

**UNIVERSITY FOR DEVELOPMENT STUDIES  
SCHOOL OF PUBLIC HEALTH**

**FACTORS INFLUENCING PREGNANT WOMEN'S CHOICE OF PLACE OF  
DELIVERY IN RURAL COMMUNITIES WITHIN SAGNARIGU  
MUNICIPALITY OF NORTHERN REGION, GHANA**

**ALHASSAN NANA ASHA**

**2021**



UNIVERSITY FOR DEVELOPMENT STUDIES  
SCHOOL OF PUBLIC HEALTH

FACTORS INFLUENCING PREGNANT WOMEN'S CHOICE OF PLACE OF  
DELIVERY IN RURAL COMMUNITIES WITHIN SAGNARIGU MUNICIPALITY  
OF NORTHERN REGION, GHANA

ALHASSAN NANA ASHA

[UDS/MPH/0006/19]

THESIS SUBMITTED TO THE DEPARTMENT OF MATERNAL AND CHILD  
HEALTH, SCHOOL OF PUBLIC HEALTH OF THE UNIVERSITY FOR  
DEVELOPMENT STUDIES; IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE AWARD OF A MASTER OF PUBLIC HEALTH  
DEGREE

2021



## DECLARATION

### Student:

I hereby declare that this submission is of my effort towards the award of Master's Degree in Public Health and that, to the best of my knowledge it contains no materials previously published by another author or nor does it contain any materials which have been presented for the award of any degree of any University, except cited references where due acknowledgment has been made in the text.

**Name:** Alhassan Nana Asha

Signature



Date: 30-09-2021

### Supervisor:

We hereby declare that the preparation and presentation of the thesis was supervised in accordance with the guidelines on supervision of dissertation/thesis laid down by the University for Development Studies.

**Name:** Prof. Shamsu-Deen Ziblim

Signature:



Date: 30/09/2021.



## ABSTRACT

In 2004, the World Health Organization recommended that every child delivery should be carried out under the auspice of skilled/trained birth attendants i.e., Midwives, Doctors, Nurses et cetera to ensure prompt remediation of obstetric cum clinical complications that pose a high risk for bad maternal and perinatal outcomes. This study assessed factors that determined pregnant women's choice of place of delivery in rural Sagnarigu Municipality. In a cross-sectional analytical fashion, employing a questionnaire-administered survey and key informant interviews, data were collected from 306 mothers with  $\leq 2$  years since their most recent delivery using PNC and growth monitoring sessions as data collection points. The results showed that the average age of pregnant women was 29 years ( $29.5 \pm 4.89$ ). Most of them were married (65%), Muslims, and native Dagomba (53%). Also, one-third lacked any formal education and 56% had less than SHS education. The majority of spouses of pregnant women had up to tertiary education and were engaged in civil service. The prevalence of facility delivery was 82% and as a result, that of home delivery was 18%. The factors that affected the choice of place of delivery were socio-cultural (pleasantness of delivery experience, husbands' preferences), obstetric (ANC service use, history of difficulty conceiving, mode of delivery and birth order), favourable attitude of health professionals, spousal antenatal deaccessioning (inter-couple consensus and the person-in-charge of decisions) as well as cost concerns related to transportation and the significance of NHIS registration. There are multiple dimensions to pregnant women's choice of place of delivery and it is believed that multi-sectoral and integrated approaches with male spousal involvement would contribute to positive strides in facility-based deliveries and holistic maternal and perinatal health.



## ACKNOWLEDGEMENTS

In appreciation for the gift of life and opportunity to school, I hail the almighty Allah the beneficent, the merciful. I would also like to extend my gratitude to all the people who supported me and made this thesis and the entire MPH program a success.

I would like to pass my heartfelt gratitude to my able and hardworking supervisor Prof. Shamsu-Deen Ziblim for the constructive criticism and assistance in all matters related to this thesis and course work. His contribution in stimulating suggestions and encouragement helped me to coordinate and write this project work. The advisory and mentorship roles played by him towards my program were indeed priceless.

I am especially grateful to my family for their unconditional motivation, emotional and financial support throughout the process of this MPH program, and accompanying research work.

In the same spirit of appreciation, I extend my gratitude to all my research participants for taking part in their busy schedules to respond to the study instruments. My special thanks go to the staff of Sagnarigu Municipal Health Directorate and the in-charges of the various health facilities for their immense assistance.

To all those who might have contributed in one way or the other to this research, I declare that you are worthy of mention here, and may the almighty Allah bless you all.



## DEDICATION

I dedicate this work to my lovely husband and children.



## TABLE OF CONTENTS

DECLARATION .....	i
ABSTRACT.....	ii
ACKNOWLEDGEMENTS .....	iii
DEDICATION .....	iv
TABLE OF CONTENTS.....	v
LIST OF TABLES .....	xi
LIST OF FIGURES .....	xiii
LIST OF ABBREVIATIONS.....	xiv
CHAPTER ONE.....	1
INTRODUCTION .....	1
1.1 Background to the Study.....	1
1.2 Problem statement.....	2
1.3 Research Question .....	4
1.3.1 Specific Research Questions .....	4
1.4 General Objective .....	5
1.4.1 Specific Objectives of the study .....	5
1.5 Conceptual Explanation of relationship between women’s choice of place of delivery and other associated factors .....	5
1.5.1 Individual factors .....	6





1.5.2 Interpersonal factors.....	7
1.5.3 Institutional factors .....	7
1.5.4 Community-based factors .....	7
1.6 Significance of the study.....	8
1.7 Scope of the research .....	9
1.8 limitations of the study.....	10
1.9 Organization of the study .....	10
CHAPTER TWO .....	12
LITERATURE REVIEW .....	12
2.0 Introduction.....	12
2.1 Maternal and child health concerns .....	12
2.2 Pregnancy and its related healthcare practices.....	14
2.2.1 Prenatal care.....	15
2.2.2 Antenatal care .....	15
2.2.3 Postnatal care .....	16
2.3 Current WHO recommendations of pregnancy and labour .....	16
2.4 Choice of place of delivery .....	17
2.5 Factors that affect the choice of place of delivery .....	17
2.5.1 Attitude of health professionals .....	19
2.5.4 Antenatal and maternity decision making.....	23



2.5.5 Other factors..... 24

CHAPTER THREE ..... 29

METHODOLOGY ..... 29

3.1 Introduction..... 29

3.2 Brief Overview of Study Setting..... 29

3.3 Study design..... 31

3.4 operational definitions of study variables ..... 32

3.4.1 Dependent variables..... 32

3.4.2 Independent variables ..... 32

3.5 Study population ..... 33

3.5.1 Inclusion criterion ..... 33

3.5.2 Exclusion criteria ..... 33

3.6 Sampling Method & Sample size calculation ..... 34

3.6.1 Sample size determination ..... 34

3.6.2 Sampling strategy & procedure ..... 34

3.7 Data sources, collection methods, tools, validity & reliability ..... 35

3.7.1 Data sources ..... 35

3.7.2 Data collection methods and associated instrumentation ..... 35

3.7.3 Data validity..... 35

3.7.4 Data reliability ..... 36





3.8 Data Analysis design.....	36
3.8.1 Quantitative analysis .....	36
3.8.3 Measuring relationships between variables .....	36
3.9 Ethical considerations .....	37
CHAPTER FOUR.....	38
RESULTS .....	38
4.0 Introduction.....	38
4.1 Socio-Demographic Characteristics of Respondents.....	38
4.2 Descriptive Data On Delivery Related Domains Of The Respondents .....	40
4.3 Association Between Choice Of Place Of Delivery And Socio-Demographic Characteristics Of Mothers .....	41
4.4 Socio-demographic characteristics that predict place of delivery among mothers.	44
4.5 Socio-Cultural Factors Of Pregnant Women That Influence Place Of Delivery ....	45
4.5.1 Socio-Cultural Factors That Predict Choice Of Place Of Delivery. ....	47
4.6 Attitude Of Health Professionals And Choice Of Place Of Delivery .....	48
4.6.1 Overall attitudes of nurses and midwives and pregnant women’s choice of place of delivery .....	51
4.6.2 Depth of Health professionals’ Attitude on Mother Choice Of Place Of Delivery .....	51
4.7 Spousal Maternal Health Decision-Making And Choice Of Place Of Delivery ....	52

4.7.1 Univariate analysis of Spousal Antenatal Decision making and Choice of place of Delivery.....	53
4.7.2 Factors Influencing Spousal Antenatal decision-making and choice of place of delivery .....	54
4.8 Obstetric history of pregnant women and choices of place of delivery .....	55
4.8.1 Univariate analysis of Obstetric History and Pregnant women’ choice of place of Delivery.....	57
4.8.2 Obstetric predictors of choice of place of delivery .....	59
4.9 Other Factors and Choice Of Place Of Delivery .....	59
4.9.1 Association Between Other Factors And Choice Of Place Of Delivery.....	61
CHAPTER FIVE .....	63
DISCUSSION OF RESULTS.....	63
5.0 Introduction.....	63
5.1 Background Of Study Participants.....	63
5.2 Pregnant Women’s choice of place of delivery .....	64
5.3 Factors that affect pregnant women’s choice of place of delivery .....	65
5.3.1 Sociodemographic characteristics of pregnant women.....	66
5.3.1 Obstetric factors .....	67
5.3.2 Spousal maternal health and antenatal decision-making .....	69
5.3.3 Attitude and influences by health professionals .....	71





5.3.4 Socio-cultural factors .....	72
5.3.5 Other latent factors.....	73
CHAPTER SIX.....	75
SUMMARY OF KEY FINDINGS, CONCLUSIONS & RECOMMENDATIONS .....	75
6.0 Introduction.....	75
6.1 Summary of key findings.....	75
6.2 Conclusions.....	77
6.3 Recommendations.....	78
6.3.1 Recommendations for practice .....	78
6.3.2 Recommendations for policy .....	79
6.3.3 Recommendation for further research .....	79
REFERENCES .....	80
Ethiopia: A Multilevel Mixed-Effects Analysis of the 2011 Ethiopia National Demographic and Health Survey .....	88
APPENDICES .....	89
Appendix 1: Informed consent form.....	89
Appendix 2: Questionnaire for a survey on pregnant women .....	90
Appendix 3: Key Informant Interview Guide for maternity service providers .....	96

**LIST OF TABLES**

Table 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS ..... 39

Table 2: Descriptive Data On Delivery Related Domains of The Respondents (n=306),2021  
..... 40

Table 3: A Univariate Analysis of Place of Delivery and Socio-Demographic  
Characteristics(n=306),2021 ..... 42

Table 4: Socio-demographic characteristics that predict place of delivery among  
mothers(n:306)2021 ..... 45

Table 5: Socio Cultural Factors That Predicts Choice Of Place Of Delivery(n=306)2021  
..... 48

Table 6: Attitude of nurses and midwives in health facilities and its influence on pregnant  
women’s choice of place of delivery(n=306),2021 ..... 50

Table 7: Spousal Decision Antenatal Decision-Making(n=306)2021 ..... 52

Table 8: Univariate analysis of Spousal Antenatal Decision making and Choice of place of  
Delivery(n=306)..... 53

Table 9: Binary logistics regression between Spousal Antenatal decision-making and  
choice of place of delivery(n=306)2021 ..... 54

Table 10: Obstetric history of the study participants(n=306)2021 ..... 55

Table 11: Univariate analysis of Obstetric History and Pregnant women’ choice of place of  
Delivery(n=306)2021 ..... 58

Table 12: Obstetric Factors Predicting Pregnant Women Choice Of Place Of  
Delivery(n=306),2021 ..... 59



Table 13: Other Factors and How They Influence Choice Of Place Of Delivery  
(n=306)2021..... 60

Table 14: Multivariate Analysis Of Choice Of Place Of Delivery And Other Health Care  
Variables(n=306)2021 ..... 61



## LIST OF FIGURES

Figure 1: Conceptualization of factors affecting pregnant women's choice of place of delivery .....	8
Figure 2: Overall Attitudes responses the study participants.....	51



## LIST OF ABBREVIATIONS

<b>UNDP</b>	United Nations Development Programme
<b>SDGs</b>	Sustainable Development Goals
<b>UNICEF</b>	United Nations Children’s Fund
<b>WHO</b>	World Health Organization
<b>ANC</b>	Antenatal Care
<b>PNC</b>	Post Natal Care
<b>NHIS</b>	National Insurance Scheme
<b>LMICS</b>	Low- and Middle-Income Countries
<b>SSA</b>	South Saharan Africa
<b>UNFPA</b>	United Nations
<b>MDGs</b>	Millennium Development Goals
<b>GSS</b>	Ghana Statistical Service
<b>CHPS</b>	Community Health Planning and Services
<b>GEHIP</b>	Ghana Essential Health Intervention Programme
<b>SERC</b>	Sustainable Emergency Referral Care
<b>IFAS</b>	Iron and Folic Acid Supplementation
<b>IPT</b>	Intermittent Preventive care
<b>STIs</b>	Sexually Transmitted Infections
<b>TBAs</b>	Traditional Birth Attendants
<b>CSOs</b>	Civil Society Organizations
<b>CBR</b>	Crude Birth Rate





<b>DHMT</b>	District Health Management Team
<b>FGDs</b>	Focus Group Discussions
<b>SPSS</b>	Statistical Products and Service Solutions
<b>RR</b>	Relative Risk
<b>OPD</b>	Outpatient Department
<b>CWC</b>	Child Welfare Clinic
<b>CI</b>	Confidence Interval
<b>AOR</b>	Adjusted Odds Ratio
<b>Df</b>	Degrees of Freedom
<b>CHV</b>	Community Health Volunteer(s)



## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background to the Study

Optimum maternal health is an issue of concern globally and provincially in individual countries. This has been a case considering the resiliency of maternal mortality rates and their attendant impacts on neonatal health. Expectant mothers are susceptible to deleterious complications during child delivery (Boah et al, 2020). A grave number of women die every year from relatively modifiable risk factors during, after, and even before giving birth (Bhandari et al, 2017; Alkamea et al, 2016; Dickson et al, 2018). United Nations Development Program's (UNDP) Sustainable Development Goal three (3) strives to ensure healthy lives and promote well-being for all. More importantly, target one of this goal states "to reduce the global maternal mortality ratio to less than 70 per 100,000 live births from 216 per 100,000 live births by 2030". There is a chasm in the maternal mortality ratios of low and middle-income countries and that of the Developed world (240 per 100,00 versus 16 per 100,000 live births) (Gebregziabher et al, 2019; UNICEF, 2015). According to Shakiba, Navaee, and Hassanzei (2020), Maternal mortality had reduced by 44% globally in the time between 1990 and 2015. However, More than 35 women died worldwide every hour due to complications of pregnancy and childbirth in 2015 of which Sub-Saharan Africa alone accounted for almost two-thirds (66%) of global maternal death (Shakiba, Navaee, and Hassanzei, 2020).

Maternal health and optimum child delivery outcomes (neonatal safety/health) have been shown to be affected immensely by better place of delivery as well as prior antenatal care. According to Chen et al, (2007), Kuhnt Jana and Vollmer Sebastian (2017), and Raatikainen, Heiskanen, and Heinonen (2007) neonatal deaths are greatly associated with





the place of maternal health services delivery adopted by expectant mothers. World Health Organization in a bid to ameliorate maternal deaths due to complications and improve perinatal outcomes recommended that a skilled birth attendant or midwife must be present during childbirth (WHO, 2004). The self-same body of global health management (i.e., World Health Organization) put forward a communiqué that specified compulsory postpartum care for newly delivered mothers (scheduled at 6 hours, 6 days, 6 weeks, and 6 months after childbirth) and at least four (4) Anti Natal Care (ANC) attendance as best practices for maternal and neonatal health (Justice et al, 2012). However, the above-mentioned services are only provided in health facilities and as such, pregnant women that deliver in the home setting have lower odds of accessing Anti Natal Care and Post Natal Care (PNC) recommended by health authorities (WHO, 2016).

Witter and colleagues , (2007) admits that the government of Ghana is providing free maternal care (maternal health services women receive from the time of pregnancy to three months after delivery), CHPS IN 2002 (improve geo access, empower local communities to take greater control of their health) (Sakeah et al, 2014:Nyonator et al, 2005), National Health Insurance Scheme (NHIS) policy (user-fees exemption policy) has contributed significantly to reducing out of pocket expenditure for maternal health services received from public health facilities in Ghana (Okoroh et al, 2018: Kanmiki et al, 2019). Reports of increased cost despite NHIS were observed in an impact evaluation of the NHIS program in the Volta Region of Ghana (Okoroh et al, 2018).

## **1.2 Problem statement**

In the year 2015, it was estimated that 275,000 women died globally as a result of childbirth-related complications (Kassebaum et al, 2013: Alkema et al, 2016). Of this number, 99.2% of such maternal deaths occurred in developing countries. Also, 95% of



maternal deaths that happened in the year 2017 occurred in LMICS and the highest proportion occurred in SSA (WHO, 2019b). According to (UNICEF, 2015), the prevalence of maternal mortality in Sub-Saharan Africa trumps half of the population of maternal deaths globally. Furthermore, there exist note-worthy nuances in the prevalence of maternal deaths in the West African sub-region suggesting that the subtle influences of certain factors are associated with the observed disparities (UNFPA, 2012). According to the works of Henry, Sangwani, and Maryam (2018) and Ahmed et al, (2018), the gargantuan proportions of maternal deaths in low and middle-income countries like Ghana could be attributed to inadequate health-seeking among expectant mothers explained succinctly by low levels of skilled deliveries and poor utilization of antenatal care services. According to Mismay et al (2007), maternal mortality and preventable perinatal deaths occur because of four (4) notable delays viz: (a) recognition of danger-related delay, (b) decision to seek care delay, (c) access to appropriate maternal health care inhibitions and reception of maternal health care delays. These delays happen as a consequence of significant choices made either by the pregnant women (in conjunction with their households), health professionals, and the ministry of health. In the domains of social justice, the choice of place of child delivery is solely the responsibility of pregnant women and their families.

Home-based delivery is very pronounced in sub-Saharan Africa as a whole and Ghana as a unit. According to (WHO, 2019), 59% of home deliveries occur in rural communities and 90% in urban communities within Ghana. Home delivery is correlated with increased susceptibility to maternal mortality and infections during the childbirth and labour process (Koblinsky et al, 2006; Simkhada et al, 2008). According to Gebregziabher et al, (2019), about half the prevalence of neonatal mortality in developing countries is as a result of

child delivery at home and without the supervision of skilled birth attendants. In a Ghanaian-based study by Boah et al (2020), expectant mothers who had limited access to maternal health information, those with two (2) children and above, the attitude of health professionals, cost of transport, cost of delivery kits, and socio-cultural norms were associated with lower odds of facility delivery.

In recent times, Ghana has been declared a middle-income country. This status is accompanied by an increase in socioeconomic status as well as progress on salient global indices such as the Millennium Development Goals (MDGs) and the successive Sustainable Development Goals (SDGs). Before the SDGs, Ghana was said to have accomplished all the targets of the MDGs except the one on maternal mortality and improved maternal health.

The resiliency of maternal mortality in Ghana amidst government interventions and the growing incidence of neonatal mortality informs the conduct of this study to explore the determinants of pregnant women's choices concerning places of delivery in the Sagnarigu Municipality.

### **1.3 Research Question**

The principal question posed was; 'what factors influence pregnant women's choice of place of delivery in rural Sagnarigu Municipality of the Northern Region of Ghana?'

#### **1.3.1 Specific Research Questions**

In detail, the study sought to find answers to the following specific questions associated with the main research question:

1. Which socio-cultural factors affect pregnant women's choice of place of delivery?
2. How does the attitude of nurses and midwives influence pregnant women's choice of place of delivery?

3. How does spousal antenatal decision-making affect pregnant women's choice of place of delivery?
4. Does the obstetric history of pregnant women affect their choice of place of delivery?

