DETERMINANTS OF UNSAFE ABORTION AMONG ADOLESCENTS AND YOUNG ADULTS IN GHANA

BY

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GHANA

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Determinants of Unsafe Abortion Among Adolescents and Young Adults in Ghana

A thesis submitted in partial fulfilment of the requirements for the degree of Master in International Health

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The thesis (**Determinants of Unsafe Abortion Among Adolescents and Young Adults in Ghana**) is my own work.

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List of Abbreviations

CAC	Comprehensive Abortion Care
DTP	Diphtheria Tetanus Pertussis
GDHS	Ghana Demographic Health Survey
GDP	Gross Domestic Product
GHS	Ghana Health Service
GNI	Gross National Income
GMHS	Ghana Maternal Health Survey
GSS	Ghana Statistical Service
HIV	Human Immunodeficiency Virus
HDI	Human Development Index
ICPD	International Conference on Population and Development
KIT	Koninklijk Instituut voor de Tropen
LMIC	Low and/or Middle Income Countries
MDG	Millennium Development Goals
NGO	Non-Governmental Organization
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
WHO	World Health Organization

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Abstract

Background: Morbidity and mortality associated with unsafe abortions pose a challenge to Ghana's health system. Although abortion is legal under certain circumstances, unsafe abortion remains the second highest cause of maternal mortality. Underreporting makes accurately determining the true extent of this problem difficult. Therefore, surveys have largely been relied upon for most data. This study uses the GMHS 2007, to unearth the determinants of unsafe abortion among young females (15-24 years). This sub-population is chosen due to its vulnerability to unintended pregnancies and their sequelae.

Methods: The sample reported 1374 pregnancies in women aged 15-24 years, of which 235 reported abortions in the 5 years preceding the survey. Binary logistic regression was used to explore the relationship between unsafe abortion and various proximate and systemic determinants.

Findings: Unsafe abortion was determined based upon the provider and the environment in which the abortion was performed as permitted by Ghana's laws. It is estimated that 49.8% of abortions were unsafe. The main variables found to be positively and significantly associated with the probability of an unsafe abortion were: (1) age, (2) education, (3) household wealth, (4) rural residence, (5) religion and (6) ethnicity.

Interpretation: This analysis has determined that among Ghana's young female population, inequities relating to geographic location, sociocultural and economic factors influence the circumstances under which an abortion is performed. Further measures are therefore required to address these inequities and fully implement Ghana's laws.

Keywords: Unsafe abortion, induced abortion, Ghana, West Africa, adolescents, youth, young adults, socioeconomic determinants, socioeconomic inequalities.

Word count – 12,635

Introduction

The delicate period of life, between when society considers one a child and adulthood is one fraught with a lot of questions regarding sexuality. Unfortunately, in many societies, such issues are swept under the carpet. Left with no answers and being at the mercy of the sometimes-uncontrollable hormonal surges and their peers, many adolescents explore sex and issues relating to sexuality, which society has kept under the lid. Oftentimes, the disastrous consequences that follow have to be dealt with by these fragile young minds and society.

I developed an interest in this unique but sensitive subject of unsafe abortions among adolescents and young adults, while working as a Family physician at the Korle-Bu polyclinic in Accra, Ghana. Very often, I encountered an adolescent or young adult presenting with a sexually related problem, but who due to the embarrassment of discussing the topic, would feign some other medical problem. Sometimes, these other problems were meant to occupy the doctor's time while they mustered the courage to discuss what they really intended. At other times, and I am sure quite often, they left without ever getting the opportunity of having their real problems addressed.

Answering the questions posed by those who had the courage often left me with an impression, as the questions they sought answers to were rather basic and did not need the sort of 'embellishing' they had received. This is hardly surprising in a society as conservative as ours, where even adults shy away from asking questions relating to their sexuality.

As one frequently encountered complications relating to unwanted pregnancies and unsafe terminations, one wondered when the scales would lifted off the eyes of society and come to terms with the harm we cause ourselves by not dealing directly with a topic which adults and our teenagers are occupied with 'under the sheets'.

With the advent of HIV in addition to the numerous sexually transmitted infections, it begs the question as to why a developing country like Ghana's with such a youthful population does not appear to place a premium on issues relating to its young adult population.

In this regard, this thesis seeks to take a step in exploring the factors responsible, in other words the determinants of unsafe abortion among adolescents and young adults in Ghana.

CHAPTER 1: BACKGROUND INFORMATION ON GHANA

1.1. Geographic profile

The Republic of Ghana is located in West Africa, between latitudes 4° N and 12°N, and longitudes 4°W and 2°E. [1] Ghana comprises 10 regions and 216 districts and covers an area of about 238,533 square kilometres. [2,3,4] Accra, Ghana's biggest city, is the nation's administrative and political capital.

Ghana has a tropical climate; warm and comparatively dry along southeast coast; hot and humid in the southwest; hot and dry in the northern parts of the country.[2] The country enjoys two main seasons: the rainy and dry season (otherwise called harmattan). [5]

Home to the largest artificial lake in the world, the Volta Lake spans almost 8,500 square kilometres, eventually emptying into the Atlantic ocean. [2] To the south of Ghana, the Gulf of Guinea borders Ghana's coastline of roughly 560 kilometres. It shares boundaries with Togo on the east, Burkina Faso on the north and parts of the northwest, and Cote d'Ivoire on the west. [2,6]

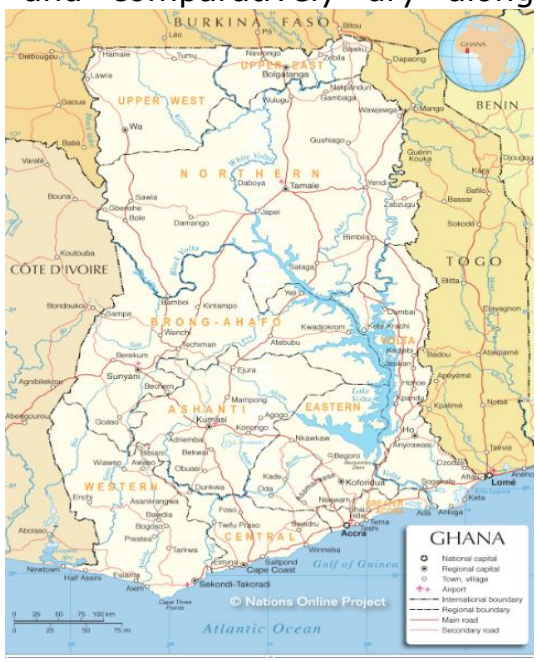


Figure 1: Map of Ghana

1.2. Economy

Ghana's economy has traditionally been regarded as an agrarian one, with the Agricultural sector contributing about 34% of its Gross Domestic Product (GDP) and employing about 50% of its population. [7] The Service sector, which contributes about a third of Ghana's GDP, is seen as the fastest growing sector with the wholesale and retail trade sub-sector alone accounting for a quarter of this sector's growth. [8] The third main sector is the Industrial sector, which contributes about a quarter of Ghana's GDP. [7]

Ghana is a renowned exporter of cocoa, gold and timber in addition to some others. [8] In recent times however, the discovery of crude oil in commercial quantities has added this resource to the list of its exports. [9]

Today, Ghana is regarded as having attained Lower middle-income status.[10] It has a GDP of $40.71 billion (US) and a Gross National Income (GNI) per capita of $1,550 (US).[11]

Unemployment is pegged at about 11%, while about 28.5% of the population live below the poverty line.[12] Ghana ranks 135th on the Human Development Index (HDI). [13]

1.3. Demographic profile

With a population of almost 25 million, up from the census 2000 figure of 18.9 million, Ghana's average growth rate stands at 2.2% per annum. [12] It has a sex ratio of 1.001 males: 1 female [14] and a median population age of 21.7 years. [12] Thus, its population can be described as youthful. The proportion of the population aged less than 15 years represents about 38.3% of the population while those aged between 15-24 years represent 20% of the population. [15] During the last census conducted in 2010, females aged 15-24 years represented 39.6% of women in the reproductive age group 15-49 years. [15]

The life expectancy at birth has seen a steady increase since 1984 when it was 54 years for females and 50 years for males. [7] Today, according to the World Bank, the average life expectancy at birth is 64 years. [10]

1.4. Health profile

Ghana's under-five morality rate stands at 78 deaths / 1000 live births, with the top three causes of under-five mortality attributable to malaria, prematurity and respiratory tract infections. The immunization coverage as indicated by the DTP3 is over 90%, while the skilled birth attendance is about 55%. [16]

Furthermore, the maternal mortality ratio (number of maternal deaths per 100,000 live births) is 350. [16] In a country that has seen a steady decline in its fertility rate over the past two decades, only 40% of Ghana's contraceptive need is being met. [8]

Ghana, like a lot of developing countries, is currently experiencing the double burden of communicable and non-communicable diseases, which exert a toll in terms of years of life lost, accounting for 66% and 25% respectively, while injuries account for about 9%. [16]

In terms of the health workforce, Ghana's physician to population ratio is 0.9 physicians: 10,000 population, while there are 10.5 nurses/midwives: 10,000 population. [16] (See Annex 1 for further details of Ghana's health profile)

1.5. Sexual and Reproductive Health profile

The median age of first marriage for females in Ghana is 19.8 years representing an increase from 19.4 years in the 2003 Ghana Demographic Health Survey (GDHS). [7] Spatial and socio-demographic variations have been observed in the age of first marriage, particularly among females. For instance, according the 2008 GDHS, the median age of marriage ranged from 17.8 years in the Upper East region to 22.9 years in the Greater Accra region. [7] There also appeared to be a linear relationship between formal education and median age of marriage, where those without any education had a median age of marriage of 18.6 years while those with Junior Secondary/Middle School education had a median age of marriage of 20.1 years. Generally, this indicates a later age of marriage in comparison with findings five years earlier. [7]

The reported median age at first sexual intercourse for females was 18.4 years and 20.0 years for their male counterparts. [7] The median age at first intercourse occurred 1.4 years and 6 years before the median age of the first marriage for females and males respectively. [7]

Regarding having sex four weeks prior to the survey, 7.1% and 25.6% of males aged 15-19 years and 20-24 years respectively had had sex during the time period. 78.1% of 15-19 year olds had never had sex, while 26.2% of the 20-24 year group had never had a sexual encounter. [7] Conversely, for females, 12% and 35.4% of the 15-19 and 20-24 year groups respectively had sex within the four weeks prior to the survey. Additionally, 62.7% and 11.2% of the 15-19 and 20-24 year groups respectively had never had sex. [7] This trend suggests that young females are postponing sex.

A comparison of the data between 1993 and 2008 suggests an increase in the median age at first birth,[7] from 20.2 years in 1993 [17] to 20.7 years in 2008. [7] However, the past five years have not recorded any appreciable change in terms of adolescent births, with 13% in 2008 compared with 14% in 2003 who had begun childbearing. [7]

CHAPTER 2: PROBLEM STATEMENT, JUSTIFICATION, OBJECTIVES AND METHODOLOGY

2.1. Problem statement

The United Nations defines young persons (youth) as individuals between the ages of 15 and 24 years (UNESCO, 1995).[18] Adolescents, on the hand are defined as young people between 10 and 19 years.[19] This is a period of transition between childhood and independence.[20] Worldwide, it is estimated that there are about 1.8 billion young persons; 90% of whom live in low- and middle-income countries (LMIC).[21] A summary of data from the Demographic Health Survey since 2005 shows that in most African countries, sexual activity before age 20 is more prevalent than marriages before that age, with a high adolescent fertility rate and its attendant consequences.[21] It is estimated that about 1.8 million adolescent females give birth yearly, mainly in LMICs.[22] Additionally, 1 out of every 3 women in developing compared to 1 out of 5 women in developed countries would have given birth by the age of 18.[22] Of these births, about 95% take place in LMICs which are largely beset with poverty, lack of education and high rural populations.[22] As a consequence of these numerous, sometimes unintended pregnancies, about 3 million, mostly unsafe abortions among adolescents occur yearly, some with fatal and often times long-term complications.[22] In a global context, adolescent pregnancy is a major contributor to maternal and childhood mortality as well as entrenches the cycle of ill-health and poverty.[22]

Several studies around the world have looked into the factors that influence abortions. Others have scrutinized the determinants of unsafe abortion defined as "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."[23]

In South Africa, despite having one of the most liberal laws on abortion, unsafe abortions is reported to be responsible for about 13% of the maternal mortality, with determinants such as poor social support, inadequate contraceptive services and poor health service infrastructure listed.[24] In Nigeria where laws tend to be quite restrictive, a study among adolescents found a perceived threat to fertility by contraceptives made abortion a more acceptable method of controlling fertility.[25]

Young people in Ghana (between the ages of 15 – 24) comprise 20% of its about 25 million inhabitants, with young females numbering about 2.5 million (20% of Ghana's female reproductive population).[26] The age-specific fertility rates for the age groups 15-19 years, and 20-24 years have been estimated at 84/1000 and 187/1000 respectively, with corresponding total abortion rates (TAR) of 17/1000 and 25/1000 respectively, the highest across the reproductive age group.[27] In Ghana, where abortion had been largely criminalized until the law was revised in 1985 (and amended in 2003), [28,29] services are scarcely available. This means that in order to procure abortions, girls and young women expose

themselves to unsafe abortions with the attendant risks of uterine perforation, pelvic infections, bleeding, chronic pelvic pain and possible infertility.[30] Additionally, complications which arise from induced abortions have been found to be the second leading cause of maternal mortality in Ghana,[31] accounting for between 12 – 15% of maternal-related deaths.[32] This is in keeping with other studies in Sub-Saharan Africa.[33,34,35]

Studies carried out so far appear to have explored issues relating to abortion, the law and complications that arise.[36,37,38] Other studies have delved into contraceptive usage.[39,40] In Mexico, a study by Sousa et al explored the determinants of abortion in women between the ages of 15 and 49 years. [41] Research has so far failed to answer the question as to what factors influence adolescents' and young adults' choices of unsafe abortion rather than resorting to safer methods or contraceptive services.

This is what this study aims at finding out.

2.2. Justification

According to the Ghana Maternal Health Survey (GMHS), 2007, 11% of maternal deaths are abortion related.[27] The survey also reports that as high as 7% of all pregnancy losses are due to abortion, with the proportion of pregnancies terminated higher in women aged 24 years and below (24.9%).[27] Abortions were highest in individuals who were pregnant for the first or second time as opposed to women with higher order pregnancies.[27] Further analysis appears to suggest that abortions were procured as a means of contraception and to delay childbirth, especially by those desirous to continue with their education. Furthermore, these terminations were largely sought outside government hospitals.[27]

The Reproductive and Child Health department of the Public Health Directorate of the Ghana Health Service (GHS) has outlined a strategic framework (Ghana Reproductive Health Strategy 2007 – 2011) in order to align its policies with that of the global developmental goals (ICPD, MDG).[42] The first strategic objective is aimed at reducing maternal mortality and morbidity through Comprehensive Abortion Care (CAC) amongst others, to the extent permitted by law. The third strategic objective also mentions enhancing and promoting Reproductive health in adolescents and other vulnerable groups amongst others.[42]

In addressing unsafe abortion and finding solutions to this Public health problem, it is crucial to unravel the factors that play an influencing role among adolescents and young adult females, especially in the Ghanaian context as a basis for proffering solutions.

2.3. Objectives

2.3.1. General objective:

To explore the main determinants of unsafe abortion among adolescents and young adults in Ghana, in order to recommend possible solutions to the relevant stakeholders.

2.3.2. Specific objectives:

1. To explore and analyse the relationship between proximate factors and unsafe abortion among adolescents and young adults in Ghana.
2. To explore and analyse the relationship between systemic factors and unsafe abortion among adolescents and young adults in Ghana.
3. To explore the relationship between abortion and unsafe abortion among adolescents and young adults in Ghana.
4. To make recommendations to address unsafe abortions among adolescents and young adults in Ghana.

2.4. Methodology

Both review of secondary data and literature were used in this thesis. These were used in combination with the conceptual framework to answer the objectives. The main data analysed was from the GMHS 2007 that preceded the GDHS the subsequent year. Macro International carried out this survey in collaboration with the Ghana Statistical Service (GSS) and Ghana Health Service (GHS). The GMHS was the first nationally representative population-based study, which collected information on maternal health and mortality in Ghana.

2.4.1. Sample Design

The GMHS 2007 data was collected using a multistage, stratified, clustered sample design in two phases. The data from the second phase of the survey is used in the analysis. A total of 222, 715 representative households were selected from 1600 selected clusters from across the 10 administrative districts of Ghana in both urban and rural settings. The first of the two-stage process involved selecting the 1600 clusters from the already existing wards and sub wards used in the 2000 National Population Census [43] sample frame.

The enumeration areas that provided the sampling frame for the survey were determined on the basis of size, population and territorial limit. To ensure enumerated areas could easily be identified, a geo-coding consisting of a hierarchical listing of administrative areas (regions, districts, towns and villages) was prepared.[43]

This sample size was estimated from information in the 2003 GDHS survey, so that each sampling unit consisted of 150 households. This yielded a total of 222,715 households.[27]

2.4.2. Data Collection

Data on maternal health was collected in two (2) phases. Phase I collected information on deaths within households, specifically female deaths, while Phase II was a verbal autopsy of the causes of maternal deaths collated in Phase I. Additionally, Phase II fielded a women's questionnaire which collected information from 10,370 women between the ages of 15-49, drawn from 10,858 households, on a wide range of maternal health related issues: pregnancy, abortions, miscarriages and live births. Information was also collected on the utilization of health services in relation to the above-mentioned events.

2.4.3. Variables

Dependent variable

The dependent variable (outcome of interest) is unsafe abortion. To arrive at this however, the study looks at the steps involved: decision to have an abortion and the decision to opt for an unsafe rather than a safe abortion. The safety of the abortion was measured taking into account the place where it was performed and the provider. A safe provider was defined a doctor or a nurse/midwife (the people mandated by law to carry out abortions). Other providers (auxiliary midwife, "chemical seller" or pharmacist, traditional birth attendant, community health worker, friend or relative, traditional healer) were classified as unsafe.

A safe location was defined as a government or private hospital/health centre or clinic, because the laws of Ghana to carry out abortion services legally mandate these facilities. [29] Other locations such as a pharmacy or chemical seller's shop, the respondent's own home, the home of a relative or friend, or the home of a traditional birth attendant, were classified as unsafe.

A single binary measure of abortion safety was created that combined provider safety and method safety. Thus, if a woman had used a safe provider and a safe location the abortion was coded as "safe". All other combinations were coded as "unsafe".

Explanatory variables

Using the existing variables in the dataset, factors associated with unsafe abortion in women aged 15-24 years were identified. These were classified as "individual level" (demographic characteristics – age, marital status, religion, prior abortion experience, contraceptive use in those who aborted) and "systemic level" (socioeconomic characteristics).

2.4.4. Data Preparation and Analysis

Data was analysed using STATA Release 13 software (2013). Data from the GMHS 2007 was downloaded and a subset of the women's dataset for the desired age group used in this study was created. An initial sample of three thousand eight hundred and thirty-two (3,832) women between the ages of 15-24 years was extracted from the original dataset. This number

was reduced to 3,829 after individuals were linked to households by merging the subset and Household dataset. Preparation of the data, which consisted of recoding and generation of new variables to reflect those of interest, recoding of missing data and merging the household dataset with that of the respondents in order to determine the wealth quintiles was done.

A descriptive statistics table was developed for key variables taking into account the sample weights of the dataset in order to ensure representativeness of the data, which could occur due to over or under sampling. This utilized the number of women who were pregnant within five years that preceded the study, those who had abortions and those who had unsafe abortions. Afterwards, dummy variables were created for inclusion in the regression model.

