# UNIVERSITY OF CAPE COAST

# KNOWLEDGE, ATTITUDE AND ACCEPTABILITY OF CESAREAN SECTION AMONG PREGNANT WOMEN IN THE CAPE COAST

**METROPOLIS** 

JOYCE EVELYN ANSAH

2018

# UNIVERSITY OF CAPE COAST

# KNOWLEDGE, ATTITUDE AND ACCEPTABILITY OF CESAREAN SECTION AMONG PREGNANT WOMEN IN THE CAPE COAST METROPOLIS

BY

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Thesis submitted to the Department of Health, Physical Education and Recreation, of the Faculty of Science and Technology Education, College of Education Studies, University of Cape Coast, in partial fulfilment of the requirements for the award of Master of Philosophy degree in Health Education

DECEMBER 2018

### DECLARATION

# **Candidates Declaration**

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidates Signature..... Date .....

Name: Joyce Evelyn Ansah

# **Supervisors' Declaration**

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Co-Supervisor's Signature ...... Date .....

Name: Dr. Nancy Innocentia Ebu Enyan

#### ABSTRACT

The study sought to assess the knowledge, attitude, and acceptability of cesarean section (CS) among pregnant women in the Cape Coast Metropolis (CCM). Descriptive cross sectional study design was employed in the study. The study population was pregnant women in the CCM. A sample size of 384 participants were involved in the study. The study was a facility-based study, and accidental sampling technique was used to sample respondents from the health facilities in the CCM. A researcher generated questionnaire was used to collect data from the respondents. Data was entered into SPSS version 21.0 and descriptive statistics of frequencies and percentages, chi-square test and logistics regression were used to analyse data. Majority of the respondents had high knowledge (78%), and positive attitude (89%) towards CS. Acceptability of CS was low (34%) among respondents. High knowledge was associated with CS acceptability ( $\chi 2 = 6.88$ ; p = 0.032), whiles attitude did not ( $\chi 2 = 0.07$ ; p = 0.79). Religions acceptability of CS (OR = 2.91, 95%) CI = [1.53-5.55], p = .00) was the only socio-cultural variable that influenced CS acceptability (OR = 2.91, 95% CI = [1.53-5.55], p =.00). Demographic variables such as ethnicity (OR = 3.27, 95% CI = [1.18-9.07], p = .02), income (OR = 2.23, 95% CI = [1.09-4.58], p = .03), and parity (OR = 39.5, 95% CI = [1.35-1156], p = .03) significantly influenced CS acceptability. It was concluded that if pregnant women have knowledge on CS, they will accept CS if indicated to reduce maternal and infant morbidity and mortality. It was therefore recommended that there should be ongoing education at the antenatal clinics on CS and vaginal delivery to update pregnant women's knowledge and reduce misconceptions about CS as well as reduction in maternal mortality associated with delayed labour.

### ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my supervisors, Dr. Thomas Hormenu, of the Department of Health, Physical Education and Recreation, and Dr. Nancy Innocentia Ebu Enyan of the Department of Public Health Nursing, School of Nursing and Midwifery, for their professional guidance, advice, and encouragement in the course of the work. I am also grateful to Dr. Charles Domfeh, Prof. Joseph Kwame Mintah and Dr. Edward Wilson Ansah, of the Department of Health, Physical Education and Recreation, for their generous contributions to make the work better.

I wish to thank all the lecturers and the non-teaching staff of the same department for their support in diverse ways during my years of training. Finally, I am grateful to my family and colleagues for their support, especially, Bright Ahinkorah.

# DEDICATION

In memory of Prof. Joseph Kwesi Ogah

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# CHAPTER ONE INTRODUCTION

### **Background to the Study**

Pregnant women at term give birth either through cesarean section (CS) or vaginal delivery; depending on the circumstances surrounding the pregnancy (Boz, Teskereci & Akman, 2016; Cunningham et al., 2014). Vaginal birth is referred to as normal birth, where the baby is born with the head first through the vagina (birth canal) (Joint Policy Statement, 2008). According to the World Health Organization (WHO), normal birth is spontaneous in onset, low-risk at the start of labour and remaining so throughout labour and delivery. Thus, the infant is born spontaneously in the vertex position between 37 and 42 completed weeks of pregnancy (WHO, 1996).

Vaginal delivery may involve a number of medical interventions which include induction, artificial rapture of membranes, oxytocin for augmentation, and analgesics for the relief of pain (Joint Policy Statement, 2008; Walker, 2009). Vaginal delivery can be assisted or unassisted. The earlier requires the use of forceps (instrument) or vacuum cup to deliver the baby in prolonged labour, maternal exhaustion, abnormal position of the baby's head, and other maternal medical conditions such as hypertension, diabetes, and maternal herpes (Fraser & Cooper, 2003). However, in situations where vaginal delivery poses a risk to both the mother and the baby, CS is indicated (WHO, 2015).

Cesarean section is the surgical delivery of the fetus through an abdominal and uterine incision, that is, laparotomy and hysterotomy (Pajntar, 2015). Cesarean section is one of the most common and major obstetric surgeries in the world with a global rate of 18.6%. It has contributed to improved

obstetric care in the world (Betran et al., 2016; Harrison & Goldernberg, 2016). It is categorized into emergency and elective or planned CS. Elective or planned CS is done when the obstetrician decides with the pregnant woman on a cesarean delivery (CD) prior to labour for reasons such as previous CS, multiple pregnancies. Other reasons include transverse lie, breech presentation, cephalopodal disproportion, pelvic cyst or fibroid, hypertension, diabetes and maternal infections (for example, genital herpes, HIV). Emergency CS is also indicated in cord prolapse and compression, abruptio placenta, placenta previa, and failure of labour to progress (Fraser & Cooper, 2003; Pajntar, 2015).

Although CS is done to protect maternal and fetal health, the risk of maternal and neonatal morbidity and mortality when not medically justified is high compared to spontaneous vaginal delivery (Rahmati-Najarkolaei, Eshraghi, Dopeykar & Mehdizadeh, 2014; WHO, 2015). These risks are higher in women with limited access to comprehensive obstetric care (WHO). Cesarean section may be associated with blood transfusion, and longer hospital stay. Moreover, mothers are less likely to initiate breastfeeding immediately after delivery due to the post operative pain. Cesarean section can result in low post-birth weight and also affect bonding between the mother and the baby. There may also be delay in the flow of breast milk compared with normal vaginal delivery. Mothers also find it difficult carrying babies due to the pain, and will have to be assisted in self care activities until the pain wears off. Nothing is giving by mouth on the day of surgery, and 24 hours after surgery until the woman can tolerate fluid orally (in general anaesthesia). There is usually activity intolerance due to incisional pain and weakness from the effects of anesthesia for the first 24-48 hours. Women undergoing CS may have to wait

for six to eight weeks recovery before resuming work, driving and engaging in any other activity (Rahamati-Najarkolaei et al., 2014).

There are many other underlying complications such as infection, bleeding, pulmonary embolism and headache from anesthesia, particularly in settings that lack the facilities to conduct safe surgeries or treat potential complications (Rahmati-Najarkolaei et al., 2014; WHO, 2015). The risk involved in CS has been debated. Some authors claim that CS decreases perinatal morbidity and mortality in breech presentation and increases the risk of the mother and the baby in cephalic presentation (Villar et al., 2007; Villar et al., 2006). There is also another view that CS increases maternal and neonatal risk in maternal request (Belizan, Althabe & Cafferata, 2007; Souza et al., 2010). For instance, studies in the United States of America and Ireland found a relationship between CS and perinatal mortality (CS decreases perinatal mortality and morbidity) while other studies found the opposite (Pajntar, 2015; Villar et al., 2007).

The rate of CS has recently increased drastically in developed and some developing countries with that on maternal request (without medical indication) contributing greatly to the increase (Pajntar, 2015; WHO, 2015; Yilmaz, Bal, Beji & Uludag, 2013). The reasons for the rise in maternal request are perceived medical benefit, social, cultural, physiological and psychological factors (Boz et al., 2016; Pajntar, 2015). A study revealed that women's knowledge of CS complications and vaginal delivery, fear of vaginal delivery, number of pregnancies, physician's persuasion and socio-economic status affect the choice of CS (Yousefi, Mirzaee, Khosravi & Khazaee, 2013). Though the legal and ethical issues concerning CS on maternal request are complex, it is required that

obstetricians establish a reason for the request and provide clear unbiased information based on the best available evidence (Pajntar, 2015; WHO, 2010).

An approximated 18.5 million CSs occur annually in the world (WHO, 2010). WHO's 2011 report revealed that between 2000-2011, Cyprus and Chad had the highest (50.9%) and the lowest (0.4%) CS rates, respectively (WHO, 2011). The incidence of CS has increased from 4-5% to 15-25% in Great Britain, Canada, with other countries such as South Korea and Italy reporting much higher rates in the year 2000 (45% and 52%), respectively. It is also believed that CS rates are high in countries where delivery is supervised by doctors and low in countries with midwives supervision, hence the high rates in USA (Pajntar, 2015). In Canada, the rate was 18% in 1994 and 1995, 22% in 2000 and 2001, 27-29% in 2010 and 2013 (Kelly et al., 2013). The rate in Great Britain was 12.5% in 1990 and increased to 18.3% in 1999 (Yilmaz et al., 2013). WHO's report in Iran also revealed that, 41.9% of deliveries were by CS in 2008 (WHO, 2010).

In spite of the rising rate, a study by WHO on the trends in CS by country and wealth quintile found the rates to be low in sub Saharan African countries. The rate is less than 2% in 10 countries, with Ghana, Kenya, Lesotho, Rwanda, and Uganda recording national rates above 5% (Cavallaro et al., 2013). This is because women in sub Saharan Africa do not accept CS. They view it as a curse and believe it results from unfaithfulness on the part of the women (Awoyinka, Ayinde & Omigbodun, 2007; Sunday-Adeoyo & Kalu, 2011). A study conducted in 72 countries under World Health Organisation by Boatin et al. (2018) also revealed low rates of CS.

#### **Statement of the Problem**

Cesarean section rates have increased in developed and some developing countries, with increasing safety when medically indicated (WHO, 2015). The rate of CS in Ghana was 6.9% from 2000-2008, and increased to 13% in 2014, 14.6% in 2015 and 16% in 2016 in all hospital deliveries (GSS, GHS, & ICF International, 2015; Ghana Health Service, 2016; Gulati, & Hjeldi, 2012). This implies that the CS rate is gradually increasing and likely to double as the years go by. In the Central Region of Ghana, the CS rates from 2011 to 2016 ranged between 11%-15%, with varying rates in the various districts. Some districts have rates exceeding WHO's recommended rate. For instance, between 22% and 26% of all deliveries in Cape Coast from 2011 to 2016 were CS (Central Regional Health Directorate, Statistics Unit, 2017). However, the statistics did not give a breakdown on the CSs being medically indicated or not.

In spite of the rising rate, some studies have revealed that women in sub Saharan Africa have strong aversion for CS, even when medically indicated (Awoyinka et al., 2007; Sunday-Adoeoyo & Kalu, 2011). The aversion for the procedure could be influenced by the information they have, as well as their attitude towards it. Cesarean section is perceived as an abnormal means of delivery, reproductive failure, a curse and unfaithfulness on the part of African women.

With the increasing number of CSs, pregnant women with medically indicated reasons will have no choice but to undergo CS. Those who request for it will also claim the right to be granted their request even without knowledge of the associated implications. It is believed that the knowledge an individual has on a commodity is very vital as it gives understanding and guides one in

decision making regarding such commodity. Also, limited exposure to information on CS can result in high level of ignorance, impacting on decision making, thus posing danger to both the mother and baby (Mboho, 2013; Mungrue et al., 2010). A study at Korle Bu Teaching Hospital and Tema General Hospital found that non acceptability of contraceptive use by women resulted from lack of knowledge on contraception (Biney, 2011). Another study also found high knowledge to influence the acceptance of modern family planning methods. Therefore, it is imperative for pregnant women to understand issues relating to CS, have adequate knowledge on the indications, risks and associated benefits. This is likely to help pregnant women take appropriate decisions on the mode of birth they believe its right for them, and exhibit positive attitudes and behaviours that will make it possible to have safe CS to improve maternal and neonatal health. Several studies have been conducted in Nigeria, Ghana, and other countries on knowledge, attitude, preferences, and perceptions regarding CS (Adageba, Danso, Adusu-Donkor & Ankobea-Kokroe, 2008; Owonikoko, Bello-Ajao, Atanda & Adeniji, 2014; Robinson-Bassey & Uchegbu, 2016; Soaji, Nayse, Kasturwar & Relwani, 2011; Sunday-Adeoyo & Kalu, 2011; Varghese, Singh, Kour, & Dhar, 2016). Few studies in Nigeria have also looked at knowledge, attitude and acceptability of CS (Awoyinka et al., 2007; Nathani et al., 2011). A study at University Hospital, Cape Coast also looked at knowledge, attitude and perceptions of pregnant women towards CS (Prah, Kudom, Lasim & Abu, 2013). However, I did not come across any study in Cape Coast assessing knowledge, attitude and acceptability of CS in my search. Hence, the study seeks to assess the knowledge, attitude and acceptability of CS among pregnant women in the Cape Coast Metropolis.

### **Purpose of the Study**

The purpose of the study was to assess the knowledge, attitude and acceptability of CS among pregnant women in the Cape Coast Metropolis.

# **Research Questions**

The following research questions guided the study.