#### **1.4 General Objective**

The main objective of this study is to assess factors influencing pregnant women's choice of place of delivery in rural communities within the Sagnarigu Municipality of the Northern Region of Ghana.

##### **1.4.1 Specific Objectives of the study**

The specific objectives of the study include:

1. To identify socio-cultural factors of pregnant women that affect their choice of place of delivery
2. To determine the attitude of nurses and midwives in health facilities and its influence on pregnant women's choice of place of delivery
3. To assess spousal antenatal decision-making modus operandi in the families of pregnant women and its effects on their choices of place of delivery
4. To assess the obstetric history of pregnant women and its impact on choices of place of delivery

#### **1.5 Conceptual Explanation of relationship between women's choice of place of delivery and other associated factors**

A network of factors potentially influences pregnant women's choice of place of delivery. According to Yebyo (2014), these factors can be categorized into community-level factors and individual factors as illustrated in the conceptual framework below. This framework is





a spin-off of the socioecological model of health that includes dimensions of influence such as individual-level factors, interpersonal factors, institutional/organizational factors, community-level factors, and Policy realms of impact. The overarching theoretical underpinning of the study corresponds with socio-cultural determinants of health and wellbeing. This theoretical principle stipulates that ill-health and healthcare challenges are multifaceted with social, economic, psychological, cultural, and religious influences.

### **1.5.1 Individual factors**

Several factors underlie pregnant women's choice of place of delivery at the personal level. Some of these include religion, educational status, economic status, birth order, prior experience with obstetric complications, perceptions of facility delivery, and age among others. These factors are proximate to the individual pregnant woman and have the potential to affect their choices. Boah and colleagues opined that there are largely individual dimensions to pregnant women's choice of place of delivery (Boah et al., 2020). According to the works of the authors (Nakua et al, 2015; WHO, 2019; Ganle, Kombet, and Baatiema, 2019), these factors border on education, maternal age, religion, maternal knowledge, and antenatal service uptake.

Another significant individual factor refers to access to the facility for maternal health services and delivery. This could be segregated into the tripartite areas of distance to facility, economic access cum payment for services as well as access to means of transport to and from a health facility. It is well documented that these three heads of healthcare access concept play essential roles in pregnant women's use of health facilities and maternity services as a unit.

Mismay et al (2007), recognize that pregnant women probably make certain critical delays that predispose them to maternal mortality and preventable perinatal deaths. These are



hesitance in recognizing the danger of home delivery; hesitation in the decision to seek facility-related care; inhibitions to accessing appropriate maternal health care within health facilities and finally, delays in compliance with facility-related maternal health care interventions. These delays happen as a consequence of mitigating factors subverting the choice pregnant women have to make to deliver at a health facility and have access to skilled delivery care.

### **1.5.2 Interpersonal factors**

On the interpersonal front, factors such as spousal communication and decision making on maternal health concerns as well as critical components such as delivery and antenatal care. In related literature, joint decisioning by couples or pregnant women with their families had very high odds of promoting facility delivery vis-à-vis home delivery (Asresie & Dagneu, 2019). Other potential interpersonal confounders of the need for facility delivery could be health professionals' attitudes and ways of interacting with pregnant women.

### **1.5.3 Institutional factors**

This embodies factors associated with maternal healthcare delivery institutions. Some of these factors include distance to a health center, cost of service delivery, availability of logistics to work with, and the professionalism of personnel. This conception speaks to the institutional capacity of health care facilities to manage obstetric complications and ensure safe delivery.

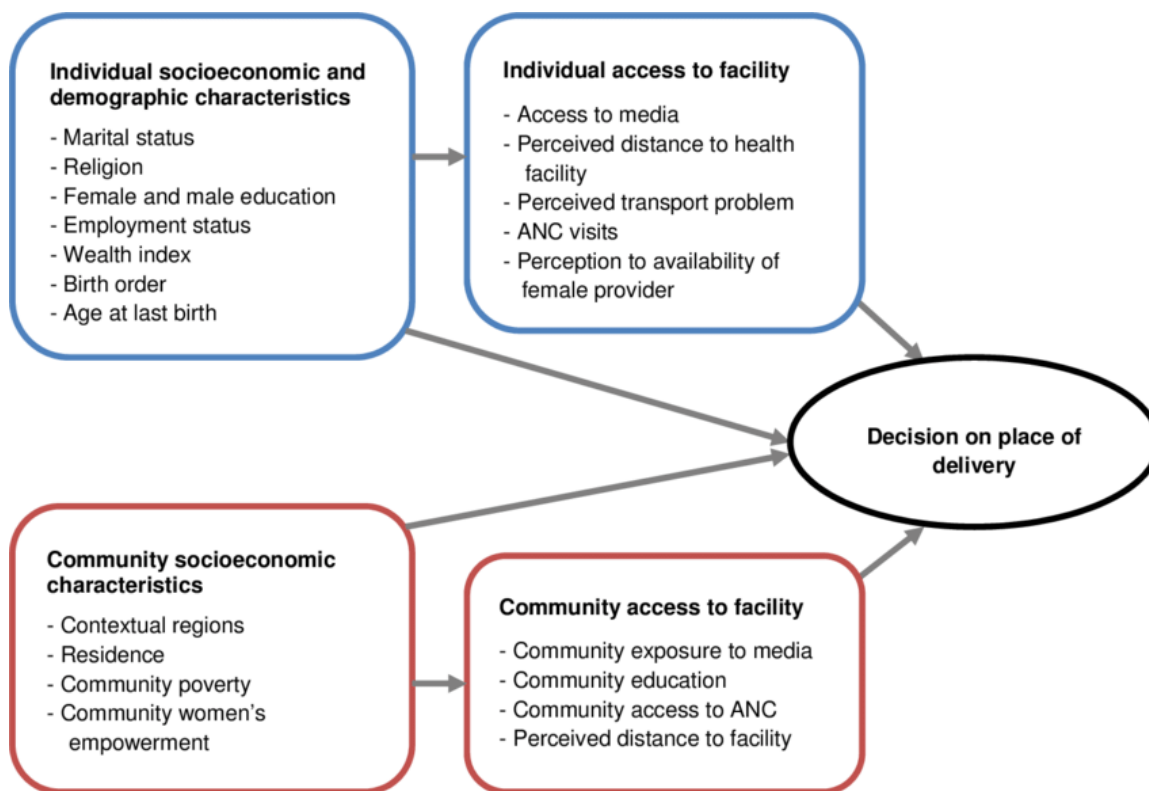
### **1.5.4 Community-based factors**

Pregnant women and their immediate family's function within organized communities with laws and pre-historic socio-cultural norms. Inadvertently, the overarching societal customs and acceptable culture influences maternal healthcare-seeking behaviours of indigenes. In addition, some community-related factors include community poverty, women



empowerment, residence in the community, community health education, exposure to the media, community access to health facilities and ANC services as well as the perceived distance to a health facility. Community deficiencies and compliance with orthodox intervention regimens (e.g., facility delivery) are some of the most common factors to be found when dealing with societal socio-cultural conceptions not addressed by health education (Rutter and Kiemle, 2015; Dowbor and Westphal, 2013)

An interplay of individual, interpersonal, institutional, and community factors potentially influence women's choice of place of delivery as shown in Figure 1.



**Figure 1: Conceptualization of factors affecting pregnant women's choice of place of delivery**

Source: Adopted from Yebyo (2014)

### 1.6 Significance of the study

Findings from the study would be significant for policy attenuations in the sector of maternal and child (neonatal) health: it would inform policy holders of the nuances related



to the choice of a place of child delivery and remediating measures that could be used to counter the trend. Also, factors associated with the choice of place of delivery would ensure accurate tailoring of policy intervention to appropriate problem areas in relation to child delivery concerns and prevention of childbirth complications.

Furthermore, the results of this study would add to the body of knowledge on obstetrics as a unit and maternal and child health and wellbeing as a whole. The problem of maternal and neonatal health risks is resilient, thus knowledge of the factors that inform pregnant women's bad choices or health-seeking choices is of essence to curb the global challenge of maternal and neonatal mortality.

### **1.7 Scope of the research**

The study aims to assess the determinants of pregnant women's choice of place of delivery. The key factor under study is pregnant women's choice of place of delivery and it is envisaged to be influenced by a litany of mitigating and motivating factors that were herein described as the independent variables. Some of such variables include obstetric history, socio-cultural factors, socio-demographic factors, and possibly, health professionals' attitudes among others. The Sagnarigu municipality is the study district and individual households were used as the data collection points.

The target population for the study encompassed women within the age cohort 15 to 49 years who have delivered a child at most within the last two (2) years preceding the day of research data collection.



## **1.8 limitations of the study**

Limitations of the study included:

1. Data collection at exclusively antenatal care centres have the potential to eliminate feedback from pregnant women who are not attending or coming for antenatal care services
2. The study being cross-sectional means only a segment of the pregnant women population was studied and not the entire population of expectant mothers in Sagnarigu. Also, this study required the use of sample selection through non-probability methods (purposively selecting pregnant women) and this limits the generalizability of study findings to the entire population of pregnant women in the Sagnarigu municipality.
3. The study was also beset by resource constraints and time limitations associated with the research work; being a part of the inflexible University for Development Studies (UDS) academic calendar.

## **1.9 Organization of the study**

The components of the study would be classified into six chapters. The first chapter entailed an introduction of the study encompassing the background, statement of the problem, the purpose of the study, specific research objectives, scope/delimitation, Significance of the research, limitations, and organization of the study.

Chapter two was a review of relevant sources to support or contest study findings. Sub-headings of this chapter included an overview of the concept of maternal and neonatal mortality, public health recommendations on maternal and neonatal health, maternal and neonatal mortality in Ghana, conceptual illustration of factors associated with the choice



of place of delivery, Factors associated with the choice of place of delivery, public health interventions on maternal health in Ghana.

Chapter three focused on the geography of the study area and research methodology; for instance, research design, study district, target population, sampling strategy, data collection methods (with appropriate tools), data analysis, and ethical considerations.

The fourth chapter entailed the presentation of findings organized by research objectives. Also, chapter five was a discussion of key findings arising from data using relevant literature. The final chapter contained a summary of key findings, conclusions, and recommendations.



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0 Introduction

Skilled delivery is essential in the fight against maternal and perinatal mortality and morbidity. This study sought to assess the factors that define pregnant women's choice of place of delivery. Major subtitles of this chapter on review of relevant sources are an introduction to the chapter, maternal and child health concerns, pregnancy and labour, choice of Place of child delivery, Factors that influence the choice of place of delivery, sociocultural factors, attitude of health professionals, obstetric history, antenatal care, and maternity decision making.

#### 2.1 Maternal and child health concerns

Pregnancy and childbirth-related deaths and morbidities are of grave importance because two lives are at stake instead of one. In recent times, the interventions against maternal deaths are too widespread and effective to opportune further lives lost (WHO, 2019b). The problem often lies with compliance to evidence-based salient interventions as well as the sociocultural acceptability of such innovations to society. Globally, the prevalence of maternal mortality in low resource and middle-income countries is 95% and out of that proportion, the greatest fraction occurs in sub-Saharan African countries like Ghana (WHO, 2019b). Sustainable development goal three (SDG 3) bids every country across the globe to work towards optimum maternal and child health through the prevention of avoidable deaths in the said thematic areas. SDG three target one (SDG 3.1), aims to reduce the maternal mortality ratio to at least 70 deaths per 100,000 live births by 2030. Comparatively, Ghana, as a nation has a long way to go since the current maternal mortality ratio in Ghana, is 308 deaths per 100,000 live births. Although this statistic is lesser than



the proportion of maternal mortalities a decade ago, this is still farfetched if Target 3.1 of SDG 3 is to be achieved come 2030 (WHO, 2019).

Access to much-needed maternal healthcare, including holistic antenatal services uptake as well as skilled delivery, has proven indispensable in the fight against maternal and neonatal mortality. WHO endorses the attendance of a skilled birth attendant in every child delivery session since complications are likely to occur at any time during labour (WHO, 2004)? Skilled delivery and antenatal care service uptake have improved significantly in Ghana since 2003. A case in point is, facility delivery has improved immensely from 46% (in 2003) to 73% (in 2014). Also, the proportion of child deliveries supervised by skilled birth attendants has increased from 47% to 74% from 2003 to 2014 (GSS, 2015).

In Ghana, the three most prominent interventions geared towards curtailing the incidence of maternal deaths and perinatal deaths include free maternal care programmes, community-based Health Planning and Services, and a national health insurance scheme. CHPS was invented in 2002 to ensure geographical access of all Ghanaians to the 'national cake' with reference to basic primary healthcare services (Sakeah et al, 2014; Nyonator et al, 2005).

The CHPS programme also inadvertently extends skilled maternal care services to the grassroots through the posting of midwives to all available health centers including CHPS units. Another Ghanaian policy framework much more proximate to the realms of maternal and perinatal health protection and promotion is the free maternal health package (Witter et al, 2007). This policy encompasses as well as guarantees gratis treatment on all essential maternal health services from conception to three months postpartum. This policy is currently being implemented together with the national health insurance scheme (NHIS) in concerted efforts to ameliorate socioeconomic setbacks to holistic, effective, and equitable maternal health service provision. The defunct name of the national health insurance





scheme was ‘user fee exemption policy’. As this name implies; NHIS was implemented to halt cold-turkey out-of-pocket payments for maternal health services in health facilities across the length and breadth of the nation Ghana (Okoroh, Essoun, et al, 2018; Kanmiki, Bawah, et al, 2019). According to an impact evaluation of NHIS in Ho of the Volta Region (Penfold, Harrison, et al, 2007), the scheme was found to improve the prevalence of facility deliveries.

Furthermore, Ghana Essential Health Intervention Programme (GEHIP), six (6) year health systems strengthening initiative implemented in Northern Ghana has an integrated maternal health care package that promotes access to health care (Awoonor-Williams, et al, 2013). This component was(is) Sustainable Emergency Referral Care (SERC) and it provided low-cost emergency transportation for pregnant women in rural communities to curtail geographical and economic access barriers to emergency maternal care (Boah et al., 2020). SERC initiative organizes and transports pregnant women due for delivery using customized versions of the popular tricycle locally called “Pradiya or Yellow-Yellow or Mahama Cambo” (Patel, Awoonor-Williams, et al, 2016). Pregnant women and their families were not asked to pay for transport fares; the operational cost of the tricycles was catered for by a pooled fund managed by Ghana Health Service. According to Boah et al., (2020), there is a compromise in the programme in the sense that patients are now obliged to fuel the Motorking. Also, the inadequacy of the customized tricycle ambulances caused others to rely on mainstream tricycles which are not conducive to the said task of transporting expectant mothers.

## **2.2 Pregnancy and its related healthcare practices**

Pregnancy is a physiological phenomenon that occurs between conception and birth. Human pregnancy takes approximately nine months (36 weeks) and it is divided into



trimesters based on the distinctiveness of embryological development every three months. The situation of pregnancy is not classified as a disease, but it can be qualified as a healthy-related state of immense clinical and public health importance as a consequence of the risk to the lives of mothers, foetuses, and neonates.

The field of obstetrics divides maternal care into prenatal care (optimum interventions before pregnancy), perinatal care/antenatal care (care practices in the state of pregnancy), and postnatal care (health interventions to mother and neonate after delivery).

### **2.2.1 Prenatal care**

Prenatal care encompasses health services rendered to women before conception and pregnancy. These include but are not limited to nutrition and healthy eating counselling, healthy lifestyle modification promotion, family planning education, appropriate practice, hygiene education and practices, anaemia prevention, malaria prevention, pregnancy, and childcare education among others.

### **2.2.2 Antenatal care**

Antenatal care refers to the host of interventions provided to pregnant women to minimize complications and promote optimum pregnancy health. Some of these include screening for clinical complications of pregnancy (anaemia, malaria, eclampsia, pre-eclampsia, diabetes et cetera), screening for potential obstetric complications (multiple pregnancies, mal presentation, haemorrhage, intrauterine growth retardation, cephalopelvic disproportionation et cetera), Iron-Folic acid supplementation (IFAS), deworming, IPT for malaria, STIs screening, tetanus toxoid immunization as well as nutrition education and counselling. On ANC, it is recommended that pregnant women should initiate ANC within the first trimester (early initiation) and make up to at least eight (8) attendances in the entire course of pregnancy.



### 2.2.3 Postnatal care

The World Health Assembly recommendation on postnatal care entails making an appearance at PNC sessions scheduled 6 hours, 6 days, 6 weeks, and 6 months after childbirth. PNC services rendered include Vitamin A supplementation, polio immunization among other vaccinations, resolution of post-delivery maternal complications, initiation of breastfeeding, the practice of exclusive breastfeeding, and the initiation of child growth monitoring.

### 2.3 Current WHO recommendations of pregnancy and labour

The need to moderate all Complications that pose a risk of maternal death motivated the World Health Organization to recommend skilled personnel presence during every child birth (WHO, 2016). In addition, the World Health Organization in their most recent amendments of antenatal care service provisions recommends that every pregnant woman initiates ANC within the first trimester ( *1st ANC ≤ 12 weeks of pregnancy* ) and subsequently make up to at least eight attendances to ANC sessions. The defunct model of ANC, known as ‘focussed ANC’ required pregnant women to make at least four (4) ANC visits and the time of initiation was scheduled within the first sixteen weeks.

World Health Organization in a bid to ameliorate maternal deaths due to complications and improve perinatal outcomes recommended that a skilled birth attendant or midwife must be present during childbirth (WHO, 2004). The self-same body of global health management (i.e., World Health Organization) put forward a communiqué that specified compulsory postpartum care for newly delivered mothers (scheduled at 6hours, 6days, 6weeks and 6 months after childbirth) and at least four (4) ANC attendance as best practices for maternal and neonatal health (Justice et al, 2012).



## 2.4 Choice of place of delivery

Approximately 25% of pregnant women in Ghana opt for home delivery to the detriment of facility delivery (GSS, 2015). This situation is reported to have rural-urban dynamics according to the self-same author; 90% of facility deliveries for urban centers *versus* 59% among rural dwellers.

Home deliveries and for that matter child deliveries presided over by TBAs are correlated to amplified susceptibility to maternal deaths, obstetric complications, and chiefly, increased risk of infections (Envuladu et al, 2013; Abebe, Berhane, and Girma, 2012). According to Lawn, Cousens, and Zupan (2005), approximately 50% of neonatal mortalities in developing countries are attributable to home deliveries and the absence of a skilled health professional to micromanage potential obstetric complications (Lawn, Cousens, and Zupan, 2005). The works of Sørensen, Steffensen et al (2000) also associate incidence of home deliveries to lowered mental and cognitive faculties among children delivered under such circumstances.

## 2.5 Factors that affect the choice of place of delivery

The factors that influence pregnant women's choice of place of delivery are multidimensional and shaped by the socioecological model of phenomenological studies. According to Boah et al., (2020), there are large individual dimensions with potential for household and community cum policy realms to the concept. A series of studies has largely identified individual factors such as education, maternal age, religion, maternal knowledge, and antenatal service uptake (Nakua et al, 2015; WHO, 2019; Ganle, Kombet, and Baatiema, 2019). Meanwhile, there is a cultural and traditional connotation to Places of child delivery. Descriptive results in Boah et al. (2020) show that traditional and cultural belief systems cum practices were cited as reasons for home delivery. Boah and his





compatriots reported that socio-cultural belief systems and taboos forbid expectant mothers from going out frequently especially closer to the due period for child delivery to avoid ‘evil eyes’. In addition, certain consecrations are made to link mother and neonate to family cum communal gods for safe guard against untimely deaths. Additionally, (Tolera et al., 2019) also observed social-cultural linkages to facility delivery; the safety and comfort of the home as a place of delivery relative to the facility was the perceived barrier.