A multivariate analysis, namely a binary logistic regression was then carried out between the outcome variable of interest and the independent variables factoring in the two-step process described in the conceptual framework between pregnancy and a safe or unsafe abortion. To overcome, or at least reduce the problem of selection bias, the Heckman selection technique [44] was used to model the two decision processes together with the following specification

$$^{Ui*} = X_i = \beta + \varepsilon_i \qquad (1)$$

$$s_i = \begin{cases} 1 \; if \; \gamma z_i + \varphi_i > 0 \\ 0 \; if \; \gamma z_i + \varphi_i \leq 0 \end{cases} \qquad (2)$$

We observe $U_i = U_i^*$ only when $S_i = 1$

Where U_i is observed choice of safe or unsafe abortion, U_i^* is unobserved choice of abortion safety and S_i is whether or not the woman aborted a child in the five-year period. X_i represents various covariates affecting decision to have safe or unsafe abortion. This decision is observed only for those who had abortions and not for the pregnant women who did not. To identify the selection of equation there must be a variable that would select women into having abortion but would not have any direct effect on whether or not the woman opted for an unsafe abortion. For this model one could argue for example, that the number of living children would have a direct effect on decision to abort, as women would use abortion to get the number of desired children. However, the number of living children does not have any direct association with the safety of the abortion. Equation 1 is determined by incorporating the inverse Mill's ratio,[44] estimated from Equation 2, the probability of having an abortion.

2.4.5. Ethical Clearance

The data used in this study has been downloaded from the Measure DHS website [45] with the permission of ICF Macro International through an officially obtained password. Subsequently, ethical issues concerning primary data collection can be accessed at the Measure DHS website as pertained to its original data collectors. No further efforts will be made to

trace back the subjects and the data will be kept confidential as per the agreement made with ICF Macro International.

2.4.6. Search Strategy

Relevant literature relating to the subject was sought from a number of search engines that included PubMed, Scopus, Google scholar and Google search engines. The websites of WHO, Vrije Universiteit, KIT library, University of Bergen, University of Heidelberg and UNICEF were also utilized. Other sources of information included the Ministry of Health (MoH) Ghana, Ghana Statistical Service and Ghana Health Service websites.

Keywords used and combinations thereof included: abortion, teenage abortion, unsafe abortion, induced abortion, Ghana, West Africa, adolescents, youth, young adults, and determinants, socioeconomic determinants, socioeconomic inequalities.

Peer-reviewed articles cited were mainly those in English and for which English translations could be accessed dated 2000 or later. Earlier dated articles considered highly relevant but dated before 2000 were also reviewed.

2.4.7. Limitations

The highly stigmatized nature of abortion in Ghana makes the likelihood of underreporting plausible, as respondents instead of abortion could have actually used terms such as miscarriages and stillbirths, thus affecting numbers used in the analysis.

Also, since respondents were asked to recall events several years earlier, the obvious risk posed by recall bias is a real possibility.

Given that the data was generated from a cross-sectional survey, the absence of retrospective data makes comparison difficult. Therefore analysis is based on data that was collected at the time of the survey.

The low numbers of respondents coupled within some missing data for some of the explanatory variables make it difficult to extrapolate findings to the general population.

2.4.8. Conceptual Framework

For the purposes of this thesis, the analysis and discourse relating to unsafe abortion among adolescents and young adults will hinge on a framework which condenses the determinants of unsafe induced abortion as described by Mundigo et al [46] with determinants of unsafe abortion unique to adolescents described by Olukoya.[47]

According to Mundigo, there are two main determinants of unsafe induced abortion, which can broadly be classified as **individual level (proximate) determinants** and **systemic level determinants.**

The Individual level determinants are those that result in an unintended pregnancy and the decision to have an abortion. These include a variety of interrelated **background factors** such as educational level, marital status, family size and composition; **contraceptive factors** which include contraceptive non-use, misuse and failure. In addition to these, Olukoya cites incest, sexual violence or rape as **immediate factors**, which influence the decision to abort a pregnancy.

Systemic level determinants on the other hand, are those, which influence the decision process leading to a safe or unsafe abortion. These include **policy**, **health service factors**, **social**, **economic** and **religious factors**.[46]

Policy is seen as the decisive factor in governance that makes abortion legal, safe, available and affordable. Policies backed by legislation provide an umbrella under which the health service operates to restrict or safeguard the reproductive rights of women. Consequently, abortion may be termed legal or illegal depending on whether the practice is supported by law or frowned upon.

Health service factors are directly related to the policy of a country. They include the demand and supply factors that border on accessibility, availability, infrastructure, quality, cost, service provision and information that influence the delivery of safe abortion alongside comprehensive care in a given jurisdiction as supported by policy.

Social factors include household and societal norms and values, union stability, partner influences and gender preferences that influence abortion in certain societies. Olukoya, in his exposé includes parental influence or fear, which in adolescents may greatly influence the decision-making process irrespective of the decision or desires of the adolescent concerned. He also highlights instability in relationships and dislike of the father of the child as reasons more often cited by adolescents.

The role of economic factors cannot be overemphasized. These include income levels/ financial resources, employment status, economic aspirations and welfare/assistance. These are key in determining immediate affordability and future outlook in terms of support, resources and aspirations. According to Olukoya, this factor greatly influences the decision to seek an abortion, especially by adolescents who more often than not have fewer economic resources.[47]

Religion exerts an influencing role in the consciousness of societies and individuals in determining decisions regarding sex, contraception and abortion.

Other reasons cited by adolescents opting for abortion include wanting to continue education, failed contraception and having a previous child. [47]

The framework also, highlights two main decision-making points between a resulting pregnancy and either a safe or an unsafe abortion. The first decision point is the stage at which the individual, based on the

individual-level factors opts to deliver or abort a pregnancy. This decision is greatly influenced by the degree of 'unintendedness' or 'unwantedness' of a pregnancy.[47] The second decision-making point relates to the decision to opt for a safe or unsafe termination. These are dependent on mainly the systemic factors that establish the conditions for a safe or unsafe abortion and are key in the decision making process (Figure 2.1).

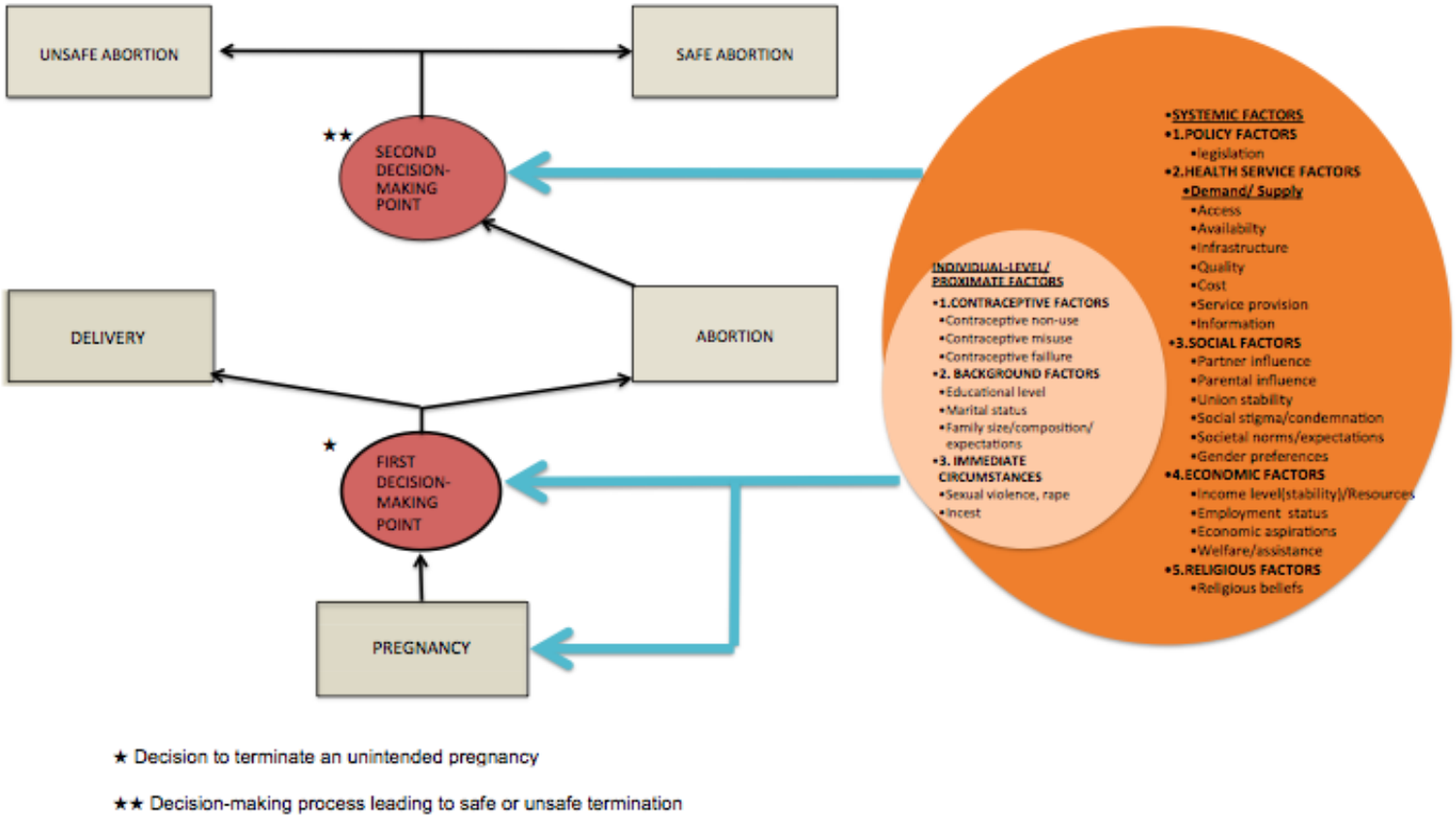


Figure 2: Conceptual framework for the determinants of unsafe abortion among adolescents and young adults

(Adapted from Mundigo, A.I. and Olukoya, A.A.)[46,47]

CHAPTER 3: LITERATURE REVIEW

The determinants of unsafe abortion as seen from the conceptual framework are a reflection of proximate and systemic factors at play and the influence they bring to bear on the various decision-making points.

3.1. Proximate Factors

3.1.1. Background factors

The desire to unearth the background characteristics of women who undergo abortions has resulted in several studies within and outside sub-Saharan Africa.

Research has identified education as a key determinant of abortion. Findings across the age spectrum of women in the reproductive age group suggest a positive correlation between abortion and education. [40] Education influences the ability to get information needed to make informed choices regarding ones sexuality as well as better knowledge of the law. [48] In several countries, education has been used to empower women and has been seen as a useful tool in delaying childhood marriages.[49] This however has had a ripple effect on prolonging the age between when a girl attains menarche and when she gets married. This period exposes her to early sex outside marriage and its attendant risks of abortion.[49] For example, a study in the Delta State of Nigeria found that majority of the women admitted for unsafe abortions were mainly those who were in secondary school, nulliparous and unmarried.[50] Similarly, Schwandt and colleagues in Ghana identified young, unmarried females to be at risk of unsafe abortion.[31] Interestingly though, education has been noted to play a somewhat protective role as far as the safety of abortion is concerned.[41]

The marital state of a young woman may also play a role in seeking abortion and its safety. Although marriage seems to protect one from the stigma sex outside marriage carries, it has been used in certain cultures to determine the desired size and composition of families. [51] On the other hand, unmarried sexually active individuals may utilize abortion as a tool to delay child bearing or in certain regions of the world as a substitute to contraception.[52]

3.1.2. Contraceptive factors

There has been considerable debate about the relationship between contraceptive use and incidence of induced abortion. Some schools of thought claim that contraception use reduces its prevalence while the opposing view posits that increased use of contraception leads to an increase in the prevalence of abortion. [53] Marston et al in their study conclude that indeed use of contraceptives leads to a reduction in the incidence of abortions although this occurs in settings where fertility is constant.[53] Empirical evidence suggests that high levels of abortion occur with low access to modern contraception.[54] According to the GDHS 2008,

Ghana's fertility has shown a downward trend over the past two decades, although contraceptive usage witnessed a drop from 25% in 2003 to 23% in 2008.[7] A study by Biney et al [40] appears to support findings in Nigeria [25] that due to misconceptions regarding the effects of contraceptives, adolescents and young adults rather resort to abortion as a means of fertility regulation. [27]

3.1.3. Immediate circumstances

Several countries, including Ghana permit abortion in cases of sexual violence, rape and incest. [29] However, these instances are hardly reported due to the stigma attached. Despite the relative lack of data due the few prosecutions that follow such actions perpetrated against young women, anecdotal evidence suggests that such instances are quite frequent in Ghana. Furthermore, research findings indicate that even after controlling for age, socioeconomic background, parity and education, intimate partner violence related pregnancies are associated with higher incidents of abortion. [55]

3.2. Systemic factors

3.2.1. Policy factors

The role of policy in tackling unsafe abortion has been a subject of considerable debate. Those with doubts cite countries such as India where unsafe abortion remains high despite the liberalization of abortion.[41,56] In Ghana, despite revised legislation on abortion in 2003, it has been shown that the delay in the formulation and implementation of policies has failed to translate the law into tangible services. Hence, abortions that can be procured safely under the law are still subject to clandestine procurement due to lack of knowledge on the part of providers and clients.[57] Studies show that an abysmally low number of health institutions are aware of about the current legislation regarding abortion in Ghana.[27] A recent survey confirmed that across the ten districts in the country, fewer than 1 in 7 public health facilities offered legal abortion. The same survey also revealed that only 4% of respondents thought abortion was legal in Ghana. Similarly, in Nigeria, it was found that policy makers had poor knowledge of the abortion law and were directed by morality and religion rather than having an evidence-based outlook.[58]

Despite the introduction of CAC in 2006,[27] studies reveal serious gaps as far as its administration is concerned.[59] Some of these include provider hesitancy in providing needed care,[59] misconceptions about the legality of services rendered [27] and lack of protocols.[60] It is crucial that these gaps are addressed in order to enable the health system respond accordingly in ensuring affordability, accessibility, quality of care and availability to all women.[61] Policy can also be used as an instrument in destigmatizing abortion through channelling resources to educating the public, and getting community leaders on board.[28]

3.2.2. Health service factors

The role of health services in relation to reproductive health has been well captured in the definition of reproductive health arrived at in the ICPD conference in Cairo. It states:

> *a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes. Reproductive health therefore implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. Implicit in this last condition are the right of men and women to be informed and to have access to safe, effective, affordable and acceptable methods of family planning of their choice, as well as other methods of their choice for regulation of fertility which are not against the law, and the right of access to appropriate health-care services that will enable women to go safely through pregnancy and childbirth and provide couples with the best chance of having a healthy infant.*[46]

In furtherance of this, the International Covenant on Economic, Social and Cultural Rights affirms access to the highest attainable standard of health as the right of the individual. It goes ahead to highlight that right to include the following: availability, accessibility, acceptability and adequate quality of services.[46]

It has been noted that paucity of services, in terms of quality, access, cost and trained providers, as in the case of India alluded to earlier, is a major reason why safe abortion is out of the reach of many women. [62]

Access to safe and legal abortion has been described as the single most important factor in reducing maternal mortality and societal costs associated with unsafe abortion.[63] Access to service includes information access, geographic and cost accessibility.[46] In jurisdictions where only doctors are mandated to perform abortion-related services, access is denied women in areas where doctors are unavailable, such as rural towns and villages.[64] A study on safe motherhood among adolescents in Kenya highlighted inaccessibility of services as a responsible factor for the high unsafe abortion and premature delivery rates. [65] In relation to cost of services, cost-effective techniques, such as the use of manual vacuum aspiration in lieu of the more popular dilatation and curettage will go a long way in eliminating cost as a barrier to the provision of safe services to women.[63] Access to sexual and reproductive health information has been identified as an urgent need in tackling unsafe abortion.[66] Interestingly, it is this realization that prompted the Tanzanian government to include information and service provision to adolescents as part of their strategy for reproductive health and child survival. [66]

The availability of services in numbers sufficient to meet the need of the population is equally key to the provision of services. Availability of

abortion-related services is closely aligned but not limited to legislation and the policies in any given jurisdiction.[64] For example, the insistence that medical practitioners alone carry out a service where none are available results in deprivation of that service to many in need especially in rural areas and villages.[64] Against the backdrop of the major advances in medicine, it has been suggested that decentralization of essential obstetric services be carried out, right down to the health centre and community levels.[67]

It has been argued that in jurisdictions where abortion is legal, safety of the service is determined mainly by the quality of services.[24] In Nepal, the scaling up of high quality care has been a main driver in tackling that country's maternal mortality and morbidity profile.[68] The quality of abortion-related services is closely tied to the calibre of staff offering the service. In South Africa, training and certification of midwives proved effective in enhancing the quality of abortion services.[69] Quality, in terms of sex education and access to contraception has equally been identified as a factor in addressing unintended pregnancies and the resultant unsafe abortions.[70,71] It is equally essential that services when offered are audited to ensure sustained benefits to those in need.[72]

For services to be relevant, it is vital that they are acceptable and do not offend the sensibilities of those who utilize the service.[46] The adoption of 'youth/adolescent friendliness' in the services given is essential in addressing unsafe abortion.[24] Providing such a service requires training of staff in history-taking and examination techniques, courtesy and respect for the dignity of the adolescent/ young women seeking care.[47]

3.2.3. Religion

The social context of adolescents in Ghana has seen a gradual shift of influence from mainly traditional practices and beliefs to those of the two main foreign religions of Christianity and Islam. Both these value systems (traditional and religious) promote the ideals of chastity till marriage.[73] Within the Ghanaian context therefore, religion tends to play a stigmatizing role when confronting behaviour not considered the norm.[28] Addai, in his work states interestingly, that religion appears to be an important predictor of premarital sex, noting that individuals belonging to more liberal religious groups are more likely to engage in premarital sex, than followers of more conservative, orthodox ideologies. [49] Although, the role of religion in influencing the delivery of abortion-related services has been examined (for example the role of the Catholic church), [74] the role it plays in individuals seeking abortion is yet to be determined.