- What is the knowledge level of pregnant women in the Cape Coast Metropolis about CS?
- What is the attitude of pregnant women in the Cape Coast Metropolis towards CS?
- 3. What is the level of acceptability of CS among pregnant women in the Cape Coast Metropolis?
- 4. To what extent is knowledge on CS associated with acceptability by the pregnant women in the Cape Coast Metropolis?
- 5. To what extent is attitude towards CS associated with acceptability by the pregnant women in the Cape Coast Metropolis?
- 6. What socio-cultural factors influence the acceptability of CS by pregnant women in the Cape Coast Metropolis?
- 7. What demographic factors influence the acceptability of CS by pregnant women in the Cape Coast Metropolis?

### Significance of the Study

The results of the study will help to plan strategies to educate pregnant women on the benefits, and risks associated with CS at the antenatal clinics and in reproductive health programs by the maternal and child health division at the Regional Health Directorate in the Cape Coast Metropolis. It will also help inform strategies to address misconceptions about CS. Finally, it will serve as a source of information to support further studies related to the CS.

# **Delimitations of the Study**

The study involved only pregnant women selected from the facilities under the five sub health metros (Ewim, Adisadel, Efutu, University of Cape Coast and Reproductive and Child Health Division; Cape Coast Metropolitan area) that render antenatal services within the Cape Coast Metropolis.

## Limitations of the Study

Accidental and quota sampling techniques were used to collect data from the pregnant women. These are non-probability sampling methods. Thus, the findings cannot be generalized. Also, facility based study was done. With this, access to services provided within facilities may be unequal resulting in biases. Again, members of the population who do not seek and obtain services from the facility will not be captured. This is likely to result in under sampling and biases. Also, there will be differences in those who seek and who do not seek the services of the facility.

### **Definition of Terms**

**Abruption placenta:** premature separation of a normally situated placenta after the 22<sup>nd</sup> week of pregnancy (Fraser & Cooper, 2003).

Acceptance: the agreement with or belief in cesarean section (Cobuild, 2006).

Analgesic: a drug that relieves pain (Weller, 2005).

Apnoea: cessation of breathing (Weller, 2005).

**Attitude:** is ones thought and feeling about something, which reflects ones behavior (Cobuild, 2006). It also reflects ones negative or positive belief about performing a health related behavior.

**Breech presentation:** longitudinal lie of fetus with buttock presenting in the lower pole of the uterus (Tiran, 1997).

Cephalic presentation: presentation of the head (Weller, 2005).

**Cephalopodal disproportion:** disparity between the size of the mother's pelvis and the fetus (Fraser & Cooper, 2003).

**Cesarean section:** it is the surgical delivery of the baby through the abdominal and uterine wall (Fraser & Cooper, 2003).

**Conception**: fertilization and implantation in the lining of the uterus (Fraser & Cooper, 2003).

**Cord prolapse:** baby's cord felt below the presenting part on vaginal examination (Fraser & Cooper, 2003).

**Cues to action**: exposure to factors that prompt the action or help to make health related decisions (Glanz & Rimer, 2005).

**Diabetes**: a disease characterized by excessive excretion of urine (Weller, 2005).

Drape: a cloth used to cover something or a part of the body (Cobuild, 2006).

**Dystocia:** difficult or slow labour (Weller, 2005).

**Eclampsia**: a severe condition ocuring in pregnancy in which convulsions may occur as a result of an acute toxaemia in pregnancy (Weller, 2005).

**Ectopic pregnancy**: pregnancy in which the fertilized ovum becomes inplanted outside the uterus instead of wall of the uterus (Weller, 2005).

**Herpes**: an inflammatory skin eruption showing small vesicles caused by the herpes virus (Weller, 2005).

**Hypertension**: persistently high blood pressure in which the systolic pressure is equal to or greater than 140 mmHg and the diastolic pressure is equal to or greater than 90 mmHg (Weller, 2005).

Hypoxia: a diminished amount of oxygen in the tissue (Weller, 2005).

Hysterectomy: removal of the uterus (Weller, 2005).

**Hysterotomy:** an incision into the uterus to evacuate the content (Tiran, 1997). **Knowledge:** the awareness, understanding or information, acquired through experience, education or learning (Cobuild, 2006).

Laparotomy: exploratory opening into the abdominal cavity (Tiran, 1997).

Liquor: a watery fluid in which the fetus floats (Weller, 2005).

**Membranes:** elastic tissue covering the surface of certain organs and lining the cavities of the body (Weller, 2005).

**Modifying factors or variables**: individual characteristics that influence personal perception, such as age, ethnicity, education level, social class, past experience, culture, among others (Glanz & Rimer, 2005).

**Obstetrician:** a person skilled to deal with pregnancy, labour and pueperium (Tiran, 1997).

**Oxytocin:** a hormone which stimulates uterine contraction and the ejection of milk (Weller, 2005).

**Perceived barriers**: The belief of benefits outweighing cost in performing a health behavior (Glanz & Rimer, 2005).

**Perceived benefits**: one's belief on the advantages or reduction in the severity or susceptibility to the condition when action is taken (Glanz & Rimer, 2005).

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**Perceived severity**: one's believe on the potential consequences of the condition (Glanz & Rimer, 2005).

**Perceived susceptibility**: one's belief about his vulnerability or risk to a condition/disease (Glanz & Rimer, 2005).

**Perceived self-efficacy**: one's ability to successfully carryout a health behavior or take action (Glanz & Rimer, 2005).

**Placenta previa:** an abnormally situated placenta in the lower uterine segment, completely or partially covering the internal os (Tiran, 1997).

Post partum: after labour (Weller, 2005).

**Pre-eclampsia:** a condition ocuring in late pregnancy and characterized by proteinuria, hypertension and oedema (Weller, 2005).

**Prevalence:** it is the proportion of the population with a particular condition divided by the total number of persons at risk for the condition during that period (Epidemiology and Surveillance, 2006; Schoenbach & Rosamond, 2000).

**Thromboembolism:** clot of blood in the bloodstream blocking a blood vessel (Weller, 2005).

**Transverse lie:** the longitudinal axis of baby lies across the mother's uterus (Tiran, 1997).

## **Organisation of the Study**

This study was organized into five chapters; one, two, three, four and five. Chapter one focused on the background to the study, statement of the problem, purpose of the study, research questions, significance of the study, delimitations, limitations and definition of terms. The review of related literature is covered under chapter two. Chapter three is the methods. It addressed the design, population, study area, sample and sampling technique,

data collection instrument and procedure, and data analysis. Chapter four and five presents results and discussion, summary, main findings, conclusions and recommendations, respectively.

### **CHAPTER TWO**

# **REVIEW OF RELATED LITERATURE**

The purpose of the study was to assess the knowledge, attitude and acceptability of CS among pregnant women in the Cape Coast Metropolis. In order to achieve this purpose, books, journals and databases were perused. The databases included EBSCO HOST, HINARI, JSTOR, SAGE Journals, Taylor & Francis and Google Scholor. The key words used included CS, knowledge, attitude, vaginal delivery, demographic factors, socio-cultural factors and acceptability. The chapter presents literature under the following sub-headings; historical background to CS, categories and procedure for CS, vaginal delivery, prevalence of CS, health implications of CS, knowledge, attitude and acceptability of CS by pregnant women. It also examines the extent to which knowledge and attitude towards CS determine the acceptability of CS, socio-cultural and demographic factors that determine acceptability of CS, theories of health behavior, the conceptual framework underpinning the study and summary of literature.

### **Historical Background to CS**

The period of conception where a woman carries a developing embryo and a fetus in the womb for nine months till birth is termed as pregnancy (WHO, 2016). During this stage, a pregnant woman decides with the obstetrician on the mode of birth, that is, vaginal delivery or CS (Boz et al., 2016; Cunningham et al., 2014; Fraser & Cooper, 2003).

Cesarean section is a surgical procedure carried out under general or spinal anesthesia to deliver the baby through laparotomy and hysterotomy (Cunningham et al., 2014; Pajntar, 2015). It also involves a surgical technique

carried out to deliver the fetus through an incision in the uterus (Beischer, Mackay & Colditz, 1997). The term cesarean comes from the Latin word "Caedere", meaning to cut. It is believed to have been derived from the birth of Julius Caesar and the Roman law under Caesar's decree that women going through childbirth must be cut open. Hence, CS has been part of human culture since ancient times, with the prime aim of saving the baby when the mother is dead or dying, or possibly bury the dead infant separately from the mother. It was referred to as cesarean operation until it became CS during the sixteenth and seventeenth century, when Jacques Guillimeau's introduced "section" in his book on midwifery in 1598. Since then, CS has been perceived differently by people with the indications for ancient times changing to modern times where it is performed on living women to save both the baby and the mother. The first successful CS was performed by Jacob Nufer in Switzerland (1500) to save the mother and the baby (Boley, 1991; National Library of Medicine, 2013; Sewell, 1993). This raised and sustained hopes about the operation. Other successful CSs took place on kitchen tables and beds, and in remote areas lacking medical staff and facilities. Since then, successful CSs took place in countries such as Britain, Uganda, and Rwanda by medical personnel based on their own medical practices. In 1879, banana, wine and botanical preparations were used by some medical personnel to anesthetise patients for CS (Boley; National Library of Medicine; Sewell).

They further stated that as urbanization and hospital growth increased in the twentieth century in western countries, many working class women began to give birth in hospitals as they could not rely on family members and friends. New obstetrical and surgical skills then began to develop in these hospitals.

Special hospitals for women then sprang up in the United States and Europe with obstetrics and gynaecology centering on the functions and disorders of the female reproductive system. According to them though many surgeons possessed the anatomical knowledge to perform CS, they were limited by the patient's pain and infection problems. A new era of surgical practice then evolved in 1894, with medical application of anesthesia springing up in Europe. This was opposed in obstetrics based on the biblical injunction that women should sorrow to bring forth children in atonement for Eve's sin (Boley, 1991; National Library of Medicine, 2013; Sewell, 1993). However, it was later abolished with technological innovations in surgery. Subsequently, anesthesia in childbirth became practical in CS, and also permitted surgeons to operate with accuracy, document the details of the procedure and learn from experience. This improved post-operative mortality and morbidity resulting from shock (Boley; National Library of Medicine; Sewell).

They again stated that prior to the germ theory, the mortality rate for the operation increased as infection, septicemia and peritonitis led to post-operative death. This made obstetricians cease the use of internal stitches to suture uterine incision after CS as they thought it was the cause of the infection. However, the non use of internal stitches resulted in hemorrhage and more infections after the surgery. Besides, the discovery of anesthesia lead some doctors into performing craniotomy (the surgical removal of a section of the skull) to save the mother's life when the baby is dead in the uterus, and use obstetrical forceps to deliver the baby vaginally. Thus, the process entailed lower risk than CS. Cesarean section was then preferable in instances where the fetus was trapped high in the

pelvis and in severe pelvic distortions (Boley, 1991; National Library of Medicine, 2013; Sewell, 1993).

Furthermore, the establishment of anesthesia and asepsis in 1876 also improved the techniques employed in CS. For example, the employment of uterine sutures by Max SaumInger in 1882 made CS safe. Also, obstetricians in the United States, England and Germany opted for early CS rather than waiting for prolong hours of unsuccessful labour to improve the outcome. The attempt was to reduce maternal and perinatal infant mortality rates (Boley, 1991; National Library of Medicine, 2013; Sewell, 1993).

Consequently, as surgeon's confidence increased in the outcome of their procedures, obstetricians diverted their attention to other areas and experimented transverse incision in the lower uterine segment. This reduced the risk of infection and uterine rapture in subsequent pregnancies. Also the development and availability of modern antibiotics also reduced maternal mortality in normal and CS birth. In addition to the surgical advances, CS was influenced by the continued growth in the number of hospitals, demographics and other factors such as religion. The rate of CS increased with urbanization as many women gave birth in hospitals that conduct obstetrical operations, and women with malformed pelvises were prohibited from delivering normally (Boley, 1991; National Library of Medicine, 2013; Sewell, 1993).

More so, advancement in medical research and technology greatly influenced the scope and application. Again, advancement in anesthesia also improved the safety and the experience of CS. For instance, spinal and epidural anesthesia replaced general anesthesia in CS in the United States and many countries. This results in better outcomes for the mother and baby, and facilitates bonding (Boley, 1991; National Library of Medicine, 2013; Sewell, 1993). Currently, existing conditions such as diabetes, hypertension, infection, and pathological conditions during labour (eclampsia, placenta previa) results in CS in the United States and one out of seven deliveries experience complications resulting in cesarean section (Boley; National Library of Medicine; Sewell).

## **Categories and Procedure for CS**

Cesarean section is one of the most common major surgeries in the world today. It is a life saving procedure for both the mother and the baby when vaginal delivery is not feasible (Cunningham et al., 2014; WHO, 2015). It is categorized into emergency and planned or elective CS (Fraser & Cooper, 2003; WHO). Elective or planned CS is carried out when the obstetrician decides with the pregnant woman on a CS prior to labour, for various indications. This include; previous CS, multiple pregnancies, malpresentation (transverse lie, breech presentation), pre-eclampsia, cephalopodal disproportion, pelvic cyst or fibroid, hypertension, diabetes and maternal infections; genital herpes, HIV (Cunningham et al.). With elective operation, the date selected for the operation is usually between 5 and 7 days before term. The date should reflect the true maturity of the fetus. This is confirmed with clinical features of the mother, uterine size and ultrasonography (Cunningham et al.; Fraser & Cooper).

