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RURAL-URBAN DIFFERENTIALS IN INDUCED ABORTION
AMONG WOMEN IN GHANA

BY

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ACCEPTANCE

Accepted by the College of Humanities, University of Ghana, Legon in partial fulfilment of the requirement for the award of Master of Arts Degree in Population Studies.

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DATE: 17th December, 2021



DECLARATION

I, Gabriel Ananya, hereby declare that except for the references made to other people's work which have been duly acknowledged, this is the result of my own research undertaken under supervision at the Regional Institute for Population Studies, University of Ghana and that neither a part nor the whole of it has been presented elsewhere for the award of another degree.



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DEDICATION

I dedicate this work to my parents, Mr. Christopher Ali Ayilimba Ananya (late) and Mrs. Diana Apele Ananya, as well as my wonderful nieces and nephews. Aim to perform a lot better.



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I am very grateful to the Lord almighty for His grace and strength throughout this journey. This achievement would not have been possible without Him.

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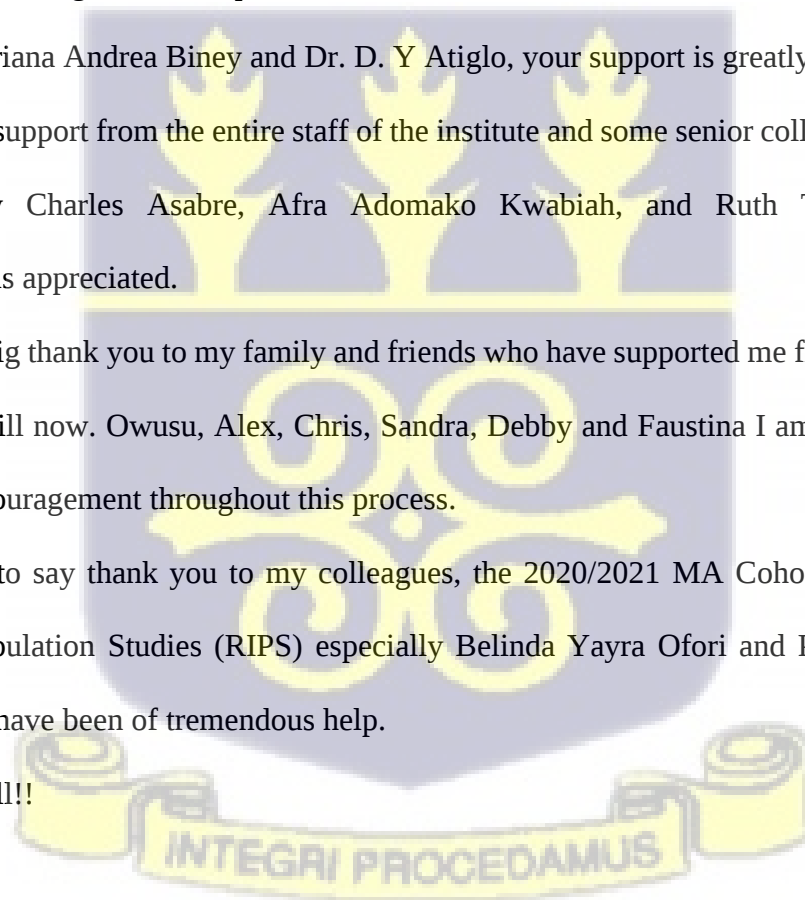


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ABSTRACT

Introduction: Globally, there are disparities in maternal health outcomes as well as the factors that influence maternal health outcomes. Some of these disparities stem from the differences in place of residence (rural or urban). These rural-urban disparities affect access to services such as safe induced abortion. In order to improve maternal health outcomes in developing countries such as Ghana, these disparities need to be addressed. Against the foregoing, this study seeks to examine the differentials in induced abortion among women in urban and rural areas in Ghana.

Methods: This study used data from the 2017 Ghana Maternal Health Survey. The analytical sample includes a total of 13,176 women (weighted) who have been pregnant in the five years preceding the survey. The data was analysed using descriptive statistics, Pearson chi-square tests and binary logistic regression analysis.

Results: The results show that 18.5% of urban women had induced abortion while 10.0% of rural women had induced abortion. Among rural women 33.9 % were using contraceptives while 32.6% of urban women were using contraceptives. Among urban women who were not married 35.2% induced abortion while 20.9% of rural women who were not married induced abortion. At the multivariate level, while age, level of educational attainment and ethnicity were significant predictors of induced abortion in urban areas these variables were not significant in rural areas. Also, whereas exposure to media was a significant predictor of induced abortion in rural areas it was not a significant predictor in urban areas.

Conclusion: The factors that influence induced abortion in urban and rural areas differ, therefore policies promulgated to address induced abortion must be distinctive and peculiar to each area (urban/rural) in order to reap maximum results.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

Abortion, according to the World Health Organization (2008) is the termination of pregnancy prior to 20 weeks' gestation or a foetus born weighing less than 500g. Also, abortion is said to be the expulsion of a foetus before it becomes viable (Hern, 1995). Abortion disrupts the full gestation of pregnancy and child birth, which when not properly done can cause death or other forms of harm to the mother. This makes abortion an integral part of maternal health, therefore improving maternal health in any country has so much to do with improving the abortion situation in that country.

Abortions can be either spontaneous (miscarriage) or induced. Spontaneous abortion is the loss of pregnancy naturally before twenty weeks of gestation (Apgar & Churgay, 1993). Induced abortion on the other hand refers to the deliberate termination of a product of conception (Rigterink et al., 2013). Induced abortion can either be safe or unsafe. The World Health Organization (2008), defines unsafe abortion as a procedure for terminating an unintended pregnancy, carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both. Safe abortions on the other hand, are those performed in accordance with WHO guidelines and standards, thus ensuring that the risk of severe complications is minimal (WHO, 2012).

Induced abortion can be done either by using medical means or non-medical means. Medical means usually involve the use of medications such as mifepristone to induce abortion whereas non-medical means can include Dilation and Curettage or Dilation and Evacuation (D&C/D&E), Manual Vacuum Aspirator (MVA) and Electronic Vacuum Aspirator (EVA). Non-medical abortions can also include some traditional methods that falls within the unsafe categorisation. Examples include drinking alcohol, drinking herbal concoctions, drinking home remedies, using herbal enema, inserting

substances into the vagina, heavy massage, excessive physical activity and taking unknown tablets (Ghana Statistical Services, 2018).

The incidence of induced abortion differ from region to region and from country to country. Factors such as culture and availability of health systems have the tendency to influence the incidence of induce abortion in a country. In recent years, global induced abortion rates have increased. According to the WHO (2021), 73 million abortions were induced averagely from 2014 to 2019. This is an increase from 56 million cases of abortions from 2010 to 2014 (Population Reference Bureau, 2021). Regionally, induced abortion is very prominent in Asia and Africa. Developing countries contribute about 97% of the global figures of induced abortion with Asia and Africa leading the chart (WHO, 2021). From 2010 to 2014 Africa's induced abortion cases were 8.2 million of which 76% were unsafe. In the same period Asia, Latin America, North America and Europe recorded 39.4 million, 6.5 million, 1.2 million and 4.3 million cases respectively. Out of these cases 42%, 76%, 0.9% and 11% were unsafe induced abortions respectively.

In Ghana, despite abortion being legal in situations of rape, incest, foetal abnormality/ disease or defilement of a female with a mental health challenge or when the woman's life or mental health is at risk (Morhee & Morhee, 2010), abortion is still highly unsafe. The national abortion rate of Ghana is 44 abortions per 1000 women aged 15-49. This is equivalent to over 327,600 abortions annually (Keogh et al., 2020; Polis et al., 2020). Unsafe abortion in Ghana exposes women to maternal deaths which is currently reported to be about 310 deaths per 100,000 live births (Ghana Statistical Services, 2018) which is far from the sustainable development goal of reaching less than 70 deaths per 100,000 live births.

Unsafe induced abortion has become a problem in Ghana for several reasons. According to Atakro et al. (2019), lack of knowledge of safe abortion services causes women to engage in unsafe

abortion practices. In their study, Atakro et al. (2019) found that all participants had complications from unsafe abortion practices. Also, women perceived safe abortion as a religious and cultural taboo hence would rather go in for a clandestine unsafe abortion service (Atakro et al., 2019). In some instances the lack of equipment and medication in health centres have forced women to look for alternatives which are unsafe (Wodajo et al., 2017). The economic reasons why women engage in unsafe abortion practices are also sterling. The charges for safe abortion services is a major cause of unsafe abortions since some women cannot afford the safe abortion service charge (Gbagbo, 2020). All these are challenges women face in gaining access to safe abortion services and until solutions are proffered to counteract them, the canker will continue to lurk and expose women to deaths and harsh health complications.

Globally, there is evidence of disparity among urban and rural women when it comes to health services, socio-economic factors and access to education. These factors have an influence on the abortion choices these women make. According to Hebert et al. (2016), access to health services is differentiated by rural-urban divide. Also, according to Guttmacher Institute (2018), in Asia, poor rural women are likely to have unsafe abortion service. The same likelihood exist in Latin America and the Caribbean (Guttmacher Institute., 2018), this is due to the unavailability of health centres and also lack of economic might to access safe abortion services. In Turkey, although the percentages of pregnancies that ended in induced abortion or unsafe abortion has reduced, the levels is still high. This is because mid-level health facilities in rural areas lack specialists to provide safe abortion services for the women (Idge et al., 2008). In rural Canada, abortion services has also reduced and nurses in these rural areas tend to resign due to the fear of being harassed (Ames & Norman, 2012).

In Ghana, the problem of disparity is no different. Women in urban areas have access to better health facilities and are more economically empowered to have abortion services compared to their

counterparts in the rural areas (Nyarko & Potter, 2020). Biney & Atiglo (2017), also found that, lack of finances was associated with use of harmful abortion methods among women in rural settings, while no such difference was found among urban dwellers. It is clear from the literature that different factors differentiate rural and urban women when it comes to induced abortion. Therefore, in order to reduce the gap between urban and rural women, these factors need to be thoroughly investigated, that is why this study seeks to investigate the differentials that exist between rural and urban women in Ghana when it comes to induced abortion.

1.2 PROBLEM STATEMENT

Unsafe induced abortion continues to be a major reproductive health challenge in many countries, especially developing countries (Wodajo et al., 2017). This is because there is a higher risk of maternal mortality associated with unsafe induced abortions among women. The challenge of unsafe abortions made it difficult for most developing nations to achieve the Millennium Development Goals (MDG) on maternal health (MDG 5) and with the Sustainable Development Goals (SGD) just 9 years away (2030) it has become clear that it would be difficult to achieve the target on maternal health if the problem of unsafe abortions are not addressed (Wambura, 2015). Aside the high mortality rates caused by unsafe induced abortions in developing nations (Ganyaglo & Hill, 2012; Mills et al., 2008), several complications have been identified to be associated with unsafe induced abortion. Studies have found excessive bleeding, abdominal pains and damage to the uterus as some of the many complications that women who undergo unsafe induced abortions endure (Ghana Statistical Service, 2018; Guttmacher Institute, 2010).

Despite the liberal legal abortion regime in Ghana, unsafe induced abortion continues to be high in the country (Oliveras et al., 2015). This paradox is best explained by findings of studies that have sought to measure stakeholders' understanding of the law on abortion in Ghana. In such studies,

it was found that physicians did not understand the abortion law in Ghana and have in many instances misinterpreted it (Kumi-Kyereme et al., 2014; Payne et al., 2013).

Another challenge faced in the fight against unsafe induced abortion is conscientious objection. Conscientious objection is the right that health workers have to say no to the provision of certain services that may be in conflict with their beliefs. This challenge is corroborated by the findings of a study conducted by Awoonor-Williams et al. (2020), which sought to explore conscientious objection among clinicians and found that clinicians had little understanding of conscientious objection even though they practice it. Under such circumstances, if health care providers themselves become a problem in the delivery of health care then the path to improving health care is not just made longer but more complicated. For example, Schwandt et al. (2013) found in a study conducted in the Komfo Anokye Teaching Hospital and Korle-Bu Teaching hospitals in Ghana that nurses scold patients especially unmarried teenage girls who become pregnant and visit the hospital. This is a problem because this bad practice force these girls to seek services elsewhere and they end up going for unsafe induced abortions.

In addition to these challenges, socio-economic and cultural factors also contribute to unsafe abortions among women in Ghana. Atakro et al. (2019), Biney and Atiglo (2017), and Schwandt et al. (2013), found that financial constraint and the availability of social support or the absence of it can determine whether a pregnancy would be aborted or not. The impact of financial constraint may differ in rural and urban areas which makes it important for it to be studied. In some country contexts, abortion is seen as illegal and dangerous as well as stigmatizing and a shame to families (Bleek, 1978; Hill et al., 2009). Therefore, in a liberal legal abortion regime such as Ghana's if people still view abortion to be illegal then there is more to be done in this fight against unsafe induced abortion. The

legal ambiguities existing in the conditions under which legal safe induced abortions can be offered also makes it difficult for some qualified providers to provide services (Voetagbe, et al, 2010).

According to Voetagbe et al. (2010) where safe abortion services are accessible, unsafe abortion and abortion-related mortality and morbidity are reduced. However, in Ghana, access to safe abortion services in rural areas is limited because aside the lack of health facilities in these areas, there are also relatively few health professionals. This denies rural women access to safe abortion services and they are forced to look for alternatives that result in unsafe induced abortions and its accompanying complications (Voetagbe et al, 2010). Also, women in urban areas are able to afford to take care of abortion cost as compared to their counterparts in the rural areas.

The issue of accessibility is not only limited to health facilities and professionals but also to education since many studies have found that women who are educated are more likely to access safe abortion services (Sundaram et al., 2012). However, here is the case that rural areas in Ghana lack the best of educational facilities to facilitate their education. Rural areas lack access to internet services hence, making it difficult to receive education through the internet (i.e., online podcasts, social media, websites and many alike). The above mentioned factors together, widen the disparities that exist between women in urban areas and rural areas in relation to access to safe abortion services. This disparity makes it difficult for Ghana to win the battle against unsafe induced abortion and until that is done the problem would still persist.

Additionally, in Ghana, 27% of women who induced abortions used non-medical methods (Ghana Statistical Services, 2018). These non-medical methods included drinking alcohol, drinking herbal concoctions, drinking homemade remedies, using herbal enema, inserting substances into the vagina, heavy massage, excessive physical activity, taking tablets (exact kind unknown), to mention

but a few (Ghana Statistical Services, 2018). These methods are largely unsafe and this puts women who use them at risk of maternal mortality.

Moreover, the problem of stigmatization still lurks. Both service providers and service seekers face stigmatization. This act of stigmatization causes service providers to desist from providing the service to women and women also go for unsafe methods that can expose them to death (Payne et al., 2013). These challenges expose women to high risk of maternal deaths in these areas which in turn increase the maternal deaths in Ghana as a whole, hindering the achievement of the Sustainable Development goal on maternal mortality. Therefore, differentials by place of residence, that is urban and rural residence puts women who reside in rural areas in a disadvantaged position. This study therefore will seek to investigate this and have empirical evidence to ascertain it.

1.3 RESEARCH QUESTIONS

Against the foregoing, this study seeks to answer the main research question, which is;

What are the rural and urban differentials in induced abortions among women in Ghana?

Further specific research questions are;

1. What are the levels of induced abortion among women in rural and urban Ghana?
2. What are the factors associated with induced abortion among women in rural and urban Ghana?

1.4 RESEARCH OBJECTIVES

To help answer the research questions, the study aims to examine the rural and urban differentials of induced abortions among women in Ghana. This overarching aim will be achieved by achieving the following specific objectives;

1. Estimate the levels of induced abortion among women in rural and urban Ghana.
2. Determine the factors associated with induced abortion among women in rural and urban Ghana.

1.5 RATIONALE OF THE STUDY

The inquiry into induced abortion is not a new phenomenon in Ghana. Previous research has explored abortion in the Akan ethnic group and in the Ghanaian family (Bleek, 1978, 1990). The decline in the total fertility rate (TFR) in Ghana from 5.2 in the 1990's to 3.9 in 2017 has been a great success for Ghana in its attempt to reduce TFR. However, one would expect that this decline would be commensurate with the contraceptive prevalence rate (CPR) in Ghana but that is not the case. Only 1 in 4 married women use modern contraceptives (25%) and CPR among women who are not married is 31% (Ghana Statistical Service, 2018). This disparity has caused some to believe that the findings of studies such as Ahiadeke (2001) and Oliveras et al. (2015) which suggest that the use of induced abortion as a birth control mechanism by some women might be what explains the inconsistency between reduction in TFR and the low contraceptive prevalence in Ghana.