3.2.4. Economic factors

Studies have shown that women in the higher wealth strata of the society have a greater likelihood of procuring a safe abortion. [48] Olukoya notes that adolescents more often lack economic resources compared to adults. This lack often influences the decision to obtain an abortion, and is a key determinant in its safety.[47] Additionally, lack of resources results in delays

at key points in the decision-making process such as seeking help early and using a skilled provider, which may result in complications.[47] According to Baiden, the economic differential tends to stand out where inequities in access to abortion services exist. The resultant desperation accompanied by the 'illegal' nature of such services put them within reach of only those who can afford to the exclusion of those lower down the wealth ladder, who resort to substandard services out of desperation.[75] In the Maternal Health Survey, 21% of respondents stated that they sought abortion due to lack of resources to cater for the child.[27]

In like manner, it has also been shown by Ahiadeke and colleagues, that abortions are significantly higher in women who are self-employed than those in secondary employment.[36] In the GMHS 2007, 8.5% of respondents stated their desire to continue working as the reason for obtaining an abortion.[27]

Welfare assistance and social support differ, and range from support in obtaining healthcare through support for childcare by spouse/ partner and employer. [72] The lack of this support had been identified as one of the determinants of unsafe abortion.[24,76] Some (2.4%) of the respondents in the survey stated their desire to opt for an abortion was due to lack of support to care for the child. [27]

The economic aspirations of individuals hold enormous relevance particularly in Africa, where dropping out of school due to pregnancy significantly reduces ones future prospects.[49] The desire to continue schooling was cited by 11% of those interviewed as the reason for choosing to have their pregnancies terminated.[27]

3.2.5. Social factors

Most customs in Ghana frown upon pregnancy out of wedlock and consider abortion a taboo that carries profound stigma especially in traditional societies. [75] Abortion-related stigma has been described as a social phenomenon, which is reproduced in local context. [62] For example in some parts of Cameroun, a mistimed entry into motherhood is thought to be more shameful than the act of abortion.[62] Similarly, in certain parts of Ghana where girls are required to perform rites of passage ceremonies to be inducted into womanhood by the society, the shame associated with carrying a pregnancy often forces young girls to seek terminations in order to present themselves as virgins.[28] Three per cent of respondents in the last Maternal Health Survey stated that they resorted to abortion in order "to avoid shame".[27]

In several male-dominated societies, the ability for women to exercise sexual and reproductive control in their relationships is limited, as is the decision to opt for an abortion.[77] Studies show that the male partners often influence the decision to abort directly though their insistence and support to procure an abortion or indirectly through denial of the pregnancy or withdrawal of support.[78] The resultant dependence on the male partner in decision-making may sometimes result in delay in

seeking care.[77] It has been suggested that partner influence is crucial in deciding whether a woman has a safe abortion or not. [77] A marginally positive association has however been reported between partner neutrality/ support and safe abortion.[48] Partner opposition on the other hand appeared to be associated in delay in seeking care.[79]

Common partner-related factors cited in studies as reasons for unsafe abortion by women include: fear of abandonment, denial of pregnancy, partner's insistence, casual relationship, and physical violence.[48,78] In certain instances, male partner's initiate the process of an abortion by paying for the procedure without revealing the cost to their female counterparts.[78] In the GMHS 2007, 6% of women stated they had an abortion because their partner did not want/denied the pregnancy. [27]

In the same vein, parental influence has been enumerated as a factor influencing abortion. This influence may be direct, where parents initiate the process, [78] or indirect in which an abortion is carried out by the woman herself in order to escape family shame or parental backlash. [28] Three per cent of respondents in the survey stated that abortions were undertaken "to avoid shame/fear of parents".[27]

Although gender preferences leading to sex-selective abortions have been widely reported in Asia, [80] there is currently no evidence suggesting that the practice if present in Ghana is widespread. In the survey, the respondents make no mention of gender preference as a reason for abortion. [27]

The 2007 survey shows higher percentages of induced abortion among respondents who were either married or had been married in the past, compared with their unmarried counterparts.[27] This lends credence to assertions that in the setting of low access to modern contraceptives, couples resort to abortion to achieve their desired family sizes.[54] Union stability in relationships involving young especially unmarried partners has been identified as an influencing role in the decision to opt for an abortion or not. [47,78] The survey identifies key questions that could be used to extrapolate the stability of a union. Nine (9%) per cent of respondents stated that they "did not love the father/did not want to stay with the father" as reasons for opting for an abortion.[27]

CHAPTER 4: RESULTS/FINDINGS

This chapter presents the results of the various analyses done relating to the sample population. In the first section, an overview of the findings in the study population details the characteristics of the study participants. In the second section, the results of the multivariate analysis between the dependant and explanatory variables are presented.

Section 1- Characteristics of study participants

4.1. Description of sample population

The sample population comprises respondents aged between 15-24 years from the total number of respondents included in the GMHS 2007. Out of 10,370 respondents, 3,829 women, representing 36.9% of the total sample size, were aged between 15-24 years. These individuals were extracted for analysis in this study (see Tables 4.1 and 4.2)

A breakdown according to age showed that more than half of the respondents were between 15-19 years (54.1%), with the remainder between 20-24 years.

An analysis of the ethnic backgrounds revealed that majority (55.5%) were Akan. Ewe and Ga/Adangbe ethnicities accounted for 14.4% and 8.2% respectively while the remainder was accounted for by a combination of other indigenous ethnic groups.

More than half (54.3%) of respondents resided in rural settings.

In terms of the highest educational level attained by respondents, 47.3% had Junior Secondary/ Middle School education, whereas Primary education alone was attained by 22.5% of respondents. 17.8% of respondents attained Senior Secondary and higher (tertiary inclusive) levels of education while 12.4% had no education.

Majority of the respondents were Christian (79.8%), while 15.8% were Muslim. Traditional and other forms of religion including those who did not profess any religion made up 4.4% of the respondents.

Slightly above seventy per cent (73.2%) of respondents were married or living with a man (cohabiting) while the remainder was not married.

For ease of analysis, the wealth quintiles were reclassified as Poor (poorest +poorer), Middle (middle) and Rich (richer + richest). Majority of respondents were classified as rich (48.7%), followed by poor (31.1%). The rest were classified as belonging to the middle stratum.

Table 1: Characteristics of study participants based on selected variables

Variables	Total no of women	No. and percentage of women who reported pregnancies in the last 5 years (%)(column and percentages given)	No and percentage of women who reported having abortions in last 5 years of those who were pregnant in the last 5 years (row%)	No. and percentage of women who had unsafe abortions in the last 5 years of those who aborted in the last 5 years (row%)
Total	**3,829**	**1,374 (35.9%)**	**235 (17.1%)**	**117 (49.8%)**
Age				
15 -19	2,071	304 (22.1%)	57 (18.8%)	32 (56.5%)
20 – 24	1,758	1,070 (77.9%)	178 (16.6%)	85 (47.6%)
Ethnicity				
Akan	1,926	724 (57.7%)	149 (20.6%)	75 (50.4%)
Ga/Adangbe	283	98 (7.8%)	26 (26.5%)	12 (47.2%)
Ewe	500	161 (12.8%)	27 (16.8%)	12 (44.4%)
Mole/Grussi/Hausa/Gruma/others	760	272 (21.7%)	18 (6.6%)	10 (54.8%)
Place of residence				
Urban	1,748	477 (34.7%)	130 (27.3%)	57 (43.6%)
Rural	2,081	897 (65.3%)	105 (11.7%)	60 (57.3%)
Highest educational level				
No education	473	255 (18.6%)	11 (4.3%)	8 (72.7%)
Primary	861	352 (25.1%)	61 (17.3%)	30 (49.2%)
Middle/JSS	1,812	645 (47.9%)	118 (18.3%)	62 (52.8%)
Secondary/SSS/Higher	683	116 (8.4%)	42 (36.2%)	15 (36.3%)
Religion				
Christian	3,051	1,074 (78.2%)	208 (19.4%)	104 (49.8%)
Muslim	606	204 (14.9%)	17 (8.3%)	9 (55.9%)
Traditional/other religion/no religion	168	94 (6.9%)	9 (9.6%)	3 (35.3%)
Marital status				
Married/living together	1,026	893 (65.0%)	94 (10.5%)	49 (52.3%)
Not married	2,802	481 (35.0%)	141 (29.3%)	68 (48.0%)

Wealth index				
Poor	1,189	499 (36.3%)	42 (8.4%)	26 (61.9%)
Middle	776	329 (24.0%)	51 (15.5%)	29 (56.9%)
Rich	1,864	546 (39.7%)	142 (26.0%)	61 (43.0%)

Table 2: Characteristics of respondents who reported abortions*

	No and percentage of women who reported having abortions in last 5 years of those who were pregnant in the last 5 years (column%)	No and percentage of women who had unsafe abortions in the last 5 years of those who aborted in the last 5 years (column%)
Total	235	117
Contraceptive use**		
Not Using contraceptive	173 (74.2%)	90 (52.1%)
Using contraceptive	60 (25.8%)	26 (43.9%)
Desire for pregnancy**		
Wanted	66 (51.2%)	1 (1.5%)
Mistimed	61 (47.3%)	8 (1.3%)
Unwanted	2 (1.6%)	0
Partner's attitude**		
Favoured	142 (60.7%)	62 (43.7%)
Opposed	41 (17.5%)	21 (51.3%)
Neutral	51 (21.8%)	34 (66.1%)

- *Questions specific to those who reported abortions.
- ** Some values missing from original data

4.2. Description of respondents reporting pregnancy

Respondents who reported pregnancies within the preceding five years of the survey numbered 1,374 (35.9%)

Those in the age category 15-19 years represented 22.1% of those who reported pregnancies, while those in the age category 20-24 years represented 77.9% of respondents.

Majority (57.7%) of women who reported pregnancy in the past five years were Akan, followed by Ewe – 12.8%, Ga/Adangbe – 7.8%, Mole/Grussi/Hausa/ Gruma/others – 21.7%

Almost two-thirds (65.3%) of those who reported pregnancies resided in rural settings while the remainder lived in urban areas.

The highest educational level attained by respondents who had been pregnant revealed that 47.9% had Junior Secondary/ Middle School education, 25.1% - Primary education, 8.4% had Senior Secondary and higher education, whereas 18.6% had no education.

The religious affiliations of respondents who reported pregnancies showed that 78.3% were Christians while Muslims were 14.9%. The rest practiced traditional and other forms of religion, including no religion.

Almost two-thirds (65.0%) reported either being married or cohabiting with a man. The remainder was not married.

According to the revised wealth stratification, 39.7% were classified as rich, 36.3% as poor and 24.0% in the middle wealth stratum.

4.3. Description of respondents reporting abortions

Two hundred and thirty-five (17.1%) of the 1,374 participants who reported pregnancies within the five-year period sought terminations.

Stratification according to age shows that 18.8% of respondents aged between 15-19 years, who had reported pregnancies, had terminations compared with 16.6% of those aged between 20-24 years.

In terms of ethnicity, the percentages of the various groups that sought abortions were as follows: Ga/Adangbe – 26.5%, Akan – 20.6%, Ewe – 16.8%, Mole/Grussi/Hausa/Gruma/others – 6.6%

Analysis by residence shows 27.3% of urban residents who reported pregnancies procured abortions, compared with 11.7% of rural residents.

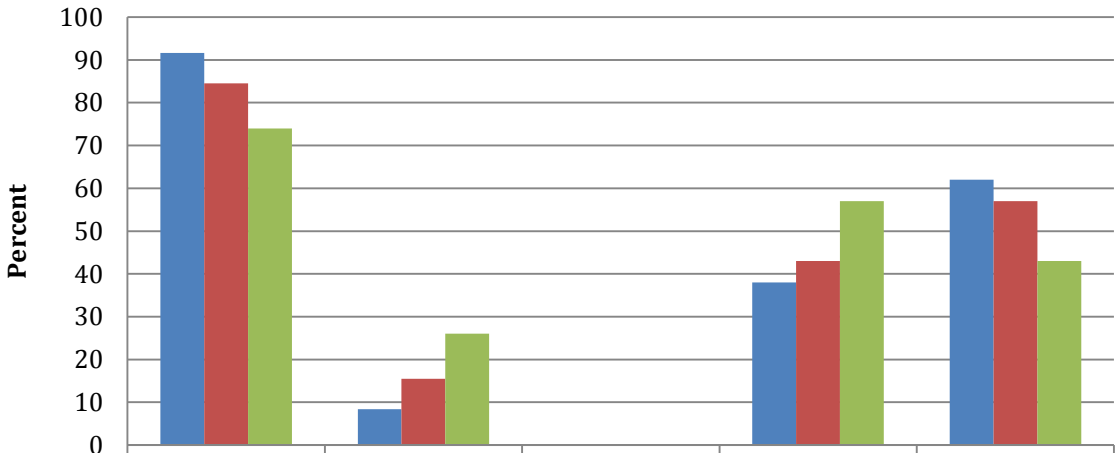
Thirty-six per cent of respondents with secondary and higher education who had reported pregnancies had abortions compared with 18.3% and 17.3% for Middle/Junior secondary and primary education respondents respectively. Generally, this shows that education to be positively correlated with abortion compared with lack of education (4.3%).

About Nineteen per cent (19.4%) of the Christian respondents reported an abortion. The corresponding percentages of 8.3% and 9.6% were Muslim and those of other/no faith respectively.

Non-married respondents who reported an abortion comprised 29.3% compared with 10.5% of married women who had abortions.

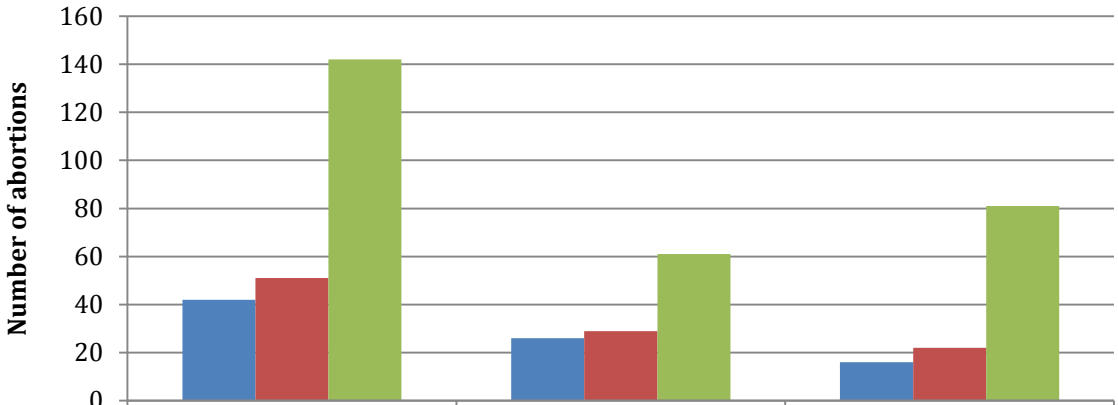
Abortions were highest among those classified as rich, who had reported pregnancies (26.0%), followed by women in the middle wealth stratum (15.5%) and the poor (8.4%), see figures 3 and 4.

Figure 3: Percentage of women who had abortion and the safety of the abortion by economic status



	No abortion	Abortion		Safe	Unsafe
Poor	92	8		38	62
Middle	85	16		43	57
Rich	74	26		57	43

Figure 4: Number of safe and unsafe abortions by economic status



	Total Abortions	Unsafe	Safe
Poor	42	26	16
Middle	51	29	22
Rich	142	61	81

Poor Middle Rich

Out of those who reported abortions, only 25.8% used contraception at the time they got pregnant.

Desirability of the pregnancy revealed that 51.2% desired their pregnancies, 47.3% regarded their pregnancies as mistimed and 1.6% as unwanted.

Most partners (60.7%) were in favour of the decision to have the pregnancies aborted, 21.8% were neutral, while 17.5% were opposed to the decision.

4.4. Description of respondents with unsafe abortions

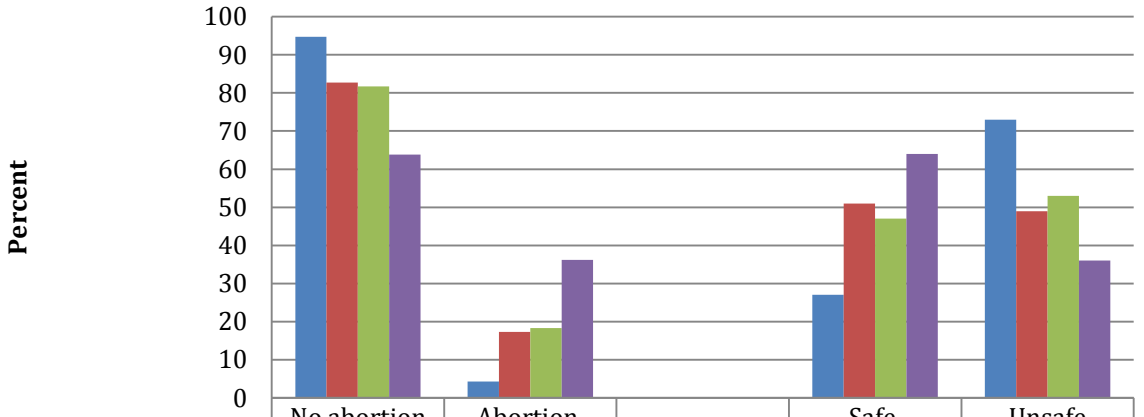
A total of 117 women (about 49.8%) underwent unsafe abortions. Out of this percentage, 56.5% of respondents were aged between 15-19 years, while 47.6% were women between 20- 24 years.

A description in terms of ethnic backgrounds suggests that 50.4% of Akan women who reported an abortion had an unsafe termination. The corresponding figures for the Ga/Adangbe, Ewe and other ethnic groups are 47.2%, 44.4% and 54.8% respectively.

A higher percentage of unsafe abortions were recorded in the rural (57.3%) compared with urban areas (43.6%).

Respondents with education were less likely to procure unsafe abortion compared to their uneducated counterparts. A closer look into those who were educated however revealed that Junior Secondary/ Middle school attendants had the highest proportion of unsafe abortions (52.8%), followed by Primary school attendants (49.2%). Among respondents with secondary and higher education, 36.3% of respondents had unsafe abortions. 72.7% of uneducated women had unsafe abortions. See figure 5.

Figure 5: Percentage of women who had abortion and the safety of the abortion by level of education



	No abortion	Abortion		Safe	Unsafe
No education	95	4		27	73
Primary	83	17		51	49
Middle/JSS	82	18		47	53
Secondary/higher	64	36		64	36

Majority (52.3%) of respondents who were either married or cohabiting had an unsafe abortion, compared with 48.0% of respondents who were not married.

Almost two-thirds (61.9%) of abortions among those classified as poor were unsafe. Similarly, 56.9% of those in the middle wealth stratum who had an abortion had an unsafe termination. Among those classified as rich, only 43.0% had unsafe abortions.

Further analysis of contraceptive use shows that 52.1% of those who had unsafe terminations were not using contraception at the time they got pregnant, compared with 43.9% in those who used contraception.

The attitude of the respondent's partners in the case of those who had unsafe abortions shows that 66.1% were neutral, 51.3% were opposed to an abortion, and 43.7% favoured an abortion.

Section 2 - Multivariate analysis

Table 3 shows results of the logistic regressions between the independent and explanatory variables: age, education, marital status, household wealth, place of residence, ethnicity and religion. Those variables that are specific to respondents who had abortion are: contraceptive use, partner attitude and previous abortion (number of abortions). Number of children represents an identification variable to distinguish the selection equation from the outcome.

The likelihood ratio test of no selection effect is significant at a p value of 0.05, indicating that there is some level of selection bias; hence the use of Heckman selection model is appropriate. The table shows both the selection and outcome equations. Marginal effects are estimated to ease interpretation of the results.

Abortion

There appears to be a slightly higher association between age and abortion in women aged 20-24 years compared with those between 15 and 19 years.

The association between education and abortion also shows a positive association. Along the educational scale, the association between abortion and education appears to be an inverse one, with those with less educational attainment (e.g. primary and junior/middle school) at higher risk of abortion compared to those with higher educational attainment (secondary school). Those with secondary education were almost two times less likely than their counterparts with primary and junior secondary education.

The association between marriage and abortion shows that compared to women who are married, unmarried women are 3.5% more likely to have an abortion.

Similarly, the association between the household wealth and abortion shows a positive association, with the likelihood of an abortion increasing as one progresses from the poor though the rich strata. Those with rich backgrounds were almost 4.2% more likely (than those from poor backgrounds) to seek an abortion.

In terms of residence, rural residents show a negative association with abortion compared to their urban counterparts. In other words, women who reside in rural areas are less likely to seek an abortion compared to their counterparts.

Women of Ga/Adangbe ethnicity show a greater likelihood of seeking an abortion compared to women of Akan origin. It appears however, that Ewe women as well as women from the predominantly northern tribes of Ghana (Mole/Grussi/Hausa/Gruma) are less likely than their Akan counterparts to seek an abortion.

The relationship between religion and abortion shows that in comparison to women of Christian faith, Muslim and women of other faiths are less likely to perform an abortion

Generally though, the number of living children seems to be a major factor in determining abortion. At the margin, the probability of a woman having an abortion reduces significantly with the increasing number of living children the woman has. As shown in table 3, when the living children are between one and two the percentage reduction is about 27%; this increases to 31% when the number of living children increase to between three and four.

Unsafe Abortion

From the results of the outcome equation reflecting the safety of the procedure, there appears to be a negative association between women aged 20-24 years and unsafe abortion. Therefore, while these women are more likely to procure an abortion as compared to those between 15-19 years, it is more likely to be safe than unsafe.

Similarly, the table shows a negative association between education and unsafe abortion. Therefore while women with education are more likely than their uneducated counterparts to seek abortion, it is less likely to be unsafe when sought. The results show further that as compared to women with fewer years of education, women who have attained secondary education and higher are the least likely to resort to an unsafe abortion.