The pregnant woman is admitted a day prior to surgery, and prepared physically (skin preparation), physiologically (blood and urine test) and psychologically. The physiological and psychological preparation can also be ongoing, that is few days before admission. The woman takes a light meal the evening prior to surgery, and fast 8-12 hours to the surgery. The pregnant

woman is made to sign a consent form after procedure has been duly explained to her by the obstetrician. If the client is a minor, the parent or guardian signs the consent form. Two units of blood are cross-matched if an above normal blood loss is expected. This is because 5% of women are estimated to require blood transfusion due to excessive haemorrhage at CS (Cunningham et al., 2014; Beischer et al., 1997). On the day of operation, which is determined by the treating obstetrician, nothing is taken by mouth by the pregnant woman. The aim is to prevent aspiration during the process of anaesthesia at the theatre. A catheter is passed either before the patient is sent to the theatre or at the theatre to empty the bladder (Beischer et al.; Cunningham et al.). When the pregnant woman has been well prepared physiologically, physically and psychologically, the patient is sent to the theatre on a stretcher, with the folder and prescribed drugs.

On the theatre table, the abdomen is cleaned with an antiseptic solution to reduce the risk of infection at the wound site, and the woman draped. All other requirements are made ready for the surgeons' use by the scrub nurse. The woman is anesthetized by the anaesthetist by giving epidural or spinal anaesthesia. Thus, the mother would be conscious of the birth experience, and can nurse the baby after resuscitation. A transverse incision is made through the lower abdomen and bleeding vessels are diathemied or ligated with fine plane cutgut (suture material). The lower segment is exposed using retractor, and a transverse incision is made through the lower uterine segment after an incision is made into the peritoneal cavity, and the incision is extended (Beischer et al., 1997; Cunningham et al., 2014).

Blood and liquor are removed with a sucker to prevent aspiration by the baby. The retractor is removed and the baby is delivered manually or with forceps. The baby's oropharynx and nose are aspirated and the cord clamped and cut. The baby is wrapped with a sterile towel and sent to the resuscitation table for resuscitation. In addition, prophylactic antibiotics may be given to the woman in some circumstances (Beischer et al., 1997; Cunningham et al., 2014). Oxytocin is given, after which the placenta is removed and the placental site explored. Chromic cutgut or polyglycolic suture is used to close the uterine incision whiles controlling bleeding. The peritoneum is also closed with cutgut. The ovaries and fallopian tubes are examined. Packs are removed and counted as well as the instruments. If it is correct, the abdomen is closed in layers. The skin is cleaned with an antiseptic solution and sterile gauze and adhesive straps applied. The vagina is cleaned of clot and blood. After the procedure, the patient is sent to the recovery ward and observed. Prescribed treatment such as IV fluids, blood, analgesic and antibiotic are started. The patient is then sent to the ward and nursed after full consciousness is regained (Fraser & Cooper, 2003; Pajntar, 2015). Some elective CSs are also requested by the mother for non medical reasons before she goes into labour (Yilmaz et al., 2013).

Emergency CS is not planned by the pregnant woman and the obstetrician as the name depicts. It is also indicated in cord prolapse and compression, abruptio placenta, placenta previa, failure of labour to progress, fetal distress, obstructed labour, pre-eclampsia, eclampsia, and uterine rapture, among others during labour (Cunningham et al., 2014). In any of these conditions, it is required that CS is done urgently to save the life of the mother, baby or both. Since delay may result in consequences, physical, psychological

and physiological preparation may not be rigidly followed as in planned or elective CS. Some investigations are carried out and the woman signs a consent form after procedure is duly explained to her. The woman sent to the theatre. Necessary preparations are quickly done. General anesthesia is given and the procedure carried out immediately to get the baby out of the uterus. The incision is closed as done in elective CS. The baby is resuscitated and sent to the neonatal intensive care unit (NICU) for observation and the mother sent to the recovery unit, then back to the ward for management when ful consciousness is regained (Beischer et al., 1997; Fraser & Cooper, 2003; Pajntar, 2015).

## Vaginal Delivery

Vaginal delivery originated years ago, even before mammals were created on the earth. It is the route of delivery for mammals (Parente, Bergqvist, Soares & Filho, 2011). Vaginal delivery is also referred to as normal birth, and requires that the baby is born with the head first through the vagina (birth canal). It may include an intervention by the health care professional to aid birth (Joint Policy Statement, 2008). WHO (1996), defines normal birth as spontaneous in onset, low-risk at the start of labour and remaining so throughout labour and delivery. The infant is born spontaneously in the vertex position between 37 and 42 completed weeks of pregnancy. Vaginal delivery is the birth of the fetus or offspring via the vagina, and the natural route of delivery. Although certain clinical setting may favour CS aside maternal and fetal complications, vaginal delivery (spontaneous) is the preferred route for most fetuses (Cunningham et al., 2014). Vaginal delivery can be spontaneous, that is, unassisted or without the use of special techniques to induce labour. It can also be assisted when instruments such as forceps or vacuum extractor are used to deliver the baby

vaginally, such as may occur during prolonged labour (second stage), maternal exhaustion, abnormal position of the baby's head, fetal distress and in maternal medical conditions such as hypertension, diabetes, and maternal herpes (Beischer et al., 1997; Fraser & Cooper, 2003). Where normal or assisted delivery becomes impossible, CS becomes an alternative.

## **Prevalence of CS**

According to WHO, CS rates should be between 10%-15% per total deliveries in each country (WHO, 2015). Cesarean section rates in the world continue to rise drastically above the recommended rate by WHO. The steady increase has been of concern because there is lack of consensus on the appropriate CS rate and also the associated additional short and long term risks and costs (Betran et al., 2016).

Data from 150 countries revealed that 18.6% of all birth currently occurs by CS globally. The rate ranges from 6.0%-27.2% in the least and most developed countries, respectively. The highest CS rates of 40.5% occurred in Latin America and Caribbean Regions. North America, Oceania, Europe, Asia and Africa followed with rates of 32.3%, 31.1%, 25%, 19.2% and 7.3%, respectively. This shows a small but an increase in sub-Saharan Africa over time period (Betran et al., 2016).

A trend analysis from 121 countries showed that between 1990 and 2014, the global average CS rates increased by 12.4% (6.7% to 19.1%) with an average annual rate of 4.4% increase. Latin America and the Caribbean increased by 19.4% (22% to 42.2%), Asia, 15.1% (from 4.4% to 19.5%), Oceania, 14.1% (18.5% to 32.3%), Europe, 13.8% (11.2% to 25%), Northern America, 10% (22.3% to 32.3%) and Africa, 4.5% (2.9% to 7.4%). Almost one

in five women in the world now gives birth by CS. The CS rates are consistently higher than what is considered medically justifiable (Betran et al., 2016).

In 2010 World Health Report, data was obtained in 137 countries which accounted for approximately 95% of global birth for that year. Data on the number of CSs performed revealed that yearly an approximated 18.5 million CS are performed worldwide (WHO, 2010). The study also revealed that 54 countries (for example; Nigeria, India, Ethiopia, Democratic Republic of Congo, Pakistan and Indonesia) had CS rates below 10%. Also, 69 countries (for example; China and Brazil) had rates above 15%, and 14 countries had rates between 10 and 15%. The 54 and 69 countries account for 25% (4.5 million) and 73% (13.5 millions) of the global CS, respectively. However, 6.20 million unnecessary CSs were performed in the countries (middle and high income) with CS rates above 15% (WHO, 2010). In the Democratic Republic of Iran, the rate is high in urban areas (36%) than in rural areas (19.7%). WHO's report in Iran also revealed that, 41.9% of deliveries were by CS in 2008 (WHO, 2010). Again, a study conducted on 17,991 women in Iran in 2009 showed that 35% of deliveries were through CS (Ahmad-Nia et al., 2009). Another survey carried out in South West of Iran showed a rising trend of the CS rate from 51.6% in 2007 to 53.3% in 2010 (Maharlouei, Moalaee, Ajdari, Zarei & Lankarani, 2013).

In the United States of America, the rate was 5% in the 1970s, 24.5% in 2001, 26.1% in 2002, 32% in 2007, 32.9% in 2009, 32.8 in 2010 to 2012 32.7 in 2013, and 32.2% in 2014. This rise was associated with previous CS and dystocia (Hamilton, Martin, Osterman & Curtin, 2015; Martin, Hamilton, Osterman, Curtin & Mattews, 2015). It is also estimated that in the United

States, one in five women deliver by CS (Osterman & Martin, 2014). Again, it is believed that the CS rates is high in countries where delivery is supervised by doctors and low in countries with midwives supervision, hence the high rates in USA (Pajntar, 2015).

In Canada, the rate was 18% in 1994 and 1995, and increased to 22% in 2000 and 2001, and 27-29% between 2010 and 2013 (Kelly et al., 2013). The rate in Great Britain was 12.5% in 1990 and increased to 18.3% in 1999 (Yilmaz et al., 2013). Currently, Sweden has 16.4% CSs for every 100 live births. The United States and Australia also have higher CS rates than average, 32.5 and 32.1 per 100 live births, respectively (McCarthy, 2016).

The CS rate in sub-Saharan Africa is low in rural poor countries and rising in urban rich countries (Harrison & Goldenberg, 2016). A study by WHO found CS rates to be low in sub-Saharan Africa. Ten (10) countries in the region had cesarean rates less than 2% and five countries (Ghana, Kenya, Lesotho, Rwanda and Uganda had the rates above 5% (Cavellaro et al. 2013). The CS rate in Ghana was 6.9% from 2000-2008, and increased to 13% in 2014, 14.6% in 2015 and16 in 2016. A study conducted at Korle-Bu Teaching Hospital in 2010 found that the prevalence of CS was 35% (GHS, 2016; GSS, GHS, & ICF International, 2015; Gulati, & Hjeldi, 2012). This might be due to the fact that it is a teaching hospital, and a referral hospital. The rate in 2011 was 15% in the Volta Region, 12% in Ashanti, 12% in Eastern Region (Ghana Statistical Service, 2011).

In the Central Region, the CS rate was 10.6% in 2011, 11.1% in 2012, 12.8% in 2013, 13.1% in 2014, 13.9% in 2015 and 15.3% in 2016 (Central Regional Health Directorate, Statistics Unit, 2016; GHS, 2016). The Ghana

Demographic and Health Survey (2014), rate in Central Region was 15.7% in 2014. However, the rate in Cape Coast, from 2011 to 2015 ranged between 22% and 24% (Central Regional Health Directorate, Statistics Unit, 2017), and exceeds the recommended rate by WHO.

#### Health Implications of CS (Maternal and Neonatal Risk)

Cesarean section is a life saving procedure for both the mother and the baby. It prevents maternal and perinatal morbidity and mortality when medically or obstetrically indicated (Villa et al., 2007; WHO, 2015). Cesarean section is indicated when maternal and fetal abnormal conditions (for example; fetal distress, cord prolapsed, placenta previa and abruption, dystocia, among others) complicate labour, threatening the health of the mother and the baby. This operation saves the mother and the baby and improves maternal and perinatal outcome (Fraser & Cooper, 2003; WHO). However, CS rates above WHO's recommended rate does not reduce maternal and neonatal mortality at the population level (WHO).

Cesarean section as a major surgery is associated with short and long term risk or complications, which is high in current and subsequent pregnancies (Cunningham et al., 2014; Fraser & Cooper, 2003). These complications are significant in settings that lack the facilities to conduct safe surgeries and treat surgical complications (WHO, 2015). However, maternal short term complications are either related to the anaesthesia (drug overdose, hypoxia, apnoea, aspiration of gastric content), the operation (haemorrhage, damage to the bladder or bowel), infection (abdominal wall, uterus, urinary tract, chest, and wound), venous thromboembolism, or post partum cardiac arrest. Long term complications include uterine rapture in subsequent pregnancy, adhesion

formation, placenta previa and accrete, ectopic pregnancies, and infertility (Armson, 2007; Udy, 2008).

Furthermore, the frequency of maternal complications is increased in CS compared to vaginal delivery [VD] (Cunningham et al., 2014). CS as compared with VD is associated with increased risk of maternal and neonatal morbidity and mortality (WHO, 2015). The risk of maternal mortality results from anesthetic effects, puerperal infection and venous thromboembolism compared with vaginal delivery (Deneux-Tharaux, Carmona, Bouvier-Colle, & Breart, 2006).

A study in Asia on the method of delivery and it outcome revealed that CS is associated with increased risk of maternal and perinatal morbidity and mortality, admission to the intensive care unit, and blood transfusion, compared with spontaneous vaginal delivery. Cesarean section with medical indication is also associated with hysterectomy. Again, the risk of perinatal mortality is increased in emergency CS. On the other hand, elective CS with medical indication has lower risk of fetal death (Lumbiganon et al., 2010). For example, a study in Latin America on the maternal and neonatal risk and benefits associated with CS found that women undergoing elective CS have an increased risk of maternal mortality and morbidity. Also, those undergoing antibiotic treatment in CS have five times higher risk of complication compared with vaginal delivery. Cesarean section is again associated with high risk of preterm delivery (Villar et al., 2007; Villar et al., 2006)

Medically indicated planned CS is associated with a decreased risk for maternal hemorrhage, but increases the risk for respiratory problems for infants. It is also associated with greater complications in subsequent pregnancies,

including uterine rupture, placental implantation problems, and longer maternal hospital stay (Andrea, Pembe, Mashavu, & Othman, 2010; MacDorman, Menacker, Declercq, 2008). A repeat CS has high maternal and neonatal morbidity and mortality outcomes (Andrea et al; MacDorman et al.). Furthermore, compared with planned vaginal delivery, babies delivered through CS are transferred to the neonatal intensive care unit. For instance, babies born through planned CS have doubled risk of respiratory problems because they are more likely to be born preterm. Furthermore, infants born by planned CS are more likely to require advanced neonatal intensive support than those born to mothers via vaginal delivery. This will result in longer stay in the hospital with additional resources (Geller, Wu, Jannelli, Nguyen & Visco, 2010; Udy, 2008).