In the works of (Van Der Zande et al., 2019), ‘the gate-keeper effect’ was the predominant influence on pregnant women’s access to facility delivery. The author expounded that decision of male-factors in the pregnant woman’s life such as the husband or father overrules any wishes or intent to deliver at a health facility. In the African household, the household head is most often a man, and consensus-building with female spouses on matters of grave importance such as reproduction is seldom considered. However, in instances where the voice of the woman is heard in the joint discussion of the place of child delivery, [9] observed that the pregnant woman is five times more likely to deliver at a health facility. In another domain, men are disproportionately involved in health-seeking with respect to orthodox maternal health service as reported by (Beam et al., 2018). According to the same author, men who are most often the gate keepers into the African household are seldom aware of pregnant women’s prenatal, antenatal and postnatal actions and decisions.

In Southern America with emphasis on the nation of Cambodia, women who are newly delivered of a child must be taken through a recognized traditional practice “roasting” which lasts from a period of three days to a month (Barnes-Josiah, Myntti and Augustin, 1998). The mother and neonate are made to lie beside a fire or on a mat over hot coals of fire in order to regain the strength and heat that are perceived to be lost during labour.



Health implications of this deleterious practice aside, mother and neonate might miss out on essential postpartum health care interventions such as vaccinations, Vitamin A supplementation, postpartum maternal screening et cetera.

Diverse health promotion campaigns have been carried out in the Northern Regions of Ghana by the Ghana Health Service, Civil Society Organizations (CSOs), and School-based outreaches. (Moyer, Adongo, et al, 2014) pointed out that this salient point probably contributed to the progressive shift in social norms in favour of facility deliveries in the hands of skilled birth attendants. Also, pregnant women who identified with Islamic and Christian worship were reported to have lower odds of home deliveries relative to pregnant women who were Traditionalists by religion (Boah et al., 2020).

### **2.5.1 Attitude of health professionals**

There appears to be a myth surrounding health professionals and the circumstances and places associated with child delivery. Some of the issues discussed in the literature borders on the attitude of healthcare professionals, pregnant woman's preferences, and the take of male factors on maternity service provision by Male Health professionals. The work of (Boah et al., 2020) adopting a thematic analysis, portrayed that the poor attitude of midwives was associated with inadequacies in facility delivery. Nurses and midwives were reported to be negligent towards pregnant women, impatient when labour sets in, and unfriendly. However, home delivery is associated with attendance by respectful and understanding traditional birth attendants.

Beam et al, on the other hand, assessed the demeanour of available health professionals in facilities relative to other factors (Beam et al., 2018). According to the authors, friendly service providers motivated health-seeking concerning facility preference. In the self-same work, the proximity of the health facility was a factor that determined facility delivery. In

addition, Belay and his compatriot observed that the positive attitude of healthcare workers was a major predictor variable for facility delivery (Belay & Sendo, 2016). Also, pregnant women were found to be more likely to choose a health facility because there is a serving-midwife in it compared to other health professionals. In a study conducted in peri-urban Nairobi on women's preferences with respect to choice of place of delivery, (Oluoch-Aridi et al., 2020) observed that the attitude of health professionals and the quality of services provided by them were significant predictors of facility delivery.

A study conducted in neighbouring Nigeria by Sialubanje et al. (2015) reported that two (2) in every five (5) pregnant women delivered at home as a consequence of the unfriendly attitude of maternal healthcare professionals. In the self-same study, the author observed that traditional birth attendants who carried out home deliveries were perceived to be respectful to pregnant women, friendly, understanding, and trustworthy by those that patronized home delivery.

### **2.5.2 Obstetric factors**

Child delivery and pregnancy are constructs of reproductive anatomy and physiology and as such obstetric history and occurrence of Obstetric complications are the primary determinants of facility delivery. The need to moderate all Complications that pose a risk of maternal death motivated the World Health Organization to recommend skilled personnel presence during every child birth (WHO, 2016). From related literature, factors associated with facility delivery are as follows; prior facility delivery (Gebregziabher et al., 2019: Kifle et al., 2018), complications during index pregnancy or previous pregnancy (Gebregziabher et al., 2019: Tolera et al., 2019: Belay & Sendo, 2016: Bayu, Fisseha, et al., 2015), birth order of greater than three (Gebregziabher et al., 2019), mothers' knowledge of complications and preparedness towards child delivery (Tolera et al., 2019 p. 16),

negative outcome of previous deliveries (Kifle et al., 2018), the perceived danger of home delivery (Boah et al., 2018), attendance to ANC (Boah et al., 2018; Belay & Sendo, 2016; Bayu, Fisseha, et al., 2015; Bayu et al., 2015), perceived susceptibility and severity of pregnancy labour complications (Bayu et al., 2015), intention to deliver at the health facility (Bayu et al., 2015).

Also, the unpredictability of labour has been to be associated with home deliveries (Mrisho et al, 2007). The labour process is biological and as yet, the timing of labour is estimated and is seldom accurate. According to the work of Gebregziabher et al. (2019), prior facility delivery was the motivator for current facility delivery. This sentiment was re-echoed by (Kifle et al., 2018); delivery of previous pregnancy(s) at a health facility increases the likelihood that a pregnant woman will deliver at a health facility by three (3) times. Continuous use and child delivery at the facility builds trust in the health system as well as an appreciation of orthodox measures to minimize maternal deaths and protect neonatal lives.

Complications in index pregnancy or all previous pregnancies are the most talked of a precursor of facility delivery as evinced from the works of (Gebregziabher et al., 2019; Tolera et al., 2019; Belay & Sendo, 2016; Bayu, Fisseha, et al., 2015). Pregnancy-related complications such as multiple pregnancies, breach birth, malpresentation, congenital anomalies, anaemia, malaria, postpartum haemorrhage, pre-eclampsia, and diabetes tend to cause frequent malaise and life-threatening risks during childbirth. As such it is essential to manage them to the barest minimum before the onset of labour. These complications can either be purely obstetric related (multiple pregnancies, breach birth, malpresentation, postpartum haemorrhage et cetera) or clinical in nature (hypertension, diabetes, malaria, worm infestation, and anaemia among others). In related studies, mothers' knowledge of





complications and birth preparedness has been a significant predictor of facility delivery (Tolera et al., 2019; Bayu et al., 2015). This implies that orthodox healthcare facilities provide maternal health education and sensitization on potential complications in pregnancy. According to Bayu et al. (2015), perceived susceptibility to and severity of pregnancy labour complications is one of the drivers of facility delivery. In the same vein, home deliveries have been perceived to be rife with the danger of maternal deaths and complications (Boah et al., 2018).

In life's process of continuous learning; experience is said to be the best teacher and example is better than precept. Thus, negative outcomes of previous deliveries are a potent decider of the discrepancy between home and facility delivery (Boah et al., 2018). If an expectant mother experiences still birth, miscarriage, pre-term delivery, low weight for gestational age, and unmanaged postpartum bleeding, an indelible scar (metaphorically) would be created affecting further use of the said place of delivery.

The World Health Organization in their most recent amendments of antenatal care service provisions recommends that every pregnant woman initiates ANC within the first trimester (*1st ANC ≤ 12 weeks of pregnancy*) and subsequently make up to at least eight attendances to ANC sessions. The defunct model of ANC, known as 'focussed ANC' required pregnant women to make at least four (4) ANC visits and the time of initiation was scheduled within the first sixteen weeks. According to the following studies (Boah et al., 2018; Boah et al., 2018; Bayu, Fisseha, et al., 2015; Bayu, Adefris, et al., 2015), attendance to ANC and generally ANC service utilization is one of the underlying determinants of health facility delivery. Early ANC especially, is dedicated to screening and management of obstetric, clinical, and nutritional complications in pregnancy. This makes ANC attendance within the first trimester indispensable in the fight against maternal

morbidity and mortalities. The work of (Boah et al., 2018) showed that pregnant women who initiated ANC after the first trimester were less probable to deliver at a health facility. It is noteworthy that ANC activities are only undertaken in the orthodox health facilities creating a thin line between ANC service utilization and facility delivery.

#### **2.5.4 Antenatal and maternity decision making**

Decision-making with regards to maternal health choices and health-seeking, in general, is hardly an individual affair, especially in sub-Saharan African households. There seem to be gender dimensions to maternal health care decision-making given that husbands/male household heads and fathers are gate-keepers to the household. In resonance with this conjecture, (Van Der Zande et al., 2019) observed that a gate-keeping tendency by male factors in the household hampers pregnant women's delivery choices. According to Van Der Zande et al., (2019), women whose husbands chose facility delivery were two (2) times more likely to deliver at a health facility. Thus, once the decision is the man's, delivery at a health facility is guaranteed. However, it stands to reason that the contrast too is true viz; once the male spouse is against facility delivery, then home delivery becomes the default position for the pregnant woman. The work of Bayu et al., (2015) purported that poor maternal autonomy is the prime risk for missed opportunities for facility delivery.

Another school of thought positions men outside realms of maternal care decision-making. In this scenario, the decision becomes solely the woman or other actors' task in the family. In no uncertain terms did Beam et al., (2018) opine that men are disproportionately involved in making decisions concerning seeking much-needed maternal care during pregnancy. According to the said author, men are often unaware of prenatal and antenatal attendance by pregnant women.







However, there are instances where decisions concerning maternal and perinatal health are jointly undertaken by pregnant women and their male spouses (Asresie & Dagneu, 2019), (Asresie & Dagneu, 2019). Pregnant women who discussed with their male partners or their entire households about the choice of place of delivery had higher odds of facility delivery (Asresie & Dagneu, 2019). In the same vein, Asresie and Dagneu (2019) reported that women who had joint decision-making with their husbands on a place of child delivery were five (5) times more prone to facility delivery.

### **2.5.5 Other factors**

Physical and finance access have been the major secular barriers to women's use of health services in developing countries (Barnes-Josiah, Myntti, and Augustin, 1998). According to Tolera et al, nearness to the health facility delivering maternal care to the tune of one hour (1 hr) walking distance was positively correlated with institutional delivery (Tolera et al., 2019). Asresie and Dagneu reported that a distance of less than or equal to two kilometres' (2km) from the health institution was associated with higher odds of facility delivery (Asresie & Dagneu, 2019). In peri-urban research in Kenya, Oluoch-Aridi et al., (2020) indicated that distance to health facilities together with the cost of services was a prime determinant of facility delivery. Another variable closely linked to the distance factor is the issue of transportation to the desired health facility for maternal care and delivery. The following sources provided evidence on the relationship between the availability of transport and institutional delivery (Boah et al., 2018a: Tolera et al., 2019: Kifle et al., 2018: Beam et al., 2018). According to Tolera and his co-authors the availability of motorized transportation was greatly correlated with facility delivery (Tolera et al., 2019). In a similar vein, Beam et al., (2018) opined that access to free ambulance service was the impetus for facility delivery.

In the Ghanaian parlance, six (6) year health systems strengthening initiative implemented in Northern Ghana dubbed ‘Ghana Essential Health Intervention Programme (GEHIP)’ has an integrated maternal health care package that promotes access to health care (Awoonor-Williams, Bawa, et al, 2013). This component was (is) Sustainable Emergency Referral Care (SERC) and it provided low-cost emergency transportation for pregnant women in rural communities to curtail geographical and economic access barriers to emergency maternal care (Boah et al., 2020). SERC initiative organizes and transports pregnant women due for delivery using customized versions of the popular tricycle locally called “Pradiya or Yellow-Yellow or Mahama Cambo” (Awoonor-Williams, et al, 2016). Pregnant women and their families were not asked to pay for transport fares; the operational cost of the tricycles was catered for by a pooled fund managed by Ghana Health Service. According to Boah et al., (2020), there is a compromise in the programme in the sense that patients are now obliged to fuel the Motor king. Also, the inadequacy of the customized tricycle ambulances caused others to rely on mainstream tricycles which are not conducive to the said task of transporting expectant mothers.

A litany of state-level interventions has been implemented in developing countries in a bid to lower economic access concerns to maternal healthcare. However, on one or two occasions some sources hint at financial connotations to low facility delivery; i.e. low cost of child delivery services as cited by Beam et al. (2018) and medium wealth status or higher-income households and families possessing their means of transport as reported by (Boah et al., 2018). Ghana has a free maternal health programme that caters to all maternal health services for pregnant women visiting health facilities. However, Boah et al., (2020) and Bazzano et al, 2008) reported low health facility deliveries as a consequence of the cost of delivery kits and out-of-pocket payment for drugs. Some of these items include

sanitary pads, disinfectants, napkins, Mackintosh, and clothes for the baby. A study in Zambia reported similar findings; lack of funds for the purchase of clothes for mother and neonate was the determinant of home delivery relative to facility delivery (Sialubanje et al, 2015).

Another significant contributor to facility delivery is pregnant women's knowledge of childbirth and postpartum danger signs (Asresie & Dagneu, 2019: Asresie & Dagneu, 2019: Boah et al., 2018). Asresie and Dagneu phrased the concept as well-preparedness for childbirth and its complications including knowledge of potential complications in pregnancy (Asresie & Dagneu, 2019). The work of Tolera et al., (2019) reported that pregnant women that read the newspaper daily (3 times odds of facility delivery) and those that knew of common complications (4 times odds of facility delivery) were more likely to deliver at the health facility. In addition, Boah et al., (2018) opined that women with little or no exposure to delivery information were more predisposed to deliver at home. In terms of the general educational level of pregnant women, those that have attained higher educational levels i.e. SHS and above Tolera et al., (2019) or JHS and above Gebregziabher et al., (2019) and college education and above (Bayu et al., 2015) were more inclined towards facility delivery. According to Bayu et al., (2015) illiterate pregnant women are more likely to deliver at home. Fletcher et al showed that institutional deliveries were higher among women that went for a 'pregnant women's conference' relative to those that did not. The said conference would afford attendees much knowledge of pregnancy, childbirth, and best practices in maternal and neonatal health care (Fletcher et al., 2019). Health facilities themselves served as a potent variable in the assessment of the nuances surrounding facility delivery. The life-changing opportunities associated with health facilities were reported as the facilitating factor in facility delivery (Boah et al., 2020).





Qualitative extracts from the work of Boah et al., (2020) portray that pregnant women are aware of the necessity of blood banks for emergency transfusions, drips, and dextrose solutions for infusions as well as oxytocin to augment labour contractions. According to Gebregziabher et al. (2019) prior facility delivery encouraged a future tendency to deliver at a health institution. Furthermore, Tolera et al. (2019) found out that the use of health centers for child deliveries was more pronounced compared to the use of health posts. This gives credence to the premonition that pregnant women crave quality services in terms of maternal health relative to just the availability of service centers. Also, a good perception of quality associated with facility delivery is one of the determinants of facility delivery as reported by (Fletcher et al., 2019). Other works such as that of Oluoch-Aridi et al., (2020) reported on the allure of cleanliness and availability of lifesaving equipment in health facilities. An analysis of birth setting attributes in England using discrete choice experiment Fletcher et al., (2019) pointed out that reputation of the health institution, continuity of care, nearness to the residence, personnel's concern for the safety of baby, and ability of a spouse to stay overnight were associated with the use of such facilities for child delivery. To add to the point made by Fletcher et al., (2019) on the husband's ability to stay over, Beam et al., (2018) purported the allowance of a family support person in the room was a major predictor of facility delivery.

Several socio-demographic factors were reported in the literature as underlying predictors of health facility delivery. These are maternal education Tolera et al., (2019) and (Bayu et al., 2015), husband's educational level (Kifle et al., 2018), medium or high wealth status (Kifle et al., 2018), parity i.e. women with less than three children (Boah et al., 2018), maternal age i.e. 15-19-year-old mothers. On the other hand, single and illiterate pregnant women were found to be associated with home delivery (Bayu et al., 2015). The works of

Oluoch-Aridi et al. (2020) portrayed that younger women who double as main income earners in their households choose facility delivery over home delivery by virtue of the cleanliness of the birth setting. In the same train of thought, the authors observed that older pregnant women were pulled by availability of medical equipment and logistics in health facilities as well as the good attitude (kindness) of health professionals.



## CHAPTER THREE

### METHODOLOGY

#### 3.1 Introduction

Chapter three (3) is an outline of the research methods employed in the execution of the study and a description of the province and communities the study was carried out. The chapter envelopes the study design, overview of the study district, study population, definition of study variables, target population, sampling strategy, sample size calculation, data sources, data collection methods/tools, data validity, data reliability, data analysis plan, ethical considerations, foreseeable methodological limitations, activity plan, and budget.

#### 3.2 Brief Overview of Study Setting

The Sagnarigu Municipality was initially an integral part of the Tamale Metropolis. However, it was carved out as one of the newly created Districts in the Northern Region in the year 2012. The Municipality consists of 79 communities; 53 rural, 20 urbans, and 6 peri-urban. The land area is approximately 200 km<sup>2</sup> and shares boundaries with Tamale Metropolis to the South, Savelugu Municipality to the North, Tolon District to the West, and Kumbungu District to the Northwest. The district lies between longitudes 0° 36' and 0° 57' West and latitudes 9°16' and 9° 34' North.

The population of Sagnarigu District, according to the 2010 Population and Housing Census, is 148,099 representing 6 percent of the region's total population. Males constitute 50.6 percent and females represent 49.4 percent. The district has a household population of 146,291 with a total number of 23,447 households. The average household size in the district is 6.3 persons per household. Children constitute the largest proportion of the household composition accounting for 43.3 percent. Spouses form about 9.9 percent.





Extended (Heads, spouse(s), children, and Head's relatives) households constitute 50.5 percent of the total number of households in the district.

The Sagnarigu District, like many others in the Northern Region, has a single rainy season, usually stretching from May to October, and this period naturally coincides with the farming activities in the district. The dry season (November – March) is characterized by the dry Harmattan winds; the Harmattan season presents two extreme weather conditions, the extreme dry cold temperature of the early dawns and mornings and the very warm afternoons.

The district is divided into three (3) area councils; namely Choggu-Sagnarigu, Kalpohini, and Kanvilli. It is further subdivided into twenty-three (23) electoral areas. There are thirty-one (31) district assembly members, comprising twenty-two (22) elected and nine (9) government appointees.

The Sagnarigu District is ethnically diverse. The Dagomba, however, is the main ethnic group in the district. Other ethnic groups are Gonja, Mamprusi, Akan, Dagaaba from the Northern Region, and other parts of Ghana. In addition, there are other ethnic groups from countries in the West African Region such as Burkina Faso, Niger, and Mali among others.

The major religions in the district are Islam (which is the dominant religion), Christianity, and Traditional religions. The Dagomba (the dominant ethnic group in the district) are predominantly Muslims while the rest of the ethnic groups who come from other regions of the country but reside in the district are largely Christians. Of the population 11 years and above, 60.0 percent are literate and 40.0 percent are nonliterate. The proportion of literate males is higher (68.3 %) than that of females (52.0%).

Agriculture is the main economic activity of the majority of the citizens of the district, largely engaged in both crop and animal farming. The main crops cultivated by farmers in



the district are yam, millet, maize, cassava, groundnuts, cowpea, and soya beans among others.

On transport; the renowned Tamale airport is within the traditional lands of the Sagnarigu municipal catering for international, intra-national, and regional transport of people. Within the municipality, Taxis are the main means of transport. Carrying people and goods from one community to the other within and out of the Sagnarigu municipal. However, rural folk uses the Yellow-Yellow or tricycle to commute between communities. This vehicle is relatively cheaper compared to the taxi. Few of the roads in the district are fairly good. However, many rural roads are in a deplorable state and in need of resurfacing and reconstruction. Most of the farming and peri-urban communities are linked to the market centres by feeder roads.