Previous studies have also explored contraceptive use and abortion in Ghana and reasons or factors that influence peoples decision to have abortions in Ghana (Ahiadeke, 2001; Biney, 2011; Boah et al., 2019). Few studies have also tried to explore the phenomenon of induced abortion in Ghana in the rural and urban contexts (Adjei et al., 2015; Atakro et al., 2019; Gbagbo et al., 2015; Hill et al., 2009; Kumi-Kyereme et al., 2014) but have done so in isolation. These isolated studies therefore do not give the complete picture of what is happening in some specific contexts. A study that assessed the national plan to prevent maternal mortality of selected countries from 7 regions of the world found that even though a national plan is important, where there are specific plans to tackle specific problems, the results have been better (Mirembe et al., 2010). However, to be able to develop

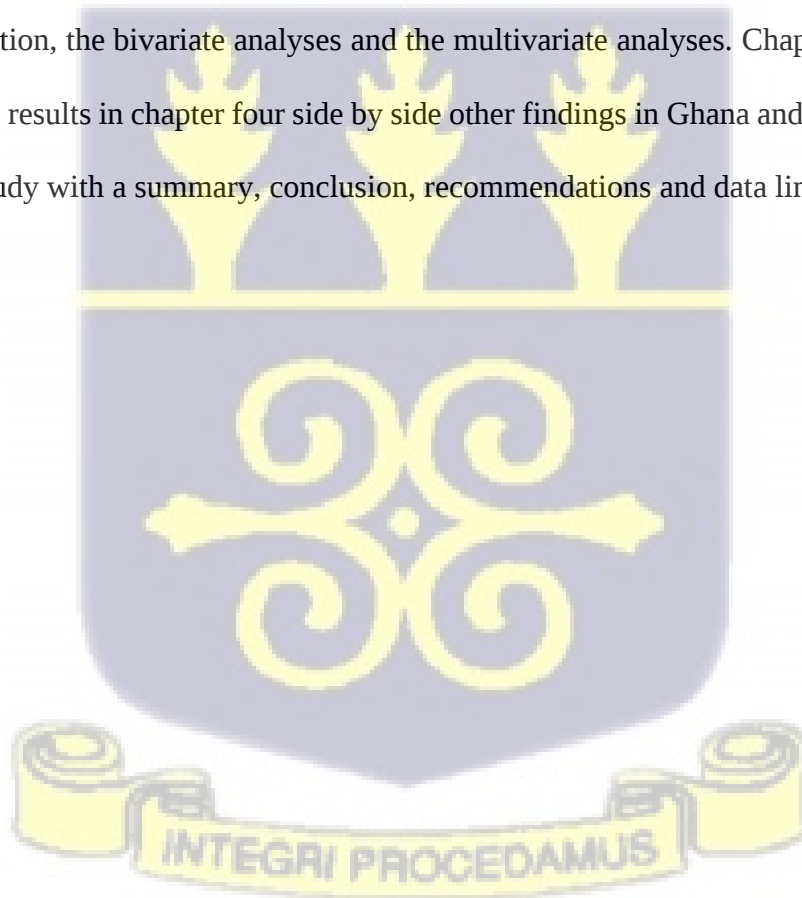
specific plans for specific problems, the context in which the plans would be applied must be known. Therefore this study seeks to give a more comprehensive picture of induced abortion in both rural and urban context.

In Ghana, though unsafe induced abortion continues to be a national problem, the rural and urban contexts and dynamics might differ in terms of methods, levels, cost, type of service providers, reasons for the abortions etc. To be able to address the challenge of maternal health (maternal mortality and morbidity), the rural and urban disparities that exist in induced abortion must be addressed. This is why this study seeks to explore rural-urban differentials in induced abortion.

Also, few studies have attempted to explore differentials in induced abortion in Ghana using nationally representative data (Biney & Atiglo, 2017; Boah et al., 2019; Owoo et al., 2019). Some researchers (Sutton et al., 2019; Vibeke Rasch and Rose Kippingili, 2009) have studied rural-urban differences in the American and Tanzanian context. Sutton et al. (2019) found that women age 15 to 24 years in urban areas are more likely to induce their first pregnancies as compared to those in rural areas, therefore to be able to prevent these women from inducing their first pregnancies measures need to be put in place to prevent pregnancy at the early ages in the urban areas. Vibeke and Kippingili (2009) also found in Tanzania that 62% and 63% of rural and urban abortions were unsafe. However, more than half of the abortions in urban Tanzania were performed by an unskilled person. These findings are important guides for future studies and policy planning. This present study hopes to find the differentials in induced abortion among women in Ghana, in order to contribute to the induced abortion literature in Ghana and also help in the contextualisation of policies in rural and urban areas to attain maximum benefits.

1.6 ORGANIZATION OF STUDY CHAPTERS

In this introductory chapter, the background to the study, problem statement, research questions, rationale, objectives and organisation of the dissertation have been presented. The rest of the dissertation is organised as follows: Chapter Two presents the definition of key concepts and review of relevant literature on some indicators of induced abortion. This chapter further details the theoretical framework from which the conceptual framework for this study was adapted and presents the hypotheses of this study. Chapter Three presents the study design and details on the methodology involved in the study. The variables and how they are measured as well as how they were analysed were detailed. Chapter Four presents the results of the study which includes univariate analyses of the study population, the bivariate analyses and the multivariate analyses. Chapter Five includes the discussion of the results in chapter four side by side other findings in Ghana and beyond. Chapter Six concludes the study with a summary, conclusion, recommendations and data limitations.



CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter sought to review the literature on induced abortion paying particular attention to the differentials that have been identified at the regional, country and rural- urban levels. This review relied on several sources for literature. One of the main sources was online sources. Some of the online sources included PubMed, Jstor, Research Gate, websites of organizations such as World Health Organization (WHO), Guttmacher Institute and other sources. The scope however encompasses, Ghana, Africa, Asia, America and parts of Europe. The review includes definition of concepts, the legal regime of abortion in Ghana, regional dynamics of abortion, place of residence and induced abortion, factors influencing abortion, theoretical perspectives of the study, the conceptual framing of the study and proposed hypotheses for testing.

2.2 DEFINITION OF CONCEPTS

The subject of abortion sparks debates in many countries with the main arguments circling on the morality and legality of abortion. The moral debate takes inspiration from religious teachings and doctrines while the debate on legality takes inspiration from the constitution or body of laws in the respective countries. The role of tradition and personal inclination to such debates cannot be overlooked in many countries especially in Africa and Asia. In sub-Saharan Africa, tradition and religion is a major part of the belief system that influences individual decision and choices.

Abortion has been defined differently by people and institutions, but the core of it remains the same. Hern (1995), defines abortion to be the expulsion of a foetus before it becomes viable. WHO (2008), defines abortion as the termination of pregnancy prior to 20 weeks gestation or a foetus

born weighing less than 500g. The expulsion of the foetus as captured by Hern (1995), can be either spontaneous or induced. The spontaneous expulsion of foetus is also known as a miscarriage. Apgar & Churgay (1993), define spontaneous abortion as the loss of pregnancy naturally before twenty weeks of gestation. Several factors ranging from the personal characteristics of the woman (for example, her physiological makeup/ fecundability), type of physical activity exposed to or engaged in, the income status of the women and others (Zheng et al., 2017) are associated with the risk of spontaneous abortion.

Induced abortion on the other hand, is the type of expulsion caused by human efforts. United Nations (2014), sees induced abortions to be those abortions initiated by deliberate action with the intention of terminating pregnancy. Rigterink et al. (2013), puts it simple and brief by saying it is the intentional termination of pregnancy. Amies (1990), puts it slightly different and says, it is the termination of an implanted embryo by artificial measures. These artificial means include ingestion of certain plant compounds, physical trauma to the abdomen, and introduction of chemicals or sharp objects into the uterus. The definition by the United Nations (2014), states the deliberate intention dimension of induced abortion which suggest that there are other underling factors that influence ones intention to act. Amies (1990), also draws attention to the means through which this abortion is induced, thus, by artificial means.

Induced abortion can further be classified into safe and unsafe or medical and non-medical/surgical. Safe abortion is that which is done based on the WHO guidelines and standards. The WHO guidelines and standard views abortion to be safe when it is performed by a qualified health professional, in an environment appropriate for such, using medical methods (WHO, 2012). Many scholars have adopted this guideline and standard definition and applied it to their work.

However, it is important to note that the components of this guideline may differ based on the legal framework in specific countries. For instance, in Ghana a qualified health professional to perform abortion is a medical doctor and a midwife, however this might be different in another jurisdiction. Warriner & Shah (2006), takes the argument beyond the guidelines and standards and also beyond legality and medical aspects. They gave four (4) other components to the safety of abortion, which includes;

“The decision to abort is a woman’s informed choice, made without coercion, and is free from the risk of family violence or societal stigma. The procedure is carried out in an enabling legal environment. The procedure is performed in early gestation with medically appropriate technology by an empathetic non-judgmental provider who is geographically and financially accessible. The procedure is backed up by medical services to detect and manage complications and provides information about and access to contraceptive options”

Unsafe induced abortion on the other hand is deemed to be a procedure for terminating an unintended pregnancy, carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both (WHO, 2008). Boah et al. (2019), puts it slightly different but still maintains the core component of the WHO (2008), definition by saying *“unsafe induced abortion is defined as the termination of pregnancy by a woman through the use of nonmedical method, nonmedical provider, in an environment that is not medically safe for that purpose”*. Aside these characteristics that surround an abortion to warrant it to be called unsafe, there are other relevant characteristics that are acknowledged by World Health Organization (2008), and other state health institutions (Ministry of Health of the Republic of Ghana, 2012) as part of the

description of abortion as unsafe. These characteristics include the absence of proper pre-abortion counselling service and the incorrect prescription of medical abortion. This suggests that the classification of induced abortion into safe or unsafe is more complex than it seems.

Medical abortion as mentioned earlier has to do with abortions that make use of pharmaceutical drugs (Ministry of Health of the Republic of Ghana, 2012; Rigtterink et al., 2013; Warriner & Shah, 2006). Medical abortion is suitable for pregnancies that are in the first trimester. That is, medical abortions work best when the gestation period is in its early stages. Drugs for this purposes have gone through a lot of phases, currently the most popular drugs are mifepristone and misoprostol (Appiah-Agyekum, 2018). Non-medical or surgical abortions are those abortions whereby surgical methods are used to terminate a pregnancy (Ministry of Health of the Republic of Ghana, 2012). The methods of surgical abortion include dilation and curettage (D&C), dilation and evacuation (D&E), manual vacuum aspiration (MVM) and electric vacuum aspiration (Dennis, 2012).

2.3 THE ABORTION LAW IN GHANA

Ghana has one of the most liberal laws on abortion in Africa (Rominski & Lori, 2014). The practice of abortion is regulated by Act 29 of the criminal code of 1990. This act was amended in 1985 to decriminalize abortion on the conditions of rape, incest, foetal abnormality/ disease or the defilement of a female with mental health challenge. Also, the law permits abortion on grounds that the continuance of the pregnancy could risk the life of the pregnant woman or cause injury to the physical and mental health of the pregnant woman. However, this law has delayed in being translated into policy formulation and implementation (Morhee & Morhee, 2010), therefore making unsafe abortion a public health problem in Ghana. The challenge of this law has been the ambiguity in some portions of it. For example, the act permits that abortion be carried out when pregnancy puts a

woman's life at risk. The challenge here is who determines if the pregnancy puts the woman's life at risk; is it the woman or a medical practitioner?

Also, in specifying who is permitted to perform an abortion, the law states that the person must be a registered medical practitioner in gynaecology or any other registered medical practitioner. However, in Ghana not every medical practitioner is trained in abortion service provision. The question is also raised about who is a registered medical practitioner? Does it include nurses of all kinds and physician assistants or not? Another challenge is that knowledge of the abortion law in Ghana is low. According to Ghana Statistical Services (2018), only 11% of people who knew about abortion knew that abortion was legal under certain conditions in Ghana. The question then is if people do not know that the service is legal in certain circumstances how can they take advantage of it? This has implication for whether or not people seek safe abortion or induce abortion in an unsafe manner.

The sensitivity of the subject of abortion expressed through stigmatization in the Ghanaian society has made the practice of abortion even under the legislations difficult (Lithur, 2004). The practice of conscientious objection by health care givers in health facilities has also affected the full implementation of the law since it makes the law non-binding to health care givers (Awoonor-Williams et al., 2018). For the abortion law to be effective and achieve its aim the law needs more clarifications, and there must be public education on the abortion law.

2.4 REGIONAL DYNAMICS IN INDUCED ABORTION

As mentioned earlier, the dynamics of induced abortion vary from region to region and even from country to country. Whereas the rates of abortion in Europe and North America ranges from 15-17 abortions per 1,000 women aged 15-49 years, that of sub-Saharan Africa is around 33 abortions per 1,000 women aged 15-49 years. In terms of rates of abortion globally, North Africa and Western Asia have the highest rate which is around 53 abortions per 1,000 women aged 15-49 (Bearak et al., 2020).

The rates in Latin and Central America is around 44 abortions per 1,000 women aged 15-45 and 33 abortions per 1,000 women aged 15-49. The difference in rates in the various regions does not really give a clear picture of the abortion situation in specific countries. According to Singh et al. (2009), Europe and North America have a more liberal abortion laws hence one would expect that the abortion rates would be higher but that is not the case. In a report by the Population Reference Bureau (2021), it suggested that due to the higher contraceptive prevalence in Europe and North America, unwanted pregnancies are limited hence reducing the possibility of inducing abortion. However, in Latin America, Asia and parts of Africa where contraceptive prevalence is low and abortion is restrictive, many of the abortion cases reported are unsafe. For example, in Latin America and Africa unsafe abortion forms over 75% of the abortion cases (Population Reference Bureau, 2021). The European example gives the world a case study to draw from even though it is acknowledged that the socio-cultural dynamics are different in these regions and may be part of the reasons for the difference in rates that has been reported in these regions.

2.5 PLACE OF RESIDENCE AND INDUCED ABORTION

A person's place of abode has a great influence on the decision to terminate a pregnancy or not. The place of residence makes certain things available or not and this can affect a person's decision to abort or not. Women in urban areas are more likely to have induced abortion because of the availability of abortion services in these areas as compared to women in the rural areas (Bankole et al., 1999). The availability of the services in these urban areas attracts health workers to urban areas as compared to the rural areas (Voetagbe et al., 2010). It can be said that health workers are attracted to urban centres more than in rural areas therefore women in rural areas might have limited qualified personnel to perform the abortion services for them when they decide to terminate a pregnancy. This leaves women who have no access to these professionals to use cruel methods to abort pregnancies

which they sometimes end up paying with their lives. A Chinese study conducted in 2017, found that there is an unbalanced distribution of health workforce between rural and urban areas and that women in rural areas still face more reproductive health challenges compared to their urban counterparts (Zheng et al., 2017). In a rural study in Ghana, Hill et al. (2009) found that women in urban areas were reported to have better access to drug sellers with abortive drugs and to clinics that perform abortions and were more likely to have money to pay for these services. The finding of Gbagbo (2020), agrees with that of Hill et al. (2009) when it found that cost of abortion services varies with place and methods. Since women in rural areas are economically disadvantaged it becomes difficult for them to pay for the safe abortion services hence they rely on unsafe methods to terminate their unwanted pregnancies. Still on the matter of access, Booshehri and Dugan (2021), asserts that there is a geographic maldistribution of health facilities and health workforce. They further assert that, there is a concentration of health facilities and workforce in urban, sub-urban and affluent societies leaving the vulnerable population with inadequate health facilities. Although they make these assertions in the American context, these assertions are not far from the truth in the Ghanaian context. The major health facilities are situated in urban areas with few sub-level health facilities in the rural areas, hence if rural women are willing to even have induced abortion, there are no facilities to provide these services. The danger is that some of these women will be left with no option than to resort to unsafe methods of terminating pregnancies. Also, the distance and the road network to health centres in rural areas are in bad shape hence discourages women in the rural areas from seeking abortion services (O'Donnell, 2007).

Senderowicz et al. (2019) in their abortion studies of place of residence and abortion services utilization in Mexico City found that rural women with low levels of education and are poor households disproportionately meet their abortion demands through unsafe and clandestine means. This draws attention to the fact that education plays a role in determining whether or not to terminate a pregnancy

irrespective of location. In terms of the economic dimension to rural and urban dwellers and how it affects women's abortion decision, Baruwa et al. (2021) have found that urban women are more likely to terminate pregnancy than rural women because they have better access to financial and other socio-economic resources such as health care in urban areas. According to Ouedraogo and Sundby (2014), resource influences the time a women uses to have induced abortion as well as the type of abortion a woman receives. To them, when a women has finances to take care of the cost of abortion services the abortion is done faster as compared to when women lack the finances to take care of the cost of having induced abortion.

Lastly, it is important to note that cultural influence varies in rural and urban areas and this has a way of influencing women's decision to terminate pregnancy or not. Rasch and Kipingili (2009), in their Tanzanian study found that cultural difference between urban and rural women varied with regard to the number of children they wanted to have, thus urban women wanted less children due to the urban culture they have been exposed to and rural women due to the cultural exposure also wanted more children. Due to the fact that women in urban women want smaller number of children they tend to terminate any pregnancy that comes after they have had their required number. Sutton et al. (2019), in a study conducted in USA found that there was race/ethnic disparity in rural and urban places when it comes to service delivery to black adolescents. In a situation like this these black adolescents might either tend to cruel abortion methods or may be forced to keep pregnancies they do not intend to keep. Rominski et al. (2014), have found that attitudes towards abortion in urban Ghana suggest that women face significant social and cultural hurdles to seeking safe abortion services regardless of the availability of service. However these urban women feel more empowered to admit that they have had abortion as compared to their rural counterparts. These differentials in characteristics

among urban and rural women makes the study of rural-urban differentials in induced abortion and every important one.

2.6 SOCIO-ECONOMIC AND DEMOGRAPHIC FACTORS INFLUENCING INDUCED ABORTION

Induced abortion is influenced by several factors ranging from the socio-demographic characteristics of women to institutional and communal factors as well as national policy factors.

This section would therefore discuss some of these factors.