Also, women who undergo emergency CS are more likely to have poor physical and psychological health (post traumatic type symptoms, for example; depression) after birth than planned CS. These women are at risk of reduced postnatal health and well-being (Rowlands & Redshaw, 2012). Cesarean section in general affects the mothers' psychological health and this goes a long way to affect the development of the baby. Also, due to surgical complications, financial costs and mother's long period of hospitalization, the normal way of delivery is suggested (Naseh, Khazaie, Kianfar, Dehghan, & Yoosifi, 2010). Mothers experience discomfort after CS, which have higher risk compared to normal vaginal deliveries.

Also, mothers who deliver through CS stay in the hospital for two to four days, and are less likely to initiate breastfeeding immediately after delivery due to the pain. This can result in low post-birth weight and also affect bonding between the mother and the baby. They are also two times more likely to be re-

hospitalised. It is also estimated that mortality and morbidity rates following emergency and elective CS are nine and three times more than vaginal childbirth (Rahmati-Najarkolaei et al., 2014). A study showed that most women perceive CS birth as highly problematic, acting as a long term disease. This hinders their ability to engage in economic activities and care for their children. The findings also suggest that long term repercussions of CS may go beyond the physical health of the mother and child to include other socio-cultural and contextual challenges (Rishworth, Bisrung & Luginaah, 2016). Also, the deliveries by CS also have negative impact on the health care system. Cesarean section is costly and requires additional resources compared with vaginal delivery (Lavender, Hofmayr, Neilson, Kingdon, & Gyte, 2012; Geller et al., 2010).

# **Knowledge of Pregnant Women about CS**

Pregnant women's knowledge on CS refers to the information and understanding pregnant women have regarding CS. It is believed that the knowledge an individual have on a commodity is very vital as it gives understanding and guides one in decision making regarding the commodity (Mboho, 2013). Also, limited exposure to information on CS can result in high level of ignorance, impacting on decision making, thus posing danger to both the mother and baby (Mboho, 2013; Mungrue et al., 2010). Studies in Nigeria and other countries have given account of pregnant women's knowledge regarding CS. A study involving 200 pregnant women found that as knowledge about the complications of CS increased, the tendency towards performing the surgery decreased (Yousefi et al., 2013). A study by Anyasor and Adetuga (2017) involving 104 pregnant women revealed that inadequate information on CS hinders the acceptance of CS by pregnant women.

Also, a study in India assessing the knowledge of 200 respondents on CS showed that pregnant women had little knowledge on CS. Seventy percent (70%) of the study respondents did not know that anaesthesia was required in CS, and 83% did not know about the provider of anaesthesia. Fifty nine percent (59%) of the respondents were not aware that blood transfusion may be required in CS. Again, only one participant knew about the complications of blood transfusion (Nathani et al., 2011). In another study involving 247 respondents, most of the women were aware of CS. Eight point seven percent (8.7%) had high knowledge, 26.2% had adequate knowledge, 47.7% had low knowledge on CS, and 17.4% had no knowledge (Soaji et al., 2011). Of 100 respondents in a study, CS was viewed to be associated with greater maternal complications (67%), prolong hospital stay (86%), and less pain (50%). However, 63% of the respondents obtained information from friends and family members, and 8% from health centres (Varghese, Singh, Kour & Dhar, 2016).

Besides, total knowledge score was adequate in 40.9% and inadequate in 59.1% of the respondents (401) in a study. In addition, 93.8% of the study participants have heard of CS, 94.4% were aware of possible vaginal delivery after CS. Also, 86.4% knew that blood will be required during or after CS, and 2.7% were aware that CS requires the woman's consent. Seventy two percent (72.8%) were aware of prolong hospital stay after surgery, whiles 14.6% were not aware (Ashimi, Amole & Aliyu, 2013). Also, when women were asked in a study what they knew about CS, most of the respondents said it is the inability of a woman to deliver on her own, and that is the only way for a woman who cannot deliver on her own (Ugwu & de Kok, 2015). Of 466 pregnant women interviewed in a study in Isra, 87.9% had weak knowledge, 10.5% had fair

knowledge, and 1.6% had good knowledge on CS (Nisar, Sohoo & Memon, 2009). A study involving 271 respondents also revealed that 23.6% had high knowledge on CS, 29.9% had moderate knowledge and 46.5% had low knowledge on the advantages and disadvantages of CS. However, 39.1% said CS is associated with less pain and examination; whiles 44.3% said it is associated with longer stay in the hospital with risk of anaesthesia (59.3%) (Naeimi, GHolami & Qasemi, 2015).

In another study conducted in South West Nigeria, 17.2% of the respondents (203) had good knowledge of CS, 36.0% had fair knowledge, and 46.8% had poor knowledge of CS (Faremi, Ibitoye, Olatubi, Koledoye & Ogbeyes, 2014). Also, a study carried out in Nigeria involving 284 participants revealed that only 14% had good knowledge on CS (Owonikoko, Bello-Ajao, Atanda & Adeniji, 2014).

Furthermore, a study conducted in Nigeria involving 400 participants also revealed that 59% had knowledge on CS whiles 41% had no knowledge (Jerimiah, Nonye-Enyidah & Fiebai, 2011). Another study carried out in Nigeria investigating pregnant women's perception regarding CS revealed that respondents (413) had good knowledge on CS (Aziken, Omo-Aghoja & Okonofua, 2007). Also, a study involving 325 respondents showed that 62.42% of the respondents had good knowledge on CS, 20.47% had fair knowledge, while 17.11% had poor knowledge on CS (Robinso-Bassey & Uchegbu, 2016).

Additionally, a study conducted in a Ghanaian teaching hospital revealed that 96% of 317 respondents have heard of the operation. Thirteen point five percent (13.5%) were able to mention specific indications (cervix unable to open, big baby, baby not lying well and mother too ill) for it. Of those

who have heard about the operation, 23% heard it from a single source, while 77% heard it from multiple sources. The sources were health workers (34.4%), relatives (26.5%), and the media (20.8%) (Adageba et al., 2008). Also, a study in Cape Coast involving 412 pregnant women showed that all the respondents were aware of CS. However, there was low level of knowledge (39.6%) on CS (Prah et al., 2013).

## Attitude of Pregnant Women towards CS

Attitude towards CS is the behavior of pregnant women regarding CS as a result of their feelings and thoughts about it (Glanz & Rimer, 2005). According to Masoumi, Fereidoony, Esalatfar, Roshanaei and Oliaei (2014), information is pre-requisite to attitude formation. A study also found that the level of knowledge on CS influences attitude towards CS. However, human attitudes are formed based on people's awareness, and result in behavioural intention (Naeimi et al., 2015). A study conducted in Portharcoijrt involving 325 pregnant women also found that the attitude of pregnant women towards CS was largely influenced by their knowledge on CS (Robinson-Bassey & Uchegbu, 2016).

In another study involving 376 respondents, 99% were willing to undergo CS if medically indicated. Eighty two percent (82%) said they would have a repeat CS. Those who would not have a repeat CS gave reasons as fear of labour pain and death. However, 33% of the respondents viewed a woman who has delivered by CS as a weakling, whiles 55% said they would empathize with those who go through CS (Ashimi et al., 2013). A study also revealed that the more the fear towards vaginal delivery, the more the tendency towards CS (Yousefi et al., 2013). In another study, 81.2% out of 277 respondents viewed

CS as good if the life of both mother and baby are in great danger. Also, 1.4% viewed it as very good and would accept to undergo CS to avoid pain and complications associated with vaginal delivery. Twelve percent (12%) viewed it as bad and were unwilling to accept to undergo the procedure if deemed necessary by doctors to save the life of the mother and baby. One percent (1%) viewed it as very bad and will not accept to undergo the procedure in any circumstance (Sunday-Adeoye & Kalu, 2011). Again, a study conducted in Nigeria by Anyasor and Adetuga (2017) involving 104 pregnant women revealed that the women believe that CS is done for a lazy woman and financial constraints hindered the acceptance of CS.

In addition, a study involving 247 participants showed that 47.3% of the respondents viewed CS to be safe compared to vaginal delivery. Also, 77% said they would accept vaginal delivery because they viewed CS as very dangerous. Sixty eight percent (68%) also viewed CS as less painful, whiles 44% viewed CS as more painful (Soaji et al., 2011). Also, 72% of the pregnant women involved in a study said CS is associated with more complications (Varghese et al., 2016).

Again, 53.8% of the respondents (400) in a study had the right attitude towards CS (Owonikoko, Akinola, Adeniji & Bankole, 2015). However, 12.5% of the women believed that delivery by CS is abnormal, and 20.2% were not sure. Also, 46.4% of the respondents believed CS was very expensive. Additionally, 15% believed women are likely to die from CS, whiles 19.8% were not sure. Besides, 2.8% of the respondents believed that babies born via CS are likely to die soon after birth, whiles 19.5% were not sure. Also 14.2%

were of the view that women delivering by CS are most likely to have CS in future pregnancies, whiles 25.8% were not sure (Owonikoko et al.).

Another study in Nigeria also revealed that, 68% out of 400 participants accepted CS, whiles 32% were averse to it. Of those who accepted CS, 97.8% said it was a safe mode of delivery when vaginal delivery cannot be achieved. Two point two percent (2.2%) of the participants said CS is done to please health workers. Of those who opposed CS, 36% believed it is a denial of womanhood. Also, 3.2% said they will be mocked by other women. Again, 24% were afraid of dying from the operation, whiles 19% were afraid of the pain after surgery. Twelve point eight percent (12.8%) of the women who were averse to CS believed it was not Gods will for them (Jerimiah et al., 2011).

Furthermore, a study involving 325 respondents showed that 58% respondents had negative attitude towards CS, whiles 42% had positive attitude toward CS (Robinso-Bassey & Uchegbu, 2016). Another study in Nigeria involving 284 participants showed that 64% had neutral attitude towards CS, 37 had negative attitude and only 0.4% had positive attitude towards CS (Owonikoko et al., 2014). In addition, a study involving 446 participants revealed that 2.2% had positive attitude towards CS. Eighty three percent (83%) had negative attitude, whiles 14% had neutral attitude towards CS (Nisar et al., 2009).

Another study involving 271 respondents also revealed that 4.8% of the respondents had positive attitude towards CS. Also, 12.2% of them had negative attitude and 83% had neutral attitude towards CS. Cesarean section was seen as an easier method of delivery (31%) with less complication (34.3%), and for women of high social class (32.4%). Besides, attitude and guidance of others

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was found to impact women's decision (17%) (Naeimi et al., 2015). In a Ghanaian teaching hospital, 52% of the respondents (317) perceived CS to be dangerous for the mother and baby as it could result in death of the mother and baby, and cause post operative pain, loss of vitality and strength. Also, 31% said it was not dangerous, whiles 18% could not tell if it was dangerous to the mother and baby (Adageba et al., 2008).

In a study conducted in the Northern part of Ghana on 120 nursing mothers to determine social and cultural influences on choice of delivery sites, some respondents believed that women who deliver at the health facilities are weak women who cannot deliver on their own (Yidana & Issahaku, 2014). The studies reviewed showed that pregnant women have diverse attitudes towards CS. This may stem from their cultural background as well as the source of their information.

## Acceptability of CS by Pregnant Women

A study in Nigeria involving 413 women showed that 6.1% of the participants were willing to accept CS as a method of delivery, whiles 8.1% of the women would accept CS if it would save the lives of the mothers and the babies. Again, 12.1% of the women would not accept CS under any circumstance (Aziken et al., 2006). A study in Cape Coast also showed that 95.7% of the pregnant women were willing to accept CS if indicated whiles 4.3% would not accept CS if indicated (Prah et al., 2013). In another study, 99% of the respondents were willing to undergo CS if indicated (Ashimi et al., 2013).

However, there was a high level of acceptability of CS (85%) among 201 respondents in a study. Also, 95% of the respondents in a study would only accept CS after their husbands consent has been sought (Awoyinka et al., 2006).

Again, 91% were willing to undergo the operation if indicated, whiles 6% said they would refuse the operation if indicated. The rest were undecided (Adageba et al., 2008).

Also, 82% of the respondents (277) in a study would not recommend the procedure for their children or daughter in-law if both lives (mother and baby) are in great danger (Sunday-Adeoye & Kalu, 2011). Again, 73.5% of the respondents (200) involved a study in India did not accept CS as a delivery method. Reasons for non acceptability were due to fear of the operation (53%) and delay in resuming household work (43%). However, 83% of the respondents accepted it on the advice of the treating doctor (Nathani et al., 2011).