The district is endowed with basic utility services. Electricity, water, roads, markets, and communication services are mainly available in the urban areas in the district. However, these facilities are either non-existent or inadequate in rural areas. On health; the municipality has a Total Fertility Rate of 3.3 which is slightly lower than the regional average of 3.5. The General Fertility Rate is 92.8 births per 1000 women aged 15-49 years and a Crude Birth Rate (CBR) of 24.2 per 1000 population. The crude death rate for the district is 5.7 per 1000.

### **3.3 Study design**

Appropriate research structure and design affect the validity and reliability of salient responses necessary for the acceptance or rejection of the study hypothesis. This research was cross-sectional with a retrospective assessment of postpartum women's antenatal and perinatal experiences. precisely, the quantitative approach was adopted for the study. A sample of women who have given birth before was interviewed on their choice of place of



delivery and the reasons that informed the said location. Using a cross-section instead of the whole population of postpartum women was cost-efficient. This also allowed the researcher to study multiple factors in one shot. However, the strength of association computed for factors in a cross-sectional study is too inadequate to be used as causal links in contrast to clinical trials.

### **3.4 operational definitions of study variables**

The measured variables in this study were segregated into two (2): dependent and independent variables. These are defined as follows:

#### **3.4.1 Dependent variables**

Choice of place of delivery was the key variable for this research. It is envisaged to be a place of maternal health service provision including mainstream health facilities with labour wards, private hospitals, maternity homes, and at home among others. However, the researcher reserves the right to use this variable as an intermediate factor for further meta-analysis if the incidence of bad child delivery outcomes is pronounced.

#### **3.4.2 Independent variables**

The independent variables in this study include the emerging factors that hold the potential to alter respondents' choice of place of delivery. Some of these are obstetric factors (ANC attendance, order of pregnancy, labour complication), health-facility capacity to offer optimum services (attitude of health professionals, logistics, qualification of health personnel et cetera), socio-cultural norms/beliefs (traditional beliefs, taboos, and societal customs) and socio-demographic characteristics (age, ethnicity, religion, educational status, income level, parity, marital status etcetera).



### **3.5 Study population**

In several previous studies, the assessment of choice of place of delivery was associated with mothers with delivery experience (Gebregziabher et al, 2019; Shakiba, Navaee and Hassanzei, 2020; Boah et al, 2020) and not pregnant/expectant mothers. This allowed for participants to be persons that expressed experiential knowledge rather than statements of opinion. However, the disparities according to literature were in the time interval between the birth of the most recent child and the time of the research data collection. In that regard, Gebregziabher et al, (2019), Shakiba, Navaee, and Hassanzei (2020), and Boah et al, (2020) adopted two (2) years, one (1) year and six months respectively. Therefore, the proposed target population for the study would be postpartum women aged 15-49 years who delivered in at most 24 months before the day of the research's data collection.

#### **3.5.1 Inclusion criterion**

Potential participants of the study must be women within the age group 15 to 49 years who were delivered of a child (still or live birth) in at most 2 years before the day of data collection.

#### **3.5.2 Exclusion criteria**

A woman who is outside the women in the fertile age category and has never been delivered of a child (still or live birth) is considered ineligible for participation in the study. In addition, a woman within the fertile age who has never been pregnant or miscarried a pregnancy was also ineligible for the study. The mental and physical aptitude of eligible women to respond to research data tools was also factored into the exclusion criteria.



### 3.6 Sampling Method & Sample size calculation

#### 3.6.1 Sample size determination

A sample of 382 participants was chosen for data collection. This consisted of 379 participants for a quantitative survey and three (3) for in-depth interviews. The figure for the quantitative study was computed using the single proportion formula generated by Snedecor and Cochran (1989 as cited by Daniel, 1999)

$$n = \frac{[(Zscore)^2 \times StdDev \times (1 - StdDev)]}{(margin\ of\ error)^2}$$

Given that

*Z-score*: is the critical value corresponding with a 95% confidence level.

$$Z-score = 1.96$$

*StdDev*: referred to the proportion of neonatal mortality in developing countries attributable to home deliveries (Gebregziabher et al, 2019). *StdDev* = 56%

*The margin of error*: is taken to be 5% acceptable error. *Margin of error* = 0.05

$$n = 1.96^2 \times 0.56(1 - 0.56)/(0.05)^2$$

$$n = 3.8416 \times 0.2464/0.0025$$

$$n = 0.94657024/0.0025$$

$$n = 378.63$$

Therefore, 379 eligible women were chosen for the quantitative survey.

#### 3.6.2 Sampling strategy & procedure

The selection of study participants was multi-staged. A list of all rural communities in Sagnarigu Municipality was obtained from the Municipal Assembly. This list was numbered and the first five found within a 500-point random number table were selected. Afterward, Simple Random Sampling was adopted to select eligible participants in the



various communities. The selection of participants at the community level was non-probability in nature for convenience and to create ease of tracing participants without bias to those that delivered at the health facility. Successive participants were found using the guiding question “Who do you know delivered recently and the child is not more than 2 years?”

### **3.7 Data sources, collection methods, tools, validity & reliability**

#### **3.7.1 Data sources**

Two (2) sources of data were used for this study; primary and secondary data. The primary data involved a quantitative survey, in-depth interviews, and focus group discussion responses. In addition, information from health facility records, DHMT quarterly and annual reports as well as use relevant literature were used.

#### **3.7.2 Data collection methods and associated instrumentation**

Data were collected from participants using a survey with the aid of a semi-structured questionnaire. Face to face survey method was employed to collect predominantly quantitative data using a semi-structured questionnaire. The semi-structured questionnaire allows for the collection of data on both open-ended questions that elicit reasons, opinions, and procedures as well as closed-ended questions. The survey method of data collection is cost-effective and efficient.

#### **3.7.3 Data validity**

Validity of data is defined as the extent to which research data answers the pre-designed objectives. This is akin to the accuracy and precision of research data. This thesis was supervised and closely monitored from start to finish by experts in Public Health to ensure the precision of language and close to an actual approximation of answers to the research questions. In addition, research data tools (survey questionnaire, in-depth interview guide,



and FGD guide) were pretested to ensure that there are no ambiguities, errors, they are timely, and that the responses tally with the research questions. All personnel that were employed for data collection purposes were briefed on the research purpose and duly trained on all the data tools. Before the day of data collection, a consensus was reached on the English to Dagbani (and vice versa) translation of data tools.

### **3.7.4 Data reliability**

Research findings are said to be reliable when they corroborate the results of similar research in different places or at different times. The split-half method of data homogeneity was adopted to test the reliability of responses from two different communities in the catchment District. The sample statistic for this test is Spearman's correlation coefficient ( $r$ ). The range of values of  $r$  is  $0 \leq r \leq 1$  and the closer the  $r$ -value is to one (1), the greater the correlation between the responses of the data tools.

## **3.8 Data Analysis design**

### **3.8.1 Quantitative analysis**

Data collected were analysed using the statistical software SPSS v.23 (Illinois, USA). Information obtained from the analysis was presented in counts (n), proportions (%), frequency tables, and cross-tables.

### **3.8.3 Measuring relationships between variables**

It is envisaged that certain factors influence women's choice of places to deliver. A litany of factors surmised from literature and maternal health theory was tested against participants' choice of place to deliver to decipher the predictors of women's choice of place of delivery. Binomial and multivariate regression models embedded in the SPSS framework were used for these tests. Relative risk (RR) was the measure of the strength of the relationship between independent and outcome variables.



$$\text{relative risk} = \frac{\text{risk of home delivery among exposed group}}{\text{risk of home delivery among non – exposed group}}$$

If  $RR < 1$ , it implies protective risk

If  $RR > 1$ , it implies causative risk

If  $RR = 1$ , then the risk of delivery at home is a chance occurrence.

Also, a p-value of less than or equal to 0.05 ( $p \leq 0.05$ ) was used to denote statistical significance. Chi-square ( $\chi^2$ ) was adopted to measure the level of significance of any performed test between variables.

### **3.9 Ethical considerations**

This study was guided by the principles of confidentiality of participants' submissions, respect for privacy, the anonymity of respondents (if they so wish), and informed consent to participate in the research. First and foremost, the study was cleared to proceed under the auspice of the University for Development Studies' ethical review commission. In addition, participants were educated on the purpose and scope of the study before their written or verbal consent is sought to participate in the research. Introductory letters with a 'statement of information page was sent to the Sagnarigu District Director of Health, the Sagnarigu District Health Management Team (SDHMT), Health centres of selected communities and traditional authorizes within each community.



## CHAPTER FOUR

### RESULTS

#### 4.0 Introduction

This chapter presents the results of the study. It starts with the socio-demographic characteristics of the respondents. The other sections are presented in line with the study objectives.

#### 4.1 Socio-Demographic Characteristics of Respondents

The study included 306 respondents into the study. Respondents' ages ranged from 18 to 40 years with a mean age of  $29.5 \pm 4.89$ . A high proportion (60%) of the respondents were between the ages of 21-30 years. More the half (54%) of the respondents were Muslims; this was followed by Christianity (45%) with less than 2% traditional African religion. The majority (65%) of respondents were married, 34% cohabiting, whilst the divorce rate was less than 2% among the respondents. On ethnicity of the respondents, 53% were Dagombas, 16% Akan, close to 10% Mamprusi, Gonjas were 7% and 5% Hausa, the remaining constituted other ethnic groups which individually were less than 5%. Most (31%) of the mothers had no education, 19% had tertiary education, 26% of the mothers had senior high school education, 16% had middle school/Junior high school education, and 9% had primary education. Trading/ vending was the main occupation of the majority (53%) of the respondents. This was followed by 21% being housewives, 19% civil servants, and 5% farmers. The education of spouse was found to be 44% tertiary, 6% middle school/Junior high school education, 4% senior high school. Also, 44% of the respondents reported their husbands had no education. Almost half (46%) of the mothers reported their husbands were civil servants with 26% being traders/vendors whilst 24%



were farmers. The study reported an average household of  $5.8 \pm 1.8$  with household sizes ranging from 2 and 13 (Table 1).

**Table 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS (n=306),2021**

Variable	Category	Frequency	Percentage
Age group	20 years and below	11	3.6
	21-30 years	187	61.1
	31-40	108	35.3
	<b>Total</b>	<b>306</b>	<b>100.0</b>
	Religious affiliation	Traditional Christianity	4
Religious affiliation	Islam	137	44.8
	<b>Total</b>	165	53.9
	<b>Total</b>	306	100.0
Marital status	Married	198	64.7
	Divorce	5	1.6
	Cohabiting	103	33.7
	<b>Total</b>	<b>306</b>	<b>100.0</b>
Ethnicity	Akan	50	16.3
	Dagomba	162	52.9
	Gonja	21	6.9
	Mamprusi	28	9.2
	Hausa	16	5.2
	Others	29	9.5
	<b>Total</b>	<b>306</b>	<b>100.0</b>
	Level of education	None	94
Primary		28	9.2
Middle/JHS		49	16.0
SHS		78	25.5
Tertiary		57	18.6
<b>Total</b>		<b>306</b>	<b>100.0</b>
Your main occupation	Trade/vendor	163	53.3
	Farmer	14	4.6
	Civil servant	58	19.0
	Artisan	7	2.3
	Housewife only	64	20.9
	<b>Total</b>	<b>306</b>	<b>100.0</b>
Spouse level of education	None	136	44.4
	Primary	3	1.0
	Middle/JHS	19	6.2
	SHS	12	3.9
	Tertiary	136	44.4
	<b>Total</b>	<b>306</b>	<b>100.0</b>





Spouse main occupation	Trade/vendor	80	26.1
	Farmer	72	23.5
	Civil servant	140	45.8
	Artisan	14	4.6
	<b>Total</b>	<b>306</b>	<b>100.0</b>
House hold size	5 and below	147	48.0
	Above 5	159	52.0
	<b>Total</b>	<b>306</b>	<b>100.0</b>

#### 4.2 Descriptive Data On Delivery Related Domains Of The Respondents

Almost (96%) of the mothers reported they had health facilities in their communities. With 86% reported health centres as the type of health facility in their communities, 12% reported CHPS compound, whilst four mothers reported having a hospital was a type of health facility in their communities. On the type of health services rendered by these mentioned health facilities, 46% mentioned OPD services, 94% ANC, 80% CWC, and 78% PNC. On the matter of who assisted mothers to the place of delivery when they were in labour, 31% mentioned the mothers-in-law, 30% mentioned their husbands, 34% said the sister-in-law assisted them to the place of delivery and only 5% mentioned their family relatives. On the place of delivery, which is the outcome variable for this study, 82% of the mother mentioned health facility as their place of delivery in their most recent delivery but 18% of mothers delivered at home. Lastly on the number of births, more than half of the mothers (53%) had 1-3 births, whilst 47% had 4 and above birth. The study reported a mean birth(parity) of  $3.5 \pm 1.3$  with parity ranging from 1-7 (Table 2).

**Table 2: Descriptive Data On Delivery Related Domains of The Respondents (n=306), 2021**

Variable	Category	Frequency	Percentage
Is there a health facility in this community?	No	12	3.9
	Yes	294	96.1
	Total	306	100.0
Type of health facility	CHPS	37	12.1

	Health Centre	265	86.6
	Hospital	4	1.3
	Total	306	100.0
What services are available at the health facility? (Yes)**	OPD	142	46.4
	ANC	287	93.8
	CWC	244	79.7
	PNC	240	78.4
Who assisted you to the facility when you were due?	Husband	92	30.1
	Mother-in-law	95	31.0
	Sister-in-law	105	34.3
	My relative	14	4.6
	Total	306	100.0
In your most recent birth, where did you deliver?	Home	55	18.0
	Health facility	251	82.0
	Total	306	100.0
Parity	1-3	163	53.3
	4-7	143	46.7
	Total	306	100.0

### 4.3 Association Between Choice Of Place Of Delivery And Socio-Demographic

#### Characteristics Of Mothers

In this study, nine socio-demographic characteristics were used to conduct bivariate analysis with a ( $p < 0.05$ ) considered statistically significant. Out of the nine variables, six were found to be statistically significant to mothers' choice of place of delivery. From the analysis, 87% of those who delivered at a health facility were between the ages of 21 to 30 years with only 18% of those 20 years and below delivering at home. The study reported a significant statistical association between the aged group of mothers and the place of delivery ( $X^2 = 9.13$ ,  $df = 2$ ,  $p = 0.010$ ).

From the study, 90% of those who were cohabiting delivered at a health facility which was higher than married mothers (73%) delivering at a health facility. There was very strong



statistical evidence of the relationship between marital status and respondent's choice of place of delivery ( $X^2= 15.76$ ,  $df=2$ ,  $p<0.001$ ). On ethnicity, all the Akan ethnic groups were delivered at a health facility. 81% of the Dagomba ethnic group delivered at the health facility, with only 19% of the Gonjas delivering at home. There was also a significant association between ethnicity and place of delivery ( $X^2= 16.67$ ,  $df=5$ ,  $p=0.005$ ). On occupation, the reports indicated that, 79% of mothers who were traders delivered at a health facility compared to 76% of civil servants delivering at the facility. However, none of the mothers who were artisan delivered at home, this was also significant ( $X^2= 10.028$ ,  $df=4$ ,  $p=0.040$ ). Spousal educational level with the place of delivery, 86% of mothers whose spouses' educational level was tertiary delivered at health facility but only 78% of mothers whose spouses had no education delivered at a health facility. There was a significant statistical association between spousal educational level and mothers' place of delivery ( $X^2= 18.96$ ,  $df=4$ ,  $p<0.001$ ). Occupation of spouse was also associated with place of delivery. Husbands who were civil servants and traders have their wives delivering at health facilities which were than spouses who were farmers ( $X^2= 10$ ,  $df=3$ ,  $p=0.017$ ).

The study, however, did not find any evidence of a statistical relationship between mothers; religious affiliation, her educational level, household sizes, and the choice of place of delivery (Table 3)

**Table 3:A Univariate Analysis of Place of Delivery and Socio-Demographic Characteristics(n=306),2021**

Demographics		Place of delivery		p-value ( $X^2$ , df)
Variables	Categories	Home	Health facility	
Age group	<=20	2(18.2)	9(81.8)	P=0.010(9.13, 2) *
	21-30 years	24(12.8)	163(87.2)	
	31-40 years	29(26.9)	79(73.1)	
Religion				P=0.84(0.34, 2)



Marital status	Traditional	1(25)	3(75)	P<0.001(15.76, 2) ***
	Christianity	23(16.8)	114(82.2)	
	Islam	31(18.8)	134(81.2)	
Ethnicity	Married	40(26.8)	109(73.2)	P=0.01(16.67, 5) **
	Divorce	0	4(100)	
	Cohabiting	15(9.8)	138(90.2)	
Level of education	Akan	0	50(100)	P=0.129(7.14, 4)
	Dagomba	30(18.5)	132(81.5)	
	Gonja	4(19)	17(81)	
	Mamprusi	8(28.6)	20(71.4)	
	Hausa	5(31.3)	11(68.8)	
	Others	8(27.6)	21(72.4)	
Main occupation	None	18(19.1)	76(80.9)	P=0.040(10.03, 4) *
	Primary	2(7.1)	26(92.9)	
	JHS	8(16.3)	41(83.7)	
	SHS	11(14.1)	67(85.9)	
	Tertiary	16(28.1)	41(71.9)	
	Trade/vendor	34(20.9)	129(79.1)	
Spouse level of education	Farmer	3(21.4)	11(78.6)	P<0.001(18.96,4)***
	Civil servant	14(24.1)	44(75.9)	
	Artisan	0	7(100)	
	Housewife only	4(6.3)	60(93.8)	
	None	29(21.1)	107(78.7)	
	Primary	3(100)	0	
Spouse main occupation	Middle/JHS	4(21.1)	15(78.9)	P=0.017(10.22, 3) *
	SHS	0	12(100)	
	Tertiary	19(14)	117(86)	

	Trade/vendor	16(20)	64(80)	
	Farmer	16(22.2)	56(77.8)	
	Civil servant	17(12.1)	123(87.9)	
	Artisan	6(42.9)	8(57.1)	
Household size				P=0.308(1.040,1)
	5 & below	23(15.6)	124(84.4)	
	More than 5	32(20.1)	127(79.9)	

**Strength of statistical association \* P ≤ 0.05, \*\* P ≤ 0.01, \*\*\* P ≤ 0.001**

#### **4.4 Socio-demographic characteristics that predict place of delivery among mothers**

out of the six demographic factors that were statistically significant with choice of place of delivery, the regression analysis only five socio-demographic factors predicting the choice of place of delivery. Mothers who were within the ages of 31 years to 49 years were 2.3 times more likely to deliver at a health facility compared to those who were 20 years and below [AOR=2.3; 95% CI (1.07- 5.14), p=0.034]. Divorce mothers were more likely to deliver at the health facility than married mothers [AOR=0.31; 95% CI (0.12- 0.81), p=0.016]. Mothers who belong to the Gonja ethnic group was were 4 times more likely to deliver at a health facility compared to the Akan group [AOR=3.78; 95% CI (1.18- 12.13), p=0.025] Also, mothers whose main occupations were farming, civil service and artisans respectively, were more likely to deliver at a health facility compared to traders/ venders. Mothers who had their husbands to be artisan were 25 times more likely to deliver at the health facility compared to trading husbands [AOR=24.7; 95% CI (2.51- 243.91), p=0.006]



**Table 4: Socio-demographic characteristics that predict place of delivery among mothers (n:306) 2021**

<b>Exposure variable</b>	<b>Variables</b>	<b>(AOR) [95% CI]</b>
Age group	<=20	Ref*
	21-30 years	5.50(0.88-34.15)
	31-40 years	2.34(1.07-5.14)*
Marital status	Married	Ref*
	Divorce	0.31(0.12-0.81)**
	Cohabiting	0.99(0.32-9.02)
Ethnicity	Akan	Ref*
	Dagomba	1.16(0.03-065)
	Gonja	3.78(1.18-12.13)*
	Mamprusi	2.97(0.52-17.14)
	Hausa	1.54(0.40-5.92)
	Others	0.42(0.84-2.11)
Main Occupation	Trade/vendor	Ref*
	Farmer	0.09(0.023-0.34)***
	Civil servant	0.10(0.014-0.69)**
	Artisan	0.017(0.003-0.01)***
	Housewife only	0.014(0.12-3.99)
Spousal occupation	Trade/vendor	Ref*
	Farmer	2.17(0.41-11.53)
	Civil servant	3.48(0.67-18.14)
	Artisan	24.74(2.51-243.91)**



#### **4.5 Socio-Cultural Factors Of Pregnant Women That Influence Place Of Delivery**

The socio-cultural practice may influence pregnant women's choice of place of delivery. Table 3 presents seven socio-cultural practices and how they influence a mother's choice of place of delivery. From the study, mothers were asked whether there were any traditional or cultural beliefs against delivering at a health facility and 81% of mothers who delivered at a health facility said no, 19% of those who delivered at home also said No. However, only 11 mothers who delivered at a health facility reported the existence of socio-cultural practices that prevent mothers from delivery at the health facility.