The association between marital status and abortion equally shows that compared to their married counterparts, unmarried women are more likely to resort to unsafe abortion.

Interestingly, although a rich household background makes a woman more likely to seek for an abortion, it places her at a reduced risk of an unsafe termination.

In like manner, although women resident in rural areas are less likely to resort to abortions, they are at higher risk of an unsafe termination as compared to their urban counterparts.

In terms of safety, ethnicity appears to show some consistency with the previous finding in relation to seeking an abortion. What is worthy of note however is that although women from the predominantly northern tribes show a lesser likelihood of resorting to an abortion, it is more likely to be unsafe if sought.

Religion equally shows a variation in the outcome equation, with women who are Muslim more likely to have an unsafe abortion.

Other variables that were captured from respondents who reported abortions but not the general sample include number of abortions, use of contraceptives and partner attitude.

Women who had performed more than one abortion were found to be less likely to have sought an unsafe abortion as compared to those who had only had one abortion during the five-year period preceding the study.

In the same vein, women who use contraceptives were found to be less likely to have an unsafe abortion compared to those who did not use contraception.

Last but not least, is the finding that women whose partners are either neutral or opposed to the decision to abort are at a higher risk of an unsafe abortion compared to women with supportive partners. Women who partners were neutral were found to be about 15% more likely to have an unsafe abortion than women whose partners were opposed to the decision.

Generally, estimates of the effects on safety of abortion with the Heckman selection model are lower than those from the ordinary *probit* estimates (See appendix 3)

Table 3: Heckman Selection Model estimating the decision to abort and safety of abortion

	Selection =Abortion			Outcome Equation= Safety		
	Coef.	**Std. Error**	**Marginal Effect**	**Coef.**	**Std. Error**	**Marginal Effect**
Age group						
20-24	0.135	0.122	0.024	-0.233	0.215	-0.080
15-19 (*Ref)*						
Education						
Primary	0.336 ¥	0.180	0.059	-0.742 ¥	0.420	-0.266
Middle/JSS	0.305 ¥	0.175	0.054	-0.733 ¥	0.402	-0.263
Secondary/higher	0.171	0.224	0.030	-0.785 ¥	0.462	-0.280
No education (*Ref)*						
No. of abortions						
>1				-0.036	0.226	-0.012
1 (*Ref)*						
Use of contraceptive						
Yes				-0.132	0.202	-0.044
No (*Ref)*						
Partner attitude						
Opposed				0.293	0.231	0.097
Neutral				0.735**	0.212	0.261
Favoured (*Ref)*						
Marital status						
Not married	0.199*	0.105	0.035	0.280	0.217	0.092
Married (*Ref)*						
Household wealth						
Middle	0.015	0.147	0.004	0.013	0.284	0.005
Rich	0.232¥	0.140	0.042	-0.068	0.266	-0.023
Poor (*Ref)*						
Place of residence						
Rural	-0.274**	0.115	-0.048	0.336	0.210	0.115
Urban (*Ref)*						
Ethnicity						
Ga/Adangbe	0.274 ¥	0.156	0.048	0.024 ¥	0.258	0.008
Ewe	-0.096	0.144	-0.017	-0.280	0.267	-0.088
Mole/Grussi/Hausa/Other	-0.314*	0.146	-0.055	0.315	0.291	0.110
Akan (*Ref)*						
Religion						
Muslim	-0.168	0.132	-0.030	0.173	0.247	0.059
Other	-0.243	0.148	-0.043	-0.377	0.318	-0.116
Christian (*Ref)*						
No. of children alive						
1--2	-1.595**	0.250	-0.275			
3--4	-1.778**	0.124	-0.311			
0 (*Ref)*						
Constant	0.168	0.267		0.015	0.551	
/athrho				0.386*	0.180	
rho				0.368	0.156	
Observations	1373					
censored	1138					
uncensored	235					

LR test of indep. eqns. (rho = 0): chi2(1) = 4.66 Prob > chi2 = 0.0309

¥p<0.1; *p<0.05; **p<0.01

CHAPTER 5: DISCUSSION

In modelling the choice between safe and unsafe abortion, the base population at risk of having safe or unsafe abortions are pregnant women. That is obviously because a woman has to be pregnant in order to decide to have an abortion or the safety of the procedure. As discussed earlier in the conceptual framework, this involves two processes of decision-making among pregnant women. The first decision process is whether or not to have abortion and the second is whether or not to have it in a less safe environment or not. Souza et al [41] in a similar study modelled the two decision processes with two separate logistic regressions: one for the probability to have induced abortion and the other for the probability to have it unsafe. This approach assumes that the two decision processes or phenomena are independent of each other and all occur at random. This assumption may be far-fetched because a logistic regression on those who have had an abortion to determine factors affecting unsafe abortion leaves out the whole population of women who are at risk of having an abortion; that is all pregnant woman. Hence the results are likely to be biased (sample selection bias) toward those who had an abortion and not the whole population of pregnant women. Specifically this approach may overestimate the effects of various significant factors on the probability of having an unsafe abortion.

The desire to seek an abortion usually follows a pregnancy that is considered unintended. This decision-making process is not usually a straightforward one as it weighs on several factors that have earlier been alluded to. The results of the analysis highlight the determinants that underlie the decision to seek an abortion among adolescents and young adults (15-24 years) in Ghana.

Abortion

Our multivariate analysis shows that between the ages of 15-24 years, women who were most likely to seek an abortion were educated unmarried women between 20 and 24 years, from a higher socioeconomic stratum and of Ga/Adangbe ethnicity. These findings appear to re-echo finding of similar studies. [81,48,36]

Pregnancy outside wedlock is frowned upon in Ghana, as in many other African societies. [28,82] Abortion is therefore seen as a means of escaping the stigma attached as well as still place one in good stead to marry someone of choice.[66] It has also been found that several adolescents and young adults resort to abortion rather than contraception in the erroneous belief that contraceptives may harm their future fertility.[25] Other reasons adduced by researchers include uncertainty about partner's financial support.[48]

Generally, access to financial means has been associated with a greater ability to afford an abortion.[48] Thus when faced with an unintended pregnancy and the stigma that accompanies it, women in higher socioeconomic strata are able to procure abortions in order to avoid the

shame. Higher socioeconomic standing has also been associated with empowerment of women, such that they are easily able to take decisions that border on their fertility.[48]

Education has been described as the "premise for progress" in any society and is key in equipping young adolescents with information to make informed choices.[83] It is also said to exert a strong negative influence on early childbearing. [71] Results however, from this and other studies, show that education is positively associated with abortion.[40] A closer analysis tends to suggest that along the education spectrum, those with fewer years of education (primary / junior secondary) are more likely to procure an abortion compared to those with secondary and higher forms of education. An explanation for this trend could be as a result of the desire to remain in school as was mentioned by some of the respondents in the GMHS 2007.[27] It may also be as a result of naivety (poor appreciation of the association between having sex the first time and unwanted pregnancy [84]) and the inability, due to younger age, to negotiate safer sex in male dominated societies such as Ghana compared with their older counterparts.[82]

In terms of ethnicity, it is interesting that findings of this study suggest that abortion had a positive association with women of Ga/ Adangbe origin. This differs from findings of a previous study which found that women of Akan origin had a higher likelihood of having induced abortions than other ethnicities in the subsample.[31] Admittedly though, that study was carried out at the two main teaching hospitals in Ghana, and thus might not be nationally representative. The Ga/Adangbe are found mainly in the Greater Accra Region and some of the surrounding regions (Eastern and Volta). Incidentally, the Greater Accra region recorded the highest proportion of induced abortions according to the GMHS 2007,[27] which may be explained by the fact that as the most cosmopolitan region in Ghana, hosting the national capital, Accra and port city of Tema, urbanization, migration and education are likely to play influential roles.[73]

A negative association was found between rural residence, northern (Hausa, Mole, Grussi, other) ethnicity, number of children and religions (other than Christianity) and abortion. This tallies with the findings among the general population of women sampled in the GMHS 2007.[27]

With respect to age, the GMHS report details higher sexual activity among women between the ages of 20 and 24 compared to younger women between 15-19 years.[27] For example, 7.1% of women between 15-19 years had sex within 4 weeks of the survey, compared with 25.6% of women between 20-24 years. It therefore seems more likely that sex, which is a determinant of unintended pregnancy, will result in more attempts at abortion in women between 20 and 24 years.

The negative association between rural residence and abortion is reflected in the finding of the GMHS 2007 in which 10% of rural residents admitted an abortion compared to 20% of urban residents.[27] This finding tallies

with that of Geelhoed in western Ghana and other studies where a positive association between urban residence and abortion has been established.[85,36] Further analysis reveals correspondingly low use of contraceptives among rural residents compared with those from urban areas, and higher than average number of children per woman.[27] For adolescents and young adults in such areas in Ghana, unintended pregnancies coupled with poor health care accessibility leaves them little option than carrying the pregnancy till term, with the stigma attached, or resorting to unsafe abortion.

Similarly, belonging to one of the tribes of the northern region has been found to been negatively associated with abortion. This finding has to be understood in context of the fact that northern Ghana has one of the lowest ages of marriage and school enrolment for girls.[8] This ties into the predominant cultural view that large families are the norm.[73] Therefore, young women faced with unintended pregnancies within marriage may view such pregnancies as inevitable or resort to backstreet abortions like their non-married counterparts to ensure absolute confidentiality.[75]

While several studies have found a positive relationship between parity and abortions,[36,86] other studies have shown a negative relationship. Although reasons for this relationship are not altogether clear, in the case of young women the picture appears quite puzzling. The insignificant association between contraception and parity noted in some studies among the general populace and in adolescents in particular may give a lead. [52,87] Therefore even though abortions may be attempted at lower parity to delay child bearing or limit family size, higher parity might be by choice and so less likely to be associated with abortion. It is also likely that as has been found by a recent study, couples may adjust their coital frequency based on their fertility preferences, so that when this is reached, the frequency of coitus and therefore unintended pregnancies reduces.[79]

The negative association between women of non-Christian faiths and abortion has been established in a few studies. Addai's study confirmed that premarital sex (a determinant of unintended pregnancy) was higher among women who belonged to more liberal than traditional Christian groups, Islam and other religious groups. Ahiadeke's finding seemed to confirm Addai's assertion although he adduces the fact that Christianity is the largest religious group in Ghana and therefore a larger proportion of its faithful's are likely to experience unintended pregnancies and resort to abortions. [36]

Unsafe abortion

The results on the safety of abortion draw some contrasts compared to those regarding seeking an abortion. Unmarried women, who resided in a rural setting, were of northern ethnicity and Muslim faith and whose partners were neutral were more likely to have an unsafe abortion.

By and large, these findings appear to support assertions by Sundaram that those less likely to obtain an abortion are at a higher risk of obtaining unsafe abortions and vice versa.[48] For example, this study shows that although a woman from a rural setting is less likely to seek an abortion, it is more like to be unsafe if sought. As has been elaborated on previously, safety of an abortion weighs heavily on the systemic factors such as policy, health service, etc., and less on personal motivation. For young women in rural settings, a crucial factor in the equation is access to healthcare. The lack of safe abortion services in most public hospitals, especially underserved rural areas, coupled with the stigma attached to abortions provides the avenue for such services to be procured clandestinely.[67]

Similarly, this study shows that whereas a woman of northern extraction is less likely to seek an abortion, when it is sought, it is most likely to be unsafe. This again, as has been highlighted earlier bears a strong relationship with the social stigma and relative lack of access to safe abortion services even when sought for legitimate reasons. Even when the economic differentials are ruled out, for the sake of confidentiality, obscure or even self-abortions are resorted to.[75]

The same corollary can be deduced from Muslim women who are less likely to seek an abortion or resort to an unsafe termination when sought. Addai cites the relatively conservative nature of Islam (as with other orthodox religions) and the practise of seclusion of women as a protective factor.[49] Even within the context of marriage, the male partner is the decision maker in issues relating to fertility.[79] Therefore in the event of a pregnancy considered unintended and without social support, the woman is likely to resort to unsafe methods of termination.

It is interesting to note the association marital status has with abortion. Whereas the non-married women are more likely to seek abortion, they are also more likely to resort to an unsafe abortion. This finding may due to the fact that stigma leaves little option for seeking a safe abortion especially out of wedlock. Additionally, adolescents or young adults are more likely to encounter delays in seeking health care leading to adoption of dangerous methods or use of unskilled providers.[47]

Results suggest that compared to partner support, partner neutrality and opposition have positive associations with unsafe abortion; with partner neutrality showing a greater association with an unsafe abortion than partner opposition. This appears to be supported (in certain aspects), by work done by Sundaram in which partner neutrality or support was associated with a safe abortion and opposition of the partner resulted in equal numbers of safe and unsafe abortion.[48] In yet another study, non-involvement of the partner or partner's lack of consent was associated with late abortions (after 11 weeks), with the attendant risk of complications. Non-involvement of male partners was associated with better outcomes.[79] From the foregoing, it seems plausible to believe that whereas outright partner support results in better outcomes (safe

abortion), opposition or neutrality may constitute a delay in the decision making process thus exposing the young woman to the risk of an unsafe termination.

On the other hand, women who are less likely to seek unsafe abortion are educated women between 20-24 years, who have had more than one previous abortion, use contraceptives and are from a rich socioeconomic background.

It is noteworthy that whereas education has a positive effect on probability of having abortion, it has a negative effect on probability of the abortion being unsafe. In other words, once the decision to have an abortion is made, the educated women are more likely to opt for safe abortion as compared to her uneducated counterparts. Additionally, as education progresses, the likelihood of opting for an unsafe abortion decreases. This has been corroborated in several studies,[41,48,70] and may be related to increasing access to information through various portals provided by education, the mass media as well as information on the abortion law. [48]

Additionally, although women between 20-24 years are at a slightly increased likelihood of seeking an abortion, they are 8% less likely to seek an unsafe abortion compared to women aged between 15-19 years. Despite this apparently 'insignificant' finding, it is likely that colinearity exists, between age and education which might make the age differential stand out if this was included (multicolinearity). Notwithstanding, this finding tallies with those of a similar study that utilized similar data. [48] Interestingly, although patterns of unsafe abortion have been found to differ between Africa and Asia,[51] the picture with respect to age appears to remain the same, where adolescents are mainly at risk of unsafe abortion. In Zambia, women under 19 years of age are reported to have constituted 80% of unsafe abortions while another study in Nigeria estimated that about 55% of admissions due to unsafe abortion were in women under 20 years of age. [34] Reasons given for this disparity specifically in younger women are that they are unlikely to know where to seek safe abortion and less likely to confide in others and more likely to be influenced by stigma.[48] Additionally, less access to finances means that they are exposed to unsafe methods. [48]

The same pattern appears to hold for those from rich backgrounds, who though are more likely to seek an abortion, will most likely opt for a safe abortion. Thus, this highlights economic empowerment as a key predictor of access to better healthcare and by extension, safe abortion services. [48] Unfortunately the reverse holds true for those on the lower rungs of the economic scale. [48] Adolescents and young adults who belong to higher wealth quintiles are in a better position to escape the stigma of an unintended pregnancy by their ability to afford safe health care and avoid the delay that so commonly besets this age group.[48,88]

In addressing contraception, it is plausible that in a region where contraceptive uptake is low and with the fads associated with contraceptive use, that women who use contraceptives are more aware (educated) about its use.[52,85] Geelhoed, in his study in a rural part Ghana found that those who did not use contraception resorted to abortion (mainly unsafe) more commonly than the general population, adding that higher education and urban residence are likely to be associated with higher contraceptive use and fewer unsafe abortions.[85] Furthermore, the argument can be made that increasing access to good quality contraceptive services is likely to be associated with lower unsafe abortions.[70]

Relationship between abortion and unsafe abortion

In analysing the transition between the decision to abort and its safety, key determinants stand out in influencing a switch from a high likelihood of obtaining an abortion to a low likelihood of an unsafe abortion in adolescents and young adults. These are: age (20-24 years), education and household wealth (rich).

On the other hand, determinants that have been found to influence a switch from a lower likelihood of an abortion to a high likelihood of an unsafe abortion are: religion (Islam), ethnicity (northern extraction) and residence (rural).

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

Conclusion

From the foregoing therefore, unsafe abortions constituted about half (49.7%) of the abortions sought. The main determinants of unsafe abortion that appear to stand out include education, partner attitude, ethnicity, religion, residence, age and to a lesser degree wealth.

On the average, educated women are about 27% less likely to seek unsafe abortion as compared to their uneducated counterparts. Similarly, women between 20 and 24 years were 8% less likely (than those aged 15 and 19 years) to seek an unsafe termination. Belonging to a religion other than the two main religions in Ghana (Christianity and Islam) is associated with a 11% less likelihood of opting for an unsafe abortion.

On the other hand, Partner neutrality makes a woman 26% more likely to pursue an unsafe abortion compared to those who have partner support. Partner opposition equally makes a woman 9% more vulnerable to an unsafe abortion. It has also been established that belonging to one of the ethnic groups mainly found in the northern part of Ghana makes one 11% more likely to suffer an unsafe termination compared with the main Akan ethnic group. Finally, rural residents have been found to be 11% more likely to resort to an unsafe abortion compared to their counterparts resident in urban areas.

It also appears that within the sociocultural context of Ghana, these determinants are strongly influenced by the social stigma, which is homogenously expressed across the length and breath of the country. This takes several dimensions, and ranges from the taboos and stigma attached to adolescent pregnancy, pregnancy out of wedlock, mistimed pregnancy and the decision to abort such a pregnancy.

It could be argued that with the small sample size used on abortions, including unsafe abortions, and the marginal effects that appear to be quite small, the key elements that stand out are insignificant. However, though admittedly this appears to be the case, it should be realized that in a country where abortion is grossly under-reported, identification of the factors such as those highlighted will go a long way in addressing a problem which ranks second as far as Ghana's maternal mortality is concerned and help in Ghana's quest to achieve MDG 5.

Recommendations

Based on the findings of this research, the following recommendations are appropriate:

Research

- There is a need for research to more accurately determine the impact of abortion, in terms of morbidity and mortality, in young women, especially adolescents in Ghana.

- Research into the comparative cost analysis of unsafe abortions to Ghana's health system
- Research into the various models of care that can better offer cheap and affordable abortion services within the context of Ghana's laws.
- Intervention studies into adolescent and youth friendly reproductive health care.
- Studies aimed at incorporating male partners into the care process.
- Studies and secondary data analysis to understand the profile of adolescents and young females who undergo unsafe abortion, similar to this study, but more comprehensive.

Policy

Given the relatively liberal nature of Ghana's abortion laws today, the following measures are needed:

- Need for policy makers to stimulate the transformation of services in the health sector, judiciary and other sectors, to reflect changes in Ghana's laws.
- Need for policy that will ensure equitable access of all young women, especially adolescents to have comprehensive abortion care.
- Need to training and education of healthcare providers on current legislation and modus operandi.
- Prioritization at policy level of provision of inputs to ensure implementation nationwide of comprehensive abortion and reproductive care.

Health service

- Need to revise and speed up the implementation of the Reproductive health strategic plan (2007 -2011), in an all-inclusive manner.
- Need for training of health workers in the provision of comprehensive abortion care in a youth-friendly manner.
- Need to train midlevel care providers to fill the vacuum in abortion care created due to lack of adequate number of doctors especially in rural areas of Ghana.
- Need to partner NGOs that have taken the lead in making abortion services accessible by all women.
- Need for the health sector to respond to challenges of the time by spear heading the education of women including adolescents on prevention of unsafe abortion.
- Ensure logistic supply chain maintenance in provision of inputs to ensure cost effective, accessible and available services for all young women in Ghana.
- Need for continuous monitoring and evaluation of the quality of abortion-related care delivery.

Education

- Need for the Ministry of Education to equip adolescent and young adults through education by incorporating such issues as sexuality, life skills, unwanted pregnancy, sexuality-transmitted diseases into the education curriculum.
- Need for education of young adults and adolescent outside school through channels such as the mass media, etc.
- Need for public education on the dangers of unwanted pregnancies and unsafe abortion.