Furthermore, a study involving 247 women revealed that 91.5% of those who preferred vaginal delivery said they would accept CS to protect their baby's health, whiles 87.7% would accept CS to protect their own health. This indicates that women will forgo their preferences and accept CS if they are well informed. More so, 71% of the women delivering via CS in a study said the decision was made by the attending physician (Soaji et al., 2011). Another study conducted by Mungrue et al. (2010), involving 368 participants showed that 93.5% of the respondents will agree to undergo CS if it will save their lives and their children. Again 62% of the women said they did not participate in the decision-making process and accepted the decision for a CS by the attending physician. Also 7.4% of the respondents in a study would accept CS on doctor's advice, whiles 5% and another 5% would accept due to fear of labour pain and safety of the baby, respectively. Fourteen point six percent (14.6%) of the respondents would not accept CS because it is expensive, delays recovery (6.3%), requires prolong

bed rest (7.6%), and also due to fear of the operation (51.6%) (Nisar et al., 2009). A study in Nigeria involving 200 respondents revealed that two-thirds of the respondents will agree to CS if the decision was made by the couple, while 164 (82%) of them will agree to a CS if their husbands consent despite their own personal disapproval because he is the head of the family and they believe he wants the best for both mother and baby. About a tenth of the women were of the view that women should take the decision solely on their own (Ezeome, Ezugworie & Udealo, 2018).

Another study also revealed that out of 97 deliveries conducted in June 2012, 22% accepted and underwent medically indicated CS. However, 4% did not accept CS for various reasons and left the hospital. In a study, only 4.3% of the respondents (400) accepted CS. Cesarean section was perceived as dangerous and painful. The men were also reluctant to give their consent for CS to be carried out on their wives as it was perceived as reproductive failure and associated with the belief that it will have negative consequences on future pregnancies and childbirth (Owonikoko et al., 2015). Ceserean section was high in a study with low acceptability. Six point nine percent (6.9%) of the respondents (23) accepted CS. Also, 42.9%said they will accept CS for the next deliveries if given the option, 45.3% said they will not accept, whiles 11.8% were undecided (Faremi et al., 2014).

Another study in Nigeria revealed that 68.5% of the participants (400) accepted CS, whiles 31.5% were averse to it. Sixty five percent (65%) said they will accept CS if need be for the operation, whiles 19% would consult their husbands before accepting it. Also, 7.5% said they will not accept. Those who were averse to it gave reasons as denial of womanhood (35.7%), being mocked

by other women (3.2), fear of death (23.8%), expensive (4.8%), very painful (19.1%) and others (13.4%) (Jerimiah et al., 2011). In another study, 71% of the women with previous CS accepted the decision to deliver by CS from physicians without partaking in the decision. Also in a study conducted in Nigeria by Eifediyi, et al. (2015), 81.5% of the respondents (400) will accept CS if it will save their lives and their unborn child. Again a number of the respondents (9%) refused CS due to fear of death. However, obstetricians therefore need to observe the indications for CS before performing it (Soaji et al., 2011).

# Extent to which Knowledge on CS is Associated with CS Acceptability

In a study involving 462 districts within 26 African countries on contraceptive use, acceptance of contraceptives was higher in district with more and increasing knowledge. Districts with more highly educated population had increased knowledge, acceptance and use of modern contraceptives (Longwe, Huisman & Smits, 2012). A study in Malawi involving 60 respondents to assess attitudes and beliefs, found that participants had high knowledge on modern family planning methods but acceptability of family planning methods was low (Chipeta, Chimwaza & Kalilani-Phiri, 2010). However, information campaigns had positive effects on knowledge of contraceptives, but had no direct effects on their acceptance and use.

A study at Korle Bu Teaching hospital and Tema General Hospital involving 24 respondents revealed that non acceptability of contraceptive use by women resulted from lack of knowledge on contraception (Biney, 2011). A study by Aziken et al. (2007) showed that respondents had good knowledge on CS. Only 6.1% were willing to accept CS as a delivery method. A study

involving 200 respondents revealed that respondent's high knowledge (78.5%) towards modern family planning methods influenced acceptance of modern family planning methods. Acceptance (73.5%) of modern family planning methods was also high among study participants (Obalase & Joseph, 2017). Besides, a study conducted in Sokoto, Nigeria on 200 respondents revealed that majority (85.5%) of the respondents had high knowledge on CS and acceptance of CS was also high (75%) (Panti et al., 2018). A study conducted by Anyasor and Adetuga (2017), revealed that inadequate information on CS hinder the acceptance of CS.

Similarly, a study conducted in South-West Ethiopia on 448 respondents revealed low knowledge and low acceptability of human papilloma virus test among respondents (Geneti, Hailu & Muleta, 2016). More so, a study conducted in Lusaka on 50 respondents showed that 86% of the respondents who did not accept cervical cancer screening had low knowledge on cervical cancer (Kalongo, 2011). Interestingly, a study conducted in Slovenia and Turkey revealed that knowledge on genetics and biotechnology did not influence acceptability of genetic modification. There was no significant association between knowledge and acceptability of genetic modification in Slovenia and Turkey (Sorgo, Ambrozic-Dolinsek, Usek & Ozei, 2011). A study carried out in Nigeria involving 89 respondents showed a statistically significant relationship between knowledge, acceptance and utilization of natural family planning methods (Ojewole & Gigi, 2017). Furthermore, a study conducted in China involving 300 respondents revealed that lack of knowledge on the risks and benefits of the combined oral contraceptive pill was associated with low level of acceptance of the combined oral contraceptive pill (Yiu, Chan & Chung, 2017). A study involving 200 pregnant women found that as knowledge about the complications of CS increased, the tendency towards performing the surgery decreased (Yousefi et al., 2013).

### Extent to which Attitude towards CS is Associated with CS Acceptability

In the Malawi study, negative attitudes surrounded the use of family planning methods and this was found to be associated with the non acceptability of family planning methods (Chipeta et al., 2010). Tavassoli, found a positive attitude towards vaginal delivery as level of knowledge increased (as cited inYousefi et al., 2013). Also, in a study involving 200 respondents, attitude influenced the acceptance of modern family planning methods. Respondents had positive attitude towards modern family planning methods with increased level of acceptance of modern contraceptives (Obalase & Joseph, 2017). Additionally, a study in Nigeria involving 89 respondents revealed that positive attitude was associated with acceptance of natural family planning methods. Also, no significant relationship was found between attitude and utilization of natural family planning methods among respondents (Ojewole & Gigi, 2017). Besides, a study in Nigeria on 927 respondents showed an association between attitude towards family planning and contraceptive use (Odimegwe, 1999).

### Socio-cultural Factors Influencing the Acceptability of CS

Socio-cultural factors influence the acceptability of a delivery method (Anyasor & Adetuga, 2017; Öngel, Eser & Katirici, 2016; Rahnama, Mohammadi & Montazeri, 2016; Roudsari, Zakerihamidi & Khoei, 2015). The socio-cultural factors considered in the study are the socio-cultural beliefs regarding CS. In a study involving 277 respondents, 66% viewed CS as a normal obstetric decision. Also, 34% said their culture viewed CS as negative, and

conducted on unfaithful and cursed women. Women who underwent CS were viewed as weaklings in their culture, 14.4% viewed it as women's failure of her obstetric responsibility and 1.4% said CS is for cursed women in their culture. Seventy seven percent (77%) of those who underwent the procedure said they were well received at home while 23% were not (Sunday-Adeoye & Kalu, 2011). According to Anyasor and Adetuga (2017), some factors which hinder the acceptance of CS apart from the woman's cultural belief include husband's preference for vaginal delivery, and experience from significant others. A study also found CS not to be widely accepted in communities. CS was associated with infidelity on the part of the women, as well as a sign of weakness and failure to have vaginal delivery. This made women not to go to the hospital even in the case of life threatening complications. Cesarean section is culturally seen as a curse and failure of womanhood (Mboho, 2013). Also, in a study involving 5353 participants, 22% of the medically indicated CSs were refused by the women with socio-cultural meanings influencing it acceptability or non acceptability. In another study in Nigeria, CS was perceived as reproductive failure in which there is the likelihood of being mocked by other women. Also, the woman is denied the true essence of womanhood of vaginal delivery. Again, CS was believed to be a punishment for marital infidelity and deeply rooted in their culture (Eifediyi et al., 2015).

Additionally, a study conducted in the Northern part of Ghana on 120 nursing mothers to determine social and cultural influences on choice of delivery sites, social and cultural factors were found to exert greater impact on the choice of delivery site. About 40% of the women who delivered at home stated that their actions were informed by tradition. The beliefs, norms and

traditional practices and perception played a great role in the determination of place of delivery. Also with married women, the most common explanation was that other women in the house delivered at home so their family heads and inlaws did not see the reason for them to go to the hospital (Yidana & Issahaku, 2014).

Vaginal delivery was viewed culturally as the normal way of delivery expected of every 'proper" woman, and the symbol of womanhood. If you deliver through any other means, then you are not a woman. It is only when one endures labour pain that she is considered a woman. Cesarean section was perceived to be for weak and lazy women, and also restricts women from the number of children they want to have (prevents one from attaining the ideal family size) as it becomes difficult to have other children after the first and second CS. It is also perceived to result from a curse or spiritual attack that needs the intervention of traditional or spiritual healers. It is believed that divine intervention can help a woman avoid CS, which is a complication from supernatural causes. Also, ones faith in God can prevent CS. Cesarean section is surrounded with fear and as such, it is accepted as the last option, resulting in an emergency surgery (Ugwu & de Kok, 2015).

Also, pregnant women imitate blindly by choosing CS because other women were delivered through CS. Others choose CS because that is what the obstetricians, family and friends prefer, and once it's the obstetrician's preference, then it is good (Roudsari et al., 2015).

Cesarean section is again believed to be for people with high social class since it is expensive and vaginal delivery for people with low social standard because it is cheap or less expensive. Others are of the view that once you spend

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more money at the hospital, doctors take good care of you, so going in for cesarean section is the best since it's expensive. Cesarean section is associated with prestige of being for wealthy people. Undergoing CS implies the mother cannot endure pain and has therefore failed (Roudsari et al., 2015).

In a study in Iran on pregnant women's beliefs regarding mode of birth, vaginal delivery was believed to be God's opinion, a natural process and normal way of delivery. Again, CS is believed to cause a lot of problems whiles vaginal delivery is associated with good health. It is believed that motherhood can only be achieved if one delivers normally. Also, God has a reason for normal vaginal delivery. He forgives your sins when you deliver vaginally.

Cesarean section is associated with a lot of illness because no hormones are secreted during delivery. In vaginal delivery, there is fear of labour pain and fear of giving birth to a baby with an unexpected delivery date. In a study, physician, health care provider, family and friends influenced pregnant women's decisions on the mode of birth. Some doctors advice the pregnant women to deliver by CS because they don't have time for vaginal delivery. Family and friends also advice clients to choose the birth method based on their experience (Rahnama et al., 2016).

Also, people's personal beliefs from previous experience, information obtained from others through their experience informed the decision to choose CS. Pregnant women believed that once a cesarean, always a cesarean. They again believed in blind imitation. Once a family member delivered through CS, then they have to deliver through the same root regardless of the cause. Cesarean section is believed to be expensive and for high social class people. It is considered more prestigious because the rich and those from higher economic

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status select it (Latifnejad-Roudsari, Zakerihamidi, Merghati-Khoei & Kazemnejad, 2014).

A study conducted in Swaziland revealed that cultural practices, religious beliefs, gender issues and health care practices were the main barriers to the use of contraceptives among Swazi women (Ziyani, Ehlers & King, 2003). In another study conducted in Tamale on contraceptive uptake among 475 reproductive women, socio-cultural factors influenced the acceptance of contraceptive uptake. Again, culture not frowning on contraceptive use was found to be significant. Also, child bearing decisions were solely made by husbands and so husband's approval of contraceptive use and religious approval influenced contraceptive use (Abdulai, 2015). Again, religious constraints emerged as one of the factors affecting contraceptive use. According to the study, every woman has been endowed with a number of children to bear by the Creator. Hence, the use of contraceptive was perceived an affront to God as this prevents the bearing of children. A woman who practices contraception cannot have the number if children she wants to have. Again, the use of modern contraceptive methods was prohibited by the Quran. The Quran only approve the use of natural contraceptive methods such as withdrawal. Also, ancestral disapproval was found to influence contraceptive use. Respondents were of the view that ancestors did not approve the use of contraceptive. Therefore people will desist from using contraceptive for fear of ancestral punishment. Again, influence from friends also influenced contraceptive use (Abdulai, 2015). In a study involving 377 respondents in South Sudan on the factors influencing contraceptive use, socio-cultural factors did not influence contraceptive use (Obwoya, Wulifan, & Kalolo, 2018). In a study carried out in the Northern part

of Ghana on socio-cultural determinants of contraceptive use involving 400 adolescents, cost of contraceptive, non youth friendly services, and perceived adverse effect statistically influenced contraceptive use (Yidana, Shamsu-Deen Ziblim, Azongo & Abass, 2015). In a study conducted on the determinants of modern family planning use in the Nkwanta district of Ghana, involving 130 cases and 260 controls, socio-cultural beliefs about modern family planning were found to influence family planning use in the district. The study found that partners consent or approval of modern family planning method influenced its use. Husband opposition was the reason for non use (Eliason et al., 2014). Also, in a study conducted in Nigeria involving 200 respondents on the determinants of contraceptive use, spousal support was a significant decider of contraceptive utilization (Kana et al., 2016). Similarly, a study conducted on 100 respondents in Port Hartcourt, Nigeria on family planning services utilization revealed that husband's decisions regarding contraceptive use was a strong factor in family planning use (Ekwugha & Hayes, 2016).