With none of the mothers delivering at home stating the existence of such beliefs. There was no significant statistical association between these two variables ( $p=0.11$ ). On the issue of circumcision at the place of delivery, 81% and 19% of mothers who delivered at a health facility and at home respectively said no. whilst 84% and 16% respectively of facility delivering and home delivering said yes. There was no significant statistical association between these two variables ( $p=0.44$ ). Mothers were asked whether the practices and rituals surrounding the birth of their baby were pleasant. 91% and 9% both health facility and home delivery said no but only 77% and 23% of same categories said yes.

There was strong evidence of relationship rituals surrounding the birthing process and the mother's choice of place of birth ( $p=0.003$ ). On whether Husbands agree with mothers on the place of delivery, 18% and 82% of both at home and health facility delivery respectively said yes. However, only one mother and 10 mothers who delivered at home and health facility respectively said no. there was no evidence of the relationship husband's agreement on the place of delivery and the choice of place of delivery of mothers( $p=0.44$ ). there was significant statistical evidence of an association between husband or his family preferred choice of place of delivery and mother's choice of place of delivery( $p<0.00$ ) with 86% of mothers who delivered at a health facility saying their husband or family preferred them to deliver at a health facility.

The study wanted to know whether mothers were attended to by a male health professional at the point of delivery, 197 mothers who delivered at health facility said no and 45 mothers who deliver at home also said no. However, 10 mothers and 54 mothers who deliver at home and a health facility respectively said they were attended to by a male health care professional. There was, however, no relationship between mothers being attended to by male health care professional and their choice of place of delivery ( $p=0.58$ ). Mothers were

finally asked whether it was important to them to know the sex of the child before they deliver and among those know said no, 80% delivered at a health facility but only 16% of those who said yes delivered at home. Again, there was no statistical evidence of a relationship between knowing the sex of a child before birth and the mother's choice of place of delivery(p=0.31).

**Table 4: Socio-Cultural Factors of Pregnant Women that Influence Place of Delivery (n=306),2021**

Socio-cultural factors Variables	Categories	Place of delivery		p-value
		Home	Health facility	
Are they any traditional or cultural beliefs against delivering your baby at a hospital or health facility?	No	55(18.6)	240(81.4)	0.11
	Yes	0(0)	11(100)	
In your last delivery was the child circumcised where you gave birth?	No	34(19.4)	141(80.6)	0.44
	Yes	21(16)	110(84)	
In your last child delivery, were the practices and rituals surrounding the birthing process pleasant for you?	No	10(9.3)	98(90.7)	0.003**
	Yes	45(22.7)	153(77.3)	
Do/did your husband agrees with you on the choice of place of delivery?	No	1(9.1)	10(90.9)	0.44
	Yes	54(18.3)	241(81.7)	
Where does your husband or his family's preferred place for you to deliver your children?	Home	6(50)	6(50)	0.001***
	Health facility	40(14.3)	239(85.7)	
	Indifferent	9(60)	6(40)	
In your last delivery, where you attended to by a male health professional?	No	45(18.6)	197(81.4)	0.58
	Yes	10(15.6)	54(84.4)	
In your most recent pregnancy, was it important to know the sex of the child before you deliver?	No	32(20.1)	127(79.9)	0.31
	Yes	23(15.6)	124(84.4)	

#### 4.5.1 Socio-Cultural Factors That Predict Choice Of Place Of Delivery.

In the bivariate analysis, only two variables had a significant association with the mother's choice of place of delivery. The two variables were entered into multivariate logistics





regression. Mothers who reported pleasant practices and rituals surrounding the birthing process of their last delivery were 2.9 times more likely to deliver at a health facility compared to those who said the practices and rituals were not pleasant [AOR=2.9; 95% CI (1.35- 6.30), p=0.007]. On the husband or his family most preferred place for choice of delivery, the study reported; mothers whose husbands or family were indifferent about their choice of place of delivery were 9.7 times more likely to deliver at a health facility than those whose husbands of the family preferred home delivery[AOR=9.68; 95% CI (3.14- 29.82), p<0.001] (Table5).

**Table 5: Socio Cultural Factors That Predicts Choice Of Place Of Delivery(n=306)2021**

Predicting variables	Variables	(AOR) [95% CI]
In your last child delivery, were the practices and rituals surrounding the birthing process pleasant for you?	No	Ref*
	Yes	2.90 (1.35 – 6.30)**
Have you ever had a problem conceiving a child?	Home	Ref*
	Health facility	0.45(0.38 – 8.93)
	Indifferent	9.68(3.14-29.82)***

#### 4.6 Attitude Of Health Professionals And Choice Of Place Of Delivery

Objective 2: **The attitude of nurses and midwives in health facilities and its influence on pregnant women’s choice of place of delivery.**

To measure the attitudes of nurses and midwives in health facilities towards pregnant women and how that influences the choice of place of delivery by the study participants, eight (8) questions were asked using the Five-point Likert scale. With 1-denoting Strongly disagree, 2-Disagree, 3-Not sure, 4-Agree and 5 representing Strongly disagree.

The researcher computed the mean score of each of the study variables. The mean scores were put into ranges; Variables with a mean score ranging from 1-1.8 were classified as



Strongly disagree, 1.9-2.6 as Disagree, 2.7-3.4, Not sure, 3.5-4.2, Agree, and finally, a mean score of 4.3-5 was classified as Strongly Agree.

From the result, most (32.7%) of the respondents disagree with the statement that, Nurses and midwives can neglect pregnant women even if they are suffering, 28% strongly disagree, whilst 16% and 2% agree and strongly agreed to the above statement. With a mean score of 2.3, the researcher concludes that participants disagree with the statement. On the issue of whether nurses and midwives understand if a pregnant woman does not bring all the items of the delivery kit. More than half (55.2%) of the respondents agree with this statement, 14.4% were not sure, whilst 23% and 6% respectively disagree and strongly disagree with that statement. This resulted in a mean score of 3.2, which indicates that mothers were not sure whether the nurses and midwives generally do understand when the items in the delivery kit were set.

On whether nurses and midwives are impatient towards pregnant women, 47% of mothers disagree, 17% strongly disagree with only 20% of mothers agreeing to this statement. The mean score was therefore 2.4 indicating respondents disagree with the above statement.

The results also show that little over half (50.3%) of mothers disagree that Health workers can ignore a pregnant woman so that she delivers on her own. 23% strongly disagree, whilst 17% agree to this statement providing a mean score of 2.2, indicating mothers disagree with this statement. 55% of mothers disagree to state that, Nurses don't have time for us when we go to deliver, 15% were not sure, 2% strongly agree whilst 12% agree to this statement. Overall, mothers disagree with the statement at a mean score of 2.3. From the analysis, 48% of mothers disagree with the statement; The nurses and midwives' insult and shout at us when we go to deliver. However, 13% agree with the statement and 3% strongly agree with the same statement.



Again, mothers disagree with the statement. On the statement; A pregnant woman I knew ever suffered because the health professional did not act responsibly, 9% strongly disagree with this statement, 3.3% strongly agree, whilst 22% were not sure of this statement. Given a mean score of 2.8, mothers generally were not sure whether they knew a pregnant woman who suffered because the health professional did not act responsibly. The last statement was whether the nurses always lack drugs and materials to work with. 31% strongly disagree, 39% disagree, 22% were not sure, whilst 5% and 3% agree and strongly agree to this statement. The net effect was that mothers disagree with the statement that; Nurses always lack drugs and materials to work with.

**Table 6: Attitude of nurses and midwives in health facilities and its influence on pregnant women’s choice of place of delivery(n=306),2021**

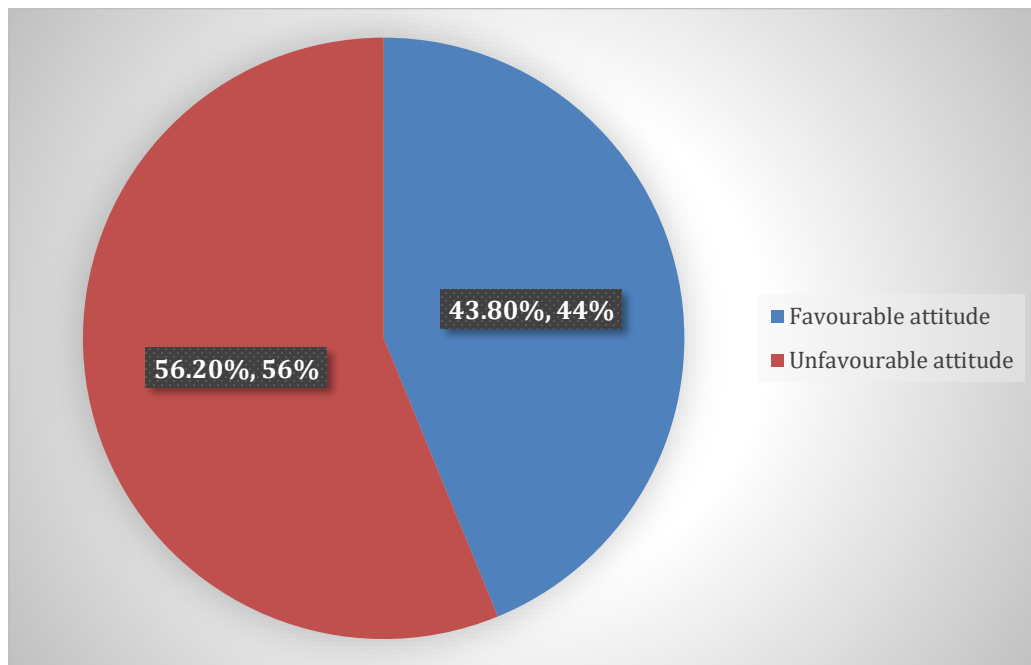
Variables	Responses f (%)					Mean
	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree	
The nurses and midwives can neglect pregnant women even if they are suffering	84(27.5)	100(32.7)	77(25.1)	48(15.7)	7(2.3)	2.3
The nurses and midwives very understand if a pregnant woman does not bring all the items of the delivery kit	19(6.2)	71(23.2)	44(14.4)	169(55.2)	3(1)	3.2
Nurses and midwives are impatient towards pregnant women	53(17.3)	144(47.1)	46(15)	60(19.6)	3(1)	2.4
Health workers can ignore a pregnant woman so that she delivers on her own	70(22.9)	154(50.3)	25(8.2)	53(17.3)	4(1.3)	2.2
Nurses don’t have time for us when we go to deliver	47(15.4)	169(55.2)	46(15)	38(12.4)	6(2)	2.3
The nurses and midwives’ insult and shout at us when we go to deliver	24(7.8)	148(48.4)	86(28.1)	39(12.7)	9(2.9)	2.6
A pregnant woman I knew ever suffered because the health professional did not act responsibly	27(8.8)	76(24.8)	132(43.1)	63(20.6)	8(2.6)	2.8



The nurses always lack drugs and materials to work with	94(30.7)	119(38.9)	67(21.9)	16(5.2)	10(3.3)	2.1
---	----------	-----------	----------	---------	---------	-----

#### 4.6.1 Overall attitudes of nurses and midwives and pregnant women’s choice of place of delivery

The researcher computed the composite mean score of each of the 306 study participants' responses and then calculate the cumulative mean (2.72 ±0.51). All those with a composite mean higher than 2.72 were considered as reporting favourable attitudes and those below the cumulative mean score 2.72 as unfavourable attitudes. From the analysis, 172(56.2%) reported unfavourable attitudes, whilst 132(43.1%) reported nurses and midwives have favourable attitudes



**Figure 2:Overall Attitudes responses of the study participants (n=306),2021**

#### 4.6.2 Depth of Health professionals’ Attitude on Mother Choice Of Place Of Delivery

A binary logistics regression was conducted to check the effects of attitudes of health professionals on the choice of place of birth by mothers. It was revealed that mothers who reported favourite attitudes of nurses and midwives were 42 times more likely to deliver at



a health facility compared to those reporting unfavourable attitudes of nurses and midwives [AOR-0.42; 95% CI (0.22- 0.79), p=0.008)].

#### 4.7 Spousal Maternal Health Decision-Making And Choice Of Place Of Delivery

##### Objective3: Assessed spousal antenatal decision-making & pregnant women’s choice of place of delivery

On maternal and ante-natal decision-making; 70.9% (217) of mothers stated that the decision of a place to deliver was based on consensus between them and their husbands. 15.7% (48) of mothers said it was solely their decision to make and 13.1% (41) said their husbands made such decisions.

On the decision of place of delivery of their most recent child; Majority of mothers (220, 71.9%) said it was a consensus between them and their husband, 16.6% (50) of mothers made that decision alone and for a tenth of mothers (30, 9.8%), the husband made the decision.

Greater than two-thirds i.e., 69% (211) of mothers were in total control of the decision of the place to deliver relative to 31% (95) of mothers who do not control such decisions.

**Table 7:Spousal Decision Antenatal Decision-Making(n=306)2021**

Variable	Category	Frequency	Percentage
Who is in charge of making decisions about where to deliver in your household?	Husband	41	13.4
	Myself	48	15.7
	Both of us	217	70.9
	Total	306	100
The last child you delivered who chose where to go and deliver in your household?	Husband	30	9.8
	myself	50	16.3
	Both of us	220	71.9
	In-laws	6	1.9
	Total	306	100





Are you totally in control of choosing where you wish to deliver your baby?	No	95	31
	Yes	211	69
	Total	306	100

#### 4.7.1 Univariate analysis of Spousal Antenatal Decision making and Choice of place of Delivery

A chi-square test was conducted to check the association between spousal decision-making choice of place of delivery of babies. From the analysis, 83% of mothers who reported their husbands to decide where to deliver, delivered at a health facility. 4% of mothers who make the decision themselves deliver at home. Their study found a significant statistical association between who is in charge of making the delivery for a place of delivery and the actual place of delivery ( $X^2= 2.08$ ,  $df=2$ ,  $p<0.001$ ). on a decision on the place of the last delivery, 87% of mothers who said it was the decision made they and their husbands deliver at the health facility as compared only 62% of mothers who decided to at the health facility. There was also a significant association between these two variables ( $X^2= 31.42$ ,  $df=4$ ,  $p<0.001$ ). there was no significant statistical relationship between mothers being in total control of decision-making on the place of delivery and their choice of place of delivery ( $X^2= 0.98$ ,  $df=1$ ,  $p=0.32$ ) Table 7.

**Table 8:Univariate analysis of Spousal Antenatal Decision making and Choice of place of Delivery(n=306)**

Demographics		Place of delivery		p-value ( $X^2$ , df)
Variables	Categories	Home	Health facility	
Who is in charge of making decisions about where to deliver in your household?	Husband	7(17.1)	34(82.9)	P<0.001(22.08, 2)
	Myself	20(41.7)	28(58.3)	
	Both of us	28(12.9)	189(87.1)	
The last child you delivered who	Husband	4(13.3)	26(86.7)	P<0.001(27.80, 3)
	Myself	19(38)	31(62)	

chose where to go and deliver in your household?	Both of us	28(12.7)	192(87.3)	P=0.32(0.98, 1)
	In-laws	4(66.6)	2(33.3)	
Are you totally in control of choosing where you wish to deliver your baby?	No	14(14.7)	81(85.3)	P=0.32(0.98, 1)
	Yes	41(19.4)	170(80.6)	

#### 4.7.2 Factors Influencing Spousal Antenatal decision-making and choice of place of delivery

The regression analysis revealed that only one variable was a significant predictor of who is in charge of making a decision about where to deliver in a household. Mothers who had joint decisions with their husbands on the choice of place of delivery were 0.23 times more likely to deliver at a health facility compared to mothers whose husbands made the decision for them [AOR= 0.23; 95% CI (0.08- 0.71), p=0.01]. On the issue of who chose where to deliver during the last delivery, two independent variables were significant predictors; women who decided by themselves were 13 times more likely to deliver at a health facility than those with only their husbands deciding for the place of delivery. [AOR=13.3; 95% CI (1.76- 95.80), p=0.012]. Those who their in-laws decided for, were also 1.4 times more likely to deliver at the health facility compared to those of husband decision [AOR=13.72; 95% CI (2.40- 78.38), p=0.003] Table 7

**Table 9: Binary logistics regression between Spousal Antenatal decision-making and choice of place of delivery(n=306)2021**

Predicting variables	Variables	(AOR) [95% CI]
Who is in charge of making decisions about where to deliver in your household?	Husband	Ref*
	Myself	0.49 (0.16 – 1.53)
	Both of us	0.23(0.08 – 0.71)**
The last child you delivered who made the choice of where to go and deliver in your household?	Husband	Ref *
	Myself	13.0(1.76 – 95.80)*
	Both of us	3.26(0.54 - 19.60)
	in-laws	



---

		13.72(2.40-78.38)**
Are you totally in control of choosing where you wish to deliver your baby?	No	Ref*
	Yes	1.41(0.56 – 3.52)*

---

#### 4.8 Obstetric history of pregnant women and choices of place of delivery

##### Objective4: Obstetric history of pregnant women and its impact on choices of the place of delivery

The researcher used eight obstetric history variables to measure how they influence a mother’s choice of place of delivery. Most of these variables were dichotomous. Mothers were asked if they have attended ANC when they were pregnant, out of 306 mothers, 287 responded yes. From the study, the mean ANC attendance was  $7 \pm 2.7$  and 67% of mothers have attended ANC 6-11 times during their last pregnancy. The study reports the duration of pregnancy before mothers first visit ANC, with 85% reporting 1-4 months whilst the remaining attended ANC within the 5-9 months of their pregnancy. Mothers were asked whether they have ever experienced stillbirth or miscarriage in their lives time and 27% said yes. From the study, 30% of the study participants have ever experienced complications at the point of delivery. Almost all (84%) of the mother deliver their recent children through the normal delivery compared to 26% delivery by caesarean section. When mothers were asked whether they have ever experienced excessive bleeding during childbirth, 75% said no. the study also report that only 20% of the respondents ever have a problem conceiving a child. On the birth order of mother, most (31%) were on the 3<sup>rd</sup> birth, whilst 23% were had their 5<sup>th</sup> birth. Table8.