Public/Community

- Need to destigmatize abortion with the Ghanaian society by involving community leaders, chiefs and religious leaders in the discussion.
- Work alongside boys and men to create responsible sexual behaviours.
- Instil in society the need to protect and preserve the dignity and right of women.

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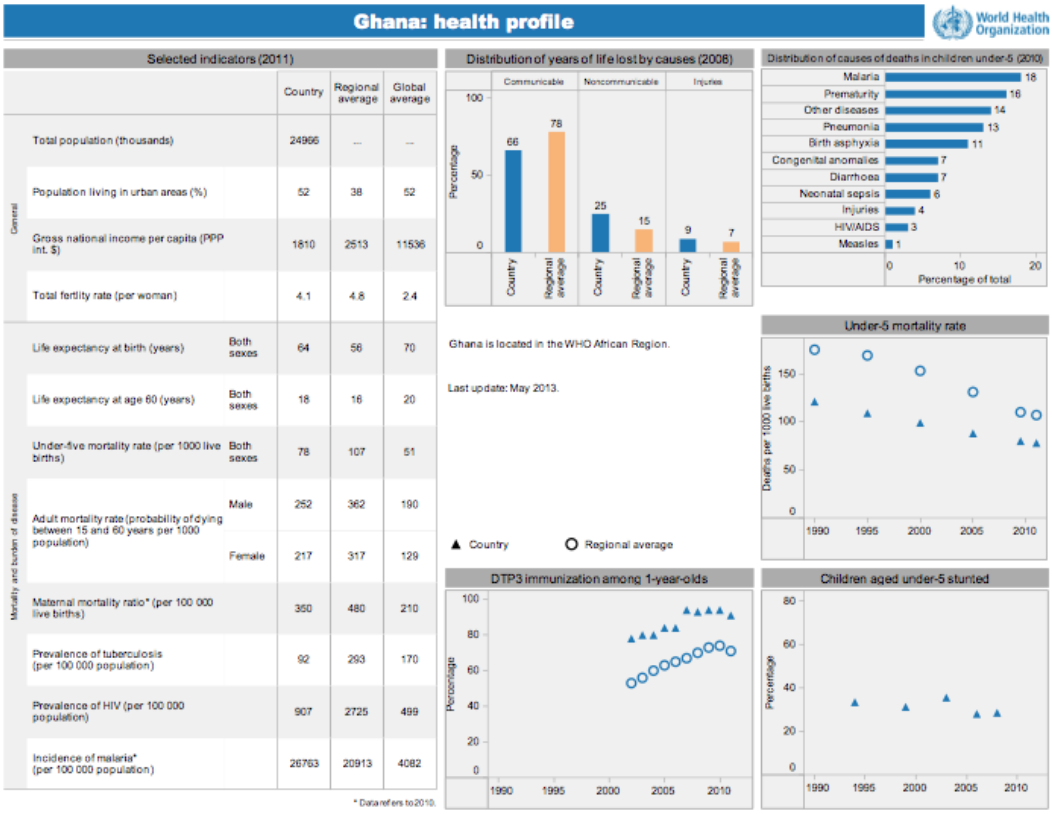
Glossary

1. Adolescent - young people between the ages of 10 and 19 years (courtesy WHO)
2. Ward - non-individual (institutional) unit of enumeration for census purpose.
3. Subward - sub-division of a designated ward.

Appendix 1 – Health profile of Ghana



Ghana: health profile

World Health Organization

Selected indicators (2011)

			Country	Regional average	Global average
General	Total population (thousands)		24966	...	...
	Population living in urban areas (%)		52	38	52
	Gross national income per capita (PPP int. $)		1810	2513	11536
	Total fertility rate (per woman)		4.1	4.8	2.4
Mortality and burden of disease	Life expectancy at birth (years)	Both sexes	64	56	70
	Life expectancy at age 60 (years)	Both sexes	18	16	20
	Under-five mortality rate (per 1000 live births)	Both sexes	78	107	51
	Adult mortality rate (probability of dying between 15 and 60 years per 1000 population)	Male	252	362	190
		Female	217	317	129
	Maternal mortality ratio* (per 100 000 live births)		350	480	210
	Prevalence of tuberculosis (per 100 000 population)		92	293	170
	Prevalence of HIV (per 100 000 population)		907	2725	499
	Incidence of malaria* (per 100 000 population)		26763	20913	4082

* Data refers to 2010.

Distribution of years of life lost by causes (2008)

Distribution of causes of deaths in children under-5 (2010)

Ghana is located in the WHO African Region.

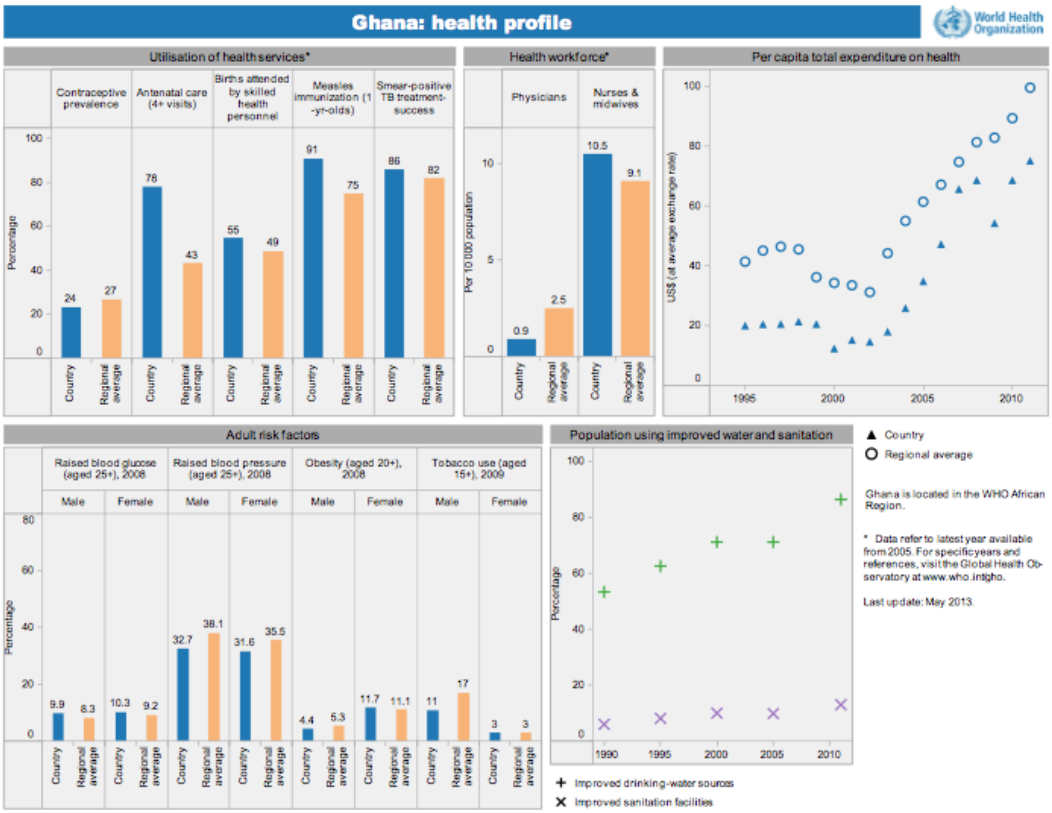
Last update: May 2013.

▲ Country ○ Regional average

Under-5 mortality rate

DTP3 immunization among 1-year-olds

Children aged under-5 stunted


Ghana: health profile
World Health Organization
Utilisation of health services*
Contraceptive prevalence
Antenatal care (4+ visits)
Births attended by skilled health personnel
Measles immunization (1-yr-olds)
Smear-positive TB treatment-success
Percentage
24
27
78
43
55
49
91
75
86
82
Country
Regional average
Health workforce*
Physicians
Nurses & midwives
Per 10 000 population
0.9
2.5
10.5
9.1
Per capita total expenditure on health
US$ (at average exchange rate)
1995
2000
2005
2010
Adult risk factors
Raised blood glucose (aged 25+), 2008
Raised blood pressure (aged 25+), 2008
Obesity (aged 20+), 2008
Tobacco use (aged 15+), 2009
Male
Female
9.9
8.3
10.3
9.2
32.7
38.1
31.6
35.5
4.4
5.3
11.7
11.1
11
17
3
3
Population using improved water and sanitation
1990
1995
2000
2005
2010
Improved drinking-water sources
Improved sanitation facilities
Country
Regional average
Ghana is located in the WHO African Region.
* Data refer to latest year available from 2005. For specific years and references, visit the Global Health Observatory at www.who.int/gho.
Last update: May 2013.

Appendix 2 - Ordinary Probit Model Estimating Determinants Of Unsafe Abortion

	Coefficient	**Std. Error**	**Marginal Effect**
Age group			
20-24	-0.200	0.221	-0.071
15-19 (*Ref)*			
Education			
Primary	-0.908*	0.438	-0.325
Middle/JSS	-0.879*	0.421	-0.314
Secondary/higher	-1.005*	0.476	-0.359
No education (*Ref)*			
No of abortions			
>1	0.009	0.234	0.003
1 (*Ref)*			
Use of contraceptive			
Yes	-0.160	0.208	-0.057
No (*Ref)*			
Partner attitude			
Opposed	0.319	0.238	0.114
Neutral	0.753**	0.220	0.269
Favoured (*Ref)*			
Marital status			
Not married	0.027	0.200	0.010
Married (*Ref)*			
Household wealth			
Middle	0.030	0.294	0.011
Rich	*-0.132*	0.272	-0.047
Poor (*Ref)*			
Place of residence			
Rural	0.413*	0.212	0.148
Urban (*Ref)*			
Ethnicity			
Ga/Adangbe	-0.039	0.267	-0.014
Ewe	-0.252	0.275	-0.090
Mole/Grussi/Hausa/Other	0.373	0.300	0.133
Akan (*Ref)*			
Religion			
Muslim	0.249	0.253	0.089
Other	-0.268	0.328	-0.096
Christian (*Ref)*			
Constant	0.667	0.505	
No. of observations	235		
LR $chi^2(17)$	31.05		
Pseudo R2	0.095		

¥p<0.1; *p<0.05;**p<0.01

Appendix 3 - GMHS 2007, Women's Questionnaire

6 Sept 2007

GHANA MATERNAL MORTALITY SURVEY 2007
WOMEN'S QUESTIONNAIRE

GHANA STATISTICAL SERVICE

IDENTIFICATION

LOCALITY NAME _____

NAME OF HOUSEHOLD HEAD _____

CLUSTER NUMBER .....

STRUCTURE NUMBER .....

HOUSEHOLD NUMBER .....

REGION .....

DISTRICT .....

LARGE CITY/SMALL CITY/TOWN/RURAL .....
(LARGE CITY=1, SMALL CITY=2, TOWN=3, RURAL=4)

NAME AND LINE NUMBER OF WOMAN _____

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY
				MONTH
				YEAR 2007
INTERVIEWER'S NAME				INT. NUMBER
RESULT*				RESULT
NEXT VISIT: DATE				TOTAL NUMBER OF VISITS
TIME				

*RESULT CODES:
1 COMPLETED
2 NOT AT HOME
3 POSTPONED
4 REFUSED
5 PARTLY COMPLETED
6 INCAPACITATED
7 OTHER _____ (SPECIFY)

LANGUAGE OF QUESTIONNAIRE: 1 LANGUAGE OF INTERVIEW: ☐ LANGUAGE OF RESPONDENT ☐

LANGUAGE CODES: ENGLISH = 1, AKAN = 2, GA = 3, EWE = 4, NZEMA = 5, DAGBANI = 6 OTHER = 7

TRANSLATOR USED: ☐
(YES = 1, NO = 2)

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____ ☐☐	NAME _____ ☐☐	☐☐	☐☐
DATE _____	DATE _____		

SECTION 1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	INTRODUCTION AND CONSENT Hello. My name is _____ and I am working with the Ghana Statistical Service. We are conducting a national survey that asks about women's health issues. We would very much appreciate your participation in this survey. This information will help the government to improve women's health services. The survey will take just a few minutes to complete. Participation in this survey is voluntary, and if we should come to any question you don't want to answer, just let me know and I will go to the next question; or you can stop the interview at any time. However, we hope that you will participate in this survey since your views are important. At this time, do you want to ask me anything about the survey? May I begin the interview now? Signature of interviewer: _____ Date: _____ RESPONDENT AGREES TO BE INTERVIEWED 1 ↓ RESPONDENT DOES NOT AGREE TO BE INTERVIEWED 2 → END		
102	RECORD THE TIME.	HOUR ..... [ ][ ] MINUTES ..... [ ][ ]	
103	In what month and year were you born?	MONTH ..... [ ][ ] DON'T KNOW MONTH ..... 98 YEAR ..... [ ][ ][ ][ ] DON'T KNOW YEAR 9998	
104	How old were you at your last birthday? COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT.	AGE IN COMPLETED YEARS [ ][ ]	
105	Have you ever attended school?	YES ..... 1 NO 2	→ 108
106	What is the highest level of school you attended: primary, middle/JSS, secondary/SSS, or higher?	PRIMARY ..... 1 MIDDLE/JSS ..... 2 SECONDARY/SSS ..... 3 HIGHER 4	
107	What is the highest grade you completed at that level?	GRADE ..... [ ][ ]	
108	Do you read a newspaper or magazine almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY ..... 1 AT LEAST ONCE A WEEK ..... 2 LESS THAN ONCE A WEEK ..... 3 NOT AT ALL 4	
109	Do you listen to the radio almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY ..... 1 AT LEAST ONCE A WEEK ..... 2 LESS THAN ONCE A WEEK ..... 3 NOT AT ALL 4	
110	Do you watch television almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY ..... 1 AT LEAST ONCE A WEEK ..... 2 LESS THAN ONCE A WEEK ..... 3 NOT AT ALL 4	
111	What is your religion?	CATHOLIC ..... 01 PROTESTANT ..... 02 METHODIST ..... 03 PRESBYTERIAN ..... 04 PENTACOSTAL/CHARISMATIC ..... 05 OTHER CHRISTIAN ..... 06 MOSLEM ..... 07 TRADITIONAL/SPIRITUALIST ..... 08 NO RELIGION ..... 09 OTHER _____ 96 (SPECIFY)	
112	To which ethnic group do you belong?	AKAN ..... 01 GA/DANGME ..... 02 EWE ..... 03 GUAN ..... 04 MOLE-DAGBANI ..... 05 GRUSSI ..... 06 GRUMA ..... 07 HAUSA ..... 08 OTHER _____ 96 (SPECIFY)	

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Now I would like to ask about all the births you have had during your life. Have you ever given birth?	YES ..... 1 NO 2	→ 206
202	Do you have any sons or daughters to whom you have given birth who are now living with you?	YES ..... 1 NO 2	→ 204
203	How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.	SONS AT HOME ..... DAUGHTERS AT HOME	
204	Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?	YES ..... 1 NO 2	→ 206
205	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE, RECORD '00'.	SONS ELSEWHERE ..... DAUGHTERS ELSEWHERE .	
206	Have you ever given birth to a boy or girl who was born alive but later died? IF NO, PROBE: Any baby who cried or showed signs of life but did not survive?	YES ..... 1 NO 2	→ 208
207	How many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD ..... GIRLS DEAD	
208	Some women lose their pregnancy spontaneously, that is they have a miscarriage. Have you ever had a miscarriage? That is have you ever lost a pregnancy spontaneously?	YES ..... 1 NO 2	→ 210
209	How many miscarriages have you had in your lifetime?	MISCARRIAGE	
210	Women sometimes take steps to end their pregnancy, because they find themselves pregnant when they do not want to be, or when it is difficult for them to continue with their pregnancy because of opposition from their husband, partner, relatives or others. Have you ever been in a situation when you or someone else have had to do something to end <u>your</u> pregnancy?	YES ..... 1 NO 2	→ 212
211	How many pregnancies have ended this way in your lifetime?	ABORTION	
212	Some women have stillbirths, that is, they give birth in late pregnancy to a dead child. Have you ever had a still birth?	YES ..... 1 NO 2	→ 214
213	How many stillbirths have you had in your lifetime?	STILLBIRTH	
214	SUM ANSWERS TO 203, 205, 207, 209, 211 AND 213 AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL	
215	CHECK 214: Just to make sure that I have this right: you have had in TOTAL _____ pregnancies during your life. Is that correct? YES ☐ ↓ NO ☐ → PROBE AND CORRECT 201-213 AS NECESSARY.		
216	CHECK 214: ONE OR MORE PREGNANCIES ☐ ↓ NO PREGNANCIES ☐ →		238

217	Now I would like to record all your pregnancies, whether born alive, born dead, or lost before full term, starting with the first one you had. RECORD ALL THE PREGNANCIES IN 219. RECORD TWINS AND TRIPLETS ON SEPARATE LINES. (IF THERE ARE MORE THAN 11 PREGNANCIES, USE AN ADDITIONAL QUESTIONNAIRE STARTING WITH THE SECOND ROW).													
218	219 Think back to your first/next pregnancy. Was that a single or multiple pregnancy?	220 Was the baby born alive or born dead, or did you have a miscarriage or abortion?	221 Did that baby cry, move, or breathe when it was born?	222 What name was given to the child?	223 Is (NAME) a boy or a girl?	224 In what month and year was name born?	225 Is (NAME) still alive?	226 How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	227 IF BORN ALIVE BUT NOW DEAD How old was (NAME) when he/she died? IF '1 YR', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	228 In what month and year did (NAME) die?	229 IF BORN DEAD OR LOST BEFORE BIRTH In what month and year did this pregnancy end?	230 How many months did this pregnancy last? RECORD IN COMPLETED MONTHS.	231 Did you or someone else do something to end this pregnancy?	232 Were there any other pregnancies between the previous pregnancy and this pregnancy?
01	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 222) BORN DEAD 2 MISCARRIAGE 3 (SKIP TO 229) ABORTION 4	YES . . 1 NO . . . 2 → 229	_____ NAME	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . 1 NO . . 2 → 227	AGE IN YEARS ☐☐ → NEXT PREGNANCY	DAYS . . . 1 ☐☐ MONTHS . 2 ☐☐ YEARS . . 3 ☐☐	MONTH ☐☐ YEAR ☐☐☐☐ → NEXT PREGNANCY	MONTH ☐☐ YEAR ☐☐☐☐	MONTHS ☐☐	YES . . . 1 NO 2	
02	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 222) BORN DEAD 2 MISCARRIAGE 3 (SKIP TO 229) ABORTION 4	YES . . 1 NO . . . 2 → 229	_____ NAME	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . 1 NO . . 2 → 227	AGE IN YEARS ☐☐ → SKIP TO 232	DAYS . . . 1 ☐☐ MONTHS . 2 ☐☐ YEARS . . 3 ☐☐	MONTH ☐☐ YEAR ☐☐☐☐ → SKIP TO 232	MONTH ☐☐ YEAR ☐☐☐☐	MONTHS ☐☐	YES . . . 1 NO 2	YES . . . . 1 ADD PREG. NO . . . . 2 NEXT PREG.
03	SING 1 MULT 2 DK 3	BORN ALIVE 1 (SKIP TO 222) BORN DEAD 2 MISCARRIAGE 3 (SKIP TO 229) ABORTION 4	YES . . 1 NO . . . 2 → 229	_____ NAME	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 227	AGE IN YEARS ☐☐ → SKIP TO 232	DAYS . . . 1 ☐☐ MONTHS . 2 ☐☐ YEARS . . 3 ☐☐	MONTH ☐☐ YEAR ☐☐☐☐ → SKIP TO 232	MONTH ☐☐ YEAR ☐☐☐☐	MONTHS ☐☐	YES . . . 1 NO 2	YES . . . . 1 ADD PREG. NO . . . . . 2 NEXT PREG.
04	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 222) BORN DEAD 2 MISCARRIAGE 3 (SKIP TO 229) ABORTION 4	YES . . 1 NO . . . 2 → 229	_____ NAME	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 227	AGE IN YEARS ☐☐ → SKIP TO 232	DAYS . . . 1 ☐☐ MONTHS . 2 ☐☐ YEARS . . 3 ☐☐	MONTH ☐☐ YEAR ☐☐☐☐ → SKIP TO 232	MONTH ☐☐ YEAR ☐☐☐☐	MONTHS ☐☐	YES . . . 1 NO 2	YES . . . . 1 ADD PREG. NO . . . . . 2 NEXT PREG.
05	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 222) BORN DEAD 2 MISCARRIAGE 3 (SKIP TO 229) ABORTION 4	YES . . 1 NO . . . 2 → 229	_____ NAME	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 227	AGE IN YEARS ☐☐ → SKIP TO 232	DAYS . . . 1 ☐☐ MONTHS . 2 ☐☐ YEARS . . 3 ☐☐	MONTH ☐☐ YEAR ☐☐☐☐ → SKIP TO 232	MONTH ☐☐ YEAR ☐☐☐☐	MONTHS ☐☐	YES . . . 1 NO 2	YES . . . . 1 ADD PREG. NO . . . . . 2 NEXT PREG.
06	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 222) BORN DEAD 2 MISCARRIAGE 3 (SKIP TO 229) ABORTION 4	YES . . 1 NO . . . 2 → 229	_____ NAME	BOY 1 GIRL 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . . 2 → 227	AGE IN YEARS ☐☐ → SKIP TO 232	DAYS . . . 1 ☐☐ MONTHS . 2 ☐☐ YEARS . . 3 ☐☐	MONTH ☐☐ YEAR ☐☐☐☐ → SKIP TO 232	MONTH ☐☐ YEAR ☐☐☐☐	MONTHS ☐☐	YES . . . 1 NO 2	YES . . . . 1 ADD PREG. NO . . . . . 2 NEXT PREG.

