and economic difficulties, unpreparedness towards pregnancy, compelling spousal and family pressure to reduced the number of children, unintended pregnancies, also pregnancies resulting from rape or incest and inadequate knowledge or practice of contraception or contraceptive failure or unmet need for contraception (Bankole et al.1998).

Reactions to induced abortions are as diverse as the beliefs that inform such thoughts. Countries differ in their legal systems with respect to induced abortions whether therapeutic or elective (Boland & Katzive, 2008). This notwithstanding, the global picture of induced abortions is worrying, particularly induced abortions in the developing world with their attendant morbidity or mortality conditions.

The incidence of induced abortions globally since 1995, though declining, is still high. From 1995-2003, the absolute numbers dropped from 46 million to 42 million. It has been estimated that for women within the reproductive age of 15-44 years worldwide, 25 out of every 1000 have had an induced abortion in 2003. Between 1995 and 2003, there was a decline in the global picture of induced abortions. However it was more in the developed than the developing countries including Africa (Sedgh et al, 2007).

Statistics show that of the 42 million abortions annually, 35 million occur in the developing world whereas only 7 million occur in the developed. Eastern Europe saw the most declines in abortions (Sedgh et al, 2007). There was a substantial increase in contraceptive use and this coincided with

the decrease from 90 to 44 abortions per 1000 women in the reproductive age bracket of 15-44 years.

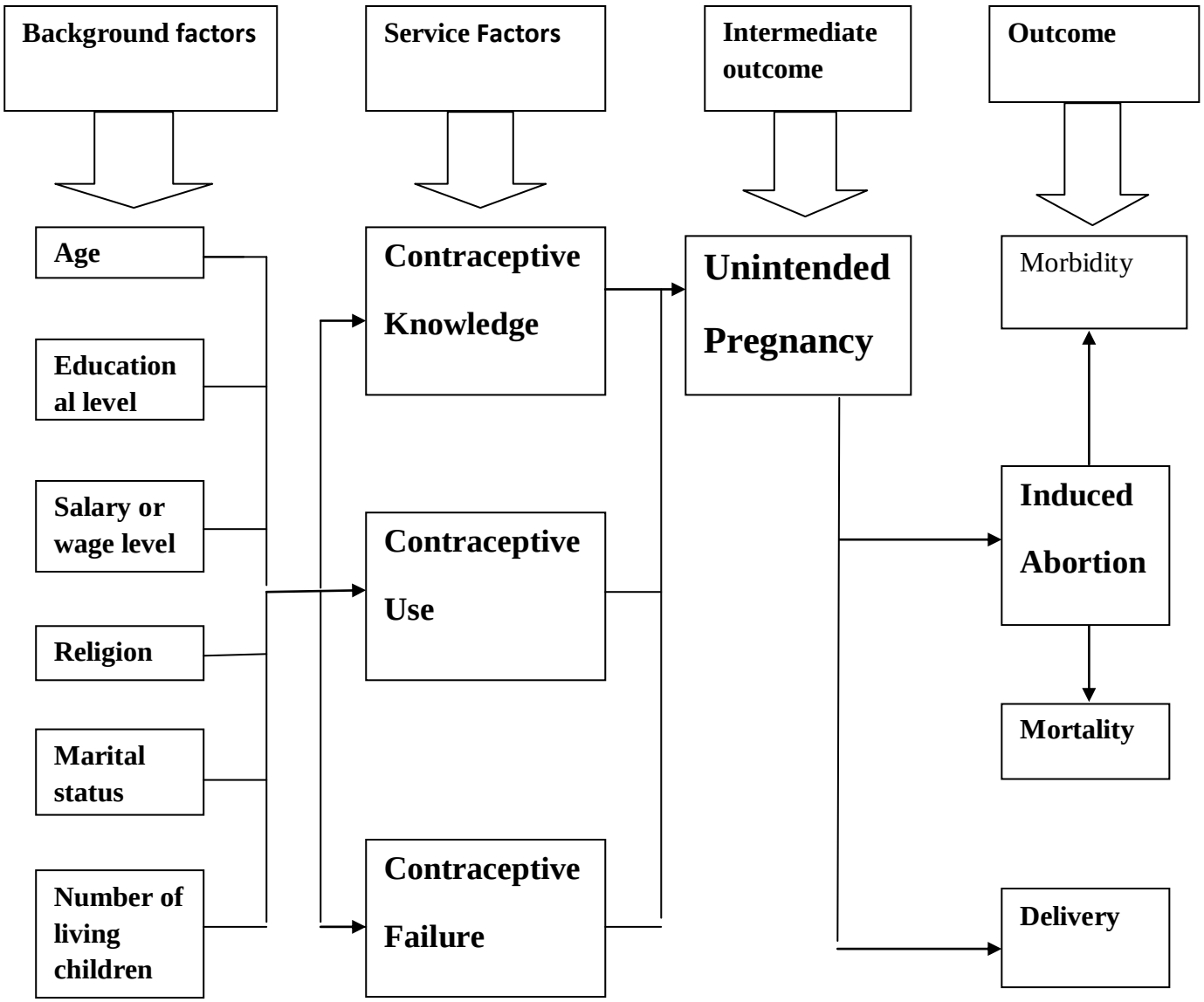
Whereas globally the numbers seem to be declining, the estimated number of induced abortions in Africa has increased from 1995-2003. In South Africa alone a study conducted in 1993 estimates annual deaths in public hospitals due to complications from unsafe abortions to be 425 women (Dickson-Tetteh and Bilings, 2002). In some parts of Africa, where there are usually restrictive laws or no policies on abortions, induced abortions are done under unsafe conditions either by self or by untrained personnel (Mulama J, 2008). This type of practice ends up with either chronic morbidity or mortality. On the global front, unsafe abortions constitute 48% of all abortions and this is significantly higher in the developing countries (55%) (Rasch et al, 2007). As to whether all women who seek abortion services use contraception or not is one thing that ought to be looked at. A study on contraceptive attitude and contraceptive failure among women requesting induced abortion in Denmark revealed that women who had experienced failure in contraceptive use were highly more likely to seek for abortion service. The study went further to state that failure of oral contraceptives was found to be associated with an increased request for abortion (Rasch et al, 2007)

PROBLEM STATEMENT

Though the global situation on induced abortion is improving due to increased contraceptive use the same cannot be said about Africa (Bankole et al, 1999). In fact over 95% of abortions that are performed in Africa and Latin America are done under unsafe conditions (WHO, Guttmarcher Institute in Sedgh et al, 2007). The situation in Ghana may not be very much different from the global and African perspective. A study done by Ahiadeke (2001) in southern Ghana estimated that 60% of women who sought for induced abortion were less than 30 years old and over one-third of them had not given birth before. Between 22%and 30% of all maternal deaths in Ghana are due to abortion complication (Ghana National Reproductive Health Service and Standards, 2003)

With the increasing emphasis on contraception use, it would be of interest to study whether an increase in its use will curb the problem of induced abortions and its complications. The Hohoe municipality of Ghana is worried about the increasing numbers of induced abortions and its attendant morbidity and mortality. The 2006 annual report of the district health directorate shows that of all the abortions done, induced abortions constituted 64% and spontaneous 36%. A total of 326 abortions and two-thirds of them where induced. Contraception use also in the district is low. Alavanyo, a sub district within the Hohoe municipality recorded the highest percentage of cases of induced abortions (District Health Directorate, 2006). Many factors may contribute to this problem, important amongst them may be low educational level, increased exposure to the risk of pregnancy, decreased contraceptive use, socio-cultural practices and religious believes.

Conceptual framework



The levels of induced abortion (64%) and the low level of family planning patronage within the Hohoe municipality was explicitly captured in the 2006 Annual Report of the Municipal Health Directorate "the induced abortions are of concern too in view of the fact that Family Planning services are being offered but low patronage. Meanwhile some women are getting rid of pregnancies-an indication that they are unwanted. They are expected to use FP to avoid the pregnancies. The uptake of Family Planning is low-only 15.9% i.e. 39 out of 245 counseled…….a research into the epidemiology of the abortion cases will go a long way to help curb the occurrence of such cases and in the fight against HIV/AIDS through proper counseling on the Family Planning methods" (District Health Directorate, 2006 and 2007)

From the above quotation it is obvious that the district is of the opinion that the high incidence of induced abortions has low patronage of Family Planning as a factor. Although contraception use may be a major identifiable factor, there are about a dozen others which act either directly or indirectly on abortion. The availability of contraception and knowledge about it is equally important. Patronage and understanding of the different methods of contraception maybe closely linked to the educational level of the woman.

Socio-cultural and religious beliefs also form another set of hindrances to effective contraception hence unintended pregnancies leading to induced abortions. Marital status may act as a factor which may lead to incidences of abortion, particularly if the woman intends to space out the children, but does not use any modern methods of contraception. On the other hand her age at marriage may play a major role. She is most likely to have her desired family size early whiles she still may be in her reproductive life. If she does not use contraceptives then she is most likely to abort any unintended pregnancies. Most seriously is to examine the issue of unmet needs for contraception. It could be that most women could be using abortion as a means of fertility control.

The questions that this study seeks to address are:

1. Why is induced abortion so high and for that matter the leading cause of maternal mortality in the district?
2. What is the contraceptive prevalence like?
3. What factors militate against contraceptive use in the municipality?
4. Are there sources for modern methods of contraception?