**Table 10:Obstetric history of the study participants(n=306)2021**

Variable	Category	Frequency	Percentage
----------	----------	-----------	------------







---

Did you attend your first antenatal session during your last pregnancy?	No	19	6.2
	Yes	287	93.8
	Total	306	100
If yes, how many times did you attend ANC in your pregnancy?	1-5	96	33.6
	6-11	191	66.6
	Total	287	100
When you first attended ANC in your most recent pregnancy, how old was the pregnancy at the time (MONTHS)?	1-4	243	84.7
	5-9	44	15.3
	Total	287	100
In all your days as a mother, have you ever experienced stillbirth or miscarriage?	No	223	72.9
	Yes	83	27.1
	Total	306	100
Have you ever experienced a complication or a problem giving birth when it was time for you to give birth?	No	214	69.9
	Yes	92	30.1
	Total	306	100
In your most recent delivery, what was the mode of delivery?	Normal	257	84
	Caesarean	49	16
	Total	306	100
Have you ever experienced excessive bleeding during childbirth?	No	228	74.5
	Yes	78	25.5
	Total	306	100
Have you ever had a problem conceiving a child?	No	246	80.4
	Yes	60	19.6
	Total	306	100
What is the birth order of your most recent child	1 <sup>ST</sup>	47	15.4
	2 <sup>ND</sup>	96	31.4
	3 <sup>RD</sup>	51	16.7
	4 <sup>TH</sup>	41	13.4
	5 <sup>TH</sup>	71	23.2
	Total	306	100

---

#### **4.8.1 Univariate analysis of Obstetric History and Pregnant women' choice of place of Delivery**

A chi-square analysis was conducted to find the association between the obstetrics history variables and the choice of place of delivery. From the analysis, 82% of mothers who have attended ANC, delivered at a health facility compared to only 19% of those attending ANC delivered at home. The study, however, did not find any statistical association between these two variables. From the study, 84% of those who have attended ANC 6-11 times delivered at a health facility. Most of the mothers (86.8%) whose pregnancies were 1-4 months when they first attended ANC delivered at a health facility as compared to only 13% of the same category. The study found a very strong statistical association between duration of pregnancy before ANC attendance and choice of place of delivery. ( $X^2= 29.55$ ,  $df=1$ ,  $p<0.001$ ). From the study only 18% of a mother who has ever experienced stillbirth or miscarriage delivered at home but there was no evidence of an association between the choice of place of delivery and history of miscarriage.

Findings showed that 79% of those who have ever experienced a complication or a problem giving birth when it was time for you to give birth delivered at the health facility even though this was not significant. The study found a significant association between the mode of delivery and choice of place of delivery. Of all those who delivered at home delivered through normal delivery, 100% of all caesarean section delivery conducted at health facilities ( $X^2= 7.29$ ,  $df=1$ ,  $p=0.007$ ). The study also found significant associations between having problems in conceiving a child, the birth order of the most recent child, and the mother's choice of place of delivery ( $X^2= 5.43$ ,  $df=1$ ,  $p=0.02$ ) and ( $X^2= 10.5$ ,  $df=4$ ,  $p=0.033$ ) respectively.



**Table 11:Univariate analysis of Obstetric History and Pregnant women' choice of place of Delivery(n=306)2021**

Demographics		Place of delivery		P (X <sup>2</sup> , df)
Variables	Categories	Home	Health facility	
Did you attend your first antenatal session during your last pregnancy?	No	2(10.5)	17(85.5)	P=0.38(0.76, 1)
	Yes	53(18.5)	234(81.5)	
If yes, how many times did you attend ANC in your last pregnancy?	1-5	23(24)	73(76)	P=0.089(2.29,1)
	6-11	30(15.7)	161(84.3)	
When you first attended the ANC in your most recent pregnancy how old was the pregnancy in month/s?	1-4	32(13.2)	211(86.8)	P<0.001(29.55,1)***
	5-9	21(47.7)	23(52.3)	
In all your days as a mother, have you ever experienced stillbirth or miscarriage?	No	40(17.9)	183(82.1)	P=0.98(0.001, 1)
	Yes	15(18.1)	68(81.9)	
Have you ever experienced a complication or a problem giving birth when it was time for you to give birth?	No	36(16.8)	178(83.2)	P=0.42(0.64,1)
	Yes	19(20.7)	73(79.3)	
In your most recent delivery, what was the mode of delivery?	Normal	55(19.9)	221(80.1)	P<0.007(7.29,1)**
	Caesarean	0	30(100)	
Have you experienced excessive bleeding during childbirth?	No	39(17.1)	189(82.9)	P=0.50(0.45,1)
	Yes	16(20.5)	62(79.5)	
Have you ever had a problem conceiving a child?	No	38(15.4)	208(84.6)	P=0.02(5.43, 1)*
	Yes	17(28.3)	43(71.7)	



What is the birth order of your most recent child	1 <sup>st</sup>	16(34)	31(66)	P=0.03(10.50,4)*
	2 <sup>nd</sup>	13(13.5)	83(86.5)	
	3 <sup>rd</sup>	9(17.6)	42(82.4)	
	4 <sup>th</sup>	5(12.2)	36(87.8)	
	5 <sup>th</sup> &over	12(16.9)	59(83.1)	

#### 4.8.2 Obstetric predictors of choice of place of delivery

Out of the four variables that were found to be statistically significant with the place of delivery, in the bivariate analysis, only two variables remained significant predictors of mothers' choice of place of delivery in the binary regression analysis. Mothers who have visited ANC 5-9 times were nine (9) times more likely to deliver at a health facility compared to mothers who have visited 1-4 ANC visits [(AOR 8.73, CI: 3.41-22.17) p<0.001]. Also, mothers who have ever had a problem conceiving a child were 2 times more likely to deliver at a health facility compared to mothers who have never had a problem conceiving a child [(AOR 2.40, CI: 1.11-5.67), p=0.026] (Table 11)

**Table 12: Obstetric Factors Predicting Pregnant Women Choice Of Place Of Delivery(n=306),2021**

Predicting variables	Variables	(AOR) [95% CI]
When you first attended the ANC in your most recent pregnancy how old was the pregnancy in month/s?	1-4	Ref*
	5-9	8.73 (3.41 – 22.2)***
Have you ever had a problem conceiving a child?	No	Ref*
	Yes	2.4(1.11 – 5.7)*

#### 4.9 Other Factors and Choice Of Place Of Delivery

They looked at other factors that could have a possible impact on the choice of place of delivery. From the analysis, 94% of the respondents were given health education before the last delivery. Most mothers who have received the education received it from health workers, whilst only 6% received it from TV. More than 89% of the respondents were National health insurance registrants. The study reported that 8% of the respondents were



sick of other disease conditions before their last delivery. Again, 88% of the respondents reported that the items required during childbirth, are they expensive to buy. Respondents were asked about the distance of their home to the nearest health facility, more than half of the respondents mentioned 300-400 meters. The revealed that 64% of the respondents spent Ghc 10.00 or less to attend the nearest health facility.

**Table 13: Other Factors and How They Influence Choice Of Place Of Delivery (n=306)2021**

Variable	Category	Frequency	Percentage
In your last pregnancy, before delivery were you given some form of health education on child delivery practices?	No	18	5.9
	Yes	288	94.1
	Total	306	100
If yes, what was your source of information?	Health worker	249	81.4
	TV	19	6.2
	CHV	29	9.5
	Radio	9	2.9
	Total	306	100
Are you registered with the National health insurance scheme?	No	31	10.1
	Yes	275	89.9
	Total	310	100
In your period before you deliver in your last pregnancy, were you sick of any disease condition?	No	218	92.8
	Yes	25	8.2
	Total	306	100
The items required during childbirth, are they expensive to buy?	No	38	12.4
	Yes	268	87.6
	Total	306	100
What is the distance from your house to the nearest health facility?	<100m	38	12.4
	100-200m	90	29.4
	300-400m	178	58.2
	Total	306	100
	Total	306	100
How much do you fare in and out to this health facility?	<=Ghc 10.00	197	64.4
	>10.00	109	35.6



>Ghc	306	100
10.00		
Total		

**CHV- community health volunteer**

**4.9.1 Association Between Other Factors And Choice Of Place Of Delivery**

Univariate analysis revealed that 82% of mothers who delivered at health facilities had health education before delivery. But there was no statistical association between the two variables. On the sources of the health education, 85% of those who have delivered at home, mentioned health workers, 48% mentioned community health volunteers. There is strong evidence of an association between sources of information and choice of place of delivery ( $X^2= 27$ ,  $df=3$ ,  $p<0.001$ ). the study revealed that 83% of mothers delivering at the health facilities are registered with the national health insurance scheme. This variable was associated with the choice of place of delivery ( $X^2= 5.08$ ,  $df=1$ ,  $p=0.02$ ). the study did not find evidence of a relationship between haven a disease before last delivery and mothers' choice of place of delivery. 86% of mothers whose cost of transport to and from the health facility was Ghc 10.00, were delivered at the health facility. The study also found a significant statistical association between transportation cost and place of delivery. ( $X^2= 8.56$ ,  $df=1$ ,  $p=0.003$ ). The researcher conducted a multivariate logistics regression analysis was conducted using the three significant variables, however, only cost of transportation predicts choice of place of birth [AOR=2.22(1.19-4.14), P=0.01]

**Table 14: Multivariate Analysis Of Choice Of Place Of Delivery And Other Health Care Variables(n=306)2021**

Variables	Categories	Place of delivery		p-value ( $X^2$ , df)
		Home	Health facility	
In your last pregnancy, before delivery were you given some form of health	No	4(22.2)	14(77.8)	P=0.63(0.24, 1)
	Yes	51(17.7)	237(82.3)	



education on child delivery practices?

If yes, what was your source of information?	Health workers	37(14.9)	212(85.1)	P<0.001(26.81, 3)***
	TV	3(15.8)	16(84.2)	
	CHV	15(51.7)	14(48.3)	
	Radio	0	9(100)	
Are you registered with the National health insurance scheme?	No	1(3.2)	30(96.8)	P=0.02(5.1, 1)*
	Yes	54(19.4)	221(82.6)	
In your period before you deliver in your last pregnancy, were you sick of any disease condition?	No	49(17.4)	234(82.6)	P=0.41(0.67,1)
	Yes	6(24)	19(79)	
The items required during birth, are they expensive to buy?	No	7(18.4)	31(81.6)	P=0.93(0.01,1)
	Yes	48(17.9)	220(82.1)	
What is the distance from your house to the nearest health facility?	<100m	5(13.2)	33(86.8)	P=0.67(0.75,1)
	100-200m	16(17.8)	74(82.2)	
	300-400m	34(19.1)	144(80.9)	
How much do you fare in and out to this health facility?	<Ghc 10.00	26(13.2)	171(86.8)	P=0.003(8.56,1)**
	>=Ghc 10.00	29(26.6)	80(73.9)	



## CHAPTER FIVE

### DISCUSSION OF RESULTS

#### 5.0 Introduction

This chapter is a presentation of the discussed results and their relationship with relevant literature and existing maternal health theories. The chapter is organized into; background of study participants, pregnant women's choice of place of delivery, factors that affect the choice of place of delivery.

#### 5.1 Background Of Study Participants

The study findings revealed that the average age of pregnant women was 29 years ( $29.5 \pm 4.89$ ) and the lot of them were within the age category 20-30 years. Suggestively, the pregnant women were in the period in their lives where the performance of the tripartite roles of production, reproduction and familial care is highest. As a consequence, most of them were married (65%) and the majority were carrying their second child. More than half were Muslims suggesting that there might be Islam dynamics to facility delivery not covered in this research. As expected, 53% were Dagomba given that Sagnarigu is a purely Dagomba District.

Also, a third of pregnant women lacked any formal education and collectively 56% had less than SHS education. On the contrary, the majority of spouses of pregnant women had up to tertiary education and a lot of them were engaged in civil service. Thus, the wives were mostly mildly educated or not at all and the husbands were mostly highly educated with civil service occupations.





## 5.2 Pregnant Women's choice of place of delivery

Choice of place of orthodox medical care cum facility delivery is intricately linked to physical access to health facilities. The CHPS initiative ensured the establishment of at least a functional health post (CHPS compound) in every community providing basic essential clinical, public health, and maternal health services (Sakeah et al, 2014; Nyonator et al, 2005). Consequentially, 96% of expectant mothers in this current study reported that there were health facilities in their respective communities. On the specific type of health facility present; 86% had access to a health center, 12% a CHPS compound, and the remainder had access to a hospital. As a result, health centers were the predominant maternal health service providing centers in Sagnarigu. Illustratively, a health center is bigger than a health post (CHPS compound) but smaller than a hospital.

Maternal and child health service provision was evidently very pronounced in the Sagnarigu Municipality; in most instances, available health facilities provided antenatal care services (94%), child welfare, and growth monitoring services (80%), and postnatal care services (78%). However, the effectiveness of these services is best assessed in a longitudinal study fashion and could not be captured in the limited design of this study nor was this research purported to determine such variables.

This present study's findings showed that 82% of pregnant women delivered in a health facility in their most recent child birth relative to 18% that delivered at home. This showed not 100% (*the desired*) but a commendable proportion of facility delivery rate in rural communities in the Sagnarigu Municipality. Contrary to this, the World Health Organization portrays that 59% of home deliveries occur in rural communities within Ghana. The Ghana Statistical Service (GSS, 2015) observed that approximately 25% of pregnant women in Ghana opt for home delivery to the detriment of facility delivery.





Although this figure is seven percentage points greater than this current study's home delivery prevalence rate, the result agrees with (GSS, 2015) that the home delivery rate in Ghana is lower than 50% and that is progress. According to (Moyer, Adongo, et al, 2014), diverse health promotion campaigns have been carried out in the Northern Regions of Ghana by the Ghana Health Service, Civil Society Organizations (CSOs), and School-based outreaches culminating in a progressive shift in social norms in favour of facility deliveries in the hands of skilled birth attendants.

Optimum facility delivery and outright annihilation of home delivery is the basis for WHO recommendation for every delivery to be supervised by skilled birth attendants (WHO, 2004). Objectively, this endorsement of facility delivery was not selfish; most incidences of maternal deaths, obstetric complications, and chiefly, increased risk of infections are attributable to home deliveries and for that matter, child deliveries presided over by TBAs (Envuladu, Agbo, et al, 2013; Abebe, Berhane and Girma, 2012). According to (Lawn, Cousens, and Zupan, 2005), approximately 50% of neonatal mortalities in developing countries are attributable to home deliveries and the absence of a skilled health professional to micromanage potential obstetric complications (Lawn, Cousens, and Zupan, 2005).

Therefore, the elevated rate of facility delivery observed in this study is good progress and may be attributable to dedicated health education activities, the free maternal health policy in Ghana, NHIS, and other unforeseen interventions.

### **5.3 Factors that affect pregnant women's choice of place of delivery**

The factors that mitigate and underlie pregnant women's choice of place of delivery were modelled using Yebyo's conceptual model of individual and community-based influences of choice of facility delivery (Yebyo, 2014) as well as the overarching socio-ecological model that encompasses the individual, interpersonal, the community and policy domains

of pregnant women's choice of place of delivery. According to the work of (Boah et al., 2020), there are large individual dimensions to the choice of place of delivery.

### **5.3.1 Sociodemographic characteristics of pregnant women**

This current study's results showed that six socio-demographic characteristics affected the choice of place of delivery. These were, age of the mother Age of mother ( $X^2= 9.13$ ,  $df=2$ ,  $p=0.010$ ), ethnicity ( $X^2= 16.67$ ,  $df=5$ ,  $p=0.005$ ), occupation ( $X^2= 10.028$ ,  $df=4$ ,  $p=0.040$ ) and marital status of the mother ( $X^2= 15.76$ ,  $df=2$ ,  $p<0.001$ ) as well as spousal education ( $X^2= 18.96$ ,  $df=4$ ,  $p<0.001$ ) and spousal occupation ( $X^2= 10$ ,  $df=3$ ,  $p=0.017$ ). in consonance with this, the authors (Nakua et al, 2015; WHO, 2019; Ganle, Kombet, and Baatiema, 2019) discovered the effects of maternal education, maternal age, religion, and maternal knowledge of maternal health services.

In detail, Mothers who were within the ages of 31 years to 49 years were 2.3 times more likely to deliver at a health facility compared to those who were 20 years and below [AOR=2.3; 95% CI (1.07- 5.14),  $p=0.034$ ]. The works of (Oluoch-Aridi et al., 2020) corroborate this finding and observe that older pregnant women were pulled to health facilities by the availability of medical equipment and logistics as well as the good attitude (kindness) of health professionals. In contrast, Bayu, Aldefris, et al, showed that maternal age of 15-19 years was found to be more associated with facility delivery (Bayu, Adefris, et al., 2015). The authors portrayed that younger woman who double as main income earners in their households choose facility delivery over home delivery by virtue of the cleanliness of the birth setting. However, in instances where young mothers are unmarried, societal stigma might push them to shy away from accessing health facilities where they would be asked "who is your husband?"





On marital status, pregnant women who were cohabiting had a higher prevalence of facility deliveries relative to married women (90% *versus* 73%). Also, married mothers were less likely to deliver at the health facility than divorced mothers [AOR=0.31; 95% CI (0.12-0.81),  $p=0.016$ ]. In the same light, existing sources showed that single and illiterate pregnant women were found to be associated with home delivery (Bayu, Adefris, et al., 2015). Married couples turn to share the burden of maternal health care concerning finances, social support, and emotional support. However, divorced or single mothers or single mothers shoulder the burden of reproduction alone. In addition, there might be nuances associated with the stigma of being alone in a society where marriage at marital age is the norm. However, cohabiting mothers affiliated with men who might perform their marital rites in the future feel less of this cultural heat.

Spousal educational level was another significant predictor of facility delivery in this current study. It was observed that 86% of pregnant women whose spouses' educational level was tertiary delivered at health facility but only 78% of mothers whose spouses had no education delivered at a health facility. This same sentiment was expressed in the work of (Kifle et al., 2018). When a husband is educated, one of the husband's influences in maternal health decision-making might be facility delivery relative to home delivery.

In the self-same spirit of the influence of orthodox exposure, husbands who were civil servants have their wives delivering at health facilities relative to husbands that were farmers ( $X^2= 10$ ,  $df=3$ ,  $p=0.017$ ).

### **5.3.1 Obstetric factors**

Timely and effective management of obstetric complications is the sole driver of WHO recommendation for skilled birth attendance at every child delivery. This current study's findings showed that 30% of pregnant women have experienced complications at delivery,



27% have experienced stillbirth and miscarriages, 26% have had to undergo CS and 20% have had a problem conceiving. Negative outcomes of previous deliveries are a potent decider of the discrepancy between home and facility delivery (Boah et al., 2018). If an expectant mother experiences still birth, miscarriage, pre-term delivery, low weight for gestational age, and unmanaged postpartum bleeding, an indelible scar (metaphorically) would be created affecting further use of the said place of delivery.

ANC is a platform where screening activities are carried out for potential obstetric complications that could be life-threatening if left until labour sets in. Commendably, the statistics for ANC attendance were immense in rural Sagnarigu. According to this current study's results, mean ANC attendance was  $7 \pm 2.7$  and 67% of mothers have attended ANC 6-11 times during their most recent pregnancy. Also, 85% of mothers-initiated ANC within the recommended first trimester. This research's findings further revealed that ANC attendance and early initiation of ANC within the stipulated first trimester period were significant predictors of pregnant women's choice of place of delivery (*the choice of facility delivery*). This finding was supported by the works of (Boah et al., 2018) (Belay & Sendo, 2016)(Bayu, Fisseha, et al., 2015)(Bayu, Adefris, et al., 2015). The aforementioned sources affirm the import of ANC service utilization as one of the underlying determinants of the choice of health facility for delivery. Early and initial ANC visits are especially dedicated to screening and management of obstetric, clinical, and nutritional complications in pregnancy. This makes ANC attendance within the first trimester indispensable in the fight against maternal morbidity and mortalities. The work of (Boah et al., 2018) showed that pregnant women who initiated ANC after the first trimester were less probable to deliver at a health facility. It is noteworthy that ANC



activities are only undertaken in health facilities creating a thin line between ANC service utilization and facility delivery.