218	219 Think back to your first/ next pregnancy. Was that a single or multiple pregnancy?	220 Was the baby born alive or born dead, or did you have a miscarriage or abortion?	221 Did that baby cry, move, or breathe when it was born?	222 What name was given to the child?	223 Is (NAME) a boy or a girl?	224 In what month and year was name born?	225 Is (NAME) still alive?	226 How old was (NAME) at his/her last birthday? RECORD AGE IN COM-PLETED YEARS.	227 IF BORN ALIVE BUT NOW DEAD How old was (NAME) when he/she died? IF '1 YR', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	228 In what month and year did (NAME) die?	229 IF BORN DEAD OR LOST BEFORE BIRTH In what month and year did this pregnancy end?	230 How many months did this pregnancy last? RECORD IN COM-PLETED MONTHS.	231 Did you or someone else do something to end this pregnancy?	232 Were there any other pregnancies between the previous pregnancy and this pregnancy?
07	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 222) BORN DEAD 2 MISCARRIAGE 3 (SKIP TO 229) ABORTION 4	YES . . 1 NO . . . 2 → 229	NAME	BOY 1 GIRL 2	MONTH YEAR	YES . . 1 NO . . . 2 → 227	AGE IN YEARS → SKIP TO 232	DAYS . . . 1 MONTHS . 2 YEARS . . 3	MONTH YEAR → SKIP TO 232	MONTH YEAR	MONTHS	YES . . . 1 NO 2	YES . . . . 1 ADD PREG. NO . . . . . 2 NEXT PREG.
08	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 222 BORN DEAD 2 MISCARRIAGE 3 (SKIP TO 229) ABORTION 4	YES . . 1 NO . . . 2 → 229	NAME	BOY 1 GIRL 2	MONTH YEAR	YES . . 1 NO . . . 2 → 227	AGE IN YEARS → SKIP TO 232	DAYS . . . 1 MONTHS . 2 YEARS . . 3	MONTH YEAR → SKIP TO 232	MONTH YEAR	MONTHS	YES . . . 1 NO 2	YES . . . . 1 ADD PREG. NO . . . . . 2 NEXT PREG.
09	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 222) BORN DEAD 2 MISCARRIAGE 3 (SKIP TO 229) ABORTION 4	YES . . 1 NO . . . 2 → 229	NAME	BOY 1 GIRL 2	MONTH YEAR	YES . . 1 NO . . . 2 → 227	AGE IN YEARS → SKIP TO 232	DAYS . . . 1 MONTHS . 2 YEARS . . 3	MONTH YEAR → SKIP TO 232	MONTH YEAR	MONTHS	YES . . . 1 NO 2	YES . . . . 1 ADD PREG. NO . . . . . 2 NEXT PREG.
10	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 222) BORN DEAD 2 MISCARRIAGE 3 (SKIP TO 229) ABORTION 4	YES . . 1 NO . . . 2 → 229	NAME	BOY 1 GIRL 2	MONTH YEAR	YES . . 1 NO . . . 2 → 227	AGE IN YEARS → SKIP TO 232	DAYS . . . 1 MONTHS . 2 YEARS . . 3	MONTH YEAR → SKIP TO 232	MONTH YEAR	MONTHS	YES . . . 1 NO 2	YES . . . . 1 ADD PREG. NO . . . . . 2 NEXT PREG.
11	SING 1 MULT 2	BORN ALIVE 1 (SKIP TO 222) BORN DEAD 2 MISCARRIAGE 3 (SKIP TO 229) ABORTION 4	YES . . 1 NO . . . 2 → 229	NAME	BOY 1 GIRL 2	MONTH YEAR	YES . . 1 NO . . . 2 → 227	AGE IN YEARS → SKIP TO 232	DAYS . . . 1 MONTHS . 2 YEARS . . 3	MONTH YEAR → SKIP TO 232	MONTH YEAR	MONTHS	YES . . . 1 NO 2	YES . . . . 1 ADD PREG. NO . . . . . 2 NEXT PREG.

233	Have you had any pregnancy since the last pregnancy mentioned? IF YES, RECORD PREGNANCY(S) IN TABLE.	YES . . . . . 1 NO 2
234	COMPARE 214 WITH NUMBER OF PREGNANCIES IN HISTORY ABOVE AND MARK: NUMBERS ARE SAME NUMBERS ARE DIFFERENT → (PROBE AND RECONCILE) FOR EACH PREGNANCY: MONTH AND YEAR IS RECORDED IN 224, 228 OR 229. FOR EACH LIVING CHILD: CURRENT AGE IS RECORDED IN 226. FOR EACH DEAD CHILD: AGE AT DEATH IS RECORDED IN 227. FOR EACH PREGNANCY LOST BEFORE FULL TERM NUMBER OF MONTHS PREGNANS RECORDED IN 230	
235	CHECK 229 AND 231 AND ENTER THE NUMBER OF ABORTIONS (Q.231=1) SINCE 2002 OR LATER IF NONE, RECORD '0'.	
236	CHECK 229, 230 AND 231 AND ENTER THE NUMBER OF MISCARRIAGES (Q.230 IS 6 MONTHS OR LESS AND Q.231=2) SINCE 2002 OR LATER. IF NONE, RECORD '0'.	
237	CHECK 224 AND ENTER THE NUMBER OF BIRTHS IN 2002 OR LATER. IF NONE, RECORD '0'.	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
238	Are you pregnant now?	YES . . . . . 1 NO . . . . . 2 UNSURE 8	→ 241
239	How many months pregnant are you?	MONTHS	
240	At the time you became pregnant, did you want to become pregnant then, did you want to wait until later, or did you not want to have any (more) children at all?	THEN . . . . . 1 LATER . . . . . 2 NOT AT ALL 3	
241	When did your last menstrual period start? (DATE, IF GIVEN)	DAYS AGO . . . . . 1 WEEKS AGO . . . . . 2 MONTHS AGO . . . . . 3 YEARS AGO . . . . . 4 IN MENOPAUSE/ HAS HAD HYSTERECTOMY . . . 994 BEFORE LAST BIRTH . . . . . 995 NEVER MENSTRUATED 996	
242	CHECK 214: ONE OR MORE PREGNANCIES NO PREGNANCIES → 344		

SECTION 3. ABORTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
301	CHECK 235: ONE OR MORE ABORTIONS SINCE 2002 OR LATER ☐ ↓ NO ABORTIONS SINCE 2002 OR LATER ☐ → 344		
302	CHECK 235: ENTER THE LINE NUMBER OF THE LAST PREGNANCY THAT ENDED IN AN ABORTION IN 2002 OR LATER. ASK THE QUESTIONS ABOUT ONLY THIS LAST ABORTION. LINE NUMBER FROM 218	LAST ABORTION LINE NO. ☐☐	
303	You said your last abortion was in YEAR FROM Q.229. Now I would like to ask you some questions about this pregnancy that ended in an abortion.		
304	What was the main reason you decided to have this abortion?	HEALTH OF MOTHER ..... 01 RISK OF BIRTH DEFECT ..... 02 NO MONEY TO TAKE CARE OF BABY ..... 03 TOO YOUNG TO HAVE CHILD ..... 04 NOT READY TO BE A MOTHER ..... 05 WANTED TO CONTINUE SCHOOLING ..... 06 DID NOT LOVE THE FATHER ..... 07 WANTED TO DELAY CHILDBEARING ..... 08 WANTED TO CONTINUE WORKING ..... 09 DID NOT WANT TO STAY WITH THE FATHER ..... 10 WANTED TO SPACE CHILD ..... 11 PARTNER DID NOT WANT CHILD/DENIED THE PREGNANCY ..... 12 CHILD'S SEX ..... 13 BECAUSE OF RAPE ..... 14 TO AVOID SHAME ..... 15 AFRAID OF PARENTS 16 NO ONE TO HELP ME LOOK AFTER THE CHILD ..... 17 PARENTS INSISTED 18 FATHER OF CHILD DIED 19 OTHER _____ 96 (SPECIFY)	
305	What was the attitude of your partner toward you having the abortion?	FAVORED ..... 01 OPPOSED ..... 02 NEUTRAL ..... 03 HE DID NOT KNOW ..... 04 DON'T KNOW/DON'T REMEMBER 05	
306	Women sometimes take many steps to stop a pregnancy. Did you do more than one thing to end this pregnancy?	YES ..... 1 NO ..... 2 → 320A	
307	How many days or weeks was it between your first attempt to end this pregnancy and when you actually succeeded in stopping it?	DAYS ..... 1 ☐☐ WEEKS ..... 2 ☐☐ DON'T KNOW 998	
308	What did you first do to end this pregnancy?	DRANK MILK/COFFEE/OTHER LIQUID WITH LOTS OF SUGAR ..... 01 DRANK HERBAL CONCOCTION ..... 02 DRANK OTHER HOME REMEDIES ..... 03 USED ANY HERBAL ANEMA ..... 04 INSERTED HERB/OBJECT/OTHER SUBSTANCE IN THE VAGINA ..... 05 TOOK TABLETS ..... 06 HEAVY MASSAGE ..... 07 D & C ..... 08 MANUAL VACUUM ASPIRATION ..... 09 INJECTION ..... 10 SALINE INSTILLATION ..... 11 CYTOTEC TABLETS (MISOPROSTOL) ..... 12 OXYTOCIN ..... 13 CATHETER ..... 14 EXCESSIVE PHYSICAL ACTIVITY ..... 15 OTHER _____ 16 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
309	Who did you see to get this first step done?	HEALTH PROFESSIONAL DOCTOR ..... 01 NURSE/MIDWIFE ..... 02 AUXILIARY MIDWIFE ..... 03 OTHER PERSON PHARMACIST/CHEMICAL SELLER ..... 04 TRADITIONAL BIRTH ATTENDANT ..... 05 COMMUNITY HEALTH WORKER ..... 06 RELATIVE/FRIEND ..... 07 TRADITIONAL PRACTITIONER ..... 08 OTHER _____ 09 (SPECIFY) NO ONE 10	
310	Where did you go to get this first step done?	PUBLIC SECTOR GOVT. HOSPITAL/ POLYCLINIC ..... 11 GOVT. HEALTH CENTER ..... 12 GOVT. HEALTH POST/CLINIC ..... 13 MOBILE CLINIC ..... 14 OTHER PUBLIC _____ 15 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... 21 MOBILE CLINIC ..... 22 MATERNITY HOME ..... 23 PHARMACY/CHEMIST/DRUG STORE 24 OTHER PRIVATE MEDICAL _____ 25 (SPECIFY) HOME RESPONDENT'S HOME ..... 31 OTHER HOME ..... 32 TBA'S HOME ..... 33 OTHER _____ 96 (SPECIFY)	
311	Who paid to get this procedure done? PROBE: Anyone else? CIRCLE ALL MENTIONED.	RESPONDENT ..... A PARTNER ..... B MOTHER ..... C FATHER ..... D OTHER FAMILY MEMBER ..... E FRIEND ..... F OTHER _____ X (SPECIFY) NO ONE ..... Y	
312	Now I would like to talk about any problems that you may have had when you had this first thing done to stop the pregnancy? Did you have any bleeding? IF YES: Was it mild, moderate or severe?	MILD ..... 1 MODERATE ..... 2 SEVERE ..... 3 DID NOT HAVE BLEEDING ..... 4 DON'T KNOW 8	
313	Did you have any pain? IF YES: Was it mild, moderate or severe?	MILD ..... 1 MODERATE ..... 2 SEVERE ..... 3 DID NOT HAVE PAIN ..... 4 DON'T KNOW 8	
314	Did you have any fever? IF YES: Was it mild, moderate or severe?	MILD ..... 1 MODERATE ..... 2 SEVERE ..... 3 DID NOT HAVE FEVER ..... 4 DON'T KNOW 8	
315	Did you suffer any injury/perforation? IF YES: Was it mild, moderate or severe?	MILD ..... 1 MODERATE ..... 2 SEVERE ..... 3 DID NOT HAVE INJURY ..... 4 DON'T KNOW 8	
316	Did you have any foul-smelling vaginal discharge? IF YES: Was it mild, moderate or severe?	MILD ..... 1 MODERATE ..... 2 SEVERE ..... 3 DID NOT HAVE DISCHARGE ..... 4 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
317	Did you have any other problems?	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 → 319	
318	What other problems did you have? THEN FOR EACH ADDITIONAL PROBLEM LISTED ASK: Was it mild, moderate or severe? CIRCLE THE APPROPRIATE CODE.	NO MORE MILD MODERATE SEVERE 0 1 2 3 _____ SPECIFY 0 1 2 3 _____ SPECIFY 0 1 2 3 _____ SPECIFY 0 1 2 3 _____ SPECIFY	
319	Were you given any pain relievers?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
320 320A	What was the last thing you did to end this pregnancy? What did you do to end this pregnancy?	DRANK MILK/COFFEE/OTHER LIQUID WITH LOTS OF SUGAR ..... 01 DRANK HERBAL CONCOCTION ..... 02 DRANK OTHER HOME REMEDIES ..... 03 USED ANY HERBAL ANEMA ..... 04 INSERTED HERB/OBJECT/OTHER SUBSTANCE IN THE VAGINA ..... 05 TOOK TABLETS ..... 06 HEAVY MASSAGE ..... 07 D & C ..... 08 MANUAL VACUUM ASPIRATION ..... 09 INJECTION ..... 10 SALINE INSTILLATION ..... 11 CYTOTEC TABLETS (MISOPROSTOL) ..... 12 OXYTOCIN ..... 13 CATHETER ..... 14 EXCESSIVE PHYSICAL ACTIVITY ..... 15 OTHER _____ 16 (SPECIFY)	
321	Who did you see to get this (last step) done?	HEALTH PROFESSIONAL DOCTOR ..... 01 NURSE/MIDWIFE ..... 02 AUXILIARY MIDWIFE ..... 03 OTHER PERSON PHARMACIST/CHEMICAL SELLER ..... 04 TRADITIONAL BIRTH ATTENDANT ..... 05 COMMUNITY HEALTH WORKER ..... 06 RELATIVE/FRIEND ..... 07 TRADITIONAL PRACTITIONER ..... 08 OTHER _____ 09 (SPECIFY) NO ONE 10	
322	Where did you go to get this (last step) done?	PUBLIC SECTOR GOVT. HOSPITAL/ POLYCLINIC ..... 11 GOVT. HEALTH CENTER ..... 12 GOVT. HEALTH POST/CLINIC ..... 13 MOBILE CLINIC ..... 14 OTHER PUBLIC _____ 15 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... 21 MOBILE CLINIC ..... 22 MATERNITY HOME ..... 23 PHARMACY/CHEMIST/DRUG STORE 24 OTHER PRIVATE MEDICAL _____ 25 (SPECIFY) HOME RESPONDENT'S HOME ..... 31 OTHER HOME ..... 32 TBA'S HOME ..... 33 OTHER _____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
323	Who paid to get this procedure done? PROBE: Anyone else? CIRCLE ALL MENTIONED.	RESPONDENT ..... A PARTNER ..... B MOTHER ..... C FATHER ..... D OTHER FAMILY MEMBER ..... E FRIEND ..... F OTHER _____ (SPECIFY) X NO ONE ..... Y	
324	Did you take any antibiotics after this abortion?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
325	Were you given any pain relievers?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
326	Did you have any local or general (intravenous) anethesia for this abortion? By local I mean an injection in the vagina opening?	LOCAL ..... 1 GENERAL ..... 2 NEITHER ..... 3 DON'T KNOW 8	
327	In the first one month after the abortion, did you have any health problems because of the abortion?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 338
328	Did you have any bleeding? IF YES: Was it mild, moderate or severe?	MILD ..... 1 MODERATE ..... 2 SEVERE ..... 3 DID NOT HAVE BLEEDING ..... 4 DON'T KNOW 8	
329	Did you have any pain? IF YES: Was it mild, moderate or severe?	MILD ..... 1 MODERATE ..... 2 SEVERE ..... 3 DID NOT HAVE PAIN ..... 4 DON'T KNOW 8	
330	Did you have any fever? IF YES: Was it mild, moderate or severe?	MILD ..... 1 MODERATE ..... 2 SEVERE ..... 3 DID NOT HAVE FEVER ..... 4 DON'T KNOW 8	
331	Did you suffer any injury/perforation? IF YES: Was it mild, moderate or severe?	MILD ..... 1 MODERATE ..... 2 SEVERE ..... 3 DID NOT HAVE INJURY ..... 4 DON'T KNOW 8	
332	Did you have any foul-smelling vaginal discharge? IF YES: Was it mild, moderate or severe?	MILD ..... 1 MODERATE ..... 2 SEVERE ..... 3 DID NOT HAVE DISCHARGE ..... 4 DON'T KNOW 8	
333	Did you have any other problems?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 335
334	What other problems did you have? THEN FOR EACH ADDITIONAL PROBLEM LISTED ASK: Was it mild, moderate or severe? CIRCLE THE APPROPRIATE CODE.	NO MORE MILD MODERATE SEVERE _____ SPECIFY 0 1 2 3 _____ SPECIFY 0 1 2 3 _____ SPECIFY 0 1 2 3 _____ SPECIFY 0 1 2 3	
335	Did you get any treatment for the health problems you had because of the abortion? IF YES: What kind of treatment did you receive? CIRCLE ALL TREATMENTS MENTIONED.	OPERATION ..... A BLOOD TRANSFUSION ..... B ANTIBIOTICS ..... C OTHER _____ (SPECIFY) X NO TREATMENT ..... Y	→ 337