The complication of induced abortion could be a short term morbid condition (pelvic inflammatory disease, peritonitis, trauma to the internal organs) or a long term one (chronic pelvic inflammatory disease and infertility). On the other hand an induced abortion may end up in death as in the case of the Hohoe municipality (sixty-seven percent of maternal deaths). Women who already have a certain number of children may use induced abortion as a fertility regulation method. This depends on the number of living children they have or the desired family size. Women who have not given birth yet and have unmet needs for contraception may be using induced abortion as a means of delaying child birth. The unmet need for contraception for these women may be the factor for the high incidence of induced abortions in the Hohoe municipality. The unmet need for contraception however, may be influenced by many factors which include the woman's socio-cultural and socio-economic status, her knowledge about contraception and also the availability of contraceptives. The age at which the woman gets pregnant coupled with her marital status is another factor that may make her resort to induced abortion.

Justification

According to the 2006 Annual Report of the Hohoe District Health Directorate, four out of the six maternal deaths captured in the report were due to complications of induced abortions. This forms 66.7% of the maternal deaths in the district.

The findings of the study will give the scientific base to design health intervention policies that will help improve on contraceptive use and thereby reduce the incidence of unintended pregnancies that result in induced abortion with its attendant complications.

CHAPTER TWO

LITERATURE REVIEW

The concerns of governments and health professionals over womanhood issues have been of paramount importance in recent times. Of great concern are matters bothering on reproductive health. Reproductive health and fertility are proximately affected by exposure to contraception and induced abortion (Demographic Methods and Concepts: Donald T. Rowland pp221-227). A number of researches have been done in this area the world over. However, the incidence of induced abortions in Sub-Saharan Africa has not seen any significant decline. In this part of the world where access to standard healthcare facilities is limited, clandestine methods are used to terminate pregnancy. The health and economic implications are numerous.

Induced abortion and marital status

In a study conducted in five countries (The Check Republic, Bulgaria, Estonia, Albania and the Slovak Republic) with the view to looking at the characteristics of women who obtained induced abortions it was found out that in more than halve of these countries a high proportion of married women sought for induced abortion care than their unmarried counterparts (Bankole et al, 1999). Marital status is one characteristic that exposes married women to the risk of pregnancy, particularly if they do not intend to be pregnant and are not using any method of contraception, particularly modern methods.

Women in rural areas tend to have larger family sizes than those in urban dwellings, who might be better educated. As to whether the woman dwells in the rural or urban areas, marriage or cohabitation is common to all of them. However the rural dweller that might be less educated is most likely to enter into marriage earlier and consequently start childbearing. She may have had her desired number of children whiles still in her reproductive life. The problem of unsafe induced abortion is of special interest to most African populations, looking the health outcomes and the effect on health systems. This problem is likely to worsen as a result of modernization and urbanization, the early start of sexual activity by a large proportion of young people and the limited

availability and accessibility of effective contraception, especially among the adolescent (Mpangile et al. 1993).

Induced abortion and educational level

On the other hand, the urban woman may postpone childbearing and will resort to induced abortion for any unplanned for pregnancies. If education is made available and career development opportunities are easily accessible to, they are more likely to postpone marriage, but will have induced abortion for any unwelcome pregnancy (Bankole et al, 1998).

In many parts of the Sub-Saharan Africa and particularly Ghana, a girl will leave school if gets pregnant. She may even seek for help most often from unqualified personnel and an unsafe induced abortion may be clandestinely performed (Lloyd and Mensch, 2006 in Bankole et al, 1998). Most of these studies, though identified education as a variable, failed to examine contraception education and the extent to which it relates to induced abortion. Could intensifying education for all females in the reproductive age group from 15-24years, therefore reduce the incidence of unintended pregnancies?

Induced abortion and contraception

In societies where, for instance, a woman enters into childbearing at age 20years and would like to have not more than two children, she is compelled to protect herself for a period of about 25years from unintended pregnancies whiles she is exposed to the risk of pregnancy (Marston and Cleland, 2003). If the demand for contraceptive use goes up there is the likelihood that the demand for induced abortion will fall (Bankole et al, 1999). However, a review of the relationship between contraception and abortion showed different trends as a study revealed. In seven of the countries where the study was conducted, Kazakhstan, Kyrgyz Republic, Uzbekistan, Bulgaria, Turkey and Switzerland, it was observed that the incidence of abortion declined as the prevalence of modern contraceptive use increased (Bankole et al, 1999). In some other countries (six countries) there was a simultaneous rise in the demand for induced abortion and contraceptive use (Bankole et al, 1999). Nevertheless, the overall fertility of these countries, in the course of the study continued to fall

(Bankole et al, 1999). Stability in the fertility of several of these countries eventually led to the situation where contraceptive use continue to increase and induced abortion declined such as in the Republic of Korea (Marston and Cleland ,2003, Bongaart and Westoff , 2000).

The Matlab intervention studies done in Bangladesh examined trends in abortion rates in two areas from 1979-1998. This included two surveys, conducted in 1984 and 1990. One area had active family planning intervention while the comparison area had the normal government services. The beginning of the study saw similarities in the abortion rate in both areas. At the end of the study the comparison area had an abortion rate three times higher than the contraceptive intervention area (Marston and Cleland, 2003, Ahmed et al, 1998).

A study into the field of abortions and contraception will be part of that whole attempt to solve maternal health problems including morbidity and mortality. This is more important in the face of empirical evidence about the sexual behavior of women (Agyei et al, 2000). Work done by Agyei et al (2000) on sexual behavior and contraception among unmarried and young adolescents in Greater Accra and Eastern regions of Ghana reveals that sexual activity among adolescents and young adults in Ghana is very high and widespread, this, the study stated, that leads to unintended pregnancies and unsafe abortion.

Induced abortion and maternal age

A recent situational analysis of adolescent reproductive health needs, reported that sexual activity among the youth is on the increase and the consequential increase in unintended pregnancies. This situation is becoming a real problem in Ghana (Agyei et al, 2000 in Nabila, Fayorsey & Pappoe 1996). Females who are not married and become pregnant may be desperate to terminate the pregnancy by any means so as to avoid societal moral pressure and judgment (Agyei et al, 2000 in Bledsoe and Cohen, 1993). Though this study did not establish a relationship between induced abortion and contraception, it did not fail to bring to light the fact that adolescent pregnancy, abortions and child bearing have become issues of broad concern. Looking at this, it would be very much beneficial to the country to conduct a study into the relationship. This would help shape

policies towards the use of contraception in an attempt to reduce the incidence of induced abortion. By so doing, morbid conditions that culminate from induced abortions would decline.

Ahiadeke (2001) in his work on the incidence of abortion in Southern Ghana attributed that contraceptive failure is usually associated with an increase in unintended births, however, the number of pregnancies associated with contraceptive failure would be underestimated (contraception failure) by researchers if they overlook the use of illegal induced abortion as a means to end an unintended pregnancy. Though it was not the main topic, the concerns raised by Ahiadeke are worth noting and makes it imperative to look into a relationship between the two; induced abortion and contraception.

Induced abortion and culture

Adetoro, Babarinsa and Sotiloye (1991) in a study in Nigeria pointed out that induced abortions accounted for 60.3% of all gynaecolgical admissions to the University of Ilorin Teaching Hospital. The socio-cultural factors that contributed to this, they ascertained, were due to a breakdown of the family system which traditionally prepared children into adulthood. The study pointed out that 72.5% of the admitted cases of induced abortion were adolescents from the 15-19 year age bracket. In Nigeria abortion is regarded by society as immoral and pregnant adolescents will seek for clandestine abortion provided for by charlatans (Adetoro et al, 1991). The study however, did not address the trend in trans-cultural practices which modifies the sexual behavior of the adolescent e.g. the influence of both the print and electronic media on traditional moral values; it also did not address the issues pertaining to contraceptive use. It is likely that in the socio-cultural settings where the study was done, contraception could not be introduced to adolescents.

A study on unsafe abortions among adolescent girls in Lusaka by Dahlback et al (2007) revealed that most of the girls who went for unsafe abortions were single, in school, had reached higher grades and mostly had no children, and that the reasons they gave for performing induced abortion were socio-cultural e.g. fear of facing personal shame and social stigma following premarital pregnancies i.e. parental disapproval, abandonment by partner and expulsion from school.

OBJECTIVES

General: To investigate the relationship between induced abortion and contraceptive use.

Specific: The specific objectives are to:

1. Assess then sources of contraceptives.
2. Identify the factors that influence contraceptive use.
3. Identify the mode of induced abortion.
4. Ascertain the reasons for induced abortion.

CHAPTER THREE

RESEARCH METHODOLOGY

Study type: Case-control: The cases were women who are in their reproductive age and have obtained induced abortion before, irrespective of whether they have used contraceptives before or not. The controls were also women in their reproductive age who have never obtained induced abortion irrespective of contraceptive use. Matching could not be done because of the short period for data collection.

Study location/ Area: The study was done in the Hohoe Municipality in the Volta Region of Ghana. Presently the municipal area has been divided into six health sub-municipalities namely Akpafu, Alavanyo, Gbledi, Have, Leklebi and Likpe. Hohoe municipality is one of the fifteen districts of the Volta Region. It is bounded on the north and northwest by the Jasikan district, southwest by the Ho municipality, east by the Republic of Togo and southwest by the North and South Dayi districts. Within the eastern borders of the district is the Akwapim-Togo range. The highest mountain in Ghana, Afadjato, is located in the district. The Hohoe district covers an area of 1172 sq. km. and has 152 communities. The population is 171,345 from the year 2000 National Population Census and has a population density of 146 people per sq. km. The population growth rate is 1.9%. Attraction sites in the district include the Wli and Sasa water falls at Wli and Alavanyo respectively. These are areas for both internal and external tourism. Does the high incidence of unintended pregnancies have a bearing on this? There are the Aflabo Falls in Leklebi, Agbesia and Tagbo Falls in Liati Wote and one other in the Nyagbo traditional area which are all seasonal waterfalls.