Another significant factor related to obstetrics and choice of place of delivery is the history of difficulty in conceiving. There is a paucity of data surrounding the influence of this salient factor and its impact on pregnant women's choice of place of delivery. However, this current study's findings revealed that women who had a problem conceiving were two (2) times more prone to use health facilities for child delivery relative to home delivery. This might be associated with concerted efforts to safeguard the life of the child and an undaunting belief in the capacity of health facilities to do so.

In addition, this current study found a statistically significant relationship between mode of child delivery and pregnant women's choice of place of delivery: All those who delivered at home delivered through normal delivery, all caesarean section delivery were conducted at health facilities. Explicitly, caesarean deliveries are surgical operations and thus could only be performed in state-of-the-art health facilities. It stands to reason that any woman who undergoes CS would be associated with facility and skilled delivery. In the same train of thought, home deliveries are all normal deliveries unless it was done by a presiding midwife in the vicinity.

birth order of the most recent delivery ( $X^2= 10.5$ ,  $df=4$ ,  $p=0.033$ ). birth order of greater than three (Gebregziabher et al., 2019),

### **5.3.2 Spousal maternal health and antenatal decision-making**

Decision-making is a key variable in this current study and the concept envelopes the choices pregnant women and their immediate families have to make with respect to the place of delivery. This present study's results showed that in most cases (70.9% of



*instances*) the choice of a place to deliver a baby is as a result of a consensus between husband and wife.

As a consequence, consensual decision-making with spouses was a significant predictor of pregnant women's choice of place of delivery. This finding was corroborated by the works of (Asresie & Dagneu, 2019). According to Asresie and his compatriot, in instances where decisions concerning maternal and perinatal health are jointly undertaken by pregnant women and their male spouses, the choice of facility delivery was five times higher relative to home delivery.

Also, the concept of the 'person-in-charge of maternal health and antenatal decisions in the household was a significant influence on the choice of place of delivery. The current study findings showed that women who made the decision of choice of place of delivery themselves were more prone to facility delivery relative to women that the husband made the decision for them. Contrary to this dynamics, Van Der Zande et al reported that women whose husbands chose facility delivery were two (2) times more likely to deliver at a health facility (Van Der Zande et al., 2019). This current study's findings further portray immense control by women over facility delivery decision making; given that greater than two-thirds of mothers were in total control of the decision of the place to deliver. In tandem with this finding, the work of (Bayu, Fisseha, et al., 2015) purported that poor maternal autonomy is the prime risk for missed opportunities for facility delivery.

However, another realm of this matter could be greater control by women as a result of blatant indifference by men or disproportionate involvement of men-folk in matters relating to facility delivery decision-making as observed in the works of (Beam et al., 2018).

This present study also observed that decisions made by in-laws carried greater weight than those made by male spouses. The results showed that in situations where in-laws decided

on the choice of place of delivery, the odds of facility delivery were higher relative to instances that the husband made the decision. Domains of in-laws' influence on mothers' choice of place of child delivery are limitedly researched in literature and as such there was a paucity of data to defend this salient point.

### **5.3.3 Attitude and influences by health professionals**

The attitude of maternal health service professionals was observed to have a relationship with pregnant women's choice of place of delivery. These current study findings revealed that mothers who experienced a favourable attitude of serving nurses and midwives were 42 times more likely to deliver at a health facility relative to those who experienced a negative attitude of the said health professionals. Qualitative findings from the works of (Boah et al., 2020) supported this result. Nurses and midwives were reported to be negligent towards pregnant women, impatient when labour sets in, and very unfriendly. This study's results showed that the majority of mothers reported unfavourable attitudes of health professionals compared to some that reported the contrary. In Nairobi, Kenya, (Oluoch-Aridi et al., 2020) illustrated the effect of health professionals' attitudes on women's preference for facility delivery. Also, in Neighbouring Nigeria, (Sialubanje, Masssar, et al, 2015) reported that two (2) in every five (5) pregnant women choose to deliver at home as a consequence of the unfriendly attitude of maternal health care providers. The irony of the matter is that traditional birth attendants who carry out risky and life-threatening home deliveries are perceived to be respectful to pregnant women, friendly, understanding, and trustworthy (Sialubanje, Masssar, et al, 2015) (Boah et al., 2020).





However, this study's results disagree with health professionals' tendency to neglect duties, to be impatient, to ignore a suffering pregnant woman, and to insult or hurl verbal abuses at pregnant women contrary to what was reported in the existing literature.

#### **5.3.4 Socio-cultural factors**

The works of Alves and Oliveira (2018) intimated that socio-cultural dimension are to be expected in studies involving female study subjects especially when the study centers on issues of reproduction and sexuality. This present study's findings revealed that in the socio-cultural parlance, pregnant women's choice of place of delivery was modelled by the pleasantness of the rituals surrounding the delivery experience and preference of the male spouse on the choice of place of delivery.

Pleasantness and desirability of the rituals surrounding the childbirth experience was major determinant of facility delivery. This present study revealed that mothers who had a pleasant birthing experience in their most recent delivery were three times [AOR=2.9; 95% CI (1.35- 6.30), p=0.007)] more likely to choose a health facility for subsequent delivery.

In tandem with this piece of result, Anika et al reported that the emotional dimensions of care have been shown to affect pregnant women's overall assessment of a positive or pleasant birth experience (Karlström et al., 2015). The feeling of safety provided by health facilities ensures feelings of trust and respect that underlie a positive birth experience.

Another factor was the preference of the husband and his family; pregnant women whose husbands were indifferent about their choice of place of delivery most probably delivered in health facilities [AOR=9.68; 95% CI (3.14- 29.82), p<0.001)]. This socio-cultural nuance was corroborated by the work of (Van Der Zande et al., 2019). This author described the concept as the 'gate-keeper effect'. The Husband, the father, and any other malefactors are predominantly the 'door' (*metaphorically*) into the Ghanaian household



and as a result, their preferences (*this includes the husband's family members*) are usually what the pregnant woman would settle for. (Bayu, Fisseha, et al., 2015) purported that poor maternal autonomy is the prime risk for missed opportunities for facility delivery. This block could be surmounted by the holistic involvement of male spouses in maternal health education and guidance on best practices like it is done for women at ANC. In another dimension, (Beam et al., 2018) opine that the spouses are disproportionately involved in maternal health service concerns bordering on indifference. In such instances, the choice of the pregnant woman becomes the default choice of place of delivery.

### **5.3.5 Other latent factors**

These study findings reveal that there are still cost dimensions to pregnant women's choice of place of delivery despite the ongoing implementation of the free maternal health policy in Ghana. It was discovered that NHIS registration and cost of transportation were significant predictors of choice of place of delivery. In a peri-urban research in Kenya, (Oluoch-Aridi et al., 2020) indicated that distance to health facilities together with the cost of services was a prime determinant of facility delivery. The low cost of child delivery services as cited by (Beam et al., 2018) was a key determinant of health-seeking behaviour towards facility-based care. Health insurance covers maternal health services and thus contributes to the potential amelioration of financial barriers to services.

The following sources provide evidence on the availability of motorized transport and institutional delivery (Boah et al., 2018a; Tolera et al., 2019; Kifle et al., 2011; Beam et al., 2018). However, this current study's findings point to the cost of transport to and from service centres. According to Boah et al, family possession of a means of transport was correlated to facility delivery (Boah et al., 2018). It might not be so much as the availability of the means but the economic access to motorized transport. In the SERC component of



the GEHIP programme in Northern Ghana, customized versions of tricycles were used to counter transport barriers to facility delivery. However, what cripples the initiative is the later requirement for pregnant women and their families to fuel the said tricycles (Patel, Awoonor-Williams, et al, 2016).



## CHAPTER SIX

### SUMMARY OF KEY FINDINGS, CONCLUSIONS & RECOMMENDATIONS

#### 6.0 Introduction

This chapter highlights the key results areas of the study, draws conclusions based on the said areas, and recommends platforms for attenuations concerning practice, policy, and further research.

#### 6.1 Summary of key findings

The study findings revealed that the average age of pregnant women was 29 years ( $29.5 \pm 4.89$ ). Most of them were married (65%) and carrying their second child. More than half were Muslims suggesting that there might be Islam dynamics to facilitate delivery. As expected, 53% were Dagomba given that Sagnarigu is a purely Dagomba District. Also, a third of pregnant women lacked any formal education and collectively 56% had less than SHS education. The majority of spouses of pregnant women had up to tertiary education and were engaged in civil service. Thus, the wives were mostly not or mildly educated and the husbands were mostly highly educated with civil service occupations.

Furthermore, marital status, ethnicity, occupation, spousal education, and spousal occupation were found to be significantly associated with pregnant women's choice of place of delivery.

The availability of health facilities in rural Sagnarigu communities was very pronounced (96%). Concerning maternal health services; 94% of facilities offer ANC services, 80 offer CWC services, and 78% offer PNC services. The prevalence of facility delivery was 82% and that of home delivery was 18%.

The factors that predicted the choice of place of delivery in rural Sagnarigu were organized into obstetric, health professionals' attitude, spousal antenatal decisioning, socio-cultural



factors among others. Socio-culturally; pleasantness and desirability of the delivery experience as well as rituals surrounding childbirth was a major determinant of facility delivery. Another factor was the preference of the husband and his family; pregnant women whose husbands were indifferent about their choice of place of delivery most probably delivered in health facilities.

On the obstetric front; the mean ANC attendance was  $7 \pm 2.7$  and 67% of mothers have attended ANC 6-11 times during their last pregnancy. 85% of mothers-initiated ANC within the recommended first trimester. Also, 30% of pregnant women have ever experienced complications at delivery, 27% experienced stillbirth or miscarriages, 26% have had to undergo CS and 20% have had a problem conceiving. The obstetric predictors of pregnant women's choice of place of delivery were ANC attendance of five times and above [(AOR 8.73, CI: 3.41-22.17)  $p < 0.001$ ], early initiation of ANC (within the first trimester) ( $X^2 = 29.55$ ,  $df = 1$ ,  $p < 0.001$ ), history of difficulty in conceiving [(AOR 2.40, CI: 1.11-5.67),  $p = 0.026$ ], mode of delivery ( $X^2 = 7.29$ ,  $df = 1$ ,  $p = 0.007$ ) and birth order of the most recent delivery ( $X^2 = 10.5$ ,  $df = 4$ ,  $p = 0.033$ ).

Besides this, 56.2% of mothers reported unfavourable attitudes of health professionals compared to 43.1% that reported the contrary. Mothers disagree with the neglect of health professionals' tendency to neglect duties, to be impatient or not have time for pregnant mothers, to ignore a suffering pregnant woman, and to insult or hurl verbal abuses at pregnant women. Using the overall mean response of  $2.72 \pm 0.51$  (on 5-Likert,  $\cong 3$  codes for 'Not Sure'), mothers were uncertain of health professionals' attitude to service provision. Mothers who experienced a favourable attitude of serving nurses and midwives were 42 times more likely to deliver at a health facility relative to those who experienced the negative attitude of the said health professionals.

On maternal health and ante-natal related decision-making; the decision of place to deliver is most of the time (70.9%) a consensus between spouses. However, 15.8% of mothers took sole responsibility for those decisions and in 13% of circumstances, the husband vetoed it. Greater than two-thirds i.e., 69% (211) of mothers were in total control of the decision of the place. There was a significant association between choice of place of delivery and the concept of 'who is in charge of a place of delivery decisions' as well as consensual decision-making among couples. Other factors that significantly influenced pregnant women's choice of place of delivery included NHIS registration, cost of transportation, and sources of information on maternal health.

## 6.2 Conclusions

Several conclusions were drawn from the discussion of the study findings and the identification of key results areas. These are as follows:

Pregnant women's choice of place of delivery was largely in favour of facility delivery relative to home delivery. The rate of facility delivery in rural Sagnarigu Municipality is very commendable pegging the rate of home deliveries lower than 59% estimated by WHO for rural communities in Ghana as well as 25% computed for the whole nation by GSS.

Pregnant women's choice of place of delivery is influenced by socio-cultural, obstetric, maternal health decisions, and service provider-related factors as outlined in the study objectives. Socio-culturally: pleasantness of the rituals surrounding the whole delivery experience and husband's (or *his family's*) preferences concerning options of the place of delivery geared pregnant women's choice.

Obstetric factors including ANC service utilization (*encompassing attendance  $\leq 8$  and early initiation*), history of difficulty conceiving, mode of delivery, as well as birth order of the most recent child, affects pregnant women's choice of place of delivery. In greater

than 50% of instances, the attitude of health professionals is not favourable, and as such maternal health service professionals with favourable attitudes contribute to the desirability of delivery experience and the drive for facility delivery.

Joint maternal health care decision making by couples and person-in-charge of decision-making domains influences choice of place of delivery. The degree of impact of the decision-maker in descending order is ‘the wife herself’, ‘in-laws’ and the husband. Cost dimensions still exist with respect to maternal health service seeking and provision in the realms of cost of transport. NHIS significantly contributes to the amelioration of these costs and influences the choice of place of delivery.

### **6.3 Recommendations**

Based on the conclusions deduced from the study, the following recommendations were made to influence practice, policy, and potential future research.

#### **6.3.1 Recommendations for practice**

1. Ghana Health Service and the Ministry of Health should endeavour to augment ANC services coverage and early initiation to serve as a platform for introducing pregnant women to the health facility environment for holistic appreciation of services and potential for the choice of facility delivery at term.
2. Ghana Health Service administrators must set up rural fertility clinic services for women with problems conceiving to trump social stigma and increase facility deliveries.
3. Pregnant women should consider discussing facility delivery and other maternal health services with spouses to ease decision-making on the choice of place of delivery since this choice could be subject to the man’s preference.



4. Ghana Health Service and Private Maternal Health care providers should introduce the concept of spousal involvement in maternal health care activities for easy household consensus building on facility delivery and other health-seeking choices.

### **6.3.2 Recommendations for policy**

1. The government of Ghana must initiate free NHIS registration for pregnant women and intensive maternal care tailored ambulatory services should be enacted to cut down on cost and transport dimensions of resilient incidences of home deliveries.

### **6.3.3 Recommendation for further research**

Effectiveness of institutional delivery services and its determinants and its determinants in rural and urban communities within the Sagnarigu Municipality.





## REFERENCES

- Asresie, M. B., & Dagne, G. W. (2019). Effect of attending pregnant women's conference on institutional delivery, Northwest Ethiopia: Comparative cross-sectional study. *BMC Pregnancy and Childbirth*, 19(1). <https://doi.org/10.1186/s12884-019-2537-7>
- Abebe F, Berhane Y, & Girma B. (2012). Factors associated with home delivery in Bahirdar, Ethiopia: A case-control study. *BMC Res Notes*. 5: 653. <https://doi.org/10.1186/1756-0500-5-653> PMID: 23176369
- Ahmed Imran, Ali Said Mohammed, Amenga-Etego Seeba et al (2018). Population based rates, timing, and causes of maternal deaths, stillbirths, and neonatal deaths in South Asia and sub-Saharan Africa: a multi-country prospective cohort study. *The Lancet Global Health*. 6(12):e1297–e1308.
- Alkema L, Chou D, Hogan D, Zhang S, Moller A Gemmill A, et al. (2016). Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2030: a systematic analysis by the UN maternal mortality estimation inter-agency group. *Lancet*. 387(10017):462–474.
- Alves SAA, Oliveira MLB. (2018). Sociocultural aspects of health and disease and their pragmatic impact. *J Hum Growth Dev*. 28(2):183-188.
- Awoonor-Williams JK, Bawah AA, Nyongator FK, Asuru R, Oduro A, Ofosu A, et al. (2013). The Ghana essential health interventions program: a plausibility trial of the impact of health systems strengthening on maternal & child survival. Kamath-Rayne B, editor. *BMC Health Serv Res*. 13: S3. <https://doi.org/10.1186/1472-6963-13-S2-S3> PMID: 23819518
- Barnes-Josiah, D., Myntti, C. and Augustin, A. (1998). The “Three delays” as A



Framework For Examining Maternal Mortality In Haiti.” Soc Sci Med. 46: 981–993. [https://doi.org/10.1016/s0277-9536\(97\)10018-1](https://doi.org/10.1016/s0277-9536(97)10018-1) PMID: 9579750

Bazzano AN, Kirkwood B, Tawiah-Agyemang C, Owusu-Agyei S, Adongo P. (2008).

Social costs of skilled attendance at birth in rural Ghana. Int J Gynecol Obstet. 102: 91–94. <https://doi.org/10.1016/j.ijgo.2008.02.004> PMID: 18395724

Bhandari TR, Kutty VR, Sarma PS, Dangal G. (2017). Safe delivery care practices in western Nepal: Does women’s autonomy influence the utilization of skilled care at birth? PLoS One. 10.1371/journal.pone.0182485

Bayu, H., Adefris, M., Amano, A., & Abuhay, M. (2015). Pregnant women’s preference and factors associated with institutional delivery service utilization in Debra Markos Town, North West Ethiopia: A community-based follow-up study. *BMC Pregnancy and Childbirth*, 15(1). <https://doi.org/10.1186/s12884-015-0437-z>

Bayu, H., Fisseha, G., Mulat, A., Yitayih, G., & Wolday, M. (2015). Missed opportunities for institutional delivery and associated factors among urban resident pregnant women in South Tigray Zone, Ethiopia: A community-based follow-up study. *Global Health Action*, 8(1). <https://doi.org/10.3402/gha.v8.28082>

Beam, N. K., Bekele Dadi, G., Rankin, S. H., Weiss, S., Cooper, B., & Thompson, L. M. (2018). A discrete choice experiment to determine facility-based delivery services desired by women and men in rural Ethiopia. *BMJ Open*, 8(4). <https://doi.org/10.1136/bmjopen-2017-016853>

Belay, A. S., & Sendo, E. G. (2016). Factors determining the choice of delivery place among women of childbearing age in Dega Damot District, North West of Ethiopia: A community-based cross-sectional study. *BMC Pregnancy and Childbirth*, 16(1). <https://doi.org/10.1186/s12884-016-1020-y>



- Boah, M., Adampah, T., Jin, B., Wan, S., Mahama, A. B., Hyzam, D., & Akiti, C. (2020). “I couldn’t buy the items so I didn’t go to deliver at the health facility” Home delivery among rural women in northern Ghana: A mixed-method analysis. *PLoS ONE*, 15(3). <https://doi.org/10.1371/journal.pone.0230341>
- Boah, M., Mahama, A. B., & Ayamga, E. A. (2018). They receive antenatal care in health facilities, yet do not deliver there: Predictors of health facility delivery by women in rural Ghana. *BMC Pregnancy and Childbirth*, 18(1). <https://doi.org/10.1186/s12884-018-1749-6>
- Chen X-K, Wen SW, Yang Q, Walker MC. (2007). Adequacy of prenatal care and neonatal mortality in infants born to mothers with and without antenatal high-risk conditions. *Australian & New Zealand Journal of Obstetrics & Gynecology*. 2007;47(2):122–127.
- Daniel WW (1999). *Biostatistics: A foundation for analysis in the health services*. 7<sup>th</sup> edition. New York: John Wiley & Sons.
- Dickson K, Darteh E, Kyereme A, Ahinkorah B. (2018). Determinants of choice of skilled antenatal care service providers in Ghana: analysis of demographic and health survey. *Matern Health Neonat Perinat Res*. 2018;4(14). 10.1186/s40748
- Dowbor TP, Westphal MF. (2013). Determinantes sociais da saúde e o Programa Saúde da Família no município de São Paulo. *Rev Saude Publica*. 47(4):781-90.
- Envuladu EA, Agbo HA, Lassa S, Kigbu JH, Zoakah AI. (2013). Factors determining the choice of a place of delivery among pregnant women in Russia village of Jos North, Nigeria: achieving the MDGs 4 and 5. *Int J Med Biomed Res*. 2: 23–27.
- Fletcher, B. R., Rowe, R., Hollowell, J., Scanlon, M., Hinton, L., & Rivero-Arias, O. (2019). Exploring women’s preferences for birth settings in England: A discrete



choice experiment. *PLoS ONE*, 14(4). <https://doi.org/10.1371/journal.pone.0215098>

Ganle JK, Kombet ML, Baatiema L. (2019). Factors influencing the use of supervised delivery services in GaruTempane District, Ghana. *BMC Pregnancy Childbirth*. 19: 1–11. <https://doi.org/10.1186/s12884-018-2145-y>

Ghana Statistical Service (2015), Ghana Health Service, ICF International. Ghana Demographic and Health Survey, 2014. Rockville, Maryland, USA.