2.6.1 Age of a woman

The motivation to carry pregnancy to term sometimes depends on the age of the woman carrying the pregnancy. A younger woman may want to delay child birth due to several challenges that is accompanied with early child birth such as health risk, financial and emotional burden of child birth and many other reasons. Women at younger ages may therefore induce abortion to save them from these challenges. Also, woman of older ages might not want to carry pregnancies to term due to several reason, some would either be because of health complications or they already have the desired number of children. However, women in their middle ages would be highly motivated to carry pregnancies to term because that is when they have many of their lives plan which includes child birth in motion. These dynamics might also differ based on jurisdictions.

In a study in conducted Ghana, Sundaram et al. (2012), found that adolescents are less likely to induce abortion since they are less sexually active compared to older women. Due to their infrequent sexual activity, unwanted pregnancy that may force them to induce abortion is minimized. Younger women are also forced to induce abortion due to the stigmatization they are likely to receive from family and society including health service providers. Young women also terminate pregnancies in order to enable them continue schooling or training (Ghana Statistical Services, 2018).

Additionally, a study conducted in Ethiopia found that younger women are more likely to induce abortion (Wodajo et al., 2017). This phenomenon discovered in the study by Wodajo et al. (2017) has been attributed to cultural acceptability, therefore adolescents who become pregnant premarital rely on induced abortion in order not to appear to be living outside the culturally accepted norms. According to Sully et al. (2018), there are higher rates of abortion in young women as compared to those in older ages and this was attributed to the law that allow adolescents to have an abortion in Ethiopia. Again, a study by Van Look & von Hertzen (1993) in English speaking developed countries found that abortion was higher in young ages, since young women were not ready for child bearing therefore use abortion to postponed birth.

In a study in Ghana, Boah et al. (2019) found that a woman's age is strongly associated with induced abortion and that older women are less likely to induce abortion unsafely since at older ages they would be managing the number of children they want. Mote et al. (2010) however found that older women in Hohoe in the Volta region of Ghana are more likely to induce abortion since there is lack of contraception use that results in unwanted pregnancies and induced abortions.

2.6.2 Current Marital Status

Being married or not is an important factor when it comes to a woman's decision to induce abortion. Marital status also has religious, cultural and societal undertones. A woman in a society where premarital pregnancy is frowned upon is more likely to have induced abortion compared to women who are married. A study in Cameroon, by Johnson-Hanks (2002) found that unmarried women tend to have more abortions than their married counterparts because premarital pregnancy is not condoned in the society so women who get pregnant outside the confines of marriage find it as a plausible way to save the situation. In Ghana, a study in the Volta region, one of the administrative regions in Ghana also found that unmarried women are more likely to induce abortion because they want to keep their

current employment or stay in school (Mote et al., 2010). Browner (1979) in studying the abortion decision making in Columbia found that unions that are consensual took stronger steps to terminate unwanted pregnancies. However, some women in marriages tend to induce abortions just because they are uncertain about the future of the marriage due to the stress levels in that marriage. In the same study, when decisions are to be made about abortions men had more authority with some using withdrawal of economic support as a weapon to convince women. The male dominance in pregnancy termination decision making is also held by a study in Ghana (Kumi-Kyereme et al., 2014). This study reveal that when it comes to unions and abortion, the decision goes beyond the woman to other external factors. In another vein, some studies have also revealed that married women are less likely to induce abortion (Baruwa et al., 2021; Ilboudo et al., 2014). Married women are expected to have children especially in Africa where children are seen as a blessing from God, hence induced abortion is a less likely choice for a married woman when she is pregnant.

2.6.3 Level of educational attainment

How well a women is educated goes a long way to influence their decision of inducing abortion. When a woman is educated she has better access to information on abortion services and about reproductive health (Sundaram et al., 2012). When women have access to information they stand at an advantage and know where to have safe abortion services. The safety of abortion service may be a better motivation to induce abortion by an educated woman. A similar assertion has been made by Baruwa et al. (2021) in terms of access but they indicated that educated women do not only have access to information but also access to health service providers and having access to such can influence a woman's decision to induce abortion or not. A study in Mexico City has also established the association between level of education and induced abortion (Senderowicz et al., 2019). In this study, it was found that educated women are more concerned about their family size and the opportunity cost associated

with child bearing and raising a child. Educated women were likely to have smaller family sizes that they can cater for hence in the event of any unwanted pregnancy they are most likely to abort it. Educated women show more dedication to aborting pregnancies, one of the reason may be that most educated women are career women and would do anything to abort a pregnancy if the pregnancy become an inhibiting factor the pursuit of their careers (Senderowicz et al., 2019).

Education has some varying associations with levels of abortion in certain contexts. In an Ethiopian study, Tesfaye et al. (2014) found that the higher a woman's level of education the lower the levels of abortion but Biney & Nyarko (2017) found the opposite in Ghana. Dias et al. (2015) conducted a study in Brazil on the association between level of education and access to abortion services and found that higher proportions of adolescent girls terminated their first pregnancy because they were in higher education. In the same study uneducated women even though did not induce abortion more than the educated women, had more unwanted pregnancies mainly due to the non-use of contraceptives

2.6.4 Current Contraceptive use

One of the key components of fertility as espoused by John Bongaarts in fertility was contraceptive usage (Bongaarts, 1978). He further demonstrates how to calculate contraceptive use mathematically. This demonstrates the importance he placed on contraception use when it comes to birth control. For a woman to get to the junction of wanting abortion, contraception use or non-use might have had a role to play. Van Look & von Hertzen, (1993), says that "*choices for couples who wish to limit their fertility are but three: abstinence, contraception or abortion*". This statement echoes the linkage between contraception use and abortion. However, contraceptive use is highly affected by the distribution of family planning clinics and education. Education especially determines the differentials that may exist between the various groups of a population (Addai, 1999). Again, the type of service providers are a critical part in contraceptive use since accommodating providers attracts

women to come for service and unaccommodating providers scare people away. Maxwell et al. (2015) in a study to determine the use of contraceptive after abortion, found that women that were taken care of by midwives had higher odds of using contraceptives after abortion than any other providers. The training and professionalism of midwives cannot be downplayed in this finding.

Contraceptive use dynamics can also change based on age because in a study in Ghana, Salifu and Mohammed (2020) found that women 15-19 years were more likely to use contraceptives as compared to women 30+ years old. This might be because younger women would want to prevent unwanted pregnancy while older women actually wants the pregnancy and are more prepared to take care of the child that would result in the pregnancy. Some women have also refused to use contraceptives due to its side effects, failure of the method or the husband's disapproval of it (Biney, 2011). In Brekum, a study found that even though knowledge of contraception was high its usage was very low (Geelhoed et al., 2002). Rasch et al. (2000) also realized in their study in Ethiopia that only 10% of women interviewed used contraception and this was because of the limitation on the access to family planning clinics to only pregnant women or women who have ever been pregnant. In the same Ethiopia, Mekuria et al. (2019) found that a lot of single women do not use contraception after abortion due to the unmet needs of contraception. Munakampe et al. (2018) after their review of contraception and abortion practices and attitudes among adolescents in low and middle income countries had this to say:

“Limited knowledge about sexual and reproductive health among adolescents was a significant cause of reduced access to contraception and safe abortion services, especially among unmarried adolescents. Reduced access to reproductive health services for some resulted in extreme methods of contraception and abortion such as the use of battery acid and crushed bottles.

Despite all adolescents having limited access to information and services, girls faced more consequences such as being blamed for pregnancy or dealing with the effects of unsafe abortions. Parents, health workers, and teachers were cited as trusted sources of information but often received the most information from peers and other family members instead, and the girls mostly confided in their aunties, cousins and peers while the boys resorted to peers, media and even pornography”

2.6.5 Ethnicity

The cultural affiliation of a person can have an influence on their decision to induce abortion or not. In a cultural setting where abortion is not seen as negative but a smart move, women would be more comfortable inducing abortion as compared to societies where it is frowned upon. In some cultural settings women are stigmatized against when they have been found to have induced abortion (Lithur, 2004). The traditional and cultural values that shape various ethnic groups have inbuilt mechanism to check premarital pregnancies by placing values on rites of passage as a way of family and community acceptance (Lithur, 2004). Sadly, these rites rather enhance abortions among the youth since they tend to induce abortions in order to avoid shame. For instance Lithur (2004), found that in the Ga tradition women who have induced abortion are given derogatory names and to some extent to include their families hence women tend to abort pregnancies using dangerous and clandestine methods. However, in the Akan tradition abortions are acceptable when they are successful but reprehensive when they are not successful (Bleek, 1990). In a study conducted by Bleek (1990), it was found that rapid succession of pregnancies is one of the reasons why women induce abortion. Addai (1999), a study on ethnicity and contraceptive use, it was found that the Ga-Adangbe ethnic group have a better contraceptive

prevalence than the Akans and this may increase unwanted pregnancies in the Akan ethnic group as compared to the Ga-Adangbe ethnic group and may compel them to abort the pregnancies.

The traditional perceptions of these ethnic groups when it comes to sex during and after child birth can influence their decision to induce abortion directly or indirectly. It is largely believed in the Ewe ethnic group that women are supposed to abstain from sex for 156 weeks after birth (Gaise, 1968 as cited in Addai, 1999). If women go strictly by this in the Ewe ethnic group unwanted pregnancies are minimized and the tendency to induce abortion will also be minimized. The Mole-Dagbani ethnic group however, on the matter of abstaining from sex after birth do not see it as a ritual hence expect some lapses (Gaise, 1968 as cited in Addai, 1999). With this belief the Mole-Dagbani woman are likely to engage in more sexual activities after birth which may lead to unwanted pregnancies which may necessitate induced abortion.

2.6.6 Number of children ever born

The number and type (sex) of children a woman has or desires can influence the abortion decisions of that woman. The decision may not be only based on desire and influence by education but also the legal requirement under the jurisdiction a woman finds herself. In a study involving countries in North China it was found that the decision to terminate pregnancy is associated with the number of children the person has. The women were found to have induced abortion only after their first live birth (Tu Ping & Smith, 1995). The context of the study makes the findings more acceptable since under the two child per family policy people would be careful about the type of children they want and the spacing, and to do that, aborting a pregnancy after scan proves that the sex is not that which was desired by family would be a rational move.

Bankole et al. (1998), also found strong association between parity and induced abortion. They found that women without children received the least percentage of abortions but women with at least a child

had higher percentages of abortions. Similar findings were made by Ahiadeke (2001) when women with four or more children had higher risk of abortion largely because they have reached the pinnacle of their desired children. In a study in the United States of America (USA), women were not ready to have any children or another child because they were not ready for the process again hence resort to abortion (Finer et al., 2005).

2.6.7 Religion

A person's belief in a particular religious doctrine has a way of influencing their abortion decisions (Adamczyk, 2008). The influence of religious beliefs does not only influence the seeking to terminate pregnancy but also the one providing the services of pregnancy termination (Oppong-Darko et al., 2017). In a study exploring conscientious objection among health workers in Ghana, health workers cited religion and morals as that which makes them not want to perform an abortion procedure (Awoonor-Williams et al., (2020). In a scenario where service providers use religious conflict as a reason for not terminating pregnancy, women rely on unsafe means of abortion to help themselves. However, having said that there are some providers that are willing to carry out their professional duties even though it conflicts with their religious beliefs (Oppong-Darko et al., 2017).

The magnitude of the role of religion on a person's decision to induce abortion varies based on which religious sect one finds herself. Catholics and Muslims are less likely to induce abortion because catholic doctrines are against such acts and for the Muslims they are seen to cherish larger families therefore *ceteris paribus*, they are less likely to induce abortion (Baruwa et al., 2021). In Brazil, Ogland & Verona (2011) found that instead of Catholics, Pentecostals were rather vocal in their opposition to abortion which was a shocking finding because Catholics have been vocal on these matters in other jurisdictions. The findings in Brazil is attributed to what Ogland & Verona (2011), describes as the *“lukewarm identification with Catholicism and the internal polarization of Catholicism”*.

Religion even influences people's sexual activeness in that it can prevent people from having premarital sex that may lead to unwanted pregnancy and contemplation of abortion (Adamczyk & Hayes, 2012). The complexities and dynamics of religion and how it affects a woman's decision to induce abortion or not makes it a good predictor of induced abortion.

2.6.8 Wealth Quintile

The decision to terminate a pregnancy has always had an economic dimension since it involves payments of money for the service and also there are economic implications for keeping the pregnancy. The economic dimensions of decision to terminate a pregnancy may arise from the cost of carrying pregnancy to term and the cost of raising a child. Women who are not economically stable are likely to abort pregnancies than women who are economically stable and can cater for the children (Yi, 2011). Women who are economically stable are not likely to terminate pregnancy because they can take care of a child but also they have the means of preventing the pregnancy from coming by using contraceptive (Oppong et al., 2021). Economically empowered women have been found to have friends that they can confide in and these friends serve as a social support for them and that is factored into their abortion decision (Guiella et al., 2006). One of the factors that influence a woman's decision to keep pregnancy is the availability of support to help raise the child, so if a woman (economically empowered woman) can get that support from friends and family then they are less likely to terminate a pregnancy. In Ghana, Payne et al. (2013), found that the higher cost involved in inducing abortion in the government hospitals scare women from the low socio-economic backgrounds who then resort to unregulated places for abortion. The women from the better socio-economic backgrounds see the government hospitals as a second choice, thus they prefer to go to private hospitals to have the abortion done. Also, some women resort to unsafe abortion methods due to financial constraints (Biney &

Atiglo, 2017). These reasons makes the wealth a woman has or finds around her a good indicator when it comes to induced abortion.

2.6.9 Exposure to the media

The media has been referred to in many democratic jurisdictions as the fourth realm of the state and we cannot over emphasize the power and responsibility of the media in the development of a nation. The mandate of the media is to inform, educate and entertain. It is in this mandate (especially the first two) that they influence women's decision when it comes to issues of induced abortion. Women who have access to the media are likely to have access to abortion information so in Kenya abortion issues have been framed in media contents to help influence policy (Kafu et al., 2020). Boah et al. (2019), found in a study that women with no exposure to the media are more likely to have unsafe abortion due to the less knowledge of information they have on the matter. In a society such as Africa where matters like abortion are perceived as a taboo and cannot be openly talked about among women, the media is heavily relied upon for trusted information. Self- efficacy in abortion decision making have been attributed to the exposure of the media not just for the information it provides on abortion but also the exposure it gives especially to young women on western ideas of autonomy (Ahinkorah et al., 2020).

2.6.10 Knowledge of the abortion law

One's understanding of the law that governs his or her actions is important for the confidence and willingness to take that action or not. Similarly, a woman's knowledge of the abortion law in their jurisdiction can go a long way to affect the decisions they take on abortion and the methods they use as well. Several studies have found that in Ghana, knowledge of abortion law is low even among health providers and the situation is no different from other Africa countries (Debela & Mekuria, 2018;

Frederico et al., 2020; Voetagbe et al, 2010; Konney et al., 2009). This is a disturbing feature since if people do not know under which conditions they can receive safe abortion services then they may be at risk of going for unsafe methods even if their conditions permit a safe abortion. Contrary to that, Morhee & Morhee (2010), suggest that medical practitioners have knowledge of the abortion law but they think it lacks clarity especially in Ghana. Boah et al. (2019), also think that the reluctantly unrestrictive nature of the abortion law in Ghana should have addressed the unsafe abortion canker in Ghana but thinks that the problem has been the lack of awareness of the law.

Awoonor-Williams et al. (2018), noticed that service providers and patient's knowledge of the abortion law are important since it affects pregnancy outcomes. However, there is some misunderstanding of the legality of abortion laws in Ghana among some health workers and some think that the legalization of abortion services would rather increase abortion rates (Oppong-Darko et al., 2017). In her three recommendations for ending stigmatization on abortion, Lithur (2004), recommended that there should be a liberal interpretation of the abortion law so that people can relate with it better. This points to the fact that people's knowledge of the abortion law can help address the stigmatization attached to abortion.

2.7 THEORETICAL PERSPECTIVES

The phenomenon of induced abortion has been studied using several theories from different fields of study including those developed in the field of social science. Some of the theories and models that have been used to study induced abortion include the renewal theory. The renewal theory is based on the assumption that individuals are immediately replaced as soon as they die. Potter (1972), studied induced abortion using this theory.

Also, the theory of planned behaviour (TPB) has been used to study induced abortion and other related topics. TPB is a theory which explains the intentions that motivate people's behaviour at

a particular time and place. These actions or behaviour are attached to attitudes, norms and perceived power. These norms can be either subjective or societal (Ajzen, 1991). Foy et al. (2005), used the TPB theory to study induced abortion in trying to identify barriers to quality improvement initiatives. Aizen & Klobas (2013), Klobas (2011), and Moshi et al. (2020) used the same theory to study fertility and stillbirth in health care facilities. Susannah and Aniteye (2013), studied legal abortion in Ghana using the policy theory of Lipsky Street-level bureaucracy. This theory explains the role of dynamics involved by frontline workers (mostly civil and public servants) in the implementation of policies.

Other theories that has been used in studying abortion are the socio-ecological health model (SEM) and the social determinants of maternal health. These two models have been widely used in social science studies. The socio-ecological health model gives description to the interaction between individuals and their surroundings that influence their health outcomes (Golden & Earp, 2012). The surrounding can stretch from immediate to distal. The immediate can be the family and friends whereas the distal can be the state or federal level. The proponents of this model suggested five (5) levels of interaction. These are individual level, family/friend/peers level, the organizational level, the community level and the policy/state level. These levels of interaction posited by the SEM model helps explain the interactions that go on in an individual's life until the decision or action of induced abortion is taken. For instance, at the individual level the woman's age, level of education, contraceptive use and abortion history can influence the woman's decision to induce abortion. These characteristics at the individual level serves as a motivation or disincentive for a woman to induce abortion.