The climate of the district is of three types; the major rainy season (May-July), minor rainy season (August-October), dry season (November-February). The vegetation is characterized by forest and semi-savanna zones.

The people found in the district are either Ewes, Logbas, Likpes, Akpafus, Lolobis or Santrokofis. The main form of religion is Christianity, followed by Islam. Traditional African worship is also common. Recreational activities are mainly drumming and dancing. These include Borborbor, Agbadza, Asafo and Islamic dances. Most of these are performed during festivals and funerals. Kente weaving and woodcarving are the commonest craftsmanship skills.

The traditional authority is the Gbi Traditional Council with Togbega Gabusu VI as the Paramount chief. He presides over the divisional and sub-chiefs. He is currently the president of the Volta Regional House of Chiefs. The District Assembly is however, the political administrative set-up in the district and it is headed by the District Chief Executive (DCE) appointed by the President of the Republic and endorsed by the members of the assembly. Hon. Peter John Amewu is the current DCE.

The main economic activities of the district include; Farming (about 55%), Trading (about 25%), Livestock rearing (about 15%), and others (about 5%). The main crops of the area include Maize, Cassava, Rice and Yam. Vegetables like tomato, okro, pepper and "nkontomre" are also common.

Ceramic work at Ve-Koloenu, Palm oil extraction at Logba and sand winning at Alavanyo are some of the industrial activities within the district.

Most of the roads in the district are not tarred. The tarred ones have numerous potholes. some roads to some smaller communities become unmotorable during the rainy season.

There are in all 39 health institutions in the district, however some are not functioning due to lack of staff. Among the functioning ones are a Government Hospital, a Mission Health Facility, four private clinics, two CHPS Compounds and a community clinic. The rest 26 are Government Health Centers. There are 16 RCH clinics. Eighteen of these Government Health Centers provide maternity services. There is in Hohoe a midwifery training school.

Study population

The study population was made up of two groups of women, cases and controls. The cases consist of a woman or girl in reproductive age who, in 2006, 2007 and 2008, were hospitalized for complications of induced abortion. This involved tracing them retrospectively and administering questionnaire to them. In addition, patients who were hospitalized for induced abortion were included in the study. The cases also included clients who, at the time of the study, were attending antenatal clinic and had done induced abortion before.

The controls were patients who were attending antenatal and postnatal clinics and have never had an induced abortion before.

Variables

Dependent (outcome) variable: induced abortions

Independent (explanatory) variables:

i) Contraceptive use

ii) Marital status

iii) Number of living children

iv) Education

Potential confounders include:

v) Occupation

vi) Knowledge about contraception

vii) Religion

viii) Wage

Sampling: The respondents for the study were purposefully selected using the hospital records and the Reproductive Health Clinics in the Hohoe Township. They came from, practically, across all the sub-municipal areas that make up the Municipality. Though the controls were also purposefully selected as non-abortion respondents, a simple random selection was further done.

Sample size: The sample size was 429 female respondents making up the cases and the controls. Of the total number 206 belonged to the case group and the remaining 223 were in the control group. The basis for calculating the sample size is the year 2007 contraceptive prevalence of 20% in the Municipality.

The ratio of cases to controls was taken to be 1:1. The odds ratio that was detected was 2 at 95% confidence interval and 80% power. The information was put into Epi Info software for sample size calculation for a case-control study. The calculated respective sample sizes were;

Cases, 187

Controls, 187.

For purposes of taking care of problems such as non-response, improperly filled and incomplete questionnaires, the sample size was increased from 374 to 500. After the data had been cleaned, the sample size dropped to 429 as stated earlier.

Sampling method:

Convenient and purposeful sampling was done. This is permitted in medical situations. Abortion is one procedure that clients who had gone through it find difficulty at divulging, due to societal perception. In view of this, undertaking a community survey may not yield much information. It is therefore convenient to use known cases of induced abortion.

Data Collection Technique and tools

Data collection was done using a structured questionnaire. Data about patients who were hospitalized, managed for induced abortion and discharged were obtained from the hospital records. These data were used to trace the patients. The information included their names and addresses, date of admission and date of discharge. The researcher made a compilation of names from 2005 to the time of data collection and then begun tracing them. It is worth mentioning that the hospital's way of writing addresses made it easy for the research team to trace respondents even within the Hohoe Township. The name of a prominent person within the respondent's vicinity was included in the address. It was not too difficult locating these prominent people. Once this was done, getting the respondent was not difficult. The research team travelled the length and breath of the Municipality collecting data. In the first couple of days some of the respondents refused to own up that they were the very people we were looking for. Some mistook us to be undercover agents on a mission to arrest them. For the subsequent weeks I changed my strategy and wore a medical officer's coat. I also carried a stethoscope along by way of introduction. This approach did help and I used it for all subsequent visits. Trained field assistants could not collected abortion data with ease. All these notwithstanding, we were assaulted once in one village and almost lynched in another because of mistaken identity – disguised under cover agents. We missed some respondents because they had gone to the farm. As a result of this we included the weekends. We also collected data from all patients who were admitted for induced abortion in the course of the study. The questionnaires for the cases were administered by the investigator, but for the controls were done together with pre-trained assistants (nurses). We collected data during the official working days i.e. from Monday to Friday and on some weekends for a period of seven weeks. We also collected data from the ante-natal and postnatal clinics.

Quality Control

As part of the process of ensuring quality control, the data was cleaned several times using both EpiDATA and EpiInfo. After each day's work we took time to go through the filled questionnaires.

Those that were wrongly filled were discarded and the cleaned ones given serial identification numbers. This approach of discarding wrongly filled questionnaires was cost effective for. In order to maintain high interviewing standards regarding health related topics we trained two reproductive health nurses to administer questionnaires to the control group.

Data Processing and Analysis

Data processing was done with four statistical softwares, EpiData version3.0, EpiInfo version3.3.2 and stata9. Data entry was done in EpiData where the entry field was created. After initial cleaning in EpiData the data was transferred using stat Transfer into Epi Info. Here further cleaning was done and simple frequencies were run as part of the cleaning. The cleaned data was then transferred into stata for the analysis. Analysis of the data was done by creating frequency tables, odds ratios, and logistic regression methods. The background information and some other characteristics were regrouped into binary variables.

Ethical Clearance

Ethical clearance was given by the Ethical Review Committee of the Ghana Health Service after it had studied the research proposal and was satisfied that the result to be obtained would be of benefit to the municipality and that any harm or discomfort had been minimized and the confidentiality of the respondents had been taken care of. Informed consent was sought from the respondent after the exercise has been explained to them.

Pretesting

After the structured questionnaire had been developed it was pretested. The pretesting was done at the gynecology unit of Maamobi Polyclinic. The questionnaires were administered to patients who were seen in the facility as cases of incomplete abortion. The results were analyzed in school with the supervisors and all additional inputs were included in the final questionnaire.

CHAPTER FOUR

RESULTS

Table 1a: Socio-demographic Characteristics of Respondents

VARIABLE	CASES N=206 (48.02%) n (%)	CONTROLS N= 223 (51.98% n (%))	TOTAL 429(100%) n (%)
Age(yrs)			
Age=<25	66 (32.04)	110 (49.33)	176 (41.03)
Age>25	140 (67.96)	113 (50.67)	253 (58.97)
Mean age (in years) (SD)*	29.4 (6.9)	26.8 (5.72)	
Education			
None	15 (7.28)	40 (17.94)	55 (12.82)
Primary	37 (17.96)	51 (22.87)	88 (20.51)
Middle/JSS	96 (46.60)	96 (43.05)	192 (44.76)
Secondary/SSS	37 (17.96)	26 (11.66)	63 (14.69)
Tertiary	21 (10.19)	10 (4.48)	31 (7.23)
Ethnic group			
Ewe	146 (70.87)	110 (49.33)	256 (59.67)
Guan	27 (13.11)	19 (8.52)	46 (10.72)
Akan	17 (8.25)	6 (2.69)	23 (5.36)
Ga-Dangme	5 (2.43)	4 (1.79)	9 (2.10)
Dagbani	1 (0.49)	16 (7.17)	17 (3.96)
Hausa	10 (4.85)	68 (87.18)	78 (18.18)
Marital Status			
Married	94 (45.63)	137 (61.43)	231 (53.85)
Co-habiting	81 (39.32)	72 (32.29)	153 (35.66)
Not married	31 (15.05)	14 (6.28)	45 (10.49)
Average number of children (SD)	1.8 (1.5)	2.2 (1.1)	
Religion			
Christians	116 (56.31)	71(31.84)	187 (43.59)
Other Christians (Charismatics)	77 (37.38)	68 (30.49)	145 (33.80)
Moslems	11 (5.34)	84 (37.67)	95 (22.14)
Traditionalist/None	2 (0.97)	0 (0.00)	2 (0.47)
Occupation			
Farming	14 (6.80)	5 (2.24)	19 (4.43)
Trading	86 (41.75)	99 (44.39)	185 (43.12)
Professional (nursing teaching, accounting, banking)	23 (11.17)	16 (7.17)	39 (9.09)
Artisans (hairdressing weaving etc)	50 (24.27)	65 (29.15)	115 (27.81)

House wife, apprenticeship, studentship and unemployed	33 (16.02)	38 (17.04)	71 (16.55)

* t test for mean

The background information of the respondents is presented in Table 1a. Overall, a total of 429 women aged between 13 and 49 years were interviewed. Two hundred and six (206) (48.02%) women who have had an abortion before were interviewed as cases and 223 (51.98%) women who have never had an abortion as controls.