Gebregziabher, N. K., Zeray, A. Y., Abtey, Y. T., Kinfe, T. D., & Abrha, D. T. (2019). Factors determining choice of place of delivery: Analytical cross-sectional study of mothers in Akordet town, Eritrea. *BMC Public Health*, 19(1). <https://doi.org/10.1186/s12889-019-7253-8>

Henry VD, Sangwani NS, Maryam AA. (2018). Health facility delivery in sub-Saharan Africa: successes, challenges, and implications for the 2030 development agenda. *BMC Public Health*. 18(765)

Justice A, Honorati, M., Renay, W., Shalom, A.A., and Owusu-Agyei S. (2012). Impact of place of delivery on neonatal mortality in rural Tanzania. *International Journal of MCH and AIDS*. 1(1):49–59.

Kanmiki EW, Bawah AA, Asuming PO, Awoonor-Williams JK, Phillips JF, Agula C, et al. (2019). Out-of-pocket healthcare payment for primary healthcare in the era of national health insurance: a five-year study of seven districts in northern Ghana. *PLoS One*;14: e0221146

Karlström, A., Nystedt, A., & Hildingsson, I. (2015). The meaning of a very positive birth experience: Focus groups discussions with women. *BMC Pregnancy and Childbirth*. <https://doi.org/10.1186/s12884-015-0683-0>

Kassebaum N, Villa A, Coggeshall M, Shackelford K, Steiner C, Heuton K, et al. (2014).



Global, regional, and national levels and causes of maternal mortality during 1990–2013: a systematic analysis for the global burden of disease study 2013. *Lancet*. 384:980–1004.

Kifle, M. M., Kesete, H. F., Gaim, H. T., Angosom, G. S., & Araya, M. B. (2018). A health facility or home delivery? Factors influencing the choice of delivery place among mothers living in rural communities of Eritrea. *Journal of Health, Population, and Nutrition*, 37(1). <https://doi.org/10.1186/s41043-018-0153-1>

Koblinsky M, Matthews Z, Hussein J, Mavalankar D, Mridha MK, Anwar I, et al.

Going to scale with professional skilled care. *Lancet*. 2006;368(9544):1377–1386.

Kuhnt, J, and Vollmer, S. (2017). Antenatal care services and its implications for vital and health outcomes of children: evidence from 193 surveys in 69 low-income and middle-income countries. *BMJ Open*. 7(11):e017122. DOI: 10.1136/bmjopen-2017-017122.

Lawn JE, Cousens S, Zupan J. (2005). 4 million neonatal deaths: When? Where? Why?

*Lancet*. 365: 891–900. [https://doi.org/10.1016/S0140-6736\(05\)71048-5](https://doi.org/10.1016/S0140-6736(05)71048-5) PMID: 15752534

Mismay G, Mona S, Khama R, et al. (2007). Magnitude and causes of maternal deaths at health facilities in Eritrea in 2007. *Journal of Eritrean Medical Association*. 12(3): 231-240

Moyer CA, Adongo PB, Aborigo RA, Hodgson A, Engmann CM, DeVries R. (2014). “It’s up to the Woman’s People”: How Social Factors Influence Facility-Based Delivery in Rural Northern Ghana. *Matern Child Health J*. 18: 109–119. <https://doi.org/10.1007/s10995-013-1240-y> PMID: 23423857

Mrisho M, Schellenberg JA, Mushi AK, Obrist B, Mshinda H, Tanner M, et al. (2007).



Factors affecting home delivery in rural Tanzania. *Trop Med Int Heal*. 12: 862–872. <https://doi.org/10.1111/j.1365-3156.2007.01855.x> PMID: 17596254

Nyonator FK, Awoonor-williams JK, Phillips JF, Jones TC, Miller RA. (2005). The Ghana Community-based Health Planning and Services Initiative for scaling up service delivery innovation. *Health Policy Plan*. 2005;20: 25–34.

Nakua EK, Sevugu JT, Dzomeku VM, Otupiri E, Lipkovich HR, Owusu-Dabo E. (2015). Homebirth without skilled attendants despite millennium villages project intervention in Ghana: insight from a survey of women’s perceptions of skilled obstetric care. *BMC Pregnancy Childbirth*. 15: 243. <https://doi.org/10.1186/s12884-015-0674-1> PMID: 26446145

Okoroh J, Essoun S, Seddoh A, Harris H, Weissman JS, Dsane-Selby L, et al. (2018). Evaluating the impact of the national health insurance scheme of Ghana on out-of-pocket expenditures: a systematic review. *BMC Health Serv Res*. 18: 426 [10.1186/s12913-018-3249-9](https://doi.org/10.1186/s12913-018-3249-9)

Oluoch-Aridi, J., Adam, M. B., Wafula, F., & K’okwaro, G. (2020). Eliciting women’s preferences for place of childbirth at a peri-urban setting in Nairobi, Kenya: A discrete choice experiment. *PLoS ONE*. <https://doi.org/10.1371/journal.pone.0242149>

Patel S, Awoonor-Williams JK, Asuru R, Boyer CB, Tiah JAY, Sheff MC, et al. (2016). Benefits and limitations of a community-engaged emergency referral system in a remote, impoverished setting of Northern Ghana. *Glob Heal Sci Pract*. 4: 552–567. <https://doi.org/10.9745/GHSP-D-16-00253> PMID: 28031297

Penfold S, Harrison E, Bell J, Fitzmaurice A. (2007). Evaluation of the delivery fee exemption policy in Ghana: Population estimates of changes in delivery service utilization in two Regions. *Ghana Med J*. 41: 100–109. PMID: 18470327



- Raatikainen K, Heiskanen N, Heinonen S. (2007). Under-attending free antenatal care is associated with adverse pregnancy outcomes. *BMC Public Health*. 7:268. DOI: 10.1186/1471-2458-7-268.
- Rutter SJ, & Kiemle G. (2015). Exploring the social and interpersonal experiences of South Asian women with a diagnosis of Systemic Lupus Erythematosus. *Psychol Health*. 30(3):318-35.
- Sakeah E, Doctor H V, McCloskey L, Bernstein J, Yeboah-Antwi K, Mills S. (2014). Using the community-based health planning and services program to promote skilled delivery in rural Ghana: socio-demographic factors that influence women utilization of skilled attendants at birth in Northern Ghana. *BMC Public Health*. 2014;14: 344 10.1186/1471-2458-14-34
- Salcedo-Rocha AL, Alba-García JEG, Sevilla E. (2008). Dominio cultural del autocuidado en diabeticos tipo 2 con y sin control glucémico en México. *Rev Saude Publica*. 42(2):256- 64.
- Shakiba, M., Navaee, M., & Hassanzei, Y. (2020). The effect of motivational interviewing on attitude and practice about the type of delivery in primigravid women requesting elective cesarean section referring to comprehensive health services centers. *Journal of education and health promotion*, 9, 37. [https://doi.org/10.4103/jehp.jehp\\_503\\_19](https://doi.org/10.4103/jehp.jehp_503_19)
- Sialubanje C, Massar K, Hamer DH, Ruitter RA. (2015). Reasons for home delivery and use of traditional birth attendants in rural Zambia: a qualitative study. *BMC Pregnancy Childbirth*. 15: 216. <https://doi.org/10.1186/s12884-015-0652-7> PMID: 26361976
- Simkhada B, Van Teijlingen ER, Porter M, Simkhada P. Factors affecting the utilization



- of antenatal care in developing countries: a systematic review of the literature. *J Adv Nurs*. 2008;61(3):244–260. DOI: 10.1111/j.1365-2648.2007.04532
- Sørensen HT, Steffensen FH, Rothman KJ, Gillman MW, Fischer P, Sabroe S, et al. (2000). Effect of home and hospital delivery on long-term cognitive function. *Q Epidemiology*. 11: 706–708. <https://doi.org/10.1097/00001648-200011000-00016>  
PMID: 11055634
- Tolera, H., Gebre-Egziabher, T., & Kloos, H. (2019). Utilization of decentralized health facilities and factors influencing women’s choice of a delivery site in Gida Ayana Woreda, western Ethiopia. *PLoS ONE*, 14(5). <https://doi.org/10.1371/journal.pone.0216714>
- Torres López TM, Reynaldos Quinteros C, Lozano González AF, Munguía Cortés JA. (2010). Concepciones culturales del VIH/Sida de adolescentes de Bolivia, Chile y México. *Rev Saude Publica*. 44(5): 820- 9.
- UNICEF (2015). Fact of the week. 99%: the proportion of maternal deaths that occur in developing countries, Available at: [https://www.unicef.org/factoftheweek/index\\_39707.html](https://www.unicef.org/factoftheweek/index_39707.html).
- UNFPA (2012). UNFPA support to maternal health 2000-2011. Thematic Evaluation.
- Van Der Zande, I. S. E., Van Der Graaf, R., Oudijk, M. A., Van Vliet-Lachotzki, E. H., & Van Delden, J. J. M. (2019). A qualitative study on stakeholders’ views on the participation of pregnant women in the APOSTLE VI study: A low-risk obstetrical RCT. *BMC Pregnancy and Childbirth*, 19(1). <https://doi.org/10.1186/s12884-019-2209-7>
- Witter S, Arhinful D, Kusi A, Zakariah-Akoto S. (2007). The Experience of Ghana in





Implementing a User Fee Exemption Policy to Provide Free Delivery Care. *Reprod Health Matters*.15: 61–71.

World Health Organization (2019). *World health statistics 2019: monitoring health for the SDGs, sustainable development goals*. Geneva

World Health Organization (2019b). *Trends in Maternal Mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, and the United Nations Population Division*. Geneva

World Health Organization. (2016). *Provision of effective antenatal care: Integrated Management of Pregnancy and Childbirth (IMPAC)* Geneva: WHO

World Health Organization (2004). *Making pregnancy safer: the critical role of the skilled attendant. A joint statement by WHO, ICM, and FIGO*. Geneva. <http://whqlibdoc.who.int/publications/2004/9241591692.pdf>

Yebyo, H., (2014). *Individual and Community-Level Predictors of Home Delivery in Ethiopia: A Multilevel Mixed-Effects Analysis of the 2011 Ethiopia National Demographic and Health Survey*



## APPENDICES

### Appendix 1: Informed consent form

UNIVERSITY FOR DEVELOPMENT STUDIES (UDS) TAMALE

SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF COMMUNITY HEALTH & FAMILY MEDICINE

#### INFORMED CONSENT FORM

Hello, my name is \_\_\_\_\_. Thank you for the opportunity to speak to you. I am a student of the University for Development Studies and am conducting my MPH research on the topic: “Factors influencing pregnant women’s choice of place of delivery in rural Sagnarigu Municipality”. This is an academic requirement for me to complete my post-graduate studies in Master of Public Health.

In this interview, I will ask you questions on topics such as your socio-demographic characteristics (age, sex, ethnicity, educational level, income levels, religion, and occupation), socio-cultural beliefs about pregnancy, attitude of maternal health professionals, decision-making concerning maternal health in your household and your obstetric history. Your participation is voluntary and you can choose not to answer any question that bothers you emotionally and socio-culturally. However, if you choose to participate, your inputs will contribute to understanding the motivations and mitigation factors that influence where a pregnant woman chooses to deliver her baby. This will guide Ghana Health Service providers and policymakers to improve maternal health services’ programme effectiveness as well as inform areas of further research.

The research team assures you that all information provided will be held in strict confidence and responses will not be linked to you before or after sharing with other stakeholders of this research. You may ask any question to clarify doubts and you may choose not to respond to certain questions you don’t feel comfortable with.

May we begin the interview?

YES [  ]

NO [  ]

Signature or Thumbprint of respondent

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Date:



## Appendix 2: Questionnaire for a survey on pregnant women

### QUESTIONNAIRE

#### FACTORS INFLUENCING PREGNANT WOMEN'S CHOICE OF PLACE OF DELIVERY IN RURAL COMMUNITIES WITHIN THE SAGNARIGU MUNICIPAL

#### SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS

1. How old are you? /\_\_\_\_\_/
2. Gender       Male                       Female
3. Religion       ATR       Christian               Islam
4. Marital status of respondent  
 Married               Single               Divorced               Separated  
 Cohabitation
5. Ethnicity      /\_\_\_\_\_/
6. What is your highest educational level attained?  
 None       Primary               Middle Sch./JHS               SHS  
 Tertiary              Other Specify\_\_\_\_\_
7. What is your occupation?  
 Trader/Vender               Farmer               Civil Servant  
 Artisan               Housewife only      Other  
Specify\_\_\_\_\_
8. What is your Household size /\_\_\_\_\_/?
9. Parity /\_\_\_\_\_/
10. What is your husband's highest educational level attained?  
 None       Primary               Middle Sch./JHS               SHS  
 Tertiary              Other Specify\_\_\_\_\_
11. What is the occupation of your husband?  
 Trader/Vender               Farmer               Civil Servant  
 Artisan               Housewife only      Other  
Specify\_\_\_\_\_



**SECTION B: PREGNANT WOMEN’ CHOICE OF PLACE OF DELIVERY**

12. What are the available places to deliver in your community when a pregnant woman is in labour?

---



---

13. Indicate by ticking the appropriate box to indicate the place of delivery of children you have given birth to

		Birth order				
		1 <sup>st</sup> child	2 <sup>nd</sup> Child	3 <sup>rd</sup> Child	4 <sup>th</sup> Child	5 <sup>th</sup> Child
Place of child delivery	Home					
	Health Facility					
	Private Maternity home					

**SECTION C: SOCIO-CULTURAL FACTORS & PREGNANT WOMEN’S CHOICE OF PLACE OF DELIVERY**

14. Are there any traditional or cultural beliefs against delivering your baby at a hospital or health facility?     Yes                       No

15. If YES to Q.13, traditional beliefs make it hard for you to deliver at a health facility \_\_\_\_\_

---



---

16. In your last delivery, was your child circumcised where you gave birth?  
 Yes               No

17. In your last child delivery, were the practices and rituals surrounding the birthing process pleasant for you?     yes                       No

18. Do/did your husband agree with you on the choice of place to deliver?  
 Yes               No

19. In your last delivery, were you attended to by a male health professional?  
 Yes               No



20. In your most recent pregnancy, was it important to know the sex of the child before you deliver?     Yes             No

SECTION D: SPOUSAL ANTENATAL DECISION-MAKING & PREGNANT WOMEN'S CHOICE OF PLACE OF DELIVERY

21. Who is in charge of making decisions about where to deliver in your household?  
 My husband       Me, the wife       Both me and my husband  
 Others specify\_\_\_\_\_
22. The last child you delivered, who made the choice of where to go and deliver in your household?  
 My husband       Me, the wife       Both me and my husband  
 Others specify\_\_\_\_\_
23. Are you totally in control of choosing where you wish to deliver your baby?  
 Yes                       No



**SECTION E: ATTITUDE OF HEALTH WORKERS AND MIDWIVES & PREGNANT WOMEN’S CHOICE OF PLACE OF DELIVERY**

24. Demonstrate your level of agreement with the following statements about maternity service points and professionals. *Where 1=Strongly disagree, 2=Disagree, 3=Not sure, 4=Agree, and 5=Strongly agree*

<b>Statement</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Not sure</b>	<b>Agree</b>	<b>Strongly Agree</b>
a. The nurses and midwives can neglect pregnant women even if they are suffering					
b. The nurses and midwives are very understanding if a pregnant woman does not bring all the items of the delivery kit.					
b. The nurses and midwives are impatient towards pregnant women					
c. Health workers can ignore a pregnant woman so that she delivers on her own					
d. The nurses don’t have time for us when we go to deliver					
e. The nurses and midwives’ insult and shout at us as pregnant women when we go to deliver					
f. A pregnant woman I know ever suffered because the health professionals did not act responsibly					
g. The nurses always lack drugs and materials to work with					





**SECTION E: OBSTETRIC FACTORS & PREGNANT WOMEN'S CHOICE OF PLACE OF DELIVERY**

25. Did you attend the first antenatal (ANC) session during your last pregnancy?  
 Yes       No
26. If YES to Q.22, How many times did you attend ANC in your last pregnancy?  
/\_\_\_\_\_/
27. When you first attended ANC in your most recent pregnancy, how old was the pregnancy at the time?                      /\_\_\_\_\_/ Months
28. In all your days as a mother, have you ever experienced stillbirth or miscarriage?  
 Yes       No
29. Have you ever experienced a complication or a problem giving birth when it was time for you to give birth?    Yes       No
30. In your most recent delivery, what was the mode of delivery?  
 Normal delivery       Caesarean Section
31. Have you ever experienced excessive bleeding during childbirth?  
 Yes       No
32. What is the birth order of your most recent child?    1<sup>st</sup>       2<sup>nd</sup>  
 3<sup>rd</sup>  
 4<sup>th</sup>       5<sup>th</sup> & above
33. Have you ever had a problem conceiving a child?    Yes       No

**SECTION F: OTHER FACTORS**

34. In your last pregnancy, before delivery, were you given some form of health education on child delivery care practices?    Yes       No
35. If YES to Q.32, what was your source of information on child delivery care practices?  
 Health workers       TV       Community Health Volunteers  
 Radio      Others  
specify\_\_\_\_\_





### Appendix 3: Key Informant Interview Guide for maternity service providers

#### Key informant interview guide for Maternity service providers

##### Informed Consent

I am Miss/Mrs....., a Master of Public Health student at the University for Development Studies, Tamale. I am doing academic research in the field of Public Health with a specific focus on understanding the **factors influencing pregnant women’s choice of place of delivery among rural communities in the Sagnarigu Municipality**. This knowledge will provide a deeper understanding of the challenges of maternal health service provision as well as guide maternal and neo-natal mortality interventions in rural Sagnarigu. I, therefore, urge you to partake and provide honest responses on all issues including what informed your choices of place of delivery in your past conceptions.

The information you provided will be treated under high confidentiality and will neither be stored under your name, shared with any other person. What you say will only be used for research purposes only and it will take only 25 minutes to complete the questionnaire. Before beginning, I must ask, “Do you agree to take part in this survey.”

Do you consent to the interview?

Yes

No

Name of Health Professional\_\_\_\_\_

Position/Rank of Health Professional\_\_\_\_\_

1. How will you describe the state of maternal health service provision in your facility?

---

---

---

---

2. Do you have all the tools you need to deliver babies in your facility or what is lacking?

---

---





---

---

3. What are the Ghana Health Service recommendations of best practices when it comes to childbirth? \_\_\_\_\_

---

---

4. On a scale of 1-10, how will you rate the turnout for health facility delivery?  
/ \_\_\_\_\_ /

5. Why do some women choose to deliver at home?

---

---

---

6. What kind of factors do you think affects pregnant women's decision to deliver at the health facility?

---

---

---

7. Do you think the attitude of health professionals in your facility affects the choice to deliver at the health facility? Please explain your answer.

8. \_\_\_\_\_

---

---

---

9. We cannot rule out cultural influences in the lives of pregnant women. What cultural factors do you think influence pregnant women's choice to deliver at home despite the safety of hospital delivery?

---

---

- 
- 
10. Please, do you have any other issue you would like to add on this subject of  
“factors that influence pregnant women’s choice of place of delivery?”
- 
- 
- 

THIS IS THE END OF THE INTERVIEW, THANK YOU.