At the family/friends/ peer level which others have called the interpersonal level, a woman's marital status and the number of children she has for example would influence the decision to induce abortion or not. The opinion of a partner or the family a woman belongs would be an important factor and that may influence the outcome of a pregnancy of which induced abortion is a possibility. Similarly,

at the community level the availability of social networks or support systems are likely to influence a woman's decision to induce abortion or not. At the organizational level a woman who belongs to a religious organization where abortion is frowned upon is less likely to induce abortion as compared to a woman who has no religious affiliation. At this same level a woman in a work environment where women are not permitted to take maternal leave or face the threat of being replaced if they get pregnant, are likely to induce abortion as compared to a work environment that is more liberal to being pregnant.

Lastly, in the policy level, when a country has policies in place that gives women the opportunity to induce abortion safely and legally, women would be likely to have safer abortions as compared to a place where abortion is illegal. For this reason, the abortion law in Ghana can be considered as a more structural or policy level indicator although in this study it is being asked at the individual level.

Similar to the socio-ecological health model, is the social determinants of health model which has been adapted by several scholars to explain their studies in social science. One of such studies by Koroma et al. (2017) used the model to study maternal health. They adapted the social determinants health model to form the social determinants of maternal health model. The social determinants of maternal health model also explains health outcomes as a product of the influence of an external environment. It explains that an outcome is influenced by individual characteristics which are also influenced by family, who are also influenced by the community and finally the larger cultural and social context as well as the national policy context. These various levels have different influence on the individual.

The framework shown in Figure 2.1 helps to explain induced abortion as an outcome variable. From the diagram, maternal health is influenced by individual attributes of women such as age, number of children, knowledge of maternal health issues, etc. Similarly, induced abortion as an outcome

variable can be influenced by a woman's characteristics such as age, educational level, contraceptive use and number of children. In Figure 2.1, the outcome variable and individual attributes are nested or influenced by a bigger bracket of family and peer influences. Induced abortion can be placed in the same context where a person's marital status and social network/ support can influence the person to have an abortion or not. The community context of rural and urban residence with some associated factors also influence the family and the individual that influences the outcome variable which in the context of this study is induced abortion. In communities where there is access to health facilities and the cost of abortion is affordable, people are more likely to have more induced abortion than places where such access does not exist. Governance/Policies of the social determinants of maternal model depicted in the diagram shows a broader influence of community, family and individual factors on health outcome as well as the broader cultural and societal values and norms.

Figure 2.1: Social determinants of maternal health

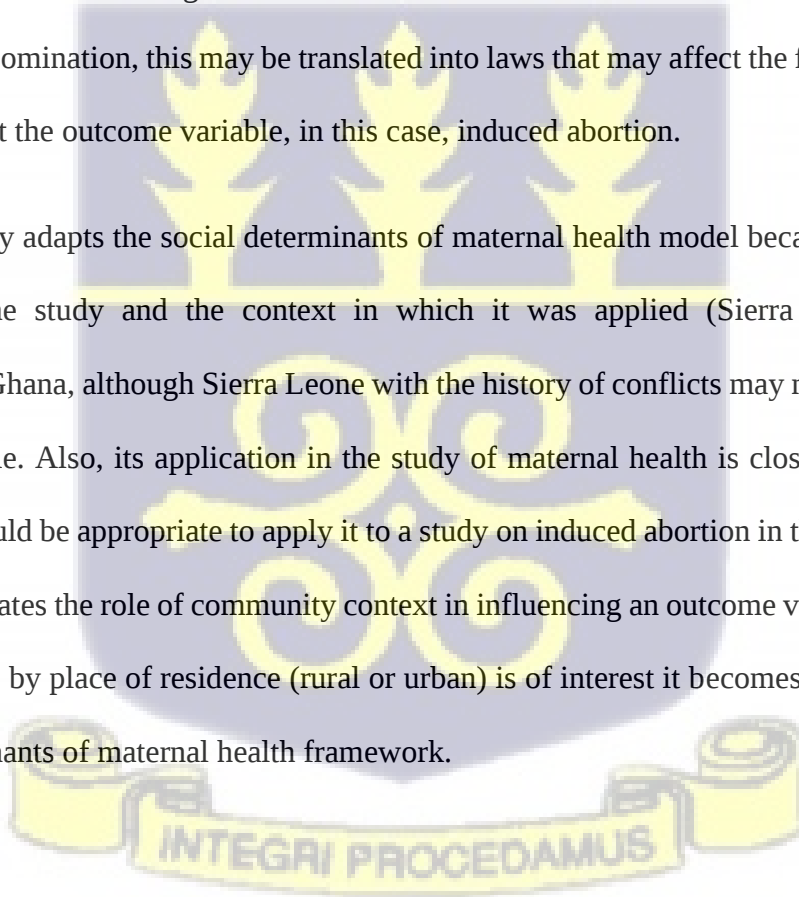


Adopted from Koroma et al. (2017) as Adapted from: WHO (2011)

At the governance and policy level, health infrastructure, laws, reproductive rights etc. are identified to influence the other components. Induced abortion is also affected by the availability of health infrastructure. The availability of the infrastructure can influence a woman's decision to induce abortion or not. If the laws of a country make abortion illegal then that can affect the freedom to which it can be done as compared to a country where it is legal. In a country where there are reproductive policies that are vigorously being implemented, the abortion situation can be improved compared to a situation where there is no policy or there are but implementation is a challenge.

The culture and social values of a jurisdiction has an overriding effect on so many things. For instance this model mentions religion. If a women lives in an Islamic state or a state in which abortion is considered an abomination, this may be translated into laws that may affect the family and individual on how to go about the outcome variable, in this case, induced abortion.

This study adapts the social determinants of maternal health model because its application is appropriate for the study and the context in which it was applied (Sierra Leone) has similar characteristics as Ghana, although Sierra Leone with the history of conflicts may make the contexts not directly comparable. Also, its application in the study of maternal health is closely related to induce abortion and it would be appropriate to apply it to a study on induced abortion in the Ghanaian context. The model appreciates the role of community context in influencing an outcome variable and in a study where differentials by place of residence (rural or urban) is of interest it becomes appropriate to apply the social determinants of maternal health framework.



2.8 CONCEPTUAL FRAMEWORK

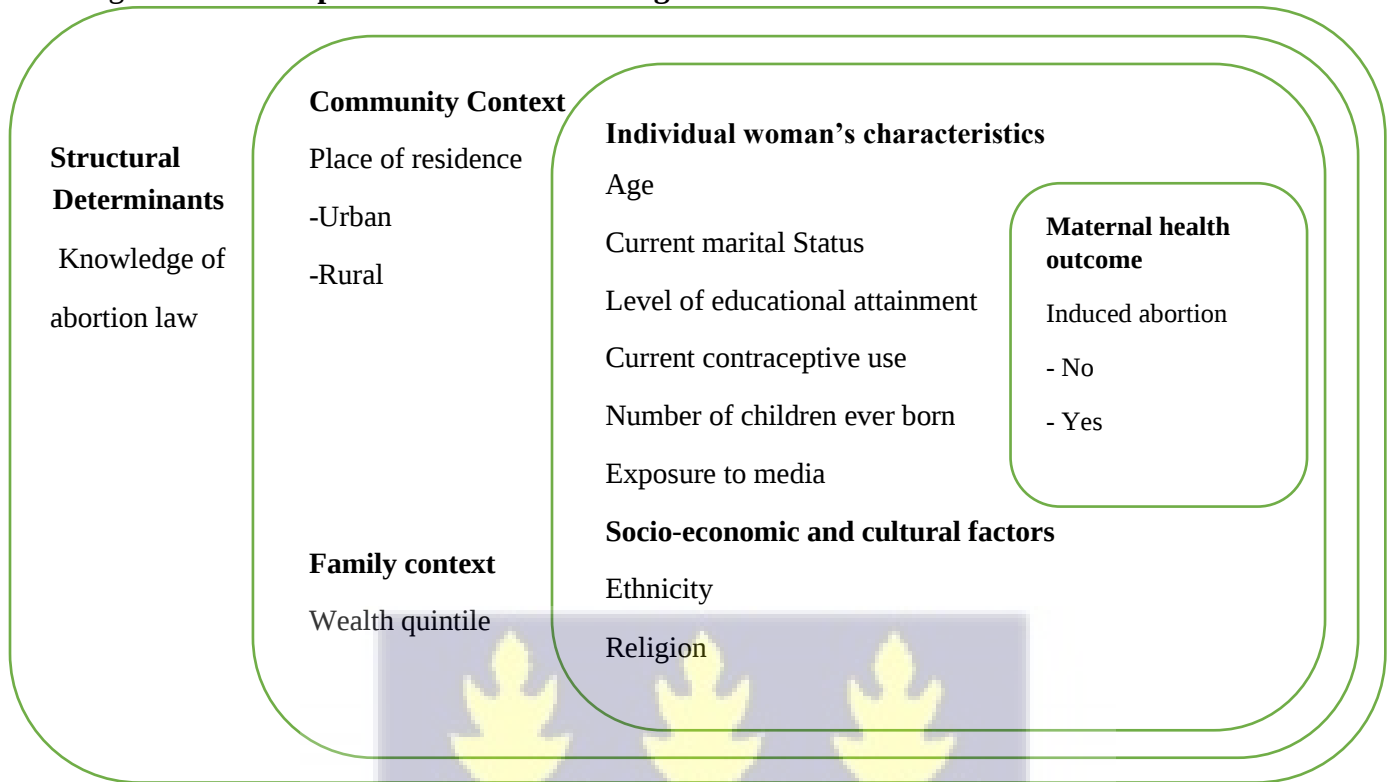
The conceptual framework in Figure 2.2 shows the various factors that influence induced abortion among women in Ghana. This framework was adapted from a study conducted by Koroma et al. (2017) in the research where quality of free antenatal and delivery services was studied. The study by Koroma et al. (2017), looked at factors that affect maternal health from the perspective of women characteristics and other external factors such as family, community and policy level factors. It was found in this study that other external factors influence maternal health aside the woman characteristics. Similarly, the framework in Figure 2.2 conceptualizes that the outcome variable which is induced abortion is influenced by individual woman's characteristics and socio-economic and socio-cultural factors. The individual woman's characteristics include age, current marital status, level of educational attainment, contraceptive use and number of children ever born. The age of the woman can determine her decision to induce abortion or not. For example, a women at a younger age is likely to induce abortion compared to a woman at an older age (Sundaram et al., 2012). In the framework in Figure 2.2, a woman's marital status can determine whether they induce abortion or not. A woman who is married especially in Africa is less likely to induce abortion compared to a woman who is not in union (Baruwa et al., 2021). When a woman is educated she has better access to information and stands a better advantage of knowing where to have abortion services. When a woman uses contraceptives to prevent pregnancies she is less likely to have unwanted pregnancies that may lead to inducing abortion. Also, when a woman has many children, she is likely to induce abortion (Ahiadeke, 2001). Again, a woman who has access to the media is expected to have access to information on maternal health outcomes which in this case is induced abortion. This gives the women an advantage with regards to decision making on induced abortion.

Aside the characteristics of the individual woman, she is influenced by other socioeconomic and socio-cultural factors such as ethnicity and religion. The ethnic affiliation of a woman can influence the woman's decision to either induce abortion or not. In ethnic groups where premarital pregnancies are considered shameful, the women would do their best to prevent premarital pregnancies that may lead to the pregnancy being induced. Similarly, religion also influences the woman's decision to induce abortion. In Figure 2.2 religion and ethnicity forms the socio-cultural factors that influence a woman to induce abortion.

At the community level, a woman is either living in an urban area or a rural area and that affects their access to health facilities and health professionals. The place of residence can also affect their access to education and this influences a woman's ability to induce abortion. The women who live in urban areas and have access to health facilities, health professionals and education are likely to induce abortion more and safely as compared to the women in the rural areas who lack access to the things their counterparts in the urban areas have. The community is made up of families where women find themselves. The wealth available to the family influences the woman's decision to induce abortion. Ahiadeke (2001), found that poverty was one of the reasons why women induced abortion hence if a woman finds herself in a family that falls in a low wealth quintile that can influence their decision to induce abortion.

Lastly, at the structural or governance level is the knowledge of abortion law. The law regulating abortion in a country has an overarching effect on the community, family and the individual woman. The knowledge of the law regulating abortion is very critical to a woman's decision to induce abortion. For example, when a woman in Ghana knows abortion is legal on the basis of rape and incest and she gets pregnant through these means she could easily take advantage of the existence of such law to get the pregnancy terminated.

Figure 2.2: Conceptual framework showing the factors that influence induce abortion



Adapted from Koroma et al., (2017)

2.9 HYPOTHESES

1. The chances of induced abortion is more likely to be high in urban areas than in the rural areas.
2. Urban areas are more likely to have level of educational attainment as a significant predictor of induced abortion than rural areas.



CHAPTER THREE

METHODOLOGY

3.1 INTRODUCTION

This chapter outlines the methodology employed in this study. The chapter includes information on the source of data, sample design and sample size, variables considered for the study, including their measurement and categorisation and how the data were analysed.

3.2 SOURCE OF DATA

The data used for this study is from the Ghana Maternal Health Survey (GMHS) conducted in 2017. The GMHS is a nationwide survey conducted by the Ghana Statistical Service (GSS) with technical support from Inter City Fund (ICF). The data collection process was in two phases. The first phase included listing of households and screening for deaths that has occurred in the various households since January 2012. The second phase included the confirmation of the reported deaths in the households. Also, verbal autopsy interviews were conducted using the verbal autopsy questionnaire and women aged 15-49 were also interviewed using the women questionnaire. The process of data collection started on 15th June, 2017 and ended on the 12th October, 2017. The survey was a cross-sectional survey that took place in all the then ten regions of Ghana with the aim of accessing levels of maternal deaths in the country as well as identifying the causes of maternal and non-maternal deaths in the country. This GMHS is currently the most recent survey on maternal health issues with a nationwide coverage and provides in-depth data on maternal health in Ghana.

3.3 SAMPLE DESIGN AND STUDY SAMPLE

The sampling frame for this study was the frame generated from the 2010 Population and Housing census conducted in Ghana. In this frame the 10 administrative regions of Ghana were divided into smaller units called enumeration areas (EAs). The survey used stratified sampling to select samples from the sample frame. This was done by dividing regions into urban and rural areas. EAs were then selected using probability proportional to size from urban and rural areas. Household listing was then done in these EAs and the resulting household listing served as sampling frame for the selection of a sample of 30 households to be interviewed. A total of 27,000 households were selected nationwide and 26,324 households were interviewed. Out of the households interviewed 25,062 interviews were completed. However, in this study a total weighted sample of 13,176 women (from an unweighted sample of 13,419) would be used. This sample was extracted from data from women who have been pregnant in the five years preceding the survey (2012 to 2017).

3.4 VARIABLES IN THE STUDY

The dependent variable for this study is induced abortion and the independent variable is place of residence. The control variables are age of woman, current marital status, level of educational attainment, current contraceptive use, number of children ever born, ethnicity, religion, wealth quintile, exposure to media and knowledge of Ghana's abortion law.

3.4.1 DEPENDENT VARIABLE

The dependent variable in this study is induced abortion. It was computed from the sample of women who have been pregnant in the five years preceding the survey. These women who have been pregnant in the five years preceding the survey were those who indicated having one or more live births, induced abortions, miscarriages, and still births from 2012-2017. Among this group of women, those

who had one or more live births, miscarriages and stillbirths within that period were categorized as “No = 0”, indicating they have not had an induced abortion in that period while all those who have had one or more induced abortions in the same period was categorized as “Yes = 1”, thus, they have had an induced abortion.

3.4.2 INDEPENDENT VARIABLE

The independent variable is place of residence. It was treated as a dichotomous variable which was categorised into two; urban and rural. Urban was coded as “1” and rural was coded as “2”. These categories were maintained for this study.

3.4.3 CONTROL VARIABLES

The control variables for this study are;

3.4.3.1 Age of woman

This was the age of the women at the time the data was being collected. The original variable was a continuous variable measuring age in completed years. This variable was recoded into a categorical variable. The categories are “< 20 =1”, “20-29 =2”, “30-39 =3” and “40-49 =4”.

3.4.3.2 Current marital status

This variable was originally a categorical variable with the categories being currently married, living with a man and not in union. The original codes for the variable were “currently married =1”, “living with a man =2” and “Not in a union = 3”. However, for this study the variable was recoded into “Married= 1”, “cohabiting = 2” and “not married =3”.

3.4.3.3 Level of educational attainment

This variable was originally a categorical variable with six categories mainly primary, middle, JSS/JHS, Secondary/Technical /Vocational/Commercial, SSS/SHS/Technical/Commercial and higher. These categories were coded as “primary education =1”, “middle =2”, “JSS/JHS =3”, “Secondary/Technical/Vocational/Commercial=4”, “SSS/SHS/Technical/Vocational/Commercial = 5” and “Higher = 6”. For the purpose of this study the variable was recoded into “No education = 0”, “Primary =1”, “Middle/JHS = 2”, “Secondary = 3” and “Higher = 4” with the secondary category encapsulating the secondary/Technical/Vocational/Commercial and SSS/SHS/Technical/Vocational/Commercial categories.