The mean age of the respondents was 29.4 years with a standard deviation of (SD) of 6.9 in the cases and 26.8 years a (SD= of 5.72) in the control group.

The ethnic group of the respondents in the Municipality varied, with Ewes forming the majority (59.67%), Hausas 18.18%, Guans 10.72%, Akan 5.36%, . Dagbanis 3.96% and Ga-Dangmes 2.10%).

Although the Ewes (70.89%), Guans (13.11), Akans (8.25 and Ga-Dangmes (2.43) formed the majority among the cases The Dagbanis (3.95%), Hausa (8.18%) were majority among the controls.

Overall 13% of the respondents never had any formal education while approximately 34.04% had secondary school level education and above (high education). Majority of the respondents (65.27%) had primary, JSS or middle school level education. No formal education was lower (7.28%) in the cases compared to the control group (17.9%) while high education was higher among the cases (28.16%) compared to 16.14% in the control group.

In all 53.85% of all the respondents were married and 10.49% not married. The remaining 35.66% of them were co-habiting. The difference between the married and co-habiting is that those co-habiting are not formally married either by custom or law but share a common shelter with a man.

Overall, majority of the respondents were married (53.85%) or cohabiting 35.66%). Most married respondents were in the control group (61.43%) compared to 45.63% in the cases group. On the other hand majority of those who were cohabiting and unmarried (39.32% vs 15.05%) were in the cases group as compare to the control group (32.29% vs 6.28) respectively.

The average number of children, was slightly higher in the control group (2.2) compared to the cases group (1.8).

Table 1a also shows that majority of the respondents were Christian (77.39%) with Orthodox (Roman Catholics, Presbyterians etc) Christian formed (43.59%) and charismatic (eg Assemblies of God, Global church of Ghana, New covenant church, New Apostolic church Light chapel etc) formed 33.80%. Moslems formed 22.14%. Only 0.47% of the respondents were Traditionalists and non-believers in any faith.

Whiles orthodox and charismatic Christians formed the majority among the cases (56.31% vs 37.38%), the Moslems formed the majority 37.67% in the controls compared to the cases. traditionalists and non-believers were very low in both the cases and the control groups (0.97% vs .00%) respectively.

Table 2. A Comparison of Background Information between the Groups

Characteristics	Number per group= N	Number of respondents =n (%)	Odds Ratio (95% CI)	p-value
Age 26 yrs and above				
Cases	206	66 (37.50)	1.6 (0.87-2.91)	0.127
Controls	223	110 (62.50)	1.0	
Higher Educational level				
Cases	206	148 (44.18)	2.0 (1.05-3.67)	0.031*
Controls	223	187 (55.82)	1.0	
Ewes				
Cases	206	146 (57.03)	1.3 (0.73-2.39)	0.353
Controls	223	110 (42.97)	1.0	
Married				
Cases	206	125 (54.29)	0.9 (0.5-1.61)	0.763
Controls	223	151 (54.71)	1.0	
Having number of children less than four				
Cases 0.025*	206	169 (82.04)	0.4 (0.19-0.92)	
Controls	223	196 (53.70)	1.0	
Christians				
Cases	206	193 (58.13)	1.5 (0.87-2.66)	0.131
Controls	223	139 (41.87)	1.0	
Occupation (Salaried Workers)				
Cases	206	183 (46.68)	2.0 (1.05-3.67)	0.031*
Controls	223	209 (53.32)	1.0	
Contraceptive use				
Cases	206	107 (52.45)	1.4 (0.96-2.05)	0.08
Controls	223	97 (47.55)	1.0	
High wage (wage>GH ¢100.00)				
Cases	206	166 (44.39)	3.3 (1.76-6.33)	<0.001*
Controls	223	208 (55.61)	1.0	

CI confidence interval

The cases are 1.6 times more likely to be aged 26 years and above (OR =1.6, 95% CI: 0.87-2.91 p=0.127), this is not statistically significant.

The cases are two times more likely to be highly educated than the controls (OR=2.0, 95% CI: 1.05-3.67 p=0.031). This is statistically significant.

Women who obtained induced abortion are 1.3 times more likely to be ewes (OR=1.3, 95% CI: 0.73-2.39 p=0.353), however, not statistically significant.

Women in the case group are about 10% less likely to be married than those in the control group (OR=0.9, 95% CI: 0.5-1.61 p=0.763). It is statistically insignificant.

The cases are 60% less likely to have the number of children less than four (OR=0.4, 95% CI: 0.19-0.92 p=0.025). This is statistically significant.

Women who obtained induced abortion are 1.5 times more likely to be Christians (OR=1.5, 95% CI: 0.87-2.66 p=0.131). This is statistically insignificant.

The cases are 3.5 times more likely to be salaried workers than the controls (OR=3.5, 95% CI: 1.2-10.0 p=0.014). This is statistically significant.

Women who obtained induced abortion are 1.4 times more likely to have used contraceptives than those who did not (controls) (OR=1.4, 95% CI: 0.96-2.05 p=0.08), statistically insignificant.

The cases are 3.3 times more likely to be higher wage earners than the controls (OR=3.3, 95% CI: 1.76-6.33 p=<0.001), statistically significant.

Table 3a. Effect of some Baseline Characteristics on Contraceptive use and having Three or Less Children

Groups	N	N (%)	Unadjusted Odds Ratio (95% CI)	p-value	Adjusted Odds Ratio (95% CI)*	p-value	Adjusted Odds Ratio (95% CI)$	p-value	Adjusted Odds Ratio (95% CI)¶	p-value
Contraceptive use										
Cases	206	107 (52.45)	1.0		1.0		1.0		1.0	
Controls	223	97 (47.55)	0.92 (0.68-1.22)	0.553	1.54 (0.86-2.70)	0.147	1.54 (0.90-2.64)	0.112	0.98 (0.69-1.39)	0.912
Number of children =<3										
Cases	206	196 (46.30)	1.0		1.0		1.0		1.0	
Controls	223	221 (53.70)	1.05 (0.78-1.42)	0.758	1.76 (0.97-3.19)	0.064	1.71 (0.99-2.93)	0.053	2.9 (0.83-1.78)	0.309

*Adjusted for work, age, wage, education and religion
$Adjusted for work age and wage
¶Adjusted for religion and education

Table 3a shows the effect of some baseline characteristics on contraceptive use and having the number of children less than four. The unadjusted OR for contraceptive use was 0.92 (95% CI: 0.68-1.22 p=0.553). When adjusted for work, age, wage, education and religion the OR shot to 1.54 (95% CI: 0.86-2.70 p= 0.147) but the change was statistically not significant. Further adjustment for work age and wage did not bring about any change in the OR of 1.54 (95% CI: 0.90-2.64 p=0.112), this did not show any statistical significance. In adjusting for religion and education alone there was a significant change in the OR to 0.98(95% CI: 0.69 p=0.912 -1.39), the adjusted OR was statistically insignificant.

We also controlled for having number of children less than four as shown in the same table. The unadjusted OR for this characteristic was 1.05 (95% CI: 0.78-1.42 p=0.758). When we controlled for all the variables the OR became 1.76 (95% CI: 0.97-2.93 p=0.064). Controlling for work age and wage gave an OR of 1.71(95%CI: 0.99-2.93 p=0.053), there is some degree of statistical insignificance. The change became more insignificant when controlled for religion and education alone, OR was 2.9 (95% CI: 0.83-1.78 p=0.039).

Table 3b. Effect of some Baseline Characteristics on Contraceptive use and having Three or Less Children

Groups	N	N (%)	Unadjusted Odds Ratio (95% CI)	p-value	Adjusted Odds Ratio (95% CI)†	p-value	Adjusted Odds Ratio (95% CI)$	p-value	Adjusted Odds Ratio (95% CI)¶	p-value
Contraceptive use										
Cases	206	107 (52.45)	1.0		1.0		1.0		1.0	
Controls	223	97 (47.55)	0.92 (0.68-1.22)	0.553	0.91 (0.57-1.77)	0.714	0.76 (0.51-1.14)	0.188	4.30 (0.1.23-15.21)	0.022
Number of children =<3										
Cases	206	196 (46.30)	1.0		1.0		1.0		1.0	
Controls	223	221 (53.70)	1.05 (0.78-1.42)	0.758	1.23 (0.73-2.06)	0.432	0.84 (0.61-1.27)	0.410	3.67 (1.02-13.14)	0.046

†Adjusted for Charismatic Christians
$Adjusted for orthodox Christians
¶Adjusted for Moslems

Table 3b shows the effect of Christians and Moslems on contraceptive use and having the number of children less than four. For contraceptive use the unadjusted OR was 0.92 (95% CI: 0.68-1.22 p0.533). Controlling for Charismatic Christians alone yielded an OR of 0.91 (95% CI: 0.57-1.77 p=0.714) this was statistically insignificant. The adjustment for Orthodox Christians gave an OR of 0.76 (95% CI: 0.51-1.14 p=0.188). Though there was a change in the OR it was not statistically significant. When adjusted for Moslems alone the OR shot up to 4.30 (95% CI:0.12-15.21 p=0.022).