Besides, a study conducted in Ndhiwa, Kenya on 100 participants revealed that certain cultural factors affect the use of contraceptives by women in the society. In the study, religious preference showed no statistically significant relationship with contraceptive use (Ouma, 2014). In another study conducted in Nigeria on 120 respondents, socio- cultural factors such as opposition of their husbands, fear of delay in return to fertility, damage to the reproductive systems (especially the uterus) and the belief that modern contraception was introduced to reduce the population of Muslim nations, were reasons for not using modern family planning method (Mairiga, Kullima, Bako & Kolo, 2010). Also, in a study conducted in West Bengal on 2587 respondents, religious opposition was an important barrier to non use of family planning methods which accounted for 7.6% of the non-users. Reasons such as health concerns, fear of side effects and lack of access, too far, too much costs and health care provider bias accounted for 32.4% of non-utilizations of family planning services (Hussain, 2011).

## **Demographic Factors Influencing the Acceptability of CS**

Studies have shown that some demographic factors influence the method of delivery (Buyukbayrak et al., 2010; D'Oris et al., 2006; Yilmaz et al., 2013; Zhao & Chen, 2013). A study in India revealed that 75% of the respondents (100) were aged between 26-35 years. Also, 4% had no formal education, 36% had primary education, 47% had secondary education and 13% had college or university education (Varghese et al., 2016). Age range of the women in a study was from 20-42 years. 66.8% out of 400 participants had tertiary education, 30.5% had secondary education, whiles 1.5% had primary education (Jerimiah et al., 2011).

Also, information on 325 study participants involved in a study revealed that 16% were within 20-24 years, 38% were within 25-29 years, 23% were within 30-34 years, 11% were within 35-39 years, and 6% were within 40 years and above. Twenty three percent (23%) had tertiary education, 46% had secondary education, 14% had vocational, 10% had primary education, and 0.6% had no formal education. Eighty six percent (86%) of the respondents were married and 39% were single. Also, 87% and 13% of the respondents were Christians and Muslims, respectively. Sixty four percent (64%) of the respondents had two children and below, 31% had 3-5 children and 4% had

children six and above. Varied percentages were shown for the various ethnic groups (Hausa-5%, Yoruba-11%, Rivers-28%) with the highest percentage of 30% being Igbo's (Robinso-Bassey & Uchhedbu, 2016).

In a study involving 284 participants in Lautech Teaching Hospital in Nigeria, the age range was between 17-44 years. Eighty seven percent (87%) of the respondents were between the ages of 21 and 35 years, 8% were between 36 and 40. Sixty three percent (63%) had tertiary education, 31% had secondary, 4% had primary, while 2% had no formal education. The ethnicity of the respondents comprised of Yoroba, Hausa, Ibo, and other ethnic groups with majority (89%) being Yoruba. Also, 72% of the respondents were Christians while 28% were Muslims. Sixty two percent (62%) were multiparous women and 90% of the participants had no previous CS (Owonikoko et al., 2014). Another study revealed that 82.2% of respondents (400) were aged 21-25 years. Fifty nine point five percent (59.5%) were Christians and 94.8% were Yoruba's, while 38% had tertiary education (Owonikoko et al., 2015).

A study in Nigeria involving 413 pregnant women indicated that women's low level of education, and past successful vaginal delivery were most likely to be associated with women's non-acceptability of indicated CS (Aziken et al., 2007). Of 466 pregnant women interviewed in a study, 16% had tertiary, 16% had secondary and 28% had primary education. Also, 60% obtained their information from relatives, 8% from friends, 39% from doctors and nurses and 11% from other sources (Nisar et al., 2009). Tavassoli (as cited in Yousefi et al., 2013) found that the rate of CS increased as level of education increased.

A study at Korle-Bu Teaching Hospital found elective CS to be higher in the upper socio-economic class, suggesting that class influences the decision

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to having CS (Gulati & Hjelde, 2012). In a study conducted in Cape Coast, formal education, parity and previous CS were significantly associated with adequate knowledge on CS (Prah et al., 2013). In another study, previous CS influenced its acceptability, whiles age, tribe, marital status, and the educational status of both the women and their husbands did not influence its acceptability (Awoyinka et al., 2006). Educational status up to the graduate level and previous CS was associated with acceptability of CS, 0.0092 and 0.0001, respectively (Nathani et al., 2011).

A study also revealed that higher educational status of nine years or more, pregnancy after infertility treatment and undergoing CS for the last delivery were among the factors affecting the acceptability of CS. Level of income; high or low, and age, less or equal to 30 years, decreased the risk of CS (Yilmaz et al., 2013). Also, women with higher educational background were more likely to accept CS. History of previous CS, abortion and infertility were considered as risk factors for accepting CS. Educational status, occupation and gestational age were not found to be influencing factors whiles maternal preference factors included age, parity and monthly income (Buyukbayrak et al., 2010). Again, previous type of delivery was independently associated with the type of delivery method in another study. Other factors associated with CS acceptability were greater number of pregnancies, the socioeconomic level of the couple (high income was associated with CS), and the degree of satisfaction with the experience from the previous delivery. Women whose husband's monthly income was higher had a higher chance of accepting CS (Faisal-Cury & Menezes, 2006).

Furthermore, mothers with high level of education, history of previous abortion, and infertility accepted CS. Previous CS, abortion and infertility were identified as risk factors for CS. However, the age of the mother and insurance status were not significant factors (Maharlaouei et al., 2013). Another study revealed a significant relationship between age, job, educational level, number of pregnancies, previous delivery, live births, number of abortions and the route of delivery (Nasch et al., 2010). A study also revealed that women who accepted CS were slightly older (31.6) than those accepting vaginal delivery (28.4). Also, no differences were found in parity, income and education (Angeje et al., 2006). An association was also found between obstetric history and the type of delivery in another study. Multiparous women with CS as their last delivery were likely to deliver by CS. Increasing age (35 years above) was associated with CS. No association was found between the mother's education and the type of delivery (D'Oris et al., 2006). Also previous type of birth influenced the type of delivery (Barber et al., 2011).

Another study also found previous delivery type to influence the type of delivery method. Occupation and education had no significant association the delivery method. With regard to obstetric records, gestational age, pregnancy history, type of pregnancy, history of abortion and history of infertility were not significantly associated with women's tendency to select a specific type of delivery method. There was a significant association between age and the tendency to choose CS (Naeimi & Momeni, 2015). Multiparous women with previous CS accepted CS. The study found no difference in age, parity, level of education and income among those who accepted CS (Soaji et al., 2011). However, economic status, level of education and parity had an association with

CS in another study. Women with higher education were more likely to accept CS, and were at risk for unnecessary CS (Ahmad-Nia et al., 2009; Zhao & Chen, 2013). A study also revealed that, 44 out of 204 women planning CS were less educated and less likely to be married (Blomquest, Quiroz, MacMillan, McCullough & Handa, 2011).

In a study on contraceptive acceptance and use among reproductive age women, education played a major role as 100% (418 respondents) of graduate and postgraduate females accepted family planning with illiterates being the least. With regard to the age groups, highest acceptability was found in age 25-29 (n=110), and was least among the age group 45-49 years (Bora, & Kumah, 2014). A study conducted in Dhahran on 400 respondents revealed that age of the mother, educational level, monthly income and previous CS were the factors for agreement to undergone CS (Al-Mousa, 2015).

### **Theories of Health Behaviour**

The Health Belief Model (HBM), and the Theory of Planned Behaviour (TPB), have been used in literature to explain individuals behaviour towards CS as a delivery method (Loke, Davis & Sun-fan, 2015; Kanani, Allahverdipour & Jafarabadi, 2015; MacMillan, 2010; Mohtasham & Atefeh, 2013). Also, healthcare utilization has been used to explain the utilization of health services (Anderson, 1995).

# **Health Belief Model**

The HBM has been applied in studies to predict delivery method selection among pregnant women (Loke et al., 2015; MacMillan, 2010). The model was propounded by Irwin M. Rosenstock, Godred M. Hochbaum, Stephen S. kegeles, and Haward Leventhal in the 1950's. The model is a

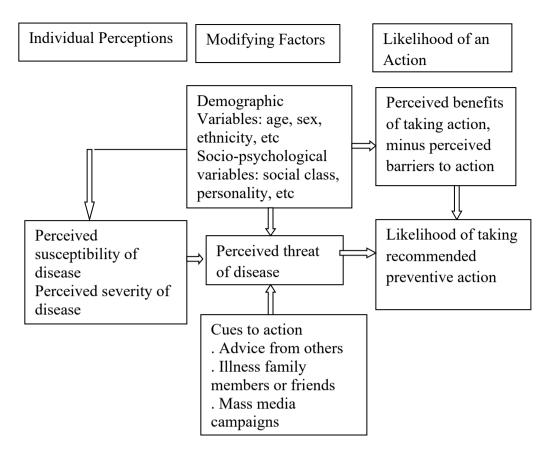
psychological health behaviour change model developed to explain and predict health–related behaviours. The HBM posits that people's beliefs about whether they are or they are not susceptible to disease, and their perceptions of the benefits of trying to avoid it, influenced their readiness to engage in a healthpromoting behaviour. The model explores the relationship between belief and behaviour. Based on the model, six main constructs have been identified to predict behaviour; perceived susceptibility, perceived severity, perceived benefits, perceived barriers, modifying factors or variable, cue to action, and perceived self-efficacy (Glanz & Rimer, 2005; Rosenstock, Strecher & Marshall, 1988).

Perceived susceptibility looks at the risk involved in carrying out health related behaviour. Perceived severity looks at the severity of the risk involved, or the potential consequences/complications associated with the health related behaviour. Perceived benefits looks at the benefits/advantages that will be achieved when one engages in a health related behaviour. Perceived barriers are the obstacles an individual perceives with a health related behavior.

Also, modifying variables such as the demographic and psychosocial variables can affect the perceptions of a health related behavior indirectly by affecting perceived susceptibility, benefits and barriers. Cues to action are the factors or trigger for accepting a health related behaviour. Women's beliefs and attitudes towards a particular mode of delivery are influenced by advice and stories from friends, health care professionals and relatives. Appropriate information from family members, friends, and health care providers on the childbirth methods will help individuals to accept. Ones awareness of her rights also contributes to helping one to make a health related decision. Self-efficacy

refers to an individual's confidence in her ability to carry out health related behaviour (Janz & Becker, 1984; Rosenstock, Strecher, & Marshall, 1988). The HBM is based on the assumption that a person will take a health related action or perform a health related behavior if the person feels that a negative health condition can be avoided; has a positive expectation that he will avoid a negative health condition by taking a recommended action; and believes that he can successfully take a recommended action (Conner, 2010).

One main strength of the HBM is the common sense operationalization it uses including key beliefs related to decisions about health behavior (Conner). Some weaknesses of the HBM are that the model does not account for a person's attitudes, beliefs, or other individual determinants that dictate a person's acceptance of health behaviour. It does not take into account behaviours that are habitual and thus may inform the decision-making process to accept a recommended action (e.g., smoking). It does not take into account behaviours that are performed for non-health related reasons such as social acceptability. It does not account for environmental or economic factors that may prohibit or promote the recommended action. It assumes that everyone has access to equal amounts of information on the illness or disease. It assumes that cues to action are widely prevalent in encouraging people to act and that "health" actions are the main goals in the decision-making process (Conner, 2010). The diagram on the next page explains the HBM.



*Figure 1:* Health Belief Model (Glanze, Rimer & Lewis, 1990; Janz & Becker, 1984)

## **Theory of Planned Behavior**

The Theory of Planned Behaviour was developed from the theory of reasoned action (1980) in 1988 by Martin Fishbein and Icek Ajzen. The theory helps to predict and understand individual's intention to engage in a behaviour. The theory states that behavioural achievement depends on motivation (intention) and ability (behavioural control). The theory has six main constructs; attitudes, behavioural intention, subjective norms, social norms, perceived power and perceived behavioural control. Attitude is an individual's negative or positive belief about performing health related behaviour. Behavioural intention refers to the motivational factors that influence the performance of a behaviour. If the intention to perform the behaviour is strong, the more likely it will be performed. Subjective norm is the individual's belief about people's

(friends, family members) approval or disapproval of the behaviour. Social norms refer to the behaviour of a group in the cultural context. Perceived power refers to the perceived factors that facilitate or impede the performance of behaviour. Perceived behavioural control is the person's perception of the difficulty in performing the behaviour of interest (Glanz, & Rimer, 2005; Alberta Health Services, 2010).

The TPB is based on the assumptions that human beings are rational and make systematic use of information available to them. Also, people consider the implications of their actions before they decide to engage or not engage in certain behaviours (Conner, 2010). Weaknesses of the TPB are that it assumes the person has acquired the opportunities and resources to be successful in performing the desired behaviour, regardless of the intention. It does not account for other variables that factor into behavioural intention and motivation, such as fear, threat, mood, or past experience (Conner). While it does consider normative influences, it still does not take into account environmental or economic factors that may influence a person's intention to perform a behavior. It assumes that behaviour is the result of a linear decision-making process, and does not consider that it can change over time. While the added construct of perceived behavioral control was an important addition to the theory, it doesn't say anything about actual control over behavior. The time frame between "intent" and "behavioral action" is not addressed by the theory (Cornner).