3.4.3.4 Current contraceptive use

This variable was used as a dichotomous variable that was coded as “Yes =1” and “No = 2”, when women were asked if they or their husbands were doing something to prevent pregnancy. This variable and its categorization were maintained for this study.

3.4.3.5 Number of children ever born

The number of children a woman has ever had was measured as a discrete variable in the original data. This was then recoded into a categorical variable with the following categories, “None = 0”, “1=1”, “2 - 4 =2” and “5+ =3”.

3.4.3.6 Ethnicity

This variable was a categorical variable with nine categories. However, for the purposes of this study these categories were recoded into five new categories. The new categories are “Akan= 1”, “Ga/Dangme = 2”, “Ewe = 3”, “Mole-Dagbani = 4” and “others = 5”. The other category is made up of ethnic groups such as Guan, Grusi, Gurma, Mande and other smaller ethnic groups.

3.4.3.7 Religion

This variable was a categorical variable with ten categories coded as “Catholic=1”, “Anglican=2”, “Methodist=3”, “Presbyterian=4”, “Pentecostal/Charismatic=5”, “other Christian=6”, “Islam=7”, “Traditionalist/Spiritualist=8”, “no religion=9” and “others=96”. These categories were recoded into new categories which are “No religion = 0”, “Orthodox =1” made up of women whose religious affiliation are Catholic, Anglican, Methodist and Presbyterian, “Pentecostal/Charismatic = 2”, “other Christian =3”, “Islam =4” and “Traditionalist/Spiritualist = 5” which is made up of people whose religious affiliation are traditionalist/ spiritualist and others.

3.4.3.8 Wealth Quintile

This variable measured the wealth of the household the respondent belongs to taking into consideration their urban and rural dwelling. These categories included “lowest=1”, “second=2”, “middle=3”, “fourth=4” and “highest=5”. For the purpose of this study this categories were renamed into “poorest=1”, “poor=2”, “middle=3”, “rich = 4” and “richest=5”.

3.4.3.9 Exposure to media

This variable was computed from three variables that sought to find out the number of times respondents read newspaper, listened to radio and watched television. The responses for these original variables were at least once a week, less than once a week and not at all. These variables were used to compute a new variable called exposure to media. Respondents who responded at least once a week to all the three variables were coded to be “exposed to media= 1” and all others were coded as “Not exposed to media =2”

3.4.3.10 Knowledge of abortion law

This variable sought to know if respondents had any knowledge about the legality of abortion in Ghana. This variable had three categories that included “Yes =1”, “No =2” and “don’t know=3”. For the

purpose of this study and also to ensure that the knowledge of abortion law was unequivocal, the last two were recoded into “No = 2” and “Yes = 1” was maintained to have a dichotomous variable.

3.5 VARIABLES AND THEIR CATEGORIZATION

Table 3.1 shows the variables used for this study and how they were categorised. It also shows codes assigned to the various categorizations.

Table 3.1: Variables and their categorizations

DEPENDENT VARIABLE	CATEGORIZATION
Induced abortion	[No = 0] [Yes = 1]
INDEPENDENT VARIABLE	CATEGORIZATION
Place of residence	[Urban = 1] [Rural = 2]
CONTROL VARIABLES	CATEGORIZATION
Age of woman	[<20 =1] [20-29 = 2] [30-39 = 3] [40-49 = 4]
Current marital status	[Married = 1] [Cohabiting = 2] [Not married = 3]
Level of educational attainment	[No education = 0][Primary = 1][Middle/JHS = 2][Secondary =2] [Higher = 3]
Current contraceptive use	[No = 1][Yes = 2]
Number of children ever born	[None = 0] [1= 1] [2-4 =2] [5+ = 3]
Ethnicity	[Akan = 1] [Ga/Dangme = 2][Ewe = 3][Mole-Dagbani = 4][Other = 5]
Religion	[No religion = 0][Orthodox = 1][Pentecostal/Charismatic = 2] [Other Christian = 3] [Islam = 4] [Traditionalist/Spiritualist = 5]
Wealth Quintile	[Poorest = 1] [Poor = 2] [Middle = 3][Rich = 4] [Richest = 5]
Exposure to media	[Exposed to media = 1][Not exposed to media = 2]
Knowledge of abortion law	[Yes = 1] [No = 2]

3.6 METHODS OF ANALYSIS

The data was analysed at three levels. These levels are the univariate, bivariate and multivariate levels using the IBM SPSS (*Statistical Package for the Social Sciences*) package, version 25. At the various levels, tables were used to show results from the analysis. Percentage distributions were used to show the percentage distributions for the variables at the univariate level. At the bivariate level the

associations between the dependent variable and independent variable as well as the control variables were explored. At this level, cross tabulations and Pearson chi-square tests were used to determine the percentages in the various categories and associations between the variables. The univariate and bivariate analysis contain percentage distributions for the total sample and further disaggregation by rural- urban residence. At the multivariate level of analysis, a binary logistic regression was used to analyse the data. The binary logistic model was preferred because the dependent variable was a dichotomous variable. The dependent variable was originally coded as a dichotomous variable which was recoded into “No = 0” and “Yes = 1”. For the multivariate analysis, four models were specified to ascertain the predictors of induced abortion in rural and urban areas. The first model (Figure 3.1) contain just the independent variable (place of residence) and the dependent variable. The second model (Figure 3.2) contained all control variables and independent variable as against the dependent variable. The third and fourth models was specified for only urban and rural women respectively using only the control variables.

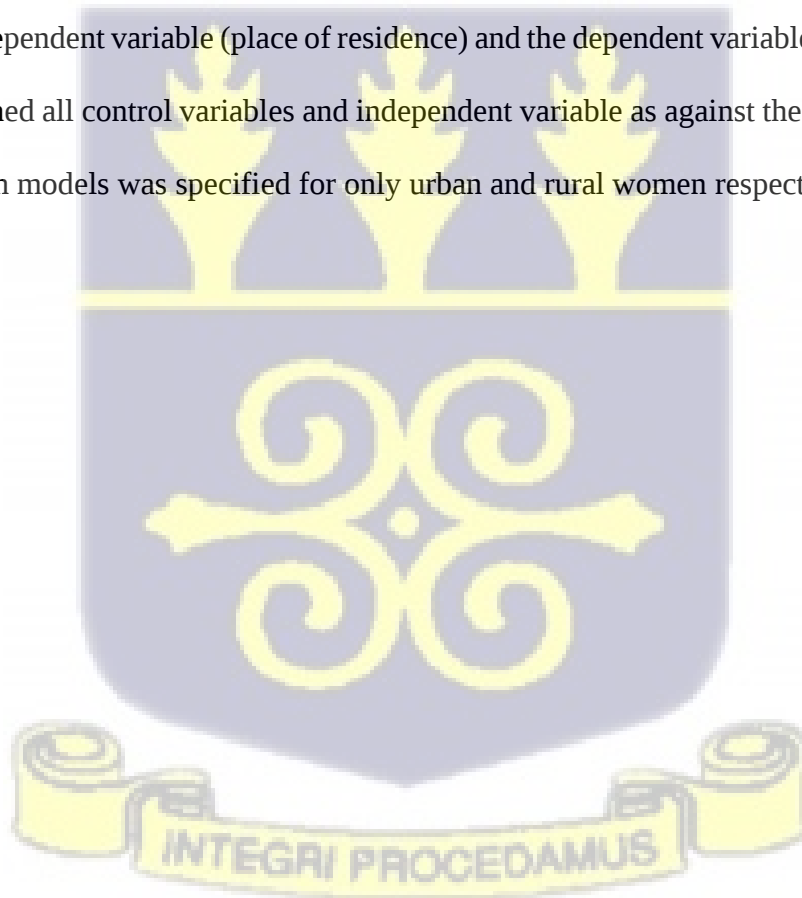


Figure 3.1: Analytical framework for Model 1

Figure 3.2: Analytical framework for Model 2

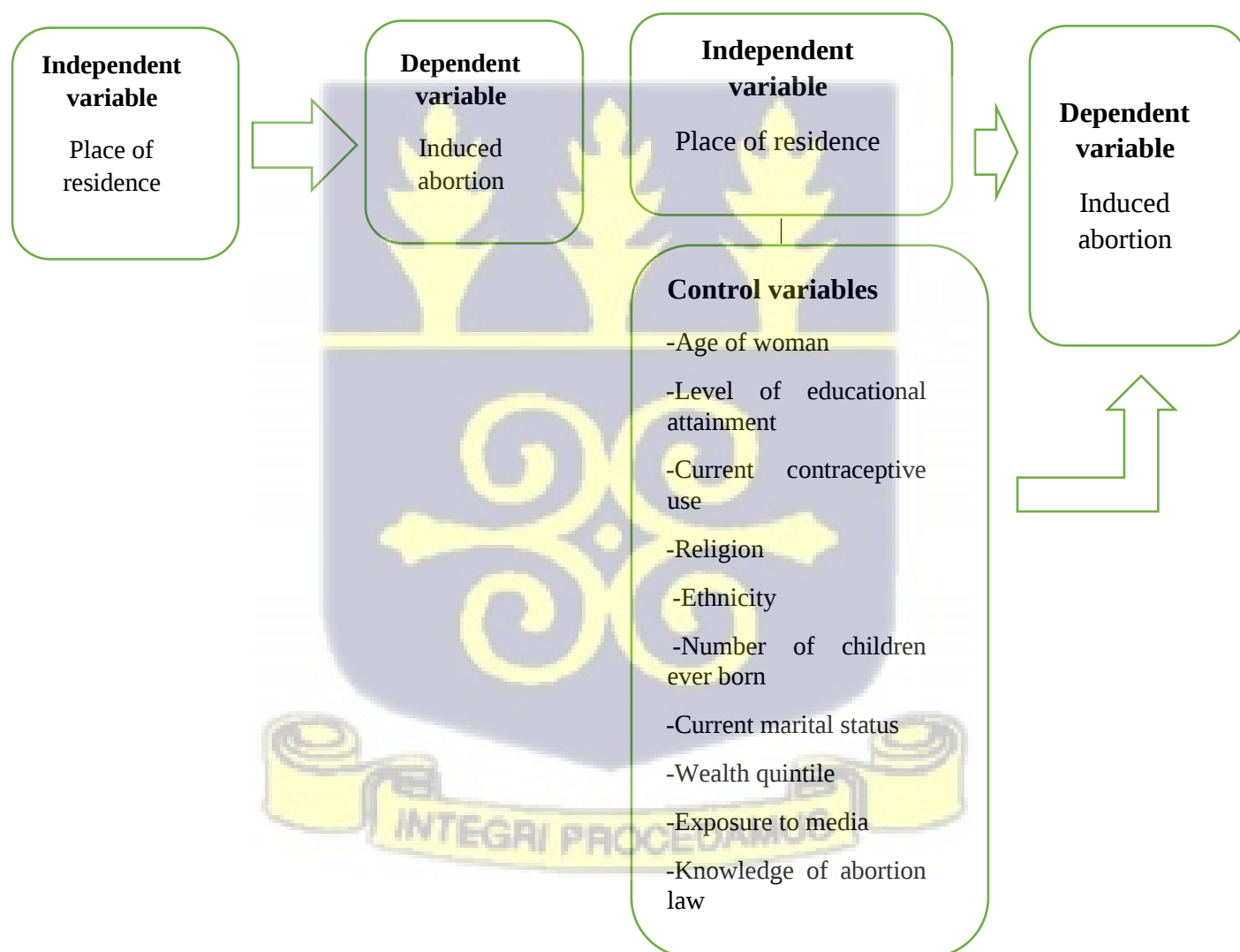


Figure 3.3: Analytical framework for Model 3

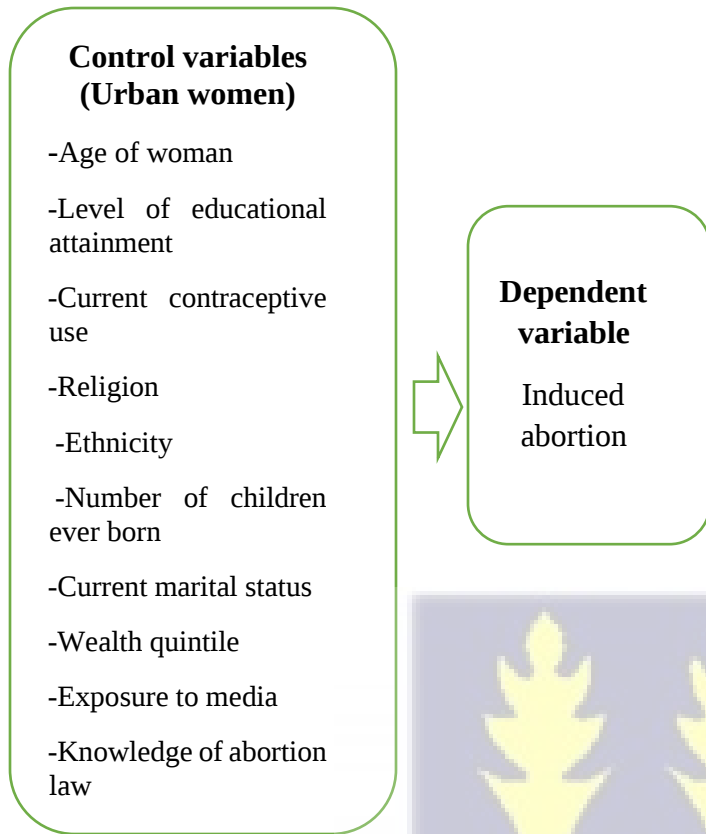
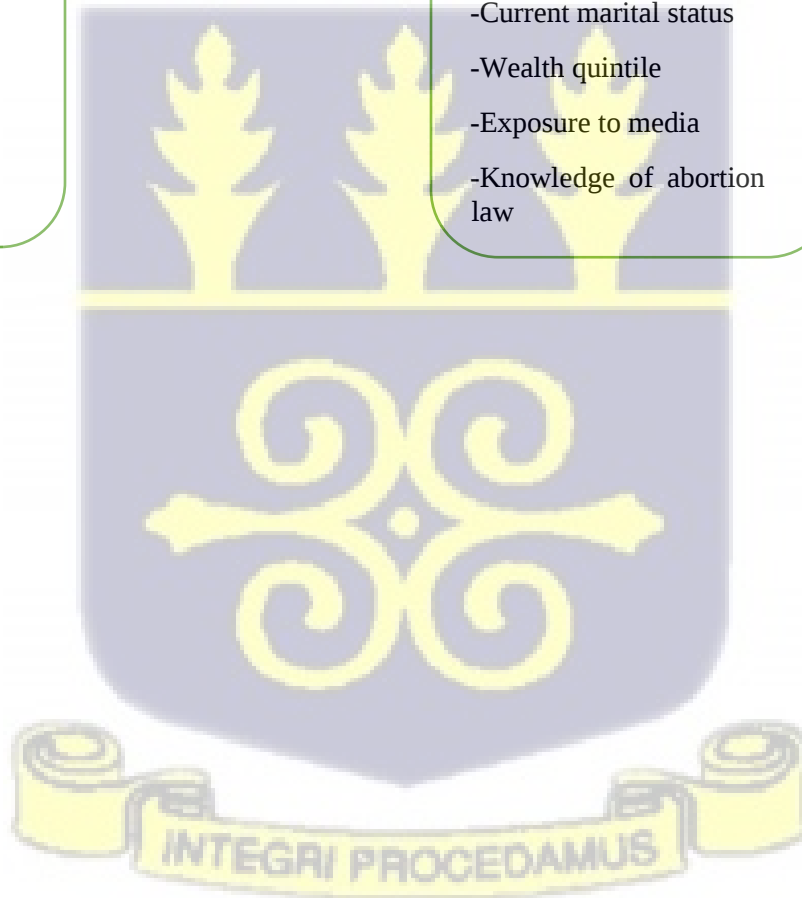
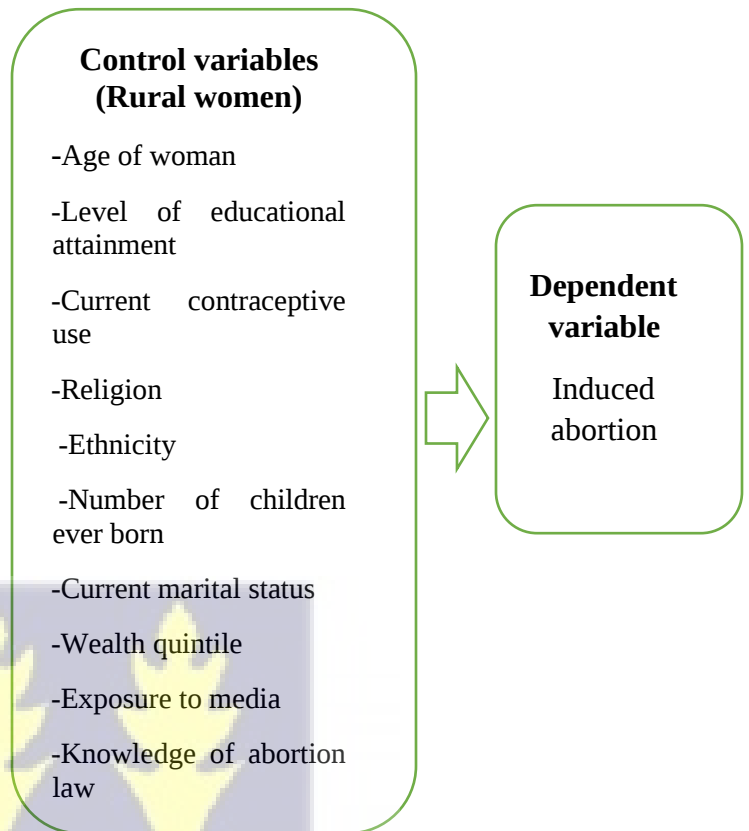


Figure 3.4: Analytical framework for Model 4



CHAPTER FOUR

ANALYSIS OF RURAL-URBAN DIFFERENTIALS IN INDUCED ABORTION IN GHANA

4.0 INTRODUCTION

Induced abortion is influenced by several factors as discussed in the previous chapters. In this chapter, the demographic and socio-economic characteristics of women is presented using tables. The results further show the rural-urban disaggregation in addition to the findings for the total sample. The characteristics to be presented in this chapter includes place of residence, age of woman, current marital status, current contraceptive use, number of children ever born, ethnicity, religion, wealth quintile, exposure to media, level of educational attainment, knowledge of abortion law and induced abortion. Also, the associations and relationships between induced abortion and the independent variable and control variables are presented for the total sample and then for the urban and rural sub-divisions. The results for the regressions are also presented in this chapter. The regression has four models, in Model 1 induced abortion was regressed against place of residence without the control variables. In Model 2, induced abortion was regressed against place of residence and the control variables. In Models 3 and 4, induced abortion were regressed against the control variables for urban and rural women respectively.