In the same table is the control for having less than four children. The unadjusted OR was1.05 (95% CI: 0.78-1.42 p=0.758). Charismatic Christians did not bring much significant change, OR of 1.23 (95% CI: 0.73-2.06 p=0.432). That of the Orthodox Christians gave an OR of 0.84 (95% CI: 0.61-1.27 p=0.410). Though there was a change in the OR it was insignificant. Of much statistical significant is the adjustment for Moslems alone, OR of 3.67 (95% CI: 1.02-13.14 p= 0.046).

Table 4 shows knowledge, types and failure of contraceptives available. In all only one person out of a total of 429 had never heard about any form of contraceptives. The remaining 428 have heard about one form or another. Generally 80.195 % know about the pill, 11.42% know about the injectables, 7.46% know about the female condom. For the long term methods, IUD and the Norplant only 0.70% know. The commonest known contraceptive among the cases and the controls is the pill, 71.84% and 87.90% respectively. Whereas the least known in both groups are the long term contraceptives nobody in the control group knew about the IUD. The about the injectables and the female condom is higher in the case group than the controls, 14.08% and13.11% respectively as compared to 8.97% and 2.24% in the control group.

The injectables are the most used contraceptives in general (51.96%) and the least used is the Norplant. The pill, however, is the second frequently used contraceptive. At the group level the most used still remains the injectables, 48.60% in the cases and 55.67% in the controls. In the second place in both groups remains the pill as in the overall, 27.19% in the cases and 24.74 in the

controls. The least used contraceptive in both groups is the IUD, 1.87% among the cases and 3.09% in the cases.Only the injectables failed the users the two groups. The failure rate was 14.95% in the cases and12.12% in the controls.

Table 4. Knowledge, Types and Failure of Contraceptives Available.

characteristic	**Cases N=206** n (%)	**Controls N=223** n (%)	**Total N=429**
Knowledge			
Heard about contraceptives	206 (100)	222 (96.6)	428
Never heard	0 (0.00)	1 (0.4)	1
Types known			
Pills	148 (71.84)	196 (87.90)	344 (80.19)
Injectables	29 (14.08)	20 (8.97)	49 (11.42)
Condom (female)	27 (13.11)	5 (2.24)	32 (7.46)
IUD	1 (0.49)	0 (0.00)	1 (0.23)
Norplant	1 (0.49)	1 (0.45)	2 (0.47)
Type used**	**n=107**	**n=97**	**N=204**
Pills	29 (27.10)	24 (24.74)	53 (25.98)
Injectables	52 (48.60)	54 (55.67)	106 (51.96)
Condom (female)	14 (13.08)	9 (9.28)	23 (11.27)
-IUD	2 (1.87)	3 (3.09)	5 (2.45)
Norplant	10 (9.35)	7 (7.22)	17 (0.83)
Failure			
Injectables	16 (57.14%)	12 (42.86%)	28 (100.00%)
% failure	14.95%	12.12%	

**Question for only those who used contraceptives

Table 5. Sources of Contraceptives

Source	Cases N=107 n (%)	Controls N=97 n (%)	Total N=204 n(%)
Pharmacy shop	30 (28.04)	23 (23.71)	53 (25.98)
Family Planning clinic	77 (71.96)	74 (76.29)	151 (74.02)

Sources of contraception are shown in Table 5. In all there were two main sources. The Family Planning Clinic (FPC) and the pharmacy shop. Mostly the commonest source is the FPC (74.02%) and it is the same for the individual groups,71.96% for the cases and 76.29% for the controls.

Table 6. Reasons for Using or Not Using Contraceptives between Groups.

Characteristics	Cases N=206 n (%)	Controls N=223 n (%)	Total N=429
Reasons for using Contraceptives			
Avoid pregnancy	120 (58.25)	144 (64.57)	264 (61.54)
Making time for other things	22 (10.68)	41 (18.39)	63 (14.69)
Children too young	32 (15.53)	27 (12.11)	59 (13.75)
Child spacing	32 (15.53)	11 (4.93)	43 (10.02)
Reasons for not using contraceptives*	**n=99 (%)**	**n=126 (%)**	**N=225 (100%)**
Religion	4 (4.04)	4 (3.17)	8 (3.56)
Culture	1 (1.01)	2 (1.59)	3 (1.33)
Cost (expensive)	0 (0.00)	2 (1.59)	2 (0.89)
Not available	3 (3.03)	3 (2.38)	6 (2.67)
Fear of side effects	50 (50.51)	35 (27.78)	85 (37.78)
Husband not around	11 (11.11)	15 (11.90)	26 (11.56)
Too young	10 (10.10)	13 (10.32)	23 (10.22)
Want to have children first	9 (9.09)	9 (7.14)	18 (8.00)
No reason	11 (11.11)	43 (34.13)	54 (24.00)

*Question for only those who do not use contraceptives

In Table 6 we have elicited the various reasons why the respondents use and why they do not use contraceptives. Generally the main reason given for contraceptive use was to avoid pregnancy (61.54%). Other reasons given were, to have time for other things (14.69%), child too young (13.75%) and in order to have space between children (child spacing) (10.02%).

In the individual groups the commonest reason was to avoid pregnancy, in the cases (58.25%) and the controls (64.57%). Whereas 18.38% of the control group use contraceptives so as to make time for other things and this actually is the second commonest reason, the second reason among the cases is child spacing and children too young with each having 15.53%. The least reason for contraceptive use is "making time for other things" in the cases whiles child spacing is the least among the controls (4.93%). The main reason the non-users of contraceptives gave was fear of side effects (37.78%). Others who had no reason for not using contraceptives form 24.0%, which generally is the second highest. Only 0.89% of the non-users gave cost as the reason. In the total 11.56% do not use contraceptives because their husbands had traveled and 8.0% wanted to have their desired number of children before thinking about contraception. Nonetheless, 10.22% think they are too young to use contraceptives. Religion, culture and availability did not carry any significant proportions. Among the individual groups there are differences. Whiles 50.51% of the cases do not use contraceptives for fear of side effects (the commonest reason), 34.13% in the controls do not use for no apparent reason (the commonest reason). Fear of side effects is the second main reason why the control group does not use family planning (27.78%). "Too young" to use contraceptives as a reason is similar in the cases (10.10%) and the controls (10.32%). About 11%in each group did not use contraceptives because their husbands were not available. The cost of contraceptives was not a reason among the cases group (0.0%).

Comparison of the Outcomes between the Cases and the Controls using the 2 by 2 Tables

Table x showing how odds ratios were calculated from the 2 by 2 tables

Age	Cases	Controls	Total
X	a	b	a+b
Y	c	d	c+d
Total	a+c	b+d	

The odds were calculated using the formula below: The odds of being aged X and being a case= a/b

The odds of Y and being a case=c/d

The odds ratio (OR) therefore is (a/b)/(c/d)

The odds ratio =ad/bc

Women aged X are Q% less likely to have induced abortion

Table 7a. A two by two table showing a Comparison between Age Categories versus Induced Abortion

Age	Cases	Controls	Total
25yrs and below	66	110	176
26yrs and above	140	113	253
Total	206	223	429

Table7a shows an OR of 0.5. This implies that women aged less than 26yrs are 50% less likely to have induced abortion.

Table 7b. Knowledge about Contraceptives versus Induced Abortion

	Induced abortion (Cases)	No induced abortion (Controls)	Total
Know long term method	2	1	3
Do not know long term methods	204	221	425
Total	206	222	428

Respondents who knew about long term contraception method are two times more likely to be among the cases than the controls (OR=2.2).

Table 7c. Long Term Contraceptive Use versus Induced Abortion

	Induced Abortion (Cases)	No induced Abortion (Controls)	Total
Use long term contraceptives	12	10	22
Do not use long term contraceptives	95	87	182
Total	107	97	204

The OR for long term contraceptive use is 1.1 as shown in table7c. This indicates that long term contraceptive use was about similar in both groups.

Table7d. Reasons for Using Contraceptives versus Induced Abortion.

	Induced Abortion (Cases)	No Induced Abortion (Controls)	Total
Avoid pregnancy(+)	120	144	264
Other (-)	86	79	165
Total	206	223	429

Women in the induced abortion group are 20% less likely to have used contraceptives to avoid pregnancy. (OR = 0.8).

Table 7e. Reasons for Not Using Contraceptives versus Induced Abortion

	Induced Abortion (Cases)	No Induced Abortion (Controls)	Total
Fear of side effect(+)	50	35	85
Other reasons(-)	49	91	140
Total	99	126	225

Women who do not use contraceptives for fear of side effects are about three times more likely to have an induced abortion compared to the controls (OR=2.8).

Table7f. Contraceptive Failure versus Induced Abortion

	Induced abortion (Cases)	No Induced Abortion (Controls)	Total
Failure with contraception use	16	12	28
No failure with contraceptive use failed	91	85	176
Total	107	97	204

Women who have contraceptive failure are 20% less likely to have an induced abortion (Cases) (OR =0.8)

Table 7g. Sources of Contraceptives versus Induced Abortion.