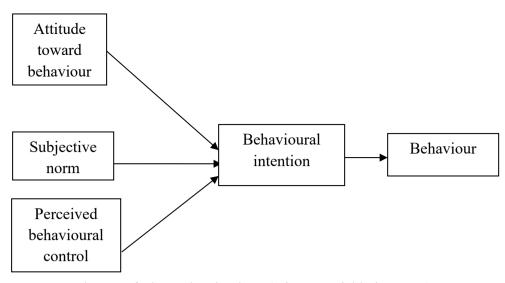


Figure 2: Theory of Planned Behaviour (Ajzen & Fishbein, 1980)

## **Healthcare Utilization Model**

The health service utilization model is a behavioural model developed by Andersen in 1968 to ascertain the conditions that facilitate or impede utilization of health services by individuals. The framework predicts that series of factors: predisposing, enabling and need factors influence the utilization of health services by people. According to the model, predisposing factors are the demographic (age, sex), social structures (education, occupation, ethnicity) and health beliefs (attitudes, values, and knowledge that people have about health and health services that might influence their subsequent perceptions of need and use of health services) that influence the acceptability of health services. Enabling factors facilitates individual's use of a service, for example availability of resources such as income, availability and access to the service. This could be community or personal enabling resources. Health personnel and facilities must be available where people live and work. Then people must have the means and know-how to get to those services and make use of them. Need factors motivates service use. It could be perceived needs and evaluated needs. People's perceived need for care may be increased or decreased through health

education programs, and evaluated needs altered to influence use (Anderson, 1995).

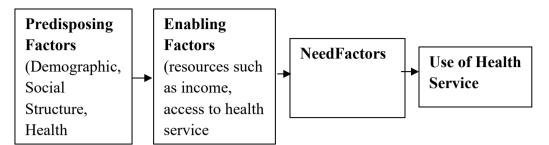


Figure 3: Healthcare Utilization Model (Anderson, 1995)

### **Conceptual Framework**

The conceptual framework was developed from some of the constructs of the HBM, TPB, and the Healthcare Utilization Model. The variables used were the predisposing or modifying factors (demographic: age, sex; social structure: education, ethnicity, occupation; and health beliefs: attitudes, values and knowledge that people have about health and health services that might influence their perception of need and use of health services), attitude, knowledge, and socio-cultural factors which may include social and subjective norms (Anderson, 1995; Rosenstock et al., 1988).

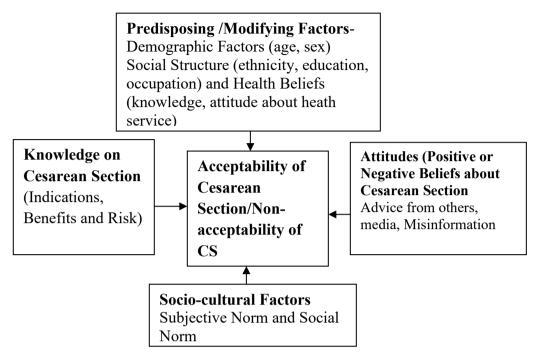
Socio-cultural factors that can influence the acceptability of CS could be related to friends and family member's approval or disapproval of CS (subjective norm). If friends and family members approve of CS, it will influence the individual's acceptability of CS. Also, if the culture of a group or community accepts CS, individuals within the community will accept CS (social norm) (Glanz, & Rimer, 2005). Besides, knowledge on CS (indications, benefits and risk) can influence an individual's acceptability of CS. If people have indepth information on CS, it can affect their level of acceptability (Anderson, 1995).

Additionally, the attitude of an individual can determine CS acceptability or non acceptability. Positive or negative beliefs about CS can influence CS acceptability or non acceptability. Attitude can be formed from the advice received from others, as well as being misinformed (Anderson, 1995). An individual's perceived susceptibility, severity, benefits and barriers to CS can influence the acceptability or non acceptability of CS. If CS is associated with less risk and with benefits, pregnant women may accept it. If the risk is great and associated with serious complications, they may not accept it. Barriers such as the cost involved as well as the pain may also influence the acceptability of CS (Glanz & Rimer, 2005).

Furthermore, demographic factors such as age, sex, level of education, occupation can determine CS acceptability (Anderson, 1995; Glanz, & Rimer, 2005). Studies conducted in Nigeria have revealed that level of education and occupation influences CS acceptability. Women with higher level of education are more likely to accept CS (Awoyinka et al., 2006; Aziken et al., 2007; Buyukbayrak et al., 2010; Yilmaz et al, 2013). Other studies found increasing age to be associated with CS acceptability (Angeje et al., 2006; D'Oris et al., 2006).

Another study conducted in Dhahran revealed that age of the mother, educational level, monthly income and previous CS were the factors for agreement to undergone CS (Al-Mousa, 2015). An adolescent who is pregnant may deliver by CS if the pelvis is not well developed. Also, pregnancy at age 40 may require CS due to the risk of complications in vaginal delivery (Cunningham et al., 2014). High level of education is associated with increased knowledge or information, and this influences ones decision regarding CS (Mboho, 2013). In one way or the other, these factors influence acceptability or

non acceptability of CS.



*Figure 4:* Conceptual Framework Adaped from (Anderson, 1995; Glanz & Rimer, 2005; Rosenstock et al., 1988)

# Summary

The literature reviewed showed that knowledge of pregnant women on CS is inadequate or low in some countries, and adequate or high in other countries. This requires information on CS during antenatal care to enhance their knowledge. Also attitude towards CS is positive in some studies and negative in other studies. Pregnant women need to develop positive attitudes toward CS by acquiring information on CS from the right source. Cesarean section acceptability is high in some studies and low in other studies. Reasons such as safety of mother and baby were related to acceptability, whiles pain, prolong bed rest and costs of CS were given for non acceptability. Knowledge, attitude, demographic and socio-cultural factors were also found to influence CS acceptability.

## **CHAPTER THREE**

### **RESEARCH METHODS**

The purpose of the study was to assess the knowledge, attitude and acceptability of CS among pregnant women in the Cape Coast Metropolis. This chapter focuses on the research design, population, sampling procedure, data collection instrument, data collection procedure, and data processing and analysis.

## **Research Design**

The descriptive cross sectional study design was employed in the study. The design describes phenomena at one point in time, and also compares different population groups at a single point in time (Ogah, 2013). The design was appropriate for this study because the purpose of the study was to assess the knowledge, attitude and acceptability of CS. This design enabled the researcher to collect information at one time from participants and describe what is existing among the variables under investigation. In addition, it enabled the researcher to collect information naturally about participants without manipulating the environment, describe them, and also compare many different variables at the same time (Ogah). One major weakness of this design is that, cross sectional studies may not provide definite information about cause and effect relationship. Since such studies offer a snapshot of a single moment in time, it does not consider what happens before or after the snapshot is taken (Ogah).

# Population

The population for the study consisted of pregnant women in the Cape Coast Metropolis. The Metropolis has an estimated monthly population of 3,600

pregnant women (Central Regional Health Directorate; Health Information Unit, 2017). The ages of the pregnant women ranged between 15 to 49 years. This is because these are women in their reproductive age (GSS, GHS & ICF International, 2015). Some of the pregnant women were married and living with their husbands, whiles others were not. With regard to education, some had no formal education; others had primary, secondary and tertiary education. Majority of the respondents had primary and secondary education. With regard to religion, respondents comprised Christians (Pentecostal/charismatic, orthodox) and Moslems. Akans, Ewes, Ga-Adangbes and others (Mole-Dagbanis, Guan, Grusi Gruma) formed the various ethnic groups (GSS, GHS, ICF International)

Also, monthly income was classified as low, middle and high. The current daily minimum wage in Ghana (GH¢9.68) was used to determine the level of monthly income (Boateng, 2017, July, 12). Respondent earning 290 Ghana cedis and below were classified as low income earners. Those who earned GH¢300 up to 500 Ghana cedis were classified as middle income earners. Those earning above 500 Ghana cedis were classified as high income earners. The study however focused on all pregnant women in the antenatal clinics of the facilities under the five sub health metros in the Cape Coast Metropolis.

Cape Coast Metropolis is one of the 20 districts in the Central Region, and the most urbanised. The metropolis is bounded to the South by the Gulf of Guinea, to the West by the Komenda Edina Eguafo Abrem Municipality (at Iture bridge), to the East by the Abura Asebu Kwamankese District, and to the North by the Twifu Heman Lower Denkyira District (Cape Coast Metropolitan

Assembly, 2014; Central Regional Health Directorate, 2017). It is located on longitude 1° 15'W and latitude 5°06'N. It occupies an Area of approximately 122 square kilometres, with the farthest point at Brabedze located about 17 kilometres from Cape Coast, the Central Regional capital (Cape Coast Metropolitan Assembly, 2014; Central Regional Health Directorate, 2017). Based on the 2010 population and housing census, the metropolis has a projected population of 186,189, with 90,753 being males and 95,436 being females, and an annual growth rate of 3.1%. The male per female ratio is about 1:1.4. There are 102 communities and about twenty thousand three hundred and twenty three households. The population density is 1526.13 persons per square kilometer. Majority of the people (70%) live in urban areas (Ghana Statistical Service, 2011). The metropolis is divided into five sub health metros, thus, Ewim, Adisadel, Efutu, Reproductive and Child Health Division (RCH, main) and University of Cape Coast (Cape Coast Metropolitan Assembly, 2014; Central Regional Health Directorate, 2017).

The people of Cape Coast are part of a larger group of people known as Fantes found in the Central part of Southern Ghana and are among the Akan ethnic group of Ghana. The language spoken by the people is Fante. People belonging to other ethnic groups are also found in the Metropolis. Most of the working population is in the informal sector of the economy. Thus, most of the inhabitants are traders, farmers and or fishermen/fishmongers. The hospitality industry is quite prominent in the Metropolis. However, civil service dominates the formal sector. The Metropolis is richly endowed with both public and private schools from nursery to university level. There are 50 pre-schools/nursery, 100 primary schools, 86 Junior High Schools, 13 Senior High Schools, 7

vocational/technical institutions, 1 College of Education, 1 special school (school for the deaf and dumb), 2 Universities (1 Technical). There are 31 health facilities in the Metropolis. Of these, 8 are private clinics and a private hospital. The remaining 22 are public health facilities made up of 3 hospitals, 1 polyclinic, 2 health centers, 10 CHPS zones, 2 public clinics, 3 quasi clinics, and 1 Christian Health Association of Ghana (CHAG) facility (Cape Coast Metropolitan Assembly, 2014; Central Regional Health Directorate, 2017). The entire Metropolis constitutes one traditional area with the Oguaa Omanhen as the Paramount Chief. Christianity has long been the dominant religion in the Metropolis, although there are significant number of Muslims and traditionalist. The Total Fertility Rate (TFR) for the Metropolis is 2.2, which is the lowest in the region. The General Fertility Rate (GFR) is 59.2 births per 1000 women aged 15-49 years, which is also the lowest for the region. The Crude Birth Rate (CBR) is 17.9 per 1000 population (Cape Coast Metropolitan Assembly, 2014; Central Regional Health Directorate, 2017).

# **Sampling Procedure**

Sample size determination was based on Krejcie and Morgan (1970) table for determining sample size for infinite or estimated population. The sample size was calculated from the formula;  $n=z^2 x p (1-p)/M^2$ , where n is the sample size for infinite population, z is the z value for 95% confidence level (1.96), p is the population proportion assumed to be 0.5 (50%), and M is the margin of error at 5% (0.05). A sample size of 384 was obtained and adjusted to compensate for unreturned and incomplete questionnaires. This was achieved by adding 10% of the sample size to 384 (Prah et al., 2013). A sample size of 384 was used

during the data entry as data cleaning resulted in the discarding of some of the questionnaires which were incomplete. Also, for a descriptive study, the description is more precise if the sample size is large. Again, using large sample size increases the power of a statistic making it possible to detect small relationships which would have been missed with small samples (Ogah, 2013).

Facility-based study was done to sample the individual respondents for the study. Facility-based study involves recruiting members of a target population from a variety of facilities including clinics, health centers and hospitals. The choice of the facility-based study was because the respondents would be difficult to reach using other techniques, such as community-based study. With facility-based study, it is easy to get the participants when they access or visit the facility. It also saves time in data collection as participants converge at one place within the facility (Magnani, Sabin, Saidel, & Heckathorn, 2005).

Respondents were sampled from the facilities under the five sub health metros that provide antenatal services. The facilities were purposively selected because they provide antenatal services and the pregnant women will be found at the antenatal clinics. The facilities include; Ewim Polyclinic, Adisadel and Efutu Health Centres, Cape Coast Metropolitan Hospital, and University Hospital, Doctors in Service, Sanford Clinic, Planned Parenthood Association, Ghana (PPAG), Baiden Ghartey Hospital, and Cape Coast Teaching Hospital. Based on the estimated monthly attendants at the various facilities, quota sampling was used to select the number of participants required from each facility. To obtain a sample size of 422, 47 respondents were sampled from Ewim Polyclinic (400), 56 from Adisadel Health Centre (480), 28 from Efutu Health Centre (240), 94 from Cape Coast Metropolitan Hospital (800), 35 from University Hospital (300), 14 from Doctors in Service (120), 14 from Sanford Clinic (120), 14 from Planned Parenthood Association, Ghana (PPAG) (120), 14 from Baiden Ghartey Hospital (120), and 106 from Cape Coast Teaching Hospital (900).