4.1 INDUCED ABORTION IN GHANA

The results presented in Table 4.1 show that about 14% of the women in the study induced abortion between 2012 and 2017 while the remaining 86% did not. Among the women in urban areas, close to 1 in 5 (18.5%) induced abortions during the time period while just about 1 in 10 of their rural counterparts induced abortions in the same time period.

Table 4.1: Percentage distribution of induced abortion among the study sample by rural-urban disaggregation.

Induced abortion	Percentage (%) (n)		
	All women	Urban	Rural
No	85.7 (11296)	81.5 (5414)	90.0 (5881)
Yes	14.3 (1880)	18.5 (1230)	10.0 (650)
Total	100.0 (13176)	100.0 (6644)	100.0 (6532)

Source: Computed from the 2017 Ghana Maternal health survey

4.2 DEMOGRAPHIC CHARACTERISTICS OF STUDY SAMPLE BY RURAL-URBAN DISAGGREGATION

The results presented in Table 4.2 show that from the total number of women in the survey a little above 2 out of 5 (42.3%) are between the ages of 20-29 years and also close to 2 out of 5 (39.7%) are in the age group 30-39 years while a little above one-tenth are between the ages of 40 to 49 years.

Table 4.2: Percentage distribution of demographic characteristics by of study sample by rural-urban disaggregation.

Age of woman	Percentage (%) (n)		
	All women	Urban	Rural
< 20	5.3 (702)	4.2 (281)	6.5 (421)
20-29	42.3 (5569)	42.4 (2817)	42.1 (2752)
30-39	39.7 (5233)	41.5 (2760)	37.9 (2473)
40-49	12.7 (1672)	11.8 (786)	13.6 (886)
Current Marital Status			
Married	48.9 (6447)	49.3 (3274)	48.6 (3172)
Cohabiting	31.2 (4113)	28.1 (1869)	34.4 (2244)
Not married	19.9 (2616)	22.6 (1501)	17.0 (1115)
Number of children ever born			
None	6.7 (883)	8.5 (565)	4.9 (317)
1	23.6 (3103)	26.0 (1729)	21.0 (1374)
2-4	48.2 (6356)	51.3 (3410)	45.1 (2945)
5+	21.5 (2834)	14.1 (939)	29.0 (1895)
Religion			
No religion	2.9 (379)	2.0 (134)	3.8 (245)
Orthodox	20.6 (2715)	18.1 (1203)	23.1 (1512)

Pentecost/Charismatic	44.5 (5869)	48.4 (3213)	40.7 (2656)
Other Christian	13.6 (1790)	14.7 (975)	12.5 (815)
Islam	16.3 (2148)	16.3 (1086)	16.3 (1062)
Traditionalist/Spiritualist	2.1 (274)	0.5 (32)	3.7 (241)
Ethnicity			
Akan	48.1 (6337)	53.7 (3568)	42.4 (2769)
Ga-Adangbe	6.6 (869)	8.8 (586)	4.3 (283)
Ewe	13.6 (1788)	12.7 (845)	14.4 (943)
Mole-Dagbani	16.7 (2196)	12.2 (809)	21.2 (1387)
Others	15.0 (1986)	12.6 (837)	17.6 (1143)
Total	100.0 (13176)	100.0 (6644)	100.0 (6532)

Source: Computed from the 2017 Ghana Maternal Health Survey

Among the women in urban areas the proportion of women aged between 20-39 years are slightly higher (83.9%) than women aged between 20-39 years among women in the rural areas (80.0%).

In terms of the marital status of the women in the study, close to half of all the women are married but the proportion of women married among the urban women is slightly higher (49.3%) than the proportion of women married among the rural women (48.6%). Also, the proportion of urban women who are not married is higher (22.6%) than the proportion on rural women who are not married (17.0%) but rural women had a higher proportion of their women cohabiting (34.4%) than their counterparts in the urban areas (28.1%).

A little more than 2 out of 5 of the women belong to the Pentecostal/Charismatic religion (44.5%) and 1 out of 5 of the women (20.6%) are Orthodox Christians while about 16 percent were Muslims. The proportion of women who had no religion (3.8%) or belonged to the traditionalist/Spiritualist religion (3.7%) among the rural woman were higher than the women who had the same religious affiliation among the urban women (2.0% and 0.5% respectively). Also, the proportion of Orthodox women in the rural areas were higher (23.1%) than the proportion of

Orthodox women in the urban areas (18.1%). Pentecostals/Charismatics had the highest proportion of women both in the urban (48.4%) and rural (40.7%) sample.

Lastly, more than half of the women (53.7%) in urban areas were Akans as compared to less than half (42.4%) of rural women being Akans. The proportion of Mole-Dagbani women and women from the other ethnic group in the rural areas were higher (21.2% and 17.6% respectively) than the proportion of women in urban areas that are from the Mole-Dagbani and other ethnic groups (12.2% and 12.6% respectively).

Again, little less than one-tenth (8.8%) of the urban women were Ga-Adangbes whereas only 4.3% of the rural women were Ga-Adangbes. About 1 out of 5 (21.2%) of the women in rural areas were from the Mole-Dagbani ethnic group while a little above a one-tenth (12.2%) of the urban women were from the Mole-Dagbani ethnic group.

4.3 SOCIO-ECONOMIC CHARACTERISTICS OF STUDY SAMPLE BY RURAL -URBAN DISAGGREGATION

The results presented in Table 4.3 show that the proportion of women in urban and rural areas are nearly equal (50.4% and 49.6%). In terms of education among all women, higher proportion had middle/JHS education (40.4%) while only 6.4% had higher education. A higher proportion of women in the urban areas had middle/JHS (41.8%), secondary (19.6%) and higher education (10.1) compared to the proportion of women in the rural areas that had similar educational qualification (38.9%, 7.7% and 6.6% respectively). However, the proportion of women in rural areas who had primary education was higher (19.4%) than their urban counterparts (15.2%).

In terms of wealth, the proportion of women in the poor and poorest quintile in urban areas were higher (41.8%) than their counterparts in rural areas (38.6%). However, the proportion of women in the rich and richest quintile in rural areas were higher (41.0%) than their counterparts in urban areas (38.1%).

Table 4.3: Percentage distribution of the socio-economic characteristics of study sample by rural-urban disaggregation.

Place of residence	Percentage(%) (n)		
	All women	Urban	Rural
Urban	50.4 (6644)	-	-
Rural	49.6 (6532)	-	-
Educational attainment			
No education	22.2 (2925)	13.3 (881)	31.3 (2044)
Primary	17.3 (2277)	15.2 (1010)	19.4 (1267)
Middle/JHS	40.4 (5321)	41.8 (2779)	38.9 (2541)
Secondary	13.7 (1811)	19.6 (1305)	7.7 (506)
Higher	6.4 (841)	10.1 (669)	6.6 (173)
Wealth Quintile			
Poorest	19.9 (2626)	20.5 (1363)	19.3 (1263)
Poor	20.3 (2675)	21.3 (1214)	19.3 (1261)
Middle	20.2 (2663)	20.1 (1337)	20.4 (1326)
Rich	20.2 (2656)	20.4 (1355)	19.9 (1301)
Richest	19.4 (2556)	17.7 (1175)	21.1 (1381)
Total	100.0 (13176)	100.0 (6644)	100.0 (6532)

Source: Computed from the 2017 Ghana Maternal Health Survey

4.4 CONTRACEPTIVE USE, KNOWLEDGE OF ABORTION LAW AND EXPOSURE TO MEDIA AMONG STUDY SAMPLE

Aside the demographic and socio-economic characteristics of the study sample, there are other characteristics of women in this study that can influence induced abortion. These characteristics include current contraceptive use, exposure to media and knowledge of the abortion law in Ghana. The results presented in Table 4.4 show that a third of the women in the total sample (33.3%) used contraceptives while the remaining two-thirds were not using the contraceptives at

the time of data collection. Similarly, about a third of the women in urban areas (32.6%) and rural areas (33.9%) used contraceptives with the remaining proportion not using contraceptives. Also, about a third of the women in the total sample had media exposure. Again, about twice as many women in urban areas (44.8%) compared to rural areas (20.1%) had media exposure. Knowledge of abortion law was more in urban areas (12.1%) than in rural areas (6.4%).

Table 4.4: Percentage distribution of contraceptive use, knowledge of abortion law and exposure to media among study sample by rural-urban disaggregation

Current contraceptive use	Percentage (%) (n)		
	All women	Urban	Rural
Yes	33.3 (4383)	32.6 (2166)	33.9 (2217)
No	66.7 (8793)	67.4 (4478)	66.1 (4315)
Exposure to media			
Exposed to media	32.6 (4292)	44.8 (2978)	20.1 (1314)
Not exposed to media	67.4 (8884)	55.2 (3066)	79.9 (5217)
Knowledge of abortion law			
Yes	9.3 (1221)	12.1 (803)	6.4 (418)
No	90.7 (11955)	87.9 (5841)	93.6 (6114)
Total	100.0 (13176)	100.0 (6644)	100.0 (6532)

Source: Computed from the 2017 Ghana Maternal Health Survey

4.5 BIVARIATE RELATIONSHIPS BETWEEN DEMOGRAPHIC FACTORS, SOCIO-ECONOMIC FACTORS, CONTRACEPTIVE USE, KNOWLEDGE OF ABORTION LAW, EXPOSURE TO MEDIA AND INDUCED ABORTION

This section uses cross tabulations to examine the association between the independent variable, control variables and the dependent variable (induced abortion). The association was examined using the Pearson's chi-square test at a 95% significance level (alpha value of 0.05). An alpha value greater than or equal to 0.05 shows that there is no significant association between the variables while an alpha value less than 0.05 shows a significant association between the variables. The variables that were considered were place of residence, age of woman, current marital status,

ethnicity, religion, level of educational attainment, wealth quintile, exposure to media, knowledge of abortion law, current contraceptive use, number of children ever born and induced abortion.

4.5.1 DISTRIBUTION OF STUDY SAMPLE BY DEMOGRAPHIC CHARACTERISTICS AND INDUCED ABORTION BY RURAL-URBAN DISAGGREGATIONS

This section examines the association between the demographic characteristics of the study sample and induced abortion by rural-urban disaggregation. The results presented in Table 4.5 show that all the variables are significantly associated with induced abortion both in the rural and urban areas. The results show that a higher proportion of younger women tend to induce abortion compared to older women and the pattern is the same for women in rural and urban areas although the proportions are lower in the rural areas. In terms of marital status, induced abortion was more common among women who were not married. About 1 out of 5 (21.7%) women in urban areas who were cohabiting induced abortion while a little above one-tenth (12.3%) of rural women who were cohabiting induced abortion. Again, induced abortion was more common among urban women who were not married (35.2%) compared to rural women who were not married (20.9%). Also, a higher proportion (60%) of the women with no children had an induced abortion compared to women with 1 or more children. The pattern remained unchanged in urban and rural areas.

In terms of religion, higher proportions of Christians (Orthodox, Pentecostal/charismatic and other Christians) induced abortion compared to women from other religions and this pattern remained true in urban and rural areas although the proportions in the urban areas were higher than the proportions in rural areas. The distribution by ethnic grouping shows that, close to 18% of women who are Akans induced abortion and about 1 out of 5 (19.7%) Ga-Adangbes induced abortion while less than a one-tenth (6.6%) of the Mole-Dagbani's induced abortion. Also, a higher

proportion of Akan women induced abortion in urban areas compared to rural areas and this pattern is true across the other ethnic groups.



Table 4.5: Percentage distribution of study sample by demographic characteristics and induced abortion status

Variable/Category	All women			Urban		Rural			
	Induced abortion (%) (n)		χ^2 (df), p-value	Induced abortion (%) (n)		χ^2 (df), p-value	Induced abortion (%) (n)		χ^2 (df), p-value
	No	Yes		No	Yes		No	Yes	
Age of woman			309.857(3), <0.001			215.388(3), <0.001			114.747(3), <0.001
< 20	79.2(556)	20.8 (146)		74.0(208)	26.0 (73)		82.7(348)	17.3(73)	
20-29	80.3(4472)	19.7 (1096)		74.1 (2087)	25.9(730)		86.7(2386)	13.3(366)	
30-39	90.0(4713)	10.0 (521)		87.4 (2411)	12.6(349)		93.1(2302)	6.9(171)	
40-49	93.0(1555)	7.0 (117)		90.2(709)	9.8(77)		95.5(846)	4.5(40)	
Current marital status			781.432(2), <0.001			482.088(2), <0.001			271.928(2), <0.001
Married	93.2(6009)	6.8(348)		90.9(2977)	9.1(297)		95.6(3032)	4.4(140)	
Cohabiting	83.4(3431)	16.6(682)		78.3	21.7(1464)		87.7(1967)	12.3(277)	
Not married	70.9(1856)	29.1(761)		64.8	35.2(973)		79.1(882)	20.9(233)	
Number of children ever born			1803.523(3), <0.001			877.473(3), <0.001			842.912(3), <0.001
None	39.5(349)	60.5(534)		37.0(209)	63.0(356)		44.0(140)	56.0(178)	
1	83.7 (2597)	16.3(506)		79.9(1381)	20.1(348)		88.5(1216)	11.5(158)	
2-4	89.1(5662)	10.9(693)		86.7(2959)	13.3(452)		91.8(2704)	8.2(242)	
5+	94.8(5687)	5.2 (146)		92.1(865)	7.9 (74)		96.1(1822)	3.9(73)	
Religion			214.901(5), <0.001			108.347(5), <0.001			87.347 (5), <0.001
No religion	89.7(341)	10.3(39)		85.2(115)	14.8(20)		92.2(226)	7.8 (19)	
Orthodox	85.1(2311)	14.9(404)		80.2(965)	19.8(238)		89.0(1346)	11.0(166)	
Pentecostal/Charismatic	82.2(4825)	17.8(1044)		78.1(2509)	21.9(704)		87.2(2315)	12.8(340)	
Other Christian	85.6(1533)	14.4(257)		81.7(797)	18.3(178)		90.3(736)	9.7(79)	
Islam	94.1(2021)	5.9 (127)		91.9(998)	8.1(88)		96.3(1023)	3.7(39)	
Traditionalist/Spiritualist	96.7(265)	3.3 (9)		93.8(30)	6.3(2)		97.1(235)	2.9(7)	
Ethnicity			274.330 (4), <0.001			107.265 (4), <0.001			136.077 (4), <0.001
Akan	82.1(5204)	17.9(1133)		79.4(2835)	20.6(734)		85.6(2370)	14.4(399)	

Ga-Dangme	80.3(699)	19.7(171)		77.3(453)	22.7(133)		86.6(245)	13.4(38)	
Ewe	84.1(1503)	15.9(285)		76.7(647)	23.3(197)		90.7(855)	9.3(88)	
Mole-Dagbani	93.4(2052)	6.6(144)		90.2(730)	9.8(79)		95.3(1323)	4.7(65)	
Others	92.5(1838)	7.5(142)		89.6(749)	10.4(87)		94.7(1088)	5.3(61)	

Source: Computed from the 2017 Ghana Maternal Health Survey



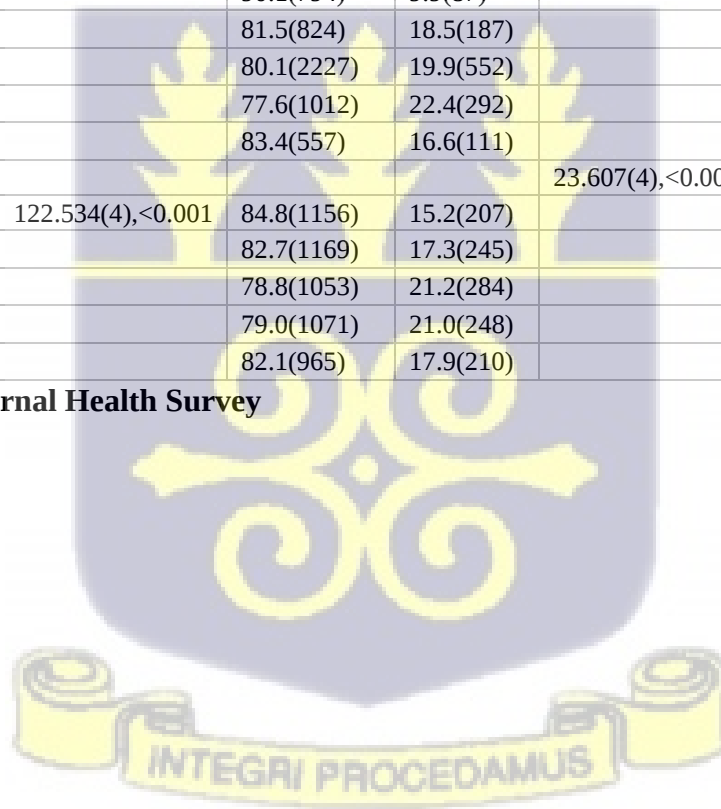
4.5.2 SOCIO-ECONOMIC CHARACTERISTICS BY RURAL-URBAN DISAGGREGATION AND INDUCED ABORTION

An individual's socio-economic status may influence their decision to induce abortion or not. The place someone resides, their level of education and the kind of households they come from may influence their decision to induce abortion. Table 4.6 presents results of some socioeconomic characteristics of women in the study and how they are associated with induced abortion. Place of residence had significant association (p-value <0.001) with induced abortion. All the other variables had significant association (p-value <0.001) with induced abortion in both rural and urban areas. The results indicate that the proportion of women in urban areas who induced abortion (18.5%) was about twice the proportion of rural women who induced abortion (10.0%). The proportion of women that induced abortion among all women from the rich and richest households are nearly equal. However, the proportion of women in urban areas from poorest and poor households were higher (15.2% and 17.3%) compared their rural counterparts (3.2 % and 4.9%). A little above a one-tenth (11.5%) of the women from poor households induced abortion. Over 22% of all women who had secondary education induced abortion and about 13% and 16% of those with primary and middle /JHS education induced abortion. The results further show that among urban women, while about 1 in 10 of those with no formal education induced abortion, nearly 1 out of 5 of those with primary and Middle/JHS education induced abortions (18.5% and 19.9 respectively) and over 1 in 5 urban women with secondary education induced abortion. Among women in rural areas, less than one-tenth of those who had primary education induced abortion and a little over 1 out of 5 (23%) who had secondary education induced abortion while only 15% with higher education induced abortions.