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
336	Where did you go to get this treatment? CIRCLE ALL SOURCES MENTIONED	PUBLIC SECTOR GOVT. HOSPITAL/ POLYCLINIC ..... A GOVT. HEALTH CENTER ..... B GOVT. HEALTH POST /CLINIC..... C MOBILE CLINIC ..... D OTHER PUBLIC _____ (SPECIFY) E PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... F MOBILE CLINIC ..... G MATERNITY HOME ..... H PHARMACY/CHEMIST/DRUG STORE I OTHER PRIVATE MEDICAL _____ (SPECIFY) J HOME RESPONDENT'S HOME ..... K OTHER HOME ..... L TBA'S HOME ..... M OTHER _____ (SPECIFY) X	→ 338
337	In the first one month after this abortion, how many nights did you spend in a health facility (including readmissions)? IF NONE RECORD '00'	NIGHTS ..... [ ][ ] DON'T KNOW 98	
338	Either before or after the abortion, did a doctor or other health worker visit you?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
339	After six months, did you have any health problems as a result of this abortion?	YES ..... 1 NO ..... 2 NOT YET SIX MONTHS ..... 3 DON'T KNOW 8	→ 341
340	What health problems did you have? PROBE: Any other? CIRCLE ALL MENTIONED.	ABDOMINAL PAIN ..... A STERILITY ..... B INFECTION ..... C LACK OF PERIOD D IRREGULAR PERIOD..... E MORE PAINFUL PERIOD..... F OTHER _____ (SPECIFY) X	
341	At the time you got pregnant, were you using any method of contraception? IF YES, ASK: What method of contraception were you using? IF MORE THAN ONE METHOD IS MENTIONED, CIRCLE THE HIGHEST METHOD ON THE LIST.	FEMALE STERILIZATION ..... 01 MALE STERILIZATION ..... 02 PILL ..... 03 IUD ..... 04 INJECTABLES ..... 05 IMPLANTS ..... 06 MALE CONDOM ..... 07 FEMALE CONDOM ..... 08 DIAPHRAGM ..... 09 FOAM/JELLY ..... 10 LACTATIONAL AMEN. METHOD ..... 11 RHYTHM METHOD ..... 12 WITHDRAWAL ..... 13 NOT USING A METHOD 14 OTHER _____ (SPECIFY) 96	
342	Either before or after the abortion, did a doctor or other health professional talk to you about contraception?	YES BEFORE THE ABORTION ..... 1 YES AFTER THE ABORTION ..... 2 BOTH BEFORE AND AFTER THE ABORTION .... 3 NO ..... 4 DON'T KNOW 8	
343	After this abortion, did a doctor or health worker give you a method, prescribe a method, or refer you to a family planning clinic?	YES GAVE METHOD ..... 1 YES PRESCRIBED A METHOD..... 2 YES GAVE REFERREL ..... 3 NO ..... 4 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
344	CHECK 211: NO ABORTIONS ONE OR MORE ABORTIONS → 349		
345	Have you heard of abortion? IF NO PROBE: That is a woman can deliberately end a pregnancy that she does not want. Have you heard about this?	YES ..... 1 NO ..... 2 → 401	
346	If you wanted to could you yourself get an abortion?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
347	Do you know where to go to get an abortion?	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 → 349	
348	Where is that? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR GOVT. HOSPITAL/POLYCLINIC ... A GOVT. HEALTH CENTER ..... B GOVT. HEALTH POST /CLINIC..... C MOBILE CLINIC ..... D FIELDWORKER ..... E OTHER PUBLIC _____ F (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... G PRIVATE DOCTOR ..... H MOBILE CLINIC ..... I PHARMACY/CHEMIST/DRUG STORE ..... J FIELDWORKER ..... K FP/PPAG CLINIC ..... L MATERNITY HOME ..... M OTHER PRIVATE MEDICAL _____ N (SPECIFY) OTHER SOURCE SHOP ..... O CHURCH ..... P FRIEND/RELATIVE ..... Q OTHER _____ X (SPECIFY)	
349	Is abortion legal in Ghana?	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 → 401	
350	Under what conditions is abortion legal in Ghana? PROBE: Anything else? CIRCLE ALL MENTIONED.	RAPE ..... A INCEST ..... B LIFE OF MOTHER IN DANGER ..... C RISK TO PHYSICAL HEALTH OF MOTHER D RISK TO MENTAL HEALTH OF MOTHER E FOETAL ABNORMALITY ..... F DURING FIRST TRIMESTER ONLY ..... G UP TO THE SECOND TRIMESTER ..... H MOTHER MENTALLY NOT SOUND ..... I DON'T KNOW ..... Z	

SECTION 4. MISCARRIAGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
401	CHECK 236: ONE OR MORE MISCARRIAGES → NO MISCARRIAGES → 501		
402	ENTER THE LINE NUMBER OF THE LAST PREGNANCY THAT ENDED IN A MISCARRIAGE IN 2002 OR LATER. ASK THE QUESTIONS ABOUT ONLY THIS LAST MISCARRIAGE. LINE NUMBER FROM 218	LAST MISCARRIAGE LINE NO. ☐☐	
403	You said you had a miscarriage in YEAR FROM Q.229. Now I would like to ask you some questions about this pregnancy that ended in an miscarriage.		
404	What caused this miscarriage to happen?	ACCIDENT ..... 01 ATE SOMETHING ..... 02 SOMEONE HURT ME ..... 03 SPONTANEOUS 04 OTHER _____ 06 (SPECIFY) DON'T KNOW 98	
405	Where did this miscarriage take place?	PUBLIC SECTOR GOVT. HOSPITAL/ POLYCLINIC ..... 11 GOVT. HEALTH CENTER ..... 12 GOVT. HEALTH POST/CLINIC ..... 13 MOBILE CLINIC ..... 14 OTHER PUBLIC _____ 15 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... 21 MOBILE CLINIC ..... 22 MATERNITY HOME ..... 23 PHARMACY/CHEMIST/DRUG STORE ..... 24 OTHER PRIVATE MEDICAL _____ 25 (SPECIFY) HOME RESPONDENT'S HOME ..... 31 OTHER HOME ..... 32 TBA'S HOME ..... 33 OTHER _____ 96 (SPECIFY)	
406	Did you seek help from anyone for this miscarriage? IF YES: Who did you see? PROBE: Anyone else? CIRCLE ALL MENTIONED.	HEALTH PROFESSIONAL DOCTOR ..... A NURSE/MIDWIFE ..... B AUXILIARY MIDWIFE ..... C OTHER PERSON PHARMACIST/CHEMICAL SELLER ..... D TRADITIONAL BIRTH ATTENDANT ..... E COMMUNITY HEALTH WORKER ..... F RELATIVE/FRIEND ..... G TRADITIONAL PRACTITIONER ..... H OTHER _____ X (SPECIFY) NO ONE ..... Y	
407	Did you have your uterus cleaned after the miscarriage?	YES ..... 1 NO ..... 2 → 412	
408	What method was used to clean your uterus following the miscarriage?	D & C ..... 01 MANUAL VACUUM ASPIRATION ..... 02 TABLETS FOR INSERTION ..... 03 HERBAL MIXTURE INSERTION 04 OXYTOCIN 05 CATHETER 07 OTHER _____ 06 (SPECIFY) DON'T KNOW 98	
409	Did you have any local or general (intravenous) anethesia for this miscarriage? By local I mean an injection in the vagina opening?	LOCAL ..... 1 GENERAL ..... 2 NEITHER ..... 3 DON'T KNOW 8	
410	Were you given any pain relievers?	YES ..... 1 NO ..... 2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
411	Did you take any antibiotics after this procedure?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
412	In the first one month after the miscarriage, did you have any health problems because of the miscarriage?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 423
413	Did you have any bleeding? IF YES: Was it mild, moderate or severe?	MILD ..... 1 MODERATE ..... 2 SEVERE ..... 3 DID NOT HAVE BLEEDING ..... 4 DON'T KNOW 8	
414	Did you have any pain? IF YES: Was it mild, moderate or severe?	MILD ..... 1 MODERATE ..... 2 SEVERE ..... 3 DID NOT HAVE PAIN ..... 4 DON'T KNOW 8	
415	Did you have any fever? IF YES: Was it mild, moderate or severe?	MILD ..... 1 MODERATE ..... 2 SEVERE ..... 3 DID NOT HAVE FEVER ..... 4 DON'T KNOW 8	
416	Did you suffer any injury/perforation? IF YES: Was it mild, moderate or severe?	MILD ..... 1 MODERATE ..... 2 SEVERE ..... 3 DID NOT HAVE INJURY ..... 4 DON'T KNOW 8	
417	Did you have any foul-smelling vaginal discharge? IF YES: Was it mild, moderate or severe?	MILD ..... 1 MODERATE ..... 2 SEVERE ..... 3 DID NOT HAVE DISCHARGE ..... 4 DON'T KNOW 8	
418	Did you have any other problems?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 420
419	What other problems did you have? THEN FOR EACH ADDITIONAL PROBLEM LISTED ASK: Was it mild, moderate or severe? CIRCLE THE APPROPRIATE CODE.	NO MORE MILD MODERATE SEVERE _____ SPECIFY 0 1 2 3 _____ SPECIFY 0 1 2 3 _____ SPECIFY 0 1 2 3 _____ SPECIFY 0 1 2 3	
420	Did you get any treatment for the health problems you had because of the miscarriage? IF YES: What kind of treatment did you receive? CIRCLE ALL TREATMENTS MENTIONED.	OPERATION ..... A BLOOD TRANSFUSION ..... B ANTIBIOTICS ..... C OTHER _____ (SPECIFY) X NO TREATMENT ..... Y	→ 422
421	Where did you go to get this treatment?	PUBLIC SECTOR GOVT. HOSPITAL/ POLYCLINIC ..... A GOVT. HEALTH CENTER ..... B GOVT. HEALTH POST/CLINIC ..... C MOBILE CLINIC ..... D OTHER PUBLIC _____ (SPECIFY) E PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... F MOBILE CLINIC ..... G MATERNITY HOME ..... H PHARMACY/CHEMIST/DRUG STORE ..... I OTHER PRIVATE MEDICAL _____ (SPECIFY) J HOME RESPONDENT'S HOME ..... K OTHER HOME ..... L TBA'S HOME ..... M OTHER _____ (SPECIFY) X	→ 423
422	In the first one month after this miscarriage, how many nights did you spend in a health facility (including readmissions)? IF NONE RECORD '00'	NIGHTS ..... ☐☐ DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
423	Either before or after the miscarriage, did a doctor or other health worker visit you?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
424	After six months, did you have any health problems as a result of this miscarriage?	YES ..... 1 NO ..... 2 NOT YET SIX MONTHS ..... 3 DON'T KNOW 8	→ 426
425	What health problems did you have? PROBE: Any other? CIRCLE ALL MENTIONED.	ABDOMINAL PAIN ..... A STERILITY ..... B INFECTION ..... C LACK OF PERIOD D IRREGULAR PERIOD ..... E MORE PAINFUL PERIOD ..... F OTHER _____ C (SPECIFY)	
426	At the time you got pregnant, were you using any method of contraception? IF YES, ASK: What method of contraception were you using? IF MORE THAN ONE METHOD IS MENTIONED, CIRCLE THE HIGHEST METHOD ON THE LIST.	FEMALE STERILIZATION ..... 01 MALE STERILIZATION ..... 02 PILL ..... 03 IUD ..... 04 INJECTABLES ..... 05 IMPLANTS ..... 06 MALE CONDOM ..... 07 FEMALE CONDOM ..... 08 DIAPHRAGM ..... 09 FOAM/JELLY ..... 10 LACTATIONAL AMEN. METHOD ..... 11 RHYTHM METHOD ..... 12 WITHDRAWAL ..... 13 NOT USING A METHOD 14 OTHER _____ 96 (SPECIFY)	
427	Either before or after the miscarriage, did a doctor or other health professional talk to you about contraception?	YES BEFORE THE MISCARRIAGE ..... 1 YES AFTER THE MISCARRIAGE ..... 2 BOTH BEFORE AND AFTER THE MISCARRIAGE .. 3 NO ..... 4 DON'T KNOW 8	
428	After this miscarriage, did a doctor or health worker give you a method, prescribe a method, or refer you to a family planning clinic?	YES GAVE METHOD ..... 1 YES PRESCRIBED A METHOD .. 2 YES GAVE REFERREL ..... 3 NO ..... 4 DON'T KNOW 8	

SECTION 5. ANTENATAL, DELIVERY AND POSTNATAL CARE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
501	CHECK 224 AND 230: ONE OR MORE BIRTHS IN 2002 OR LATER ↓ ONE OR MORE STILLBIRTHS Q.230 IS 7 MONTHS OR MORE ↓ NO BIRTHS/STILLBIRTHS IN 2002 OR LATER →		601
502	CHECK 224, AND 230: ENTER IN THE TABLE THE LINE NUMBER AND NAME OF THE LAST BIRTH OR STILLBIRTH THAT TOOK PLACE IN 2002 OR LATER. IF THERE ARE MORE THAN ONE BIRTH OR STILLBIRTH ASK THE QUESTIONS ABOUT ONLY THE LAST BIRTH OR STILLBIRTH. FOR STILLBIRTHS WRITE 'BABY'.		
503	LINE NUMBER FROM 218	LAST BIRTH/STILLBIRTH LINE NO. ☐☐	
504	NAME FROM 222 IF NO NAME LISTED WRITE 'BABY'.	NAME _____	
505	Now I would like to ask you some questions about the health care you received while pregnant with NAME or after the birth of (NAME) born to you in the last five years.		
506	Did you see anyone for antenatal care during this pregnancy? IF YES: Who did you see? Anyone else? PROBE TO IDENTIFY EACH TYPE OF PERSON AND RECORD ALL MENTIONED.	HEALTH PERSONNEL DOCTOR ..... A NURSE/MIDWIFE ..... B AUXILIARY MIDWIFE ..... C OTHER PERSON TRAINED TRADITIONAL BIRTH ATTENDANT ..... D UNTRAINED TRADITIONAL BIRTH ATTENDANT ..... E OTHER _____ X (SPECIFY) NO ONE ..... Y	508
507	Why did you not see anyone? PROBE: Any other reason? CIRCLE ALL MENTIONED.	NOT NECESSARY A NOT CUSTOMARY ..... B LACK OF MONEY C TOO FAR ..... D TRANSPORTATION PROBLEM E NO ONE TO ACCOMPANY ..... F GOOD SERVICE NOT AVAILABLE G NOT PERMITTED BY FAMILY H BETTER SERVICE AT HOME I DID NOT KNOW WHERE TO GO J NO FEMALE DOCTOR AVAILABLE K INCONVENIENT SERVICE HOUR L AFRAID TO GO ..... M LONG WAITING TIME ..... N RELIGIOUS REASON O OTHER _____ X (SPECIFY)	516
508	The very first time you went for antenatal care when you were pregnant with (NAME), did you go because of problems with the pregnancy or just for a checkup?	BECAUSE OF A PROBLEM ..... 1 JUST FOR A CHECKUP 2	510
509	What problems did you have when you first went for antenatal care when you were pregnant with (NAME)? Anything else? CIRCLE ALL MENTIONED.	HEADACHE ..... A BLURRY VISION ..... B EDEMA/PRE-ECLAMSIA ..... C VAGINAL BLEEDING ..... D CONVULSIONS/ECLAMSIA ..... E TETANUS ..... F FOUL-SMELLING DISCHARGE ..... G LOWER ABDOMINAL PAIN ..... H FELL DOWN ..... I BABY MOVEMENT WAS LOW ..... J VARICOSE VEIN ..... K EXCESSIVE VOMITTING ..... L OTHER _____ X (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
510	Where did you receive antenatal care for this pregnancy? IF SOURCE IS A HOSPITAL, HEALTH CENTER, OR CLINIC WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ NAME OF PLACE PROBE: Any other place? RECORD ALL PLACES MENTIONED.	HOME RESPONDENT'S HOME ..... A OTHER HOME ..... B PUBLIC SECTOR GOVT. HOSPITAL/POLYCLINIC .... C GOVT. HEALTH CENTER ..... D GOVT. HEALTH POST/CLINIC ..... E MOBILE CLINIC ..... F OTHER PUBLIC _____ G (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC ..... H MOBILE CLINIC ..... I MATERNITY HOME ..... J OTHER PRIVATE _____ K (SPECIFY) OTHER _____ X (SPECIFY)	
511	How many months pregnant were you when you first received antenatal care for this pregnancy?	MONTHS ..... [ ][ ] DON'T KNOW 98	
512	How many times did you receive antenatal care during this pregnancy?	NUMBER OF TIMES..... [ ][ ] DON'T KNOW 98	
513	As part of your antenatal care during this pregnancy, were any of the following done at least once? Were you weighed? Was your blood pressure measured? Did you give a urine sample? Did you give a blood sample?	YES NO WEIGHT ..... 1 2 BP ..... 1 2 URINE ..... 1 2 BLOOD 1 2	
514	During (any of) your antenatal care visit (s), were you told about the signs of pregnancy complications?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 516
515	Were you told where to go if you had any of these complications?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
516	During this pregnancy, were you given an injection in the arm to prevent the baby from getting tetanus, that is, convulsions after birth?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 519
517	During this pregnancy, how many times did you get this tetanus injection?	NUMBER OF TIMES..... [ ][ ] DON'T KNOW 98	
518	CHECK 517: OTHER ⚑ TWO OR MORE TIMES ☐		→ 523
519	At any time before this pregnancy, did you receive any tetanus injections, either to protect yourself or another baby?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 523
520	Before this pregnancy, how many other times did you receive a tetanus injection? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES..... [ ][ ] DON'T KNOW 98	
521	In what month and year did you receive the last tetanus injection before this pregnancy?	MONTH ..... [ ][ ] DK MONTH ..... 98 YEAR ..... [ ][ ][ ][ ] DON'T KNOW YEAR 9998	→ 523
522	How many years ago did you receive that tetanus injection? injection?	YEARS AGO ..... [ ][ ]	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
523	During this pregnancy, were you given or did you buy any iron tablets or iron syrup? SHOW TABLETS/SYRUP.	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 525
524	During the whole pregnancy, for how many days did you take the tablets or syrup? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER OF DAYS.	DAYS ..... [ ][ ][ ] DON'T KNOW 998	
525	During this pregnancy, did you take any drug for intestinal worms?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
526	Who assisted with the delivery of (NAME)? PROBE: Anyone else? PROBE FOR THE TYPE(S) OF PERSON(S) AND RECORD ALL MENTIONED. IF RESPONDENT SAYS NO ONE ASSISTED, PROBE TO DETERMINE WHETHER ANY ADULTS WERE PRESENT AT THE DELIVERY.	HEALTH PERSONNEL DOCTOR ..... A NURSE/MIDWIFE ..... B AUXILIARY MIDWIFE ..... C OTHER PERSON TRAINED TRADITIONAL BIRTH ATTENDANT ..... D UNTRAINED TRADITIONAL BIRTH ATTENDANT ..... E RELATIVE/FRIEND ..... F OTHER _____ X (SPECIFY) NO ONE ..... Y	
527	Where did you give birth to (NAME)? IF SOURCE IS A HOSPITAL, HEALTH CENTER, OR CLINIC WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ NAME OF PLACE	HOME RESPONDENT'S HOME ..... 01 OTHER HOME ..... 02 PUBLIC SECTOR GOVT. HOSPITAL/POLYCLINIC .... 03 GOVT. HEALTH CENTER ..... 04 GOVT. HEALTH POST/CLINIC.... 05 OTHER PUBLIC _____ 06 (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC ..... 07 MATERNITY HOME ..... 08 OTHER PRIVATE _____ 09 (SPECIFY) OTHER _____ 10 (SPECIFY)	→ 529
528	Why did you not deliver at a hospital or health center? PROBE: Any other reason? CIRCLE ALL MENTIONED.	NOT NECESSARY ..... A NOT CUSTOMARY ..... B LACK OF MONEY ..... C TOO FAR ..... D TRANSPORTATION PROBLEM ..... E NO ONE TO ACCOMPANY ..... F GOOD SERVICE NOT AVAILABLE ... G NOT PERMITTED BY FAMILY ..... H BETTER SERVICE AT HOME ..... I DID NOT KNOW WHERE TO GO ... J NO FEMALE DOCTOR AVAILABLE ... K INCONVENIENT SERVICE HOUR ... L AFRAID TO GO ..... M LONG WAITING TIME ..... N RELIGIOUS REASON ..... O OTHER..... _____ X (SPECIFY)	→ 530
529	Were any of the following procedures performed at the time of delivery? a. Instruments were used to get the baby out (Forceps) b. Received blood transfusions. c. Received intravenous fluids (IV).	YES NO DK a. Forceps 1 2 8 b. Blood transfusion 1 2 8 c. Intravenous fluid 1 2 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
530	At any time just before, during or after the delivery of (NAME) did you suffer from any problems? IF YES: What problems did you have? Anything else? CIRCLE ALL MENTIONED.	HEADACHE ..... A BLURRY VISION ..... B EDEMA/PRE-ECLAMSIA ..... C EXCESSIVE BLEEDING ..... D CONVULSIONS/ECLAMSIA ..... E TETANUS ..... F FOUL-SMELLING DISCHARGE ..... G BABY MOVEMENT WAS LOW ..... H BABY'S HANDS/FEET CAME OUT FIRST ..... I PROLONGED LABOR ..... J OBSTRUCTED LABOR ..... K TORN UTERUS ..... L PLACENTA PREVIA/RETAINED ..... M HIGH FEVER ..... N FISTULA ..... 0 DID NOT HAVE ANY PROBLEMS ... P OTHER _____ X (SPECIFY)	→ 540
531	Did you see anyone about this (these) problems?	YES ..... 1 NO 2	→533
532	Why did you not see anyone for the problems you had? PROBE: Any other reason? CIRCLE ALL MENTIONED.	NOT NECESSARY A NOT CUSTOMARY ..... B LACK OF MONEY C TOO FAR ..... D TRANSPORTATION PROBLEM E NO ONE TO ACCOMPANY ..... F GOOD SERVICE NOT AVAILABLE G NOT PERMITTED BY FAMILY H BETTER SERVICE AT HOME I DID NOT KNOW WHERE TO GO J NO FEMALE DOCTOR AVAILABLE K INCONVENIENT SERVICE HOUR L AFRAID TO GO ..... M LONG WAITING TIME ..... N RELIGIOUS REASON ..... O NOT LIFE THREATENING ..... P OTHER _____ X (SPECIFY)	→ 540
533	Who did you see about the problems you had PROBE: Anyone else? PROBE FOR THE TYPE(S) OF PERSON(S) AND RECORD ALL MENTIONED.	HEALTH PERSONNEL DOCTOR ..... A NURSE/MIDWIFE ..... B AUXILIARY MIDWIFE ..... C OTHER PERSON TRAINED TRADITIONAL BIRTH ATTENDANT ..... D UNTRAINED TRADITIONAL BIRTH ATTENDANT ..... E RELATIVE/FRIEND ..... F OTHER _____ X (SPECIFY) NO ONE ..... Y	
534	Where were you treated for this (these) problems? IF SOURCE IS A HOSPITAL, HEALTH CENTER, OR CLINIC WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ NAME OF PLACE	HOME RESPONDENT'S HOME ..... A OTHER HOME ..... B PUBLIC SECTOR GOVT. HOSPITAL/POLYCLINIC C GOVT. HEALTH CENTER ..... D GOVT. HEALTH POST/CLINIC.... E OTHER PUBLIC _____ F (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC ..... G MATERNITY HOME ..... H OTHER PRIVATE _____ I (SPECIFY) OTHER _____ X (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
535	Did your condition improve after you were treated at this place?	NO CHANGE ..... 1 IMPROVED ..... 2 WORSENED ..... 3 DON'T KNOW 8	
536	Were you referred or told to go to another place for treatment or advice?	YES ..... 1 NO 2	→ 540
537	Where were you referred to or told to go for treatment for this (these) problems? IF SOURCE IS A HOSPITAL, HEALTH CENTER, OR CLINIC WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ NAME OF PLACE	PUBLIC SECTOR GOVT. HOSPITAL/POLYCLINIC ..... 01 GOVT. HEALTH CENTER ..... 02 GOVT. HEALTH POST/CLINIC .... 03 OTHER PUBLIC _____ 04 (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC ..... 05 MATERNITY HOME ..... 06 OTHER PRIVATE _____ 07 (SPECIFY) OTHER _____ 16 (SPECIFY)	
538	Did you go to the place you were referred to or told to go for treatment?	YES ..... 1 NO 2	→ 540
539	Why did you not go to the referred place or any other place for treatment? PROBE: Any other reason? CIRCLE ALL MENTIONED.	NOT NECESSARY A NOT CUSTOMARY ..... B LACK OF MONEY C TOO FAR ..... D TRANSPORTATION PROBLEM E NO ONE TO ACCOMPANY ..... F GOOD SERVICE NOT AVAILABLE G NOT PERMITTED BY FAMILY H BETTER SERVICE AT HOME I DID NOT KNOW WHERE TO GO J NO FEMALE DOCTOR AVAILABLE K INCONVENIENT SERVICE HOUR L AFRAID TO GO ..... M LONG WAITING TIME ..... N RELIGIOUS REASON ..... O NOT LIFE THREATENING ..... P OTHER _____ X (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
540	CHECK 527: ANY CODES '03' TO '09' CIRCLED ☐ ↓ OTHER CODES CIRCLED ☐ →		543
541	How long after (NAME) was delivered did you stay there? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ DON'T KNOW ... 998	
542	Was (NAME) delivered by cesarian section?	YES ..... 1 NO 2	
543	After (NAME) was born, did any one check on your health?	YES ..... 1 NO 2	→ 601
544	How long after (NAME) was delivered did the first check on your health take place? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ DON'T KNOW ... 998	
545	Who checked on your health at that time? PROBE FOR MOST QUALIFIED PERSON.	HEALTH PERSONNEL DOCTOR ..... 01 NURSE/MIDWIFE ..... 02 AUXILIARY MIDWIFE ..... 03 OTHER PERSON TRAINED TRADITIONAL BIRTH ATTENDANT ..... 04 UNTRAINED TRADITIONAL BIRTH ATTENDANT ..... 05 RELATIVE/FRIEND ..... 06 OTHER _____ 07 (SPECIFY) NO ONE 08	
548	Where did this first check on your health take place? IF SOURCE IS A HOSPITAL, HEALTH CENTER, OR CLINIC WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ NAME OF PLACE	HOME RESPONDENT'S HOME ..... 01 OTHER HOME ..... 02 PUBLIC SECTOR GOVT. HOSPITAL/CLINIC ..... 03 GOVT. HEALTH CENTER ..... 04 GOVT. HEALTH POST ..... 05 OTHER PUBLIC _____ 06 (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC ..... 07 MATERNITY HOME ..... 08 OTHER PRIVATE _____ 09 (SPECIFY) OTHER _____ 10 (SPECIFY)	