	Induced Abortion (Cases)	No Induced Abortion (controls)	Total
Pharmacy shop	30	23	53
Family planning clinic	77	74	151
Total	107	97	204

Women who obtain induced abortion are 1.3 times more likely to have acquired their contraceptives from a pharmacy shop than the controls. (OR =1.25)

Table7h. Effect of High Level Wages (>=GH¢ 100.00) on Induced Abortion

	Induced Abortion (Cases)	No Induced Abortion (controls)	Total
High wage	40	15	55
Low wage	166	208	374
Total	206	223	429

Women with high income are 3.4 times more likely to have induced abortion (cases group) (OR = 3.37)

Table 7i. Effect of Regular Salary on Induced Abortion

	Induced abortion (Cases)	No induced abortion (controls)	Total
Regular Salary	23	16	39
No salary	183	207	390
Total	206	233	429

Women with regular salary are 1.6 time more likely to have an induced abortion (OR=1.59)

Induced abortion among respondents who have ever done it

Table 8. Induced Abortions, Age, Reasons and Mode

First Pregnancy	**N=206** **n**	**%**
Aborted first pregnancy and other pregnancies	142	68.93
Did not abort first but other pregnancies	64	31.07
Mean age at first Pregnancy(yrs) * (SD)	**19.67**	**(3.28)**
Overall Reasons For Induced Abortion		
Did not want to stop Schooling	53	25.73
Not Married	46	22.33
No money to take care of the child	36	17.48
Was in Apprenticeship	31	15.05
Fear of parents	23	11.17
Last child was too young	17	8.25
Overall Modes of Inducing Abortions		
Went to the Hospital	149	72.33
Drunk Concoction	30	14.57
Inserted vaginal mixture	23	11.17
Bought oral tablets from the Pharmacy shop	3	1.46
Inserted Stick	1	0.49

*t test for mean age

Table 8 shows some baseline characteristics in relation to induced abortion among the 206 respondents who have ever obtained it. In all 68.93 % terminated their first and other pregnancies, the remaining 31.07% did not terminate their first, but rather subsequent ones. The mean age at first pregnancy was 19.67 years with a standard deviation of 3.28. The reasons for obtaining induced abortion are varied. Whiles 25.73% said they were in school and did not want to stop, 22.33% said they obtained it because they were not married. No money to take care of the child was the third most common reason given (17.48%). There were others who obtained it because they were in apprenticeship (15.05%). For fear of parental chastisement 11.17% obtained induced abortion. The last group was those who obtained it because the last child was too young (8.25%).

The modes of induced abortion are also represented in the same Table under description. Of the total number of cases, 72.33% obtained theirs either in a hospital or with people who claim to be medical personnel and have opened "hospitals" in their homes. All these were referred to as "kordzi" by the respondents. In the true sense they are not accredited health facilities. Most of them from these Kordzi get complications and eventually end up in the hospitals. The second most common mode of terminating pregnancy was the drinking of concoction (14.57%). Insertion of domestically prepared mixtures into the vagina took 11.17%. Only 1.47% of them bought oral tablets from the pharmacy shops to induce abortion. The least mode used was the insertion of stick through the vagina into the cervix to induce abortion.

CHAPTER FIVE

Discussions

Background Information

The study relied on hospital based data because it provided the best option of purposefully getting the cases of induced abortion. The antenatal and postnatal clinics also provided the best option of getting respondents who had never obtained induced abortion. It also made it possible to attain a personal contact with the women and was helpful when those of them who could not read and write English were recruited; this approach was used in a similar study in Denmark (Rasch et al, 2007). To ensure that the study population, to a large extent, was representative of the municipality, the addresses of the respondents were checked. This made it possible to get respondents across the length and breadth of the Hohoe municipal area.

Sexual and reproductive health education for Junior and Senior High Schools is not part of the Ghanaian school curriculum and therefore it cannot be generally assumed that women living in the municipal area are aware of basic physiology and how to avoid unintended pregnancies and by so doing reduce the burden of induced abortion. When we analyzed the socio-demographic data of women who obtained induced abortion in the Hohoe municipality, we found that majority of them were above the age of 25 years. In a similar study by Ahiadeke (2001) in Southern Ghana he reported that 60% of women who obtained induced abortion were below age 30 years. In another data collated by Guttmacher Institute titled "Facts on Induced Abortion in the United States" in 2008, it was indicated, that half of US women obtaining abortion, were younger than 25 years. In this study, a comparison between the cases and the controls shows that, women who obtained induced abortion are over one and a half times more likely to be aged above

25 years. The findings are in conformity with work done in Asia and published by Bankole et al, (1999). Most women in the municipality, who undergo procedures for induced abortion for their first pregnancies, do that before they attain the age of 20 years.

The highest level of education attained by all the respondents is junior secondary school. Interestingly the findings show that women who go in for induced abortion are mostly highly educated, mostly salaried workers and earn higher wages. Adanu and Tweneboah (2004) documented that majority of women who sought for induced abortion in Accra had higher educational levels.

Majority of the women who obtained induced abortion are Ewes. This is because the Study area is predominantly Ewe. A similar study in Accra showed Akans to be the majority (Oliveras et al., 2008).

In Adanu and Tweneboah (2004) it was indicated that only a small percentage who obtained induced abortion were married, but this study found that about half of them were married. This finding conforms with what Ahiadeke found in 2001 in a similar study in Southern Ghana. This similarity may be due to the fact that both Hohoe and Southern Ghana have similar socio-cultural settings. Low education seems to be the factor that is making the controls have more children, particularly in their young ages, however, higher education empowers women to delay child birth.

The study revealed that women who obtained induced abortion were mostly regular and higher wage earners and more likely to be Christians. They are, however, less likely to be married. it was also seen that in the Hohoe municipality women who obtain abortion are mostly Ewes,

nevertheless, this finding is statistically insignificant. The explanation is that the Ewes form the majority ethnic group in the study area.

Contraceptive knowledge and use

Almost all the respondents have heard about contraceptives before, except one. They also know about one type of contraceptive or another.

The findings also show that women who obtain induced abortion are more likely to use contraceptives than those who do not. Further analysis comparing the reasons for contraceptive use and induced abortion indicates that the cases are less likely to use contraceptives to prevent pregnancy. Women who obtain induced abortion mostly use contraceptives when their children are too young. Contraceptive use, therefore, is not paramount to them after the child had grown. Induced abortion then becomes an option and a measure of fertility regulation.

In most situations, it is the fear or experience of side effects that prevents women from using effective contraceptives (Rasch et al, 2007 in Rasussen,1983; Sidenius et al.,1983; Bretelsen, 1994; Ingelhammer et al.,1994). Women in the municipality associate long term contraceptive use with various cardio-vascular diseases and weight gain. Weight gain is generally accepted as a sign of affluence, it could be seen as a reason why high income earners use contraceptives more than low income earners. The fear of side effects and the experience of it lead to intermittent discontinuation of contraceptive use. In the interim, if they switch to some other methods, they are at an increased risk of unintended pregnancies and therefore also at risk of induced abortion. This also explains why women who fear the side effects of contraceptives have a significant

increased OR for induced abortion. This was found in a similar study in Denmark (Rasch et al.,2007 in Rasch et al., 2005).

Unplanned pregnancies occur among all women, those who seek for induced abortion and those who do not. Especially among women who obtain induced abortion, there had been attempts to avoid these pregnancies with contraceptive use; the rate of contraceptive failure (14.95%). Despite the failure rate, the OR for having contraceptive failure and resorting to induced abortion is very low. This reflects that those women who experience contraceptive failure are less likely to resort to induced abortion. These findings in the Hohoe municipality are different from a similar study conducted among Danish and immigrant women by Rasch in 2007, who concluded that women with contraceptive failure are at a higher risk of induced abortion.

A significant proportion of women do not use contraceptives for no apparent reason. Age was a factor. Most women felt they were too young to use contraceptives.

Religious, cultural and financial reasons were not significant factors that affect the use of contraceptives in the municipality.

Contraceptive use is not significantly affected by such baseline characteristics as work, age, wage, education and religion when logistic regression was used. The number of children a woman had was positively affected by being a Moslem.

Sources of Contraceptives

The source of contraceptives is not much of a problem for the women in the municipality. They either acquire the services from either a Family Planning Clinic or a pharmacy shop. Most women, prefer the Family Planning Clinic to the pharmacy shop. The analysis indicates that

those who get their contraceptive needs from the pharmacy shops are more likely to resort to induced abortion than those who patronize the services of the Family Planning Clinics. The explanation is that Family Planning Clinics keep records of their services and women are given appointments as to when to come for the next dose. This does not occur in the pharmacy shop so there may be a great irregularity in the use of contraceptives and wide periods of intermittent use. Another reason why the highly educated and higher wage earners prefer the services of a pharmacy shop is time. Long periods are spent at the family planning clinics so as to obtain a service. And women who are salaried workers may not have the time for that. On the other hand most women use contraceptives against the wish of their husbands, so the issue of secrecy makes the use of pharmacy shops more convenient. The risk for unintended pregnancies and induced abortion goes up when contraceptives are not used regularly as required.

Reasons for Obtaining induced abortion

A greater majority of induced abortion cases in the study gave education as the leading reason why they obtained it. In Adanu and Tweneboah (2004), education was the second major cause why women obtain induced abortion. The major reason they found in their study in Accra was relationship problems. This brings to light the shortfall in our educational system. Pregnancy is regarded as a hindrance to educational progress whiles in school. For fear of dropping out of school and also parental rebuke, young women would resort to anything to secretly induce an abortion. Very horrifying are some of the modes of induced abortion;

Methods of unsafe abortion

i) A mixture of five sachets of Coffee, ten tablets paracetamol and half a margarine tin of granulated sugar.

ii) A mixture of ten sachets of coffee, five tablets of paracetamol, five tablets of chloroquine and half a margarine tin of granulated sugar.

iii) A concoction of Guinness, ten tablets of chloroquine and two tablets of Ergot (Ergometrine).

iv) Ground red ants, a bottle of Guinness with two tablets of Ergot.

v) The juice from ground rotten fish (mormoi) twenty tablets of chloroquine

All the above are ingested to induce abortion, however, there a dozen others that are inserted vaginally. These include;

i) "Kportikporti" or "Babati" a local plant inserted into the cervix through the vagina. This is actually the most liked one among the rural women.

ii) Kportikporti leaves in the vagina.