Table 4.6: Percentage distribution of study sample by socio-economic characteristics and induced abortion status.

Variable/Category	All women			Urban			Rural		
	Induced abortion (%) (n)		χ^2 (df), p-value	Induced abortion (%) (n)		χ^2 (df), p-value	Induced abortion (%) (n)		χ^2 (df), p-value
	No	Yes		No	Yes		No	Yes	
Place of residence			197.290(1), <0.001	-	-	-	-	-	-
Urban	81.5(5414)	18.5(1230)		-	-	-	-	-	-
Rural	90.0(5881)	10.0(650)		-	-	-	-	-	-
Level Educational attainment			311.285(4), <0.001			61.566(4), <0.001			216.786(4), <0.001
No education	94.5(2793)	5.5(162)		90.1(794)	9.9(87)		96.3(1970)	3.7(75)	
Primary	86.9(1979)	13.1(298)		81.5(824)	18.5(187)		91.2(1155)	8.8(112)	
Middle/JHS	83.6(447)	16.4(874)		80.1(2227)	19.9(552)		87.6(2220)	12.6(321)	
Secondary	77.4(1401)	22.6(410)		77.6(1012)	22.4(292)		78.7(388)	23.3(118)	
Higher	83.8(705)	16.2(136)		83.4(557)	16.6(111)		85.5(148)	14.5(25)	
Wealth Quintile						23.607(4), <0.001			230.758(4), <0.001
Poorest	90.6(2379)	9.4(247)	122.534(4), <0.001	84.8(1156)	15.2(207)		96.8(1223)	3.2(40)	
Poor	88.5(2367)	11.5(307)		82.7(1169)	17.3(245)		95.1(1199)	4.9(62)	
Middle	85.1(2266)	14.9(397)		78.8(1053)	21.2(284)		91.5(1213)	8.5(113)	
Rich	82.3(2185)	17.7(471)		79.0(1071)	21.0(248)		85.6(1114)	14.4(187)	
Richest	82.1(2098)	17.9(458)		82.1(965)	17.9(210)		82.0(1133)	18.0(248)	

Source: Computed from the 2017 Ghana Maternal Health Survey



4.5.3 CONTRACEPTIVE USE, KNOWLEDGE OF ABORTION LAW, EXPOSURE TO MEDIA OF STUDY SAMPLE AND INDUCED ABORTION BY RURAL-URBAN DISAGGREGATION

Aside the demographic and socio-demographic characteristics of a woman there are other characteristics that influence abortion decisions. This section presents the percentage distributions for these factors and induced abortion. These factors include contraceptive use, exposure to media and knowledge of abortion law in Ghana. Table 4.7 show the results of the distribution of these factors and induced abortion. From the table, contraceptive use is significantly associated with induced abortion among all women as well as urban and rural samples (p -value <0.001). Also, about 17% of the women who were using contraceptives at the time the data were collected induced abortion while 13% of the women who were not using contraceptive induced abortion. Higher proportions of women using contraceptives induced abortion in urban areas (21.4%) compared to the proportion of women using contraceptives in rural areas who induced abortion (12.5%). The proportion of women who induced abortion but were not using contraceptives in urban areas (17.1%) was about twice higher than the proportion of women who induced abortion in rural areas but were not using contraceptives (8.6%).

Exposure to media from the table was also significantly associated with induced abortion among all women and among urban and rural women (p -value <0.001). The proportion of women who were exposed to media who induced abortion were nearly twice the proportion of the women who were not exposed to media who induced abortion. In urban areas higher proportions of women exposed to media induced abortion (20.9%) compared to the proportion of rural women who were exposed to media who induced abortion (18.9%). The proportion of women who induced abortion but were not exposed to the media still remains high in urban areas (16.7%) than in rural areas (7.7%).

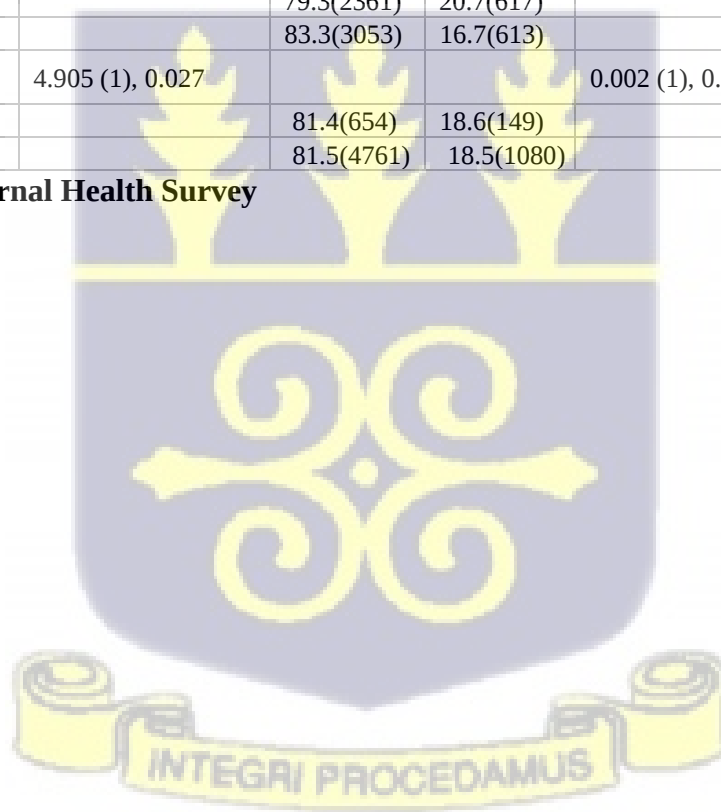
In terms of knowledge of abortion law in Ghana, with the exception of all women (p-value of 0.027) there was no significant association between knowledge of abortion law in Ghana and induced abortion among urban (p-value of 0.946) and rural (p-value of 0.112) women. But on a whole while about 16% of women who knew about the abortion law in Ghana induced abortion, 14% of the women who have no knowledge of the abortion law in Ghana induced abortion.



Table 4.7: Percentage distribution of study sample by contraceptive use, knowledge of abortion law and exposure to media and induced abortion status.

Variable/Category	All women			Urban			Rural		
	Induced abortion %(n)		χ^2 (df), p-value	Induced abortion %(n)		χ^2 (df), p-value	Induced abortion %(n)		χ^2 (df), p-value
	No	Yes		No	Yes		No	Yes	
Current Contraceptive use			37.425(1), <0.001			17.460(1), <0.001			25.155(1), <0.001
Yes	83.1(3641)	16.9(741)		78.6(1703)	21.4(463)		87.5(1938)	12.5(278)	
No	87.0(7654)	13.0(1139)		82.9(3711)	17.1(767)		91.4(3943)	8.6(372)	
Exposure to media			180.249(1), <0.001			17.405(1), <0.001			147.670(1), <0.001
Exposed to media	79.8(3427)	20.2(865)		79.3(2361)	20.7(617)		81.1(1066)	18.9(249)	
Not exposed to media	88.6(7869)	11.4(1015)		83.3(3053)	16.7(613)		92.3(4816)	7.7(402)	
Knowledge of abortion law			4.905 (1), 0.027			0.002 (1), 0.964			2.519(1), 0.112
Yes	83.6(1021)	16.4(200)		81.4(654)	18.6(149)		87.8(367)	12.2(51)	
No	85.9(10275)	14.1(1680)		81.5(4761)	18.5(1080)		90.2(5514)	9.8(599)	

Source: Computed from the 2017 Ghana Maternal Health Survey



4.6 DETERMINANTS OF INDUCED ABORTION AMONG WOMEN IN GHANA

This section presents the results of the binary logistic regression analyses to examine the determinants of induced abortion among the study sample and by place of residence (rural-urban). Four models were specified. In Model 1, the dependent variable (induced abortion) is regressed against the independent variable (place of residence) to examine the effect of place of residence on induced abortion. Model 2, included the control variables in addition to the independent variable to investigate how they combine to affect induced abortion. Model 3 and 4 included the dependent variable against the control variables for urban and rural women respectively. The binary logistic regression method was used because it is the preferred method when the dependent variable is dichotomous and in this study the dependent variable is a dichotomous variable that is, if women have had an induced abortion in the last five years preceding the survey (2012-2017) or not. Statistical significance was set at 5% alpha level. Any odds ratio greater than one indicates an increased chance of the outcome occurring, while an odds ratio less than one implies a decreased chance of an outcome occurring. When the odds ratio is equal to one it also implies lack of a relationship between the independent and the dependent variables. A reference category (ref) was chosen among the categories in the variables to which the odds ratio of the other categories were compared. In this regression, place of residence was used as an independent variable and induced abortion was used as a dependent variable. Age of woman, current marital status, level of educational attainment, ethnicity, religion, wealth quintile, number of children ever born, current contraceptive use, exposure to media and knowledge of abortion law served as the control variables.

4.6.1 DETERMINANTS OF INDUCED ABORTION BY PLACE OF RESIDENCE AMONG WOMEN IN GHAN

The results of Model 1 in Table 4.8 show statistical significance between the place of residence and induced abortion. In this Model (Model 1), 2.7% (Nagelkerke $R^2 = 0.027$) of the variation in the dependent variable was explained by the independent variable and the model predicted 85.7% of the dependent variable correctly. The results show that place of residence is a significant predictor of induced abortion and also women in urban areas are two times as likely to have induced abortion compared to their rural counterparts.

Model 2 shows the result of the binary logistic regression where induced abortion was regressed against place of residence and the variables age of woman, current marital status, level of educational attainment, ethnicity, religion, and wealth quintile, number of children ever born, current contraceptive use, exposure to media and knowledge of abortion law were controlled for. The independent variable and control variables put together explains 25% (Nagelkerke $R^2 = 0.250$) of the variation in the dependent variable while the model predicted 87.7% of the dependent variable correctly. The results presented show that there is a significant association between place of residence and induced abortion. However, there is a slight decline in the likelihood of predicting induced abortion in Model 2 (Exp (B) =1.968) compared to the results in Model 1(Exp (B) =2.055). Irrespective of that, urban women were still almost two times as likely to have induced abortion compared to rural women.

Women aged 20-29 years were more likely to have induced abortion compared to women aged 40-49 years. In terms of ethnicity, women from Mole-Dagbani ethnic group and the other ethnic groups were less likely to have induced abortion compared to women from the Akan ethnic group.

Women using contraceptives are more likely to have induced abortion as compared to women not using contraceptives.



Table 4.8: Binary logistic regression showing the predictors of induced abortion among women in Ghana disaggregated by rural and urban residence

	Model 1 (OR)	Model 2 (AOR)	Model 3(AOR) (Urban)	Model 4 (AOR)(Rural)
Variable/ Category	Exp(B)[95%CI.],p-value	Exp(B)[95%CI.],p-value	Exp(B)[95%CI.],p-value	Exp(B)[95%CI.],p-value
Place of residence [Rural]				
Urban	2.055 [1.856,2.275], <0.001	1.968 [1.736,2.231], <0.001	-	-
Age of women [40-49]				
< 20		0.948 [0.690,1.303], 0.742	0.894 [0.589,1.357], 0.598	1.004 [0.601,1.676], 0.988
20-29		1.449 [1.146,1.832], 0.002	1.565 [1.172,2.089], 0.002	1.199 [0.801,1.795], 0.379
30-39		1.156 [0.924,1.447], 0.205	1.133 [0.857,1.497], 0.381	1.176 [0.805,1.718], 0.402
Religion [No religion]				
Orthodox		1.150 [0.787,1.681], 0.470	1.310 [0.768,2.235], 0.322	0.969 [0.557,1.686], 0.912
Pentecostal/Charismatic		1.328 [0.920,1.918], 0.130	1.502 [0.896,2.158], 0.123	1.173 [0.686,2.009], 0.560
Other Christian		1.156 [0.785,1.702], 0.462	1.355 [0.792,2.320], 0.268	0.958 [0.537,1.707], 0.883
Islam		0.750 [0.489,1.150], 0.187	0.866 [0.479,1.565], 0.633	0.618 [0.324,1.177], 0.143
Traditionalist/Spiritualist		0.693 [0.319,1.508], 0.356	0.975 [0.226,4.215], 0.973	0.672 [0.260,1.740], 0.413
Ethnicity [Akan]				
Ga-Dangme		1.029 [0.845,1.253], 0.778	1.047 [0.832,1.318], 0.696	1.075 [0.732,1.579], 0.713
Ewe		1.022 [0.872,1.197], 0.789	1.209 [0.991,1.476], 0.062	0.873 [0.667,1.143], 0.323
Mole-Dagbani		0.750 [0.596,0.943], 0.014	0.694 [0.507,0.951], 0.023	0.900 [0.634,1.276], 0.553
Others		0.722 [0.581,0.897], 0.003	0.725 [0.544,0.968], 0.029	0.788 [0.560,1.108], 0.170
Current contraceptive use [No]				
Yes		1.407 [1.257,1.576], <0.001	1.392 [1.204,1.609], <0.001	1.379 [1.146,1.660], 0.001
Current marital status [Not married]				
Married		0.331 [0.283,0.387], <0.001	0.327 [0.269,0.397], <0.001	0.378 [0.288,0.497], <0.001
Cohabiting		0.701 [0.612,0.802], <0.001	0.642 [0.541,0.763], <0.001	0.812 [0.648,1.016], 0.069
Number of children ever born [None]				

1		0.151 [0.126,0.180], <0.001	0.172 [0.138,0.215], <0.001	0.119 [0.089,0.160], <0.001
2-4		0.122 [0.101,0.147], <0.001	0.131 [0.104,0.166], <0.001	0.108 [0.079,0.147], <0.001
5+		0.085 [0.065,0.111], <0.001	0.095 [0.067,0.136], <0.001	0.071 [0.046,0.108], <0.001
Wealth Quintile [Poorest]				
Poor		1.042 [0.858,1.266], 0.676	1.066 [0.854,1.330], 0.571	1.132 [0.736,1.740], 0.573
Middle		1.453 [1.200,1.759], <0.001	1.574 [1.258,1.969], <0.001	1.646 [1.095,2.473], 0.017
Rich		1.601 [1.317,1.946], <0.001	1.457 [1.151,1.845], 0.002	2.363 [1.580,3.534], <0.001
Richest		1.868 [1.512,2.308], <0.001	1.360 [1.036,1.784], 0.027	3.044 [2.020,4.587], <0.001
Level of educational attainment [Higher]				
No education		1.344 [0.974,1.853], 0.072	1.242 [0.836,1.846], 0.282	1.290 [0.702,2.371], 0.412
Primary		1.714 [1.279,2.297], <0.001	1.632 [1.150,2.316], 0.006	1.583 [0.885,2.831], 0.122
Middle/JHS		1.454 [1.130,1.871], 0.004	1.310 [0.978,1.757], 0.071	1.360 [0.801,2.309], 0.255
Secondary		1.221 [0.946,1.576], 0.124	0.991 [0.739,1.328], 0.950	1.600 [0.926,2.766], 0.092
Exposure to the media [Not exposed to media]				
Exposed to media		1.105 [0.965,1.266], 0.150	0.989 [0.836,1.171], 0.902	1.363 [1.084,1.713], 0.008
Knowledge of abortion law [No]				
Yes		1.024 [0.849,1.235], 0.804	1.065 [0.853,1.330], 0.577	1.006 [0.706,1.433], 0.973
Constant	0.111, 0.000	0.395, 0.001	0.764, 0.451	0.374, 0.041
Nagelkerke R ²	0.027	0.250	0.237	0.244
-2 Log likelihood	105999.105	8816.321	5316.784	3423.815
Correct prediction	85.7%	87.7%	84.4%	90.9%
OR = Unadjusted Odds Ratio		AOR = Adjusted Odds Ratio		

Source: Computed from the 2017 Ghana Maternal Health Survey



In terms of marital status, women who were married and women who were cohabiting had lower odds of having induced abortion compared to women who were not married. Women with one or more children had lower odds of having induced abortion compared to women with no children. The results presented in Table 4.8 again show that, the likelihood of having induced abortion increases with wealth. Women from the richest households were almost two times as likely to have induced abortion compared to women from the poorest households and women from the rich households were more likely to have induced abortion compared to women from the poorest households. Women from middle households were also more likely to have induced abortion compared to women from the poorest households. In terms of education, women with primary and Middle/JHS level of educational attainment were more likely to have induced abortion compared to women with higher educational attainment.