SECTION 6. CONTRACEPTION

601	Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy. Which ways or methods have you heard about? FOR METHODS NOT MENTIONED SPONTANEOUSLY, ASK: Have you ever heard of (METHOD)? CIRCLE CODE 1 IN 601 FOR EACH METHOD MENTIONED SPONTANEOUSLY. THEN PROCEED DOWN COLUMN 601, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE CODE 1 IF METHOD IS RECOGNIZED, AND CODE 2 IF NOT RECOGNIZED. THEN, FOR EACH METHOD WITH CODE 1 CIRCLED IN 601, ASK 602.		602 Have you ever used (METHOD)?
01	FEMALE STERILIZATION Women can have an operation to avoid having any more children.	YES ..... 1 NO 2	Have you ever had an operation to avoid having any more children? YES ..... 1 NO 2
02	MALE STERILIZATION Men can have an operation to avoid having any more children.	YES ..... 1 NO 2	Have you ever had a partner who had an operation to avoid having any more children? YES ..... 1 NO 2
03	PILL Women can take a pill every day to avoid becoming pregnant.	YES ..... 1 NO 2	YES ..... 1 NO 2
04	IUD Women can have a loop or coil placed inside them by a doctor or a nurse.	YES ..... 1 NO 2	YES ..... 1 NO 2
05	INJECTABLES Women can have an injection by a health provider that stops them from becoming pregnant for one or more months.	YES ..... 1 NO 2	YES ..... 1 NO 2
06	IMPLANTS Women can have several small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years.	YES ..... 1 NO 2	YES ..... 1 NO 2
07	MALE CONDOM Men can put a rubber sheath on their penis before sexual intercourse.	YES ..... 1 NO 2	YES ..... 1 NO 2
08	FEMALE CONDOM Women can place a sheath in their vagina before sexual intercourse.	YES ..... 1 NO 2	YES ..... 1 NO 2
09	LACTATIONAL AMENORRHEA METHOD (LAM)	YES ..... 1 NO 2	YES ..... 1 NO 2
10	RHYTHM METHOD Every month that a woman is sexually active she can avoid pregnancy by not having sexual intercourse on the days of the month she is most likely to get pregnant.	YES ..... 1 NO 2	YES ..... 1 NO 2
11	WITHDRAWAL Men can be careful and pull out before climax.	YES ..... 1 NO 2	YES ..... 1 NO 2
12	EMERGENCY CONTRACEPTION As an emergency measure after unprotected sexual intercourse, women can take special pills at any time within five days to prevent pregnancy.	YES ..... 1 NO 2	YES ..... 1 NO 2
13	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	YES ..... 1 _____ (SPECIFY) _____ (SPECIFY) NO 2	YES ..... 1 NO ..... 2 YES ..... 1 NO 2
603	CHECK 602: NOT A SINGLE "YES" (NEVER USED) →	AT LEAST ONE "YES" (EVER USED) →	606

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
604	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES ..... 1 NO 2	→ 611
605	What have you used or done? CORRECT 602 AND 603 (AND 601 IF NECESSARY).		
606	Now I would like to ask you about the first time that you did something or used a method to avoid getting pregnant. How many living children did you have at that time, if any? IF NONE, RECORD '00'.	NUMBER OF CHILDREN ..... ☐☐	
607	CHECK 602 (01): WOMAN NOT STERILIZED ☐ WOMAN STERILIZED ☐		→ 610A
608	CHECK 238: NOT PREGNANT OR UNSURE ☐ PREGNANT ☐		→ 611
609	Are you currently doing something or using any method to delay or avoid getting pregnant?	YES ..... 1 NO 2	→ 611
610 610A	Which method are you using? **(3)** CIRCLE ALL MENTIONED. IF MORE THAN ONE METHOD MENTIONED, FOLLOW SKIP INSTRUCTION FOR HIGHEST METHOD IN LIST. CIRCLE 'A' FOR FEMALE STERILIZATION.	FEMALE STERILIZATION ..... A MALE STERILIZATION ..... B PILL ..... C IUD ..... D INJECTABLES ..... E IMPLANTS ..... F MALE CONDOM ..... G FEMALE CONDOM ..... H DIAPHRAGM ..... I FOAM/JELLY ..... J LACTATIONAL AMEN. METHOD ..... K RHYTHM METHOD ..... L WITHDRAWAL ..... M OTHER _____ X (SPECIFY)	→ 701
611	Do you know of a place where you can obtain a method of family planning?	YES ..... 1 NO 2	→ 701
612	Where is that? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR GOVT. HOSPITAL/POLYCLINIC ... A GOVT. HEALTH CENTER ..... B GOVT. HEALTH POST/CLINIC ..... C FAMILY PLANNING CLINIC ..... D MOBILE CLINIC ..... E FIELDWORKER ..... F OTHER PUBLIC _____ G (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... H PRIVATE DOCTOR ..... I MOBILE CLINIC ..... J PHARMACY/CHEMIST/DRUG STORE ..... K FIELDWORKER ..... L FP/PPAG CLINIC ..... M MATERNITY HOME ..... N OTHER PRIVATE MEDICAL _____ O (SPECIFY) OTHER SOURCE SHOP ..... P CHURCH ..... Q FRIEND/RELATIVE ..... R OTHER _____ X (SPECIFY)	

SECTION 7. MARRIAGE AND SEXUAL ACTIVITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	Are you currently married or living together with a man as if married?	YES, CURRENTLY MARRIED ..... 1 YES, LIVING WITH A MAN ..... 2 NO, NOT IN UNION 3	→ 704
702	Have you ever been married or lived together with a man as if married?	YES, FORMERLY MARRIED ..... 1 YES, LIVED WITH A MAN ..... 2 NO 3	→ 708
703	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED ..... 1 DIVORCED ..... 2 SEPARATED 3	→ 705
704	Is your husband/partner living with you now or is he staying elsewhere?	LIVING WITH HER ..... 1 STAYING ELSEWHERE 2	
705	Have you been married or lived with a man only once or more than once?	ONLY ONCE ..... 1 MORE THAN ONCE 2	
706	CHECK 705: MARRIED/ LIVED WITH A MAN ONLY ONCE → In what month and year did you start living with your husband/partner? MARRIED/ LIVED WITH A MAN MORE THAN ONCE → Now I would like to ask about when you started living with your first husband/partner. In what month and year was that?	MONTH ..... ☐☐ DON'T KNOW MONTH ..... 98 YEAR ..... ☐☐☐☐ DON'T KNOW YEAR 9998	→ 708
707	How old were you when you first started living with him?	AGE ..... ☐☐	
708	CHECK FOR THE PRESENCE OF OTHERS. BEFORE CONTINUING, MAKE EVERY EFFORT TO ENSURE PRIVACY.		
709	Now I need to ask you some questions about sexual activity in order to gain a better understanding of some important life issues. How old were you when you had sexual intercourse for the very first time?	NEVER HAD SEXUAL INTERCOURSE ..... 00 AGE IN YEARS ..... ☐☐ FIRST TIME WHEN STARTED LIVING WITH (FIRST) HUSBAND/PARTNER 95	→ 712 → 712
710	CHECK 104: AGE 15-24 / AGE 25-49	☐	→ 801
711	Do you intend to wait until you get married to have sexual intercourse for the first time?	YES ..... 1 NO ..... 2 DON'T KNOW/UNSURE 8	→ 801
712	When was the last time you had sexual intercourse? IF LESS THAN 12 MONTHS, ANSWER MUST BE RECORDED IN DAYS, WEEKS OR MONTHS. IF 12 MONTHS (ONE YEAR) OR MORE, ANSWER MUST BE RECORDED IN YEARS.	DAYS AGO ..... 1 ☐☐ WEEKS AGO ..... 2 ☐☐ MONTHS AGO ..... 3 ☐☐ YEARS AGO ..... 4 ☐☐	

SECTION 8. MATERNAL MORTALITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801	Now I would like to ask you some questions about your brothers and sisters, that is, all of the children born to your natural mother, including those who are living with you, those living elsewhere and those who have died. How many children did your mother give birth to, including you?	NUMBER OF BIRTHS TO NATURAL MOTHER	
802	CHECK 801: TWO OR MORE BIRTHS ☐ ONLY ONE BIRTH (RESPONDENT ONLY) ☐ → 814		
803	How many of these births did your mother have before you were born?	NUMBER OF PRECEDING BIRTHS	

804	What was the name given to your oldest (next oldest) brother or sister?	(1) _____	(2) _____	(3) _____	(4) _____	(5) _____	(6) _____
805	Is (NAME) male or female?	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2
806	Is (NAME) still alive?	YES ... 1 NO ... 2 → GO TO 808 DK ... 8 GO TO (2)	YES ... 1 NO ... 2 → GO TO 808 DK ... 8 GO TO (3)	YES ... 1 NO ... 2 → GO TO 808 DK ... 8 GO TO (4)	YES ... 1 NO ... 2 → GO TO 808 DK ... 8 GO TO (5)	YES ... 1 NO ... 2 → GO TO 808 DK ... 8 GO TO (6)	YES ... 1 NO ... 2 → GO TO 808 DK ... 8 GO TO (7)
807	How old is (NAME)?	☐☐ GO TO (2)	☐☐ GO TO (3)	☐☐ GO TO (4)	☐☐ GO TO (5)	☐☐ GO TO (6)	☐☐ GO TO (7)
808	How many years ago did (NAME) die?	☐☐	☐☐	☐☐	☐☐	☐☐	☐☐
809	How old was (NAME) when he/she died?	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (2)	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (3)	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (4)	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (5)	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (6)	☐☐ IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (7)
810	Was (NAME) pregnant when she died?	YES ... 1 → GO TO 813 NO ... 2	YES ... 1 → GO TO 813 NO ... 2	YES ... 1 → GO TO 813 NO ... 2	YES ... 1 → GO TO 813 NO ... 2	YES ... 1 → GO TO 813 NO ... 2	YES ... 1 → GO TO 813 NO ... 2
811	Did (NAME) die during childbirth?	YES ... 1 → GO TO 813 NO ... 2	YES ... 1 → GO TO 813 NO ... 2	YES ... 1 → GO TO 813 NO ... 2	YES ... 1 → GO TO 813 NO ... 2	YES ... 1 → GO TO 813 NO ... 2	YES ... 1 → GO TO 813 NO ... 2
812	Did (NAME) die within two months after the end of a pregnancy or childbirth?	YES ... 1 NO ... 2	YES ... 1 NO ... 2	YES ... 1 NO ... 2	YES ... 1 NO ... 2	YES ... 1 NO ... 2	YES ... 1 NO ... 2
813	How many live born children did (NAME) give birth to during her lifetime (before this pregnancy)?	☐☐	☐☐	☐☐	☐☐	☐☐	☐☐

IF NO MORE BROTHERS OR SISTERS, GO TO 814.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES					SKIP
804	What was the name given to your oldest (next oldest) brother or sister?	(7) _____	(8) _____	(9) _____	(10) _____	(11) _____	(12) _____
805	Is (NAME) male or female?	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2	MALE 1 FEMALE 2
806	Is (NAME) still alive?	YES . . . 1 NO . . . 2 GO TO 808 DK . . . 8 GO TO (8)	YES . . . 1 NO . . . 2 GO TO 808 DK . . . 8 GO TO (9)	YES . . . 1 NO . . . 2 GO TO 808 DK . . . 8 GO TO (10)	YES . . . 1 NO . . . 2 GO TO 808 DK . . . 8 GO TO (11)	YES . . . 1 NO . . . 2 GO TO 808 DK . . . 8 GO TO (12)	YES . . . 1 NO . . . 2 GO TO 808 DK . . . 8 GO TO (13)
807	How old is (NAME)?	GO TO (8)	GO TO (9)	GO TO (10)	GO TO (11)	GO TO (12)	GO TO (13)
808	How many years ago did (NAME) die?						
809	How old was (NAME) when he/she died?	IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (8)	IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (9)	IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (10)	IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (11)	IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (12)	IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO (13)
810	Was (NAME) pregnant when she died?	YES . . . 1 GO TO 813 NO . . . 2	YES . . . 1 GO TO 813 NO . . . 2	YES . . . 1 GO TO 813 NO . . . 2	YES . . . 1 GO TO 813 NO . . . 2	YES . . . 1 GO TO 813 NO . . . 2	YES . . . 1 GO TO 813 NO . . . 2
811	Did (NAME) die during childbirth?	YES . . . 1 GO TO 813 NO . . . 2	YES . . . 1 GO TO 813 NO . . . 2	YES . . . 1 GO TO 813 NO . . . 2	YES . . . 1 GO TO 813 NO . . . 2	YES . . . 1 GO TO 813 NO . . . 2	YES . . . 1 GO TO 813 NO . . . 2
812	Did (NAME) die within two months after the end of a pregnancy or childbirth?	YES . . . 1 NO . . . 2	YES . . . 1 NO . . . 2	YES . . . 1 NO . . . 2	YES . . . 1 NO . . . 2	YES . . . 1 NO . . . 2	YES . . . 1 NO . . . 2
813	How many live born children did (NAME) give birth to during her lifetime (before this pregnancy)?						
IF NO MORE BROTHERS OR SISTERS, GO TO 814.							
814	RECORD THE TIME.	HOURS ..... MINUTES.....					

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

EDITOR'S OBSERVATIONS

NAME OF EDITOR: _____ DATE: _____

SUPERVISOR'S OBSERVATIONS

NAME OF SUPERVISOR: _____ DATE: _____