The toxicological effects of the overdose of the drugs mentioned above are deadly. Paracetamol (Acitaminophen) overdose maybe fatal because it cause severe hepatotoxicity and acute renal tubular necrosis Chloroquine overdose causes irreversible retinopathy, ototxicity and myopathy and Ergometrine in excess causes vasospasm and gangrene (Basic and Clinical Pharmacology; B.G Katzung, 1995 pp251,552,785).

The insertion of sticks and other hard substances into the uterus and the vagina may cause uterine perforation and septic conditions that may be fatal. Haemorrhage could also result from this.

The most preferred method for induced abortion in the Municipality is dilatation and curettage in a clinical setting. The same results were found by Adanu and Tweneboah (2004). Similar unsafe methods that we recorded above were also recorded by Adanu and Tweneboah (2004).

These findings in the Hohoe municipality are different from a similar study conducted among Danish women by Rasch in 2007, who concluded that women with contraceptive failure are at a higher risk of induce abortion.

While some literature has it that a higher proportion of women who obtain induce abortion are adolescents, as shown earlier in the literature review, the analysis of these data indicates otherwise. Nevertheless the findings are in conformity with work done in Asia and published by Bankole et al, (1999). Most women in the municipality, who undergo procedures for induced abortion for their first pregnancies, do that before they attain age of 20 years.

Conclusion

In conclusion this study has shown that induced abortion, though a major problem in the Hohoe municipality, is mostly obtained by women who have higher education and earn higher wages. Contraceptive needs are mostly obtained from the Family Planning Clinic, however, the highly educated, regular and higher wage earners patronize private pharmacy facilities for their contraceptive needs. Though they tend to use contraceptives they are not consistent women in the Hohoe municipality use contraceptives mainly for the purpose of avoiding pregnancy when their children are too young.

The fear of adverse effects of contraceptives prevents women from using family planning methods effectively. In the municipality, young women think they are not matured enough to use contraceptives. Factors such as religion, culture and cost do not affect contraceptive use.

Whereas 72% of the women obtain induced abortion in the hospital the rest (28%) use very dangerous substances either orally, vaginally or both to induce abortion. This therefore means that the contribution of unsafe abortion to maternal mortality as reported in the 2006 Annual Report may be due to those who use dangerous concoctions to induce abortion. Women who earn low wages or are not salaried workersw, for reasons of unaffordability of cost are more likely to often resort to dangerous and sometimes fatal methods of terminating unintended pregnancies. In general, the zeal to continue education drives women in the Hohoe municipality to obtain induced abortion.

Limitations

The average number of pregnancies in the controls was not calculated, however, at the time of analysis it was realized that it would have been better to compare the average number of pregnancies in the two groups to see whether the number of pregnancies influenced the decision to obtain an abortion.

The collection of data on abortion was difficult for the field assistants, so the l investigator had to do this at huge financial cost to him.

Recommendation

To address the problem of induced abortion among women below 26 years, it is of paramount importance to review the secondary school curriculum. Reproductive health education must start early in the secondary school. This would empower women to make informed choices concerning their reproductive health. In health facilities special rooms must be created for working women who can come for their contraceptive needs and spend little time or the clinics should consider opening on Saturdays to attend to them.

In the future some research must be conducted to find out the toxicological effect of the kportikporti, ground red ants and rotten fish used for induced abortion.

Mostly contraceptive education is done at the postnatal clinics. This may be too late for a greater majority of women who, or the fear of side effects, do not use contraceptives. They get unintended pregnancies and resort to obtain induced abortion sometimes as fertility regulation**.**

It is, therefore, imperative to embark on contraceptive education among all women of reproductive age and not only at antenatal and postnatal clinics. Contraceptive education must include explaining the side effects to the users so as to allay their fears.

Appendix

Schedule of Activity

Plan 1: January- February, 2008; Fine tuning of research topic and development of research proposal including discussions with the Head of Department and consultations with the supervisors. Sitting in other lectures not registered for, but relevant to the development of the research proposal.

March, 2008; Continuous development of the research proposal and consultations with the supervisors. Presentation of research proposal on power point at a scheduled departmental forum. **(June to mid-July)**

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	OPD-Dist. Hosp.(ANC,PNC , FPC)	OPD-Dist. Hosp.(ANC,PNC , FPC)	OPD-Dist. Hosp.(ANC,PNC , FPC)	OPD-Dist. Hosp.(ANC,PNC , FPC)	OPD-Dist. Hosp.(ANC,PNC , FPC)
Week 2	Data collection from market women	Data collection from market women	Data collection from market women	Data collection from market women	Data collection from market women
Week 3	Home visit (Alavanyo Sub-district)	Home visit (Alavanyo Sub-district)	Home visit (Alavanyo Sub-district)	Home visit (Alavanyo Sub-district)	Home visit (Alavanyo Sub-district)
Week 4	Data entry	Data entry	Data entry	Data entry	Data entry
Week 5	Data entry/ Analysis	Data entry/ Analysis	Data/ Analysis	Data entry/ analysis	Data entry/ analysis
WK 6	Report writing Discussions with DHMT/ Supervisor	Report writing Discussions with DHMT/ Supervisor	Report writing Discussions with DHMT/ Supervisor	Report writing Discussions with DHMT/ Supervisor	Report writing Discussions with DHMT/ Supervisor

Budget

ITEM	**COST**
Transportation (Fuel, Accra-Hohoe-Hohoe)	C 160.00
Training of research assistants: 3 persons for three days (meals, transport, stationary)	C500.00
Questionnaire printing and other stationary	C200.00
Data Collection for the period: Transportation Allowances for research assistants Incentives for participants Communication (supervisors, DHMT, etc.)	 C200.00 C900.00 C300.00 C200.00
TOTAL	**C2,260.00**

LITERATURE SEARCH REFERENCES

1. Ahiadeke C. (2001), Incidence of induced abortion in Southern Ghana, International Family Planning Perspectives, volume27, No.2
2. Susheila Singh and Gilda Sedgh, (1997). The Relationship of Abortion to trends in Contraception and Fertility in Brazil, Colombia and Mexico; International Family Planning Perspectives, volume 23, No.1
3. Preventing Unsafe Abortion. The persistent public health problem[online]. Available at http://www.who.int/reproductives-health/unsafe/index.html

   (Accessed on 15/02/08)
4. Marston C, Cleland J,(2003). Relationship between Contraception and Abortion. A review of the Evidence, International Family Planning Perspective, volume 21, No.1
5. Marston C, and Cleland J,(2003). Relationship Between Contrception and Abortion: a Review of the Trend. International Family Planning Perspectives, Vol.29, No.1
6. Dickson-Tetteh, Kim, Billings, Deborah L, (2002). Abortion Care Services provided by Registered Midwives in South Africa. International Family Planning Perspectives, volume 28, No.3
7. Otoide V, Orosaye F, Okonofua F, A. (2001). Why Nigerian Adolescents Seek Abortion Rather than Contraception: evidence from Focused Group Discussions. International Family Planning Perspectives, volume 27, No.2
8. Facts on Induced Abortions World Wide. Worldwide incidence and trends: WHO October 2007.[online], available at http://www.gutmacher.org/pubs/fb

   (Accessed 10 February 2008)

9. Induced Abortions: Rates and Trends Worldwide. The Lancet, October 13, 2007.

10. MK, Rahman M, and van Ginneken J., (1998). Induced abortions in Matlab, Bangladesh: trends and determinants, International Family Planning Perspectives, Vol.24, No.3

11. Demographic Methods and Concepts: Donald T. Rowland pp221-227

12. Agyei W.K.A, Biritwum R.B, Ashitey A.G, Hill R.B. (2000). Sexual Behaviour and Contraception among Unmarried Adolescents and Young Adults in Greater Accra and Eastern Regions of Ghana. Journal of biosoc. Sc. Vol. 32

13. James D. and Roche N. (2006). Therapeautic Abortion[online], Available at http://www.emedicine.com/med/topic3311.htm (Accessed on 28/02/08)

14. Abortion Laws of the World [online]. Available at http://www.annualreview.law.havard.edu/population/abortion/abortionlaws.htm (Accessed on 27/02/08)

15. Sedgh G., Henshaw S., Singh S., Ahman E., and Shah I. (2007). Induced Abortion: Estimated Rates and Trends Worldwide. The Lancet.

16. Mulama, J. (2008). Anti-Abortion Law, a "silent war against women"

17. Bankole, A. Singh, S. Haas, T. (1999). Characteristics of Women who obtained Induced Abortion: A Worldwide Review. International Family Planning Perspective, Vol.29, No.2

18. Bankole, A. Singh, S. Haas, T. (1998). Reasons why Women have Induced Abortion: Evidence from twenty-seven countries.

19. Lloyd C.B. and Mensch B. S (2006). Marriage and Childbirth as factors in School Exit: An analysis of DHS data from sub-Saharan Africa.

20. Dahlback E, Maimbolwa M, Kasonka L, Bergstrom S, Ransjo-Arvidson AB, (2007). Unsafe induced abortion among adolescent girls in Lusaka. Health Care Women International.