In Model 3 and Model 4, the dependent variable were regressed against the control variable for urban and rural dwellers respectively. In Model 3, age of woman, level of educational attainment, religion, ethnicity, number of children ever born, current contraceptive use, current marital status, and wealth quintile were significant determinants of induced abortion. The control variables explained 23.7% (Nagelkerke $R^2 = 0.237$) of the variation in the dependent variable and the model correctly predicted 84.4% of the dependent variable. In Model 4, religion, number of children ever born, contraceptive use, current marital status, wealth quintile and exposure to media were the significant determinants of induced abortion. The control variables explained 24.4% (Nagelkerke $R^2 = 0.244$) of the variation in the dependent variable and the model predicted about 91% of the dependent variable correctly.

In urban areas women aged 20-29 years were more likely to have induced abortion compared to women aged 40-49 years while in the rural areas women age 20-29 years showed no statistical significance.

In terms of ethnicity, there was a significant association between ethnicity and induced abortion in urban areas whereas in rural areas no statistical significance was found between ethnicity and induced abortion. Among women in urban areas, whereas Ga-Adangbe and Ewe women were more likely to have induced abortion compared to women from the Akan ethnic group, in the rural areas only women from the Ga-Adangbe ethnic group were more likely to have induced abortion compared to women from the Akan ethnic group. Again, in urban areas women who use contraception were more likely to have induced abortion and the same was true for women in rural areas who used contraception. Also, both married and cohabiting women in urban areas were less likely to have induced abortion compared to women who were not married. In rural areas similar results were reported as married and cohabiting women have less likelihood of have induced abortion. Women with one or more children in urban areas have lower chances of having induced abortion compared to women with no children, in the rural areas the result was no different.

The results presented in Table 4.8 again show that, women from households that are above the poorest quintile in urban areas had higher odds of having induced abortion compared to women from the poorest households. In rural areas, similar patterns were observed, however women from the rich and richest households were two and three times as likely to have induced abortion respectively compared to women from the poorest households.

The level of educational attainment was also associated with induced abortion in urban areas while there was no statistical significance between educational attainment and induced

abortion among rural women. In urban areas, with the exception of women with secondary education, women with no education, primary and middle/JHS education had higher odds of having induced abortion compared to women with higher education.

Lastly, whereas women exposed to media were less likely to have induced abortion in urban areas, women exposed to media in rural areas had higher chances of having induced abortion compared to women who were not exposed to media.



CHAPTER FIVE

DISCUSSION

5.1 INTRODUCTION

The major findings of the study are discussed in relation to other findings in this chapter. The results show that age of woman, level of educational attainment, current contraceptive use, religion, ethnicity, number of children ever born, current marital status, and wealth quintile were significant predictors of induced abortion in urban areas. In rural areas, religion, number of children ever born, contraceptive use, current marital status, wealth quintile and exposure to media were the significant predictors of induced abortion.

5.2 SOCIO-ECONOMIC FACTORS AND INDUCED ABORTION

The results reveal that the level of induced abortions in urban areas (18.5%) were higher compared to that of rural areas (10.0%). Also, at the multivariate level, the regression results showed that women in urban areas are more likely to have induced abortion ($p\text{-value} = 1.968$) than women in the rural areas. This result supports the first hypothesis of this study which states that “the chances of induced abortion is more likely to be high in urban areas than in rural areas”. The finding that women in urban areas are more likely to have induced abortion than rural women is consistent with the findings of Baruwa et al. (2021) in a study in Ghana who found a significant association between place of residence and induced abortion where women in urban areas were more likely to induce abortion compared to rural women. This may be because of the disparity in the distribution of clinics in urban and rural areas. Hill et al. (2009), have also mentioned that urban women have better access to abortive drugs and drug sellers and are more likely to have money to pay for abortion services than their rural counterparts. Although, this study did not include the individual incomes of women in urban and rural areas the economic hubs in Ghana are mainly in the urban areas and that may give more opportunities to urban women to make money

compared to their rural counterparts. However, a study in Nepal by Yogi et al. (2018) found contrary results to the finding of this study. They found no difference in the odds of having induced abortion in urban and rural areas but this can be attributed to the fact that Nepal is in Asia and the factors that influence induced abortion may differ from that of Ghana. Also, in Nepal the rate of awareness when it comes to induced abortion may be higher both in rural and urban areas than that of Ghana.

The level of education a woman has attained was not significantly associated with induced abortion in rural areas, however it is a significant determinant of induced abortion in urban areas which supports the second hypothesis of this study. This study found that women with no education, primary, Middle/JHS and secondary educational attainment have higher risk of having induced abortion compared to women with higher educational attainment. According to the findings of Yogi et al. (2018), women with secondary education have the highest odds of inducing abortion. This is however contrary to the finding of this present study in urban areas since the present study found that women with primary education in urban areas had the highest odds of having induced abortion which is consistent with the findings of Ahinkorah et al. (2020). Mote et al. (2010) also found that the lower a woman's level of education the lower the likelihood of her having induced abortion. Adjei et al. (2015) also found that women with higher educational attainment have a higher likelihood of inducing abortion. Baruwa et al. (2021) found that induced abortion is highest among women with secondary education and lowest among women with no education. This divergence in the results of education and its influence on induced abortion shows that there is no consensus in the literature when it comes to education and induced abortion since there are other narratives in the various contexts that may explain the diverse results.

The literature on abortion shows that wealth is associated with induced abortion and this study found nothing different with regards to that. The study found that women from poor households have lesser odds of inducing abortion, this is consistent with findings by Sundaram et al., (2012) and also consistent with the findings of Yogi et al. (2018). Being rich gives women the opportunity to afford abortion services and not just that but also have safer abortions. This gives women from rich households an added advantage to induce abortion compared with those from poor households that may not be able to afford abortion services even when they are available.

5.3 DEMOGRAPHIC FACTORS AND INDUCED ABORTION

Age of woman is a significant predictor of induced abortion in urban areas. The findings of this study show that women aged 20-29 years have the highest likelihood of having induced abortion. This finding is consistent with that of Chae et al., (2017) in a study in Nepal looking at the characteristics of women inducing abortion in low and middle income countries. However, this finding was contrary to the findings by Dickson et al. (2018), who found that women between the ages of 45-49 years have higher odds of having induced abortion. This may also be as a result of these women attaining their desired family sizes and the stress of child birth becomes discouraging to them.

Ethnicity was not a significant determinant of induced abortion in rural areas but remained significant in urban areas. In the findings of this study, Ga-Adangbe women had higher odds of having induced abortion than Akan women and this is consistent with the findings of Oliveras et al. (2015) but contrary to the finding of Baruwa et al. (2021) who found that Akan women had higher odds of having induced abortion compared to women from other ethnic groups. Also, Amo-Adjei & Darteh (2017) found that women from the Mole-Dagbani ethnic group have lower odds of having induced abortion relative to the other ethnic groups which is largely true in urban areas

when compared to the major ethnic groups (Akan, Ga-Adangbe and Ewe). This may be because of the conservative cultural context Mole-Dagbani women come from which encourages child birth rather than having induced abortion. The fact that stigma is attached to induced abortion among Ga-Adangbe women, a plausible explanation to this findings may be that the women who induce abortion are either people who are sexually active but are not ready to be parents. Also, it may be that the women lack the financial strength to take care of the child and the men responsible for the pregnancy are not willing to take responsibility hence these women are forced to have induced abortion irrespective of the consequences.

Consistent with the finding of Sundaram et al. (2012), this study found that unmarried women have higher risk of inducing abortion compared to married women. The finding is also consistent with a study conducted in Burkina Faso (Ilboudo et al., 2014) and Ethiopia (Tilahun et al., 2017). Contrary to this finding is the finding of Amo-Adjei & Darteh (2017) and Onukwugha et al. (2020) in a study conducted in Ghana and Nigeria respectively where married women were rather found to be having more induced abortion compared to the women who are not married. However, it is admitted that the measurement of induced abortion by Amo-Adjei & Darteh (2017) could be influenced by miscarriages. The results in this study may be because unmarried women may want to avoid the stigma attached with giving birth out of wedlock. It may also be that most of the unmarried women are young and still living with their parents with strong supervision or attending school therefore they induce abortion to avoid any disruption in school or disappointing parents.

In addition, the study found that women with no children in both urban and rural areas had the highest odds of having induced abortion which is consistent with a study in Ghana (Sundaram et al., 2012) and Nigeria (Onukwugha et al., 2020). This may be because these women are

relatively young and are under the care of their parents hence to prevent disappointment from those who take care of them they terminate their pregnancies.

5.4 CONTRACEPTIVE USE, KNOWLEDGE OF ABORTION LAW, EXPOSURE TO MEDIA AND INDUCED ABORTION

Contrary to expectations, women using contraceptives had higher likelihood of having induced abortion than women who were not using contraceptives. The finding is however consistent with Amo-Adjei & Darteh (2017) who found that women who were using contraception were more likely to have induced abortion compared to women who were not using contraception. One may expect that women not using contraception would rather be exposed to unwanted pregnancies that may lead to induced abortion. However, such expectation may be wrong since the survey asked a retrospective question about induced abortion therefore, it would be possible that the women had the abortion before they started using contraception. This may be as a result of post abortion counselling they received from the family planning facilities they visited for the abortion in an attempt to prevent repeated abortions. Also, there is a possibility that contraception is not properly administered or taken, making it ineffective and women are exposed to unwanted pregnancies which they end up terminating (Stephenson et al., 2008).

Knowledge of abortion law remained insignificant in all the models and so was exposure to media with the exception of that of the rural areas. Exposure to media was significant in rural areas which is consistent with the finding of Kwankye & Augustt (2009). This study found that women exposed to media in rural areas have higher odds of having induced abortion compared to those who are not exposed. This is consistent with two Ghanaian studies (Baruwa et al., 2021; Dickson et al., 2018) in which they found women exposed to media having higher odds of having an induced abortion because the media tend to show them how and where to induce abortion.

Ahinkorah et al. (2020) also found in a Ghanaian study setting that women who are exposed to the media have self-efficacy in taking abortion decisions and this may be the situation in the rural areas among women exposed to media. Also, rural women rely more on the traditional media (especially radio) for information compared to women in urban areas that may have access to the internet and walk in resource centres that provide information on induced abortion hence making them less reliable on the traditional media for information on induced abortion and this may explain why women with exposure to media in rural areas are more likely to have induced abortion than their counterparts who are not and why exposure to media is not significant in urban areas.



CHAPTER SIX

SUMMARY, CONCLUSION, RECOMMENDATIONS AND DATA LIMITATION

6.1 SUMMARY

This study set out to examine rural-urban differentials in induced abortion among women in Ghana. This guided the main objective of the study which was to examine the rural-urban differentials in induced abortion among women in Ghana. This overarching objective was broken down into two sub-objectives which were to examine the levels of induced abortion among women in rural and urban Ghana and to examine the factors associated with induced abortion among women in rural and urban Ghana. The study hypothesized that the chances of induced abortion are more likely to be high in urban areas than in rural areas. Secondly, the study hypothesized that urban areas are more likely to have level of educational attainment as a significant predictor of induced abortion than rural areas.

The data for the study was secondary data from the 2017 Ghana Maternal Health Survey. The variables used in this survey were induced abortion (dependent variable), place of residence (independent variable), and the control variables were age of woman, current marital status, current contraceptive use, number of children ever born, religion, ethnicity, wealth quintile, level of educational attainment, exposure to media and knowledge of abortion law. The size of the sample for the study was 13,176 women who have been pregnant during the five years preceding the survey. The data was analysed using the statistical software analysis package IBM SPSS package version 25. The analysis was carried out in three levels; univariate, bivariate and multivariate levels. At the univariate level tables were used to present the percentage distributions of the variables among all women and among women in rural-urban areas. Pearson chi-square test was

used to determine the association between the dependent variable and the other variables. All variables were significant at the bivariate level with the exception of knowledge of abortion law in urban and rural areas. At the multivariate level, four Models were specified. In Model 1 the dependent variable (induced abortion) was specified against the independent variable (place of residence). In Model 2, the dependent variable was specified against the independent variables with the control variables. In Model 3 and Model 4, the dependent variable was specified against the control variables for urban and rural women respectively.

The results showed that 18.5% of urban women induced abortion while 10.0% of rural women induced abortion. The proportion of induced abortion in urban areas was higher than the national proportion of 14.3%. Women below age 30 years had higher proportions of women inducing abortion across urban and rural areas. Also, unmarried women and women with secondary education had the highest proportion of women inducing abortion both in urban and rural areas. At the multivariate level, with the exception of knowledge of abortion law and exposure to media, all variables were significant predictors of induced abortion in urban areas while in the rural areas only religion, number of children ever born, contraceptive use, current marital status, wealth quintile and exposure to media were the significant predictors of induced abortion.

As hypothesized women in urban areas had higher odds of inducing abortion than women in rural areas. In addition, women aged 20-29 years had the highest odds of inducing abortion in both urban and rural areas while women who are Pentecostals/Charismatics had the highest odds of inducing abortion in urban and rural areas. Again, whereas in urban areas women with primary education had the highest likelihood of inducing abortion, in the rural areas women with secondary education had the highest odds of inducing abortion.

6.2 CONCLUSION

Place of residence is a significant determinant of induced abortion in Ghana. That is, the place a woman lives can determine if they would have induced abortion or not. This study has found that women in urban areas have higher odds of inducing abortion compared to women in rural areas. The predictors of induced abortion in urban and rural areas however differ although some of the predictors overlap. This study found that in urban areas, a woman's age, religion, ethnicity, level of educational attainment, number of children ever born, contraceptive use, current marital status, and wealth quintile are the significant determinants of induced abortion whereas in rural areas religion, number of children ever born, contraceptive use, current marital status, wealth quintile and exposure to media are the significant predictors of induced abortion. Religion, number of children ever born, contraceptive use, current marital status and wealth quintile are significant determinants of induced abortion on both urban and rural areas. Policy makers should therefore take into consideration the different factors associated with induced abortion in policy making in order to develop policies that are contextually appropriate which will help to maximize results.

6.3 RECOMMENDATIONS

In addressing challenges such as maternal mortality and morbidity in Ghana, strategic measures need to be put in place. Policy reforms and interventions would be required if these challenges would be mitigated. In this regard, the following recommendations are made on the basis of the findings of this study.

First of all, while paying attention to the levels of induced abortion in urban areas, rural areas must not be neglected since the risk of inducing abortion is close between these areas although that of the urban areas is higher. The factors that influence induced abortion differ in

urban and rural areas hence policies and interventions must be context specific to achieve maximum results.

Interventions in urban areas when it comes to maternal health issues should be targeted to women aged 20-29 and same should be done in rural areas since that age category has the highest odds of having induced abortion. Also, there should be intensified efforts to educate women on the proper use of contraception to prevent abuse and inefficiency. Also, post abortion counselling should be made readily available for women who induce abortion. As part of the post abortion counselling post abortion contraceptive use should be encouraged to prevent unwanted pregnancies. Policies should be targeted to unmarried women who have no children since there have the highest odds of inducing abortion. Induced abortion intervention or reproductive health interventions should be targeted to women with primary and Middle/JHS education while not sidelining women with no education in the urban areas. In the rural areas women with no education to secondary education should be the target since they are likely to induce abortion.

Since exposure to media is a significant predictor of induced abortion in rural areas, Ghana Health Service and Ministry of Health in collaboration with other non-governmental organizations should make use of the various media platforms to educate the women on safe abortion services and proper reproductive health issues to allow them make better decisions when it comes to reproductive health issues. The education should also aim at equipping women with the knowledge of preventing unintended pregnancies which is the root cause of induced abortion.

6.4 DATA LIMITATIONS

Abortion is a sensitive issue hence in a society where stigmatization is a problem women may have withheld information in order to avoid stigmatization. Also, knowledge of abortion law

in the framework for this study was structural but it was asked at the individual level in the survey. Again, there are many sources of media respondents are exposed to but this study limits the computation of media exposure to just reading of newspaper, listening to radio and watching television. However, this approach best fits the situation since these three sources were the sources of media respondents could easily have access to. Lastly, the study uses some current factors to predict the likelihood of induced abortion that may have happened five (5) years ago hence interpretation of the results must be made with this caution in mind.



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