21. Bongaart J, and Westoff C (2000). The Potential Role of Contraception Reducing Abortion. Studies in Family Planning, Vol.31. No.3

22. Boland R and Katzive L (2008). Developments in Laws on Induced Abortion: 1998 – 2007. International Family Planning Perspectives, Vol.34, No.3. September, 2008.

23. Katzung B.G (1995). Basic and Clinical Pharmacology;, pp251,552,785

24. **Table 1b. Background Characteristics**

VARIABLE	CASES	CONTROLS
No. interviewed	**206 (48.02%)**	**223 (51.98%)**
Age(yrs)	n (%)	
25 and below	66 (32.04)	110 (49.33)
26 and above	140 (67.96)	113 (50.67)
Education		
Lower	148 (71.85)	187 (83.86)
Higher +Secondary	58 (28.16)	36 (16.14)
Ethnic Group		
Ewes	146 (70.87)	110 (49.33)
Non-Ewes	60 (29.13)	113 (50.67)
Marital Status		
Married	125 (60.68)	151 (67.71)
Not married	81 (39.32)	72 (32.29)
No. of Children		
3 and less	169 (82.04)	196 (87.89)
4 and more	27 (17.96)	25 (12.11)
Religion		
Christians	193 (93.69)	139 (62.33)
Non-Christians	13 (6.31)	84 (37.67)
Occupation		
Non-Salaried workers	183 (88.83)	209 (93.72)
Salaried Workers	23 (11.17)	14 (6.28)
Contraception		
Use	107 (51.94)	97 (43.50)
Use not	99 (48.06)	126 (56.50)
Wage level		
Low wage<C100.00	166 (80.58)	208 (93.27)

High wage>C100.00	40	(19.42)	15	(6.73)

Figure 1. Data collection at Logba Klikpo .

Figure 2. Durbar on Tuberculosis/HIV-AIDS at Santrokofi.

Figure 3. Durbar on contraceptive use in Hohoe.

Figure 4. Data collection at Fodome-Helu.

Figure 5. Durbar at Zongo with academic supervisor.

Figure 6. Data collection, Ve-Koloenu

Figure 7. Academic supervisor at a durbar (Prof. Clement Ahiadeke)

Figure 8. Data collection, Santrokofi.

Figure 9, 10. Durbar on reproductive health, Deme.

.

Figure 11. Data collection, Logba-Tota.

Figure 12. Data collection, Ve-Tongu.

INFORMED CONSENT FORM

PROJECT TITLE: THE RELATIONSHIP BETWEEN INDUCED ABORTION AND CONTRACEPTIVE USE IN THE HOHOE DISTRICT OF GHANA

Institutional affiliation:

School of Public Health, College of Health Sciences, University of Ghana, Legon

Background

My name is Dr.Kennedy Brightson. I am a researcher from the School of Public Health. I am conducting a research on the relationship between induced abortion and contraceptive use in the Hohoe district of Ghana. This academic research is part of students' project work for the degree of Master of Public Health.

Procedures:

The information that would be collected include background information, socio-cultural and issues bothering on gynaecological health.

Risks and Benefits

You may feel uneasy with some of the questions we will be asking you. However this research will help to formulate policies that will improve on the health status of females and families.

Right to refuse:

Giving us consent to participate in this study is voluntary and not under any obligation. If you do not want to do so you are at liberty to withdraw from the study. If at any point of the interview you feel uncomfortable you can draw our attention to it.

Anonymity and Confidentiality

Be assured that the information collected will be handled with strict confidentiality and will be used purely for academic purposes. All your responses will not be shared with anybody who is not part of the study team, and data analysis will be done at the aggregate level to ensure anonymity.

Do you have any questions that you wish to ask? Yes…… (If yes, questions to be noted below)

……
……
…….....

If you have questions later, you may contact **Dr. Kennedy Brightson on phone number 0208117733**

Consent

I……., having understood the study, after having the consent form thoroughly explained to me in English/Ewe/ language do hereby agree to enroll and participate in this study.

Signature/Thumbprint of Respondent ……

Date …….....

Interviewer's statement:

I, the undersigned, have explained to the subject in the language that she understands the procedures to be followed in this study and the risks and benefits involved. She has agreed to participate in the study.

Signature of Interviewer ……

Date ……..

SCHOOL OF PUBLIC HEALTH, COLLEGE OF HEALTH SCIENCES,
UNIVERSITY OF GHANA, LEGON

THE RELATIONSHIP BETWEEN INDUCED ABORTION AND CONTRACEPTIVE USE IN THE HOHOE DISTRICT OF GHANA

FEMALE RESPONDENTS

ID No……..

Name of town/village…….

Name of facility……..

Name of interviewer……

Date of interview……

Name of respondent……

SECTION 1: SOCIO-DEMOGRAPHIC DATA (CHECK WHERE APPLICABLE)

No.	Question	Response	Code
1.1	Age	☐	**SD1age**
1.2	What is the highest level of school you attended?	1. Primary ☐ 2. Middle/JSS 3. Secondary/SSS 4. Tertiary or Higher 99. Other (Specify)_____	**SD2edu** **SD2other**
1.3	Are you currently married or having a man?	1. Yes currently married ☐ 2. Yes having a man	**SD3mrg**

		3. No not married	
1.4	What is your marital status now?	1.Widowed ☐ 2.Divorced 3.Separated	**SD4mar**
No.	**Question**	**Response**	**Code**
1.5	To which ethnic group do you belong?	1.Ewe ☐ 2.Guan 3.Akan 4.Ga-Dangme 5.Dagbani 6.Hausa 99.Other (specify)_____	**SD5ethn** **SD5other**
1.6	What is your religion?	1.Catholic ☐ 2.Anglican 3.Methodist 4.Presbyterian 5.Other Christian 6.Moslem 7.Traditionalist/spiritualist 8.No religion 99. Other (specify)_____	**SD6rel** **SD6other**
1.7	What work do you do?		**SD7occ**
1.8	What is your monthly salary/wage?	1. ≤ C20.00 ☐ 2. C21.00-C50.00 3. C51.00-C100.00 4. ≥ C100.00	**SD8inc**

SECTION 2 **CONTRACEPTION**

No.	Question	Response	Code
2.1	Have you ever heard about contraception?	1. Yes 2. No ☐	**C1heard**
2.2	Which of the following do you know of?	1. Pills ☐ 2. Injectables 3. Condom a. male condom **b.** female condom 4. IUD **5.** Norplant 99. Other (specify)_____	**C2know** **C2other**
2.3	Have you ever used contraceptives?	1. Yes 2. No ☐	**C3use**
2.4	If yes, which type of contraceptive do you use?	1. Pills 2. Injectables ☐ 3. Condom a. male condom **b.** female condom 4. IUD **5.** Norplant 99. Other ((Specify)_____	**C4type** **C4other**
2.5	If no, give reasons	1 Religion 2 Culture ☐ 3 Expensive	**C5rsn**

		4. Not available 99. Other (specify)_____	**C5other**
No.	**Question**	**Response**	**Code**
2.6	Why do you use contraception? Why do people use contraception?	1. Don't want to get pregnant 2. Want to make time for other things 3. Children are too young 99. Other ((Specify)_____	**C6use** **C6other**
2.7	Have you ever become pregnant while using contraceptives?	1. Yes ☐ 2. No (If no, skip 2.8)	**C7prg**
2.8	Which contraceptive method were you using?	1. Pill ☐ 2. Injectables 3. Condom 99. Other (specify)	**C8meth** **C8other**
2.9	Where do you usually get your contraceptives?	1. Pharmacy shop ☐ 2. Family planning clinic 99. Other (specify)_____	**C9sorce** **C9other**
2.10	Could you afford to buy contraceptives regularly?	1. Yes ☐ 2. No If yes, skip 2.11	**C10buy**
2.11	Why could you not afford?	1. Expensive ☐ 2. Unavailable 99. Other (specify)_____	**C11rsn** **C11other**

SECTION 3 INDUCED ABORTION

No.	Question	Response	Code
3.1	Have you ever become pregnant?	1.Yes 2. No ☐	**IA1chd**
3.2	How old were you when you first became pregnant?		**IA2age**
3.3	Was is that you wanted it?	1.Yes 2. No ☐	**IA3choic**
3.4	If no, why was it not wanted?	1. Did not want to stop schooling ☐ 2. Fear of parents 3. Not married 4. No money to take care of a baby 99. Other (specify)_____	**IA4rsn** **IA4other**
3.5	If yes, did you carry your first pregnancy to term?	1.Yes 2. No ☐ If yes, skip to 3.8	**IA5term**
3.6	If no, did you "touch" it?	1.Yes 2. No ☐	**IA6touch**
3.7	Which of the following did you do?	1. Drunk concoction ☐ 2. Inserted medicine 3 Went to the pharmacist 4. Went to the clinic 99. Other (specify)_____	**IA7act**
			IA7other
3.8	How many times have you ever	☐	**IA8freq**

	become pregnant?		
3.9	How many of these pregnancies did you carry to term?		**IA9term**
No.	**Question**	**Response**	**Code**
3.10	(Proceed if there is a disparity). Did you "touch" the lost ones?	1.Yes 2. No	**IA10lost**
3.11	If yes, which of the following did you do?	1. Drunk concoction 2. Inserted medicine 3 Went to the pharmacist 4. Went to the clinic 99. Other (specify)_____	**IA11choi** **IA11other**
3.12	Why did you "touch" the pregnancy?	1.Do not want to stop schooling 2. Fear of parents 3. Not married 4. No money to take care of a baby 99. Other (specify)_____	**IA12why** **IA12other**
3.13	How many living children do you have?		**IA13lch**