Individual participants were then sampled conveniently from each facility for the study. Convenience sampling requires less time and cost to carry out. It helps the researcher gain easy access to study participants, thus, acquiring the sample size in a relatively fast and inexpensive way. With regard to weaknesses of convenience sampling, the sample is not likely to be a representative of the population being studied (Ogah, 2013). Therefore, the findings cannot be generalized to the entire population under study. It can also lead to under or over representation of particular groups within the sample (Ogah). This procedure was adopted because participants will be readily available at the facilities during the clinic days, thus, making it easy for sampling and thereby reducing time and cost. Using this sampling procedure, the pregnant women were selected from Ewim Polyclinic, Adisadel and Efutu Health Centres, Cape Coast Metropolitan Hospital, and University Hospital, Doctors in Service, Sanford Clinic, Planned Parenthood Association, Ghana (PPAG), Baiden Ghartey Hospital, and Cape Coast Teaching. These health facilities provide antenatal services to the clients.

The demographic backgrounds of respondents were as follows. The ages of the respondents were from 15-49 years. Thirty five percent (35%) of the respondents were aged between 25-29, 26% were between 30-34, 19% were aged 20-24, 12% were aged 35-39, 6% were aged 15-19, 2% were aged 40-44

and 0.3% were 45-49 years. With regard to level of income, 64% of the respondents received GH ¢300 and below, 21% received GH¢300 to GH¢500, and 15% received above GH¢500. With regard to marital status, 74.7% of the respondents were married, 24.5% were single and 0.8% were separated, divorced or widowed. Also with level of education, 50% of the respondents had primary education, 28% had secondary education, 16% had tertiary education, and 6% had no formal education. Considering ethnicity, 80% of the respondents were Akans, 10% were Mole-Dagbanis, Guan, Grusi Gruma, 6% were Ewes and 4% were Ga-Adangbes. With regard to religion, 84% of the respondents were Christians and 16% were Muslims. With number of previous pregnancy, 20% of the respondents were pregnant for the first time, 20% have been pregnant once, 25% have carried two pregnancies, 19% have carried three pregnancies, 10% have carried four pregnancies, 3% have carried five pregnancies and 3% have carried pregnancies six and above. With regard to number of previous birth, 24% of the respondents have not put to birth, 26% have had one child birth, 23% have had two child birth, 17% have had three child birth, 8% have had four child birth, 1% have had five child birth and 1% have had six and more. With regard to delivery method of last birth, 66% of the respondents had vaginal delivery, 11% had CS and 23% have not delivered before. Of those who had CS, 7% had emergency CS, 3% had planned CS and 1% had CS by maternal request.

#### **Data Collection Instrument**

A questionnaire generated from literature was used to collect the data (See Appendix A and B). This was adapted from Ashimi et al. (2013), Naeimi et al. (2015), and Nathani et al. (2011). The questions were adapted because it

should be culturally relevant to the area under study. The questionnaire was in English. It was translated into Fanti at the linguistics department for easy explanation to respondents who could not read and write, and then translated back into English. The questionnaire comprised five sections with a total of 37 items. Section A had 10 items and it elicited information on pregnant women's knowledge on CS. The items that measured knowledge were; CS is done for a woman who is in labour for a long time, CS may be done for a woman who is carrying twins, CS may be done for a woman carrying a big baby, vaginal delivery is not possible after a CS, CS may require blood transfusion, CS requires longer maternal hospital stay after delivery (2-4 days), CS does not require anaesthesia before it is done, CS does not require the woman's consent before it is done, CS saves the mother, and CS saves the baby's. Respondents responded "yes", "no" or "don't know" to the items on knowledge.

Section B had 8 items which elicited information on pregnant women's attitude towards CS. These items were adapted from Ashimi et al. (2013), Jerimiah et al. (2011), Owonikoko et al. (2015), Soaji et al. (2011), and Sunday-Adeoye and Kalu (2011). The questions were adapted because of the different cultural bacground. The items measuring attitude were; it is right to undergo CS for medical reasons, weak women undergo CS, lazy women undergo CS, CS is expensive, CS is associated with complications, women who undergo CS are unable to have the number of children they want to have, CS is more painful and CS is an abnormal route of delivery. Attitude statements were rated on a four point likert-scale (4-1), thus, strongly agree, agree, strongly disagree and disagree.

Section C had 1 item with two sub sections that collected information on the acceptability of CS. The pregnant women were asked if they would accept CS as a delivery method. The two sub sections elicited information on their reasons for acceptability or non acceptability of CS. Respondents responded "yes", "no" or "don't know" to the question on acceptability, as well as the reasons for acceptability or non-acceptability of CS. The items were adapted from Adageba et al. (2008), Ashimi et al. (2013), Aziken et al. (2006), Awoyinka et al. (2006), Jerimiah et al. (2011), Prah et al. (2011), Soaji et al. (2011), Mungrue et al. (2010), and Nisar et al. (2009). Section D consisted of 9 items which elicited information on the socio-cultural factors associated with CS. The items were; rich women undergo CS, cursed, women undergo CS, women who undergo CS are not women, my husband accepts CS as a delivery method, my friends accept CS as a delivery method, my family members accept CS as a delivery method, my religion accept CS as a delivery method, and CS is not God's will concerning delivery. Respondents responded "yes", "no" or "don't know" to the items. The items were adapted from Mboho (2013), Eifediyi et al. (2015), Rahnama et al. (2016), Roudsari et al. (2015), and Sunday-Adeoye and Kalu (2011). Section E consisted of 9 items which elicited information on demographic data such as age, marital status, level of education, income, ethnicity, religion, number of birth and previous pregnancies and delivery method of last birth. The items were adapted from Awoyinka et al. (2006), Buyukbayrak et al. (2010), Faisal-Cury and Menezes (2006), Soaji et al. (2011). Respondents were provided with options under each demographic variable to choose the category they belonged to.

## Validity

The questionnaire was given to colleagues who are nurses and midwives to read through to determine the face and content validity. Some of the questions were modified, some deleted and additions made. For example, questions like CS requires blood transfusion was modified to CS may require blood transfusion, and CS is done when the woman is carrying twins was modified to CS may be done when the woman is carrying twins. CS is done for women who cannot deliver on their own was changed to CS is done for women who are in labour for a long time. It was also given to some doctors, to determine content validity, and modifications done. It was then given to my supervisor and cosupervisor in the field of research for inspection to determine the face validity as well as the quantity and coverage for content validity. Feedback was obtained and the necessary corrections and modifications were done on the questions to improve on it before it was pretested.

## Pretesting

Pre-testing was done at Elmina Health Centre within Komenda Edina Eguafo Abrem (KEEA) Municipality in the Central Region on 50 pregnant women who were not involved in the study. This was done to ensure that the instrument was reasonably appropriate for the study. It was also to ensure the reliability of the instrument. The internal consistency method was used to ensure homogeneity of the items. The Kuder Richardson (KR 20) reliability coefficient was calculated and the pre-test yielded a reliability coefficient of .71.

## **Data Collection Procedure**

The University of Cape Coast Institutional Review Board (IRB) approved the research protocol (UCCIRB/CES/2018/05). Appendix E provides

a copy of the ethical clearance letter. An introductory letter was obtained from the Department of Health, Physical Education and Recreation, and the Regional Health Directorate (see appendix C and D). The ethical clearance letter and the introductory letters were sent to the facilities that were included in the study to obtain permission from the medical directors and superintendents of the facilities. When permission was granted by the directors to collect data, participants were met on different days during the clinic hours and informed about the study and its purpose. In addition, participants were made to understand that participation was entirely voluntary and that they had the right to refuse to participate or withdraw from the study. Data collection was done by the researcher and two field assistants (nurses) who were trained on the instrument and how to observe ethical issues regarding the study. The antenatal clinics of the facilities involved in the study were visited during the clinic days and hours, and every pregnant woman who was willing to participate in the study was given a questionnaire to answer after the questions have been read to them. The questions were also translated in Fanti for respondents who could not read and write to answer. Every participant either signed or gave oral consent before taking part in the study. The completed questionnaires were collected by the researcher afterwards. This continued for one month until the sample size was attained.

## **Data Processing and Analysis**

Each questionnaire completed by the respondents was checked for accuracy and consistency of the responses to the items on the instrument. After editing, a template was developed and used to create a data analysis matrix on the computer, as well as code responses to the items on the instrument. The data

was also entered into the computer analysis matrix developed with the computer software, Statistical Package for Social Sciences (SPSS) version 21.0.

Research question one aimed to determine the knowledge on CS among pregnant women in the Cape Coast Metropolis. The dependent variable was CS, and the independent variable was the knowledge on CS. Respondents responded "yes", "no" or "don't know" to the items on knowledge. These items generated categorical data for both variables. The data was analysed using descriptive statistics of frequencies and percentages. Each respondent's level of knowledge was determined using a scoring system. Since the items were in both negative and positive statements, each correct answer was scored a point and an incorrect answer was scored zero. Don't know was scored zero. Total knowledge was categorized as low (0-49%), that is scores of 0 to 4 points, moderate (50%-70%), that is scores of 5-7 points and high (80-100%), that is scores of 8 to 10 points (Ashimi et al., 2013; Prah et al., 2013).

Research question two sought to assess pregnant women's attitude towards CS. The dependent variable was CS and the independent variables were the attitude towards CS. Data was analysed using frequencies and percentage counts. Attitude statements were rated on a 4 point likert-scale (4-1), thus, strongly agree, agree, strongly disagree and disagree (Naeimi et al., 2015; Nisar et al., 2009). A total score of 32 was obtained. Scores ranging from 8-19 reflected negative attitude, and scores ranging from 20-32 reflected positive attitude (Robinson-Bassey & Uchegbu, 2016).

Research question three sought to find the level of acceptability of CS among pregnant women in the Cape Coast Metropolis. The dependent variable was CS, and the independent variable was the level of acceptability.

Respondents were asked if they accept CS as a delivery method, and the reasons for acceptability or non acceptability. Participants responded "yes" or "no"to the item. "Yes" was scored a point and "no" was scored zero. Results were analysed using descriptive statistics of frequencies and percentage counts.

Research questions four and five sought to identify the extent to which knowledge and attitude are associated with acceptability of CS by pregnant women in Cape Coast Metropolis. The independent variables were knowledge and attitude, and the dependent variable was CS. The independent variables were on the nominal level (categorical). Results were analysed using chi-square test to determine the association between the independent and the dependent variables.

The sixth research question sought to identify the socio-cultural factors influencing the acceptability of CS. The independent variables were the sociocultural factors which included; rich women undergo CS, cursed, women undergo CS, women who undergo CS are not women, my husband accepts CS as a delivery method, my friends accept CS as a delivery method, my family members accept CS as a delivery method, my religion accepts CS as a delivery method, and CS is not God's will concerning delivery. The independent variables were at the nominal level. The dependent variable was CS acceptability, measured as acceptable or not acceptable. Binary logistic regression was used to analyse this research question. The choice of the statistic was influenced by the fact that logistic regression requires one categorical (dichotomous) dependent variable and two or more continuous or categorical predictor (independent) variables (Tabachnick & Fidell, 2007).

Research question seven sought to identify the demographic factors influencing the acceptability of CS by pregnant women in the Cape Coast Metropolis. The independent variables considered under this research question were the demographic factors such as age, marital status, level of education, level of income, religion, ethnicity, number of previous pregnancies, number of previous birth and delivery method of last birth. The independent variables were on the nominal level. The dependent variable was the acceptability of CS. Binary logistic regression was used to analyse this research question. The choice of the statistic was influenced by the fact that logistic regression requires one categorical (dichotomous) dependent variables (Tabachnick & Fidell, 2007). The results were interpreted using odds ratio (OR) and p-values. The odds ratio represents the change in odds of being in one of the categories of outcome when the value of a predictor increases by one unit (Tabachnick & Fidell).

### **CHAPTER FOUR**

## **RESULTS AND DISCUSSION**

The purpose of the study was to assess the knowledge, attitude and acceptability of CS among pregnant women in the Cape Coast Metropolis. The chapter presents the results and discusses the findings. Descriptive statistics of frequencies and percentages were used to analyse research questions one, two and three. Research questions four and five were analysed using chi-square test. Research questions six and seven were analysed using logistic regression.

# **Research Question 1: What is the Knowledge Level of Pregnant Women in the Cape Coast Metropolis about CS?**

This research question sought to assess the knowledge of pregnant women in the Cape Coast Metropolis on CS. A total of 384 respondents were involved in the study. Table 1 depicts the knowledge of the participants on CS. Among the study participants, 78% (n = 299) had high knowledge on CS.

Knowledge	Frequency	Percentage (%)
High Knowledge	299	78
Moderate Knowledge	76	20
Low Knowledge	9	2
Total	384	100

 Table 1: Knowledge of Pregnant Women about CS (N = 384)
 Page 1

The study found high knowledge among pregnant women in the Cape Coast Metropolis. This means that pregnant women in the Cape Coast Metropolis are exposed to information on CS. They either receive some form of education at the clinic, through the media, and possibly from friends and family on the indications, benefits and risks associated with CS. Since knowledge influences

decision made on a commodity (Mboho, 2013), their knowledge on CS may be influencing their decisions on CS. The findings of the study agreed with a study conducted in Nigeria where 59% of the respondents had high knowledge on CS (Jerimiah et al., 2011). The reason for the agreement may be due to the fact that majority (98.5%) of the respondents in the study by Jerimiah et al. had tertiary and secondary education. The study was also conducted in the hospital, and on antenatal clients (400). The sample size for the study was the same (384), and the age range for the respondents was closely related (20-42 years). The instrument was also self administered and analysed with frequency and percentages. It could also mean that respondents are given some education at the antenatal clinic, or they have their own means of getting information on CS. The study was also consistent with another study conducted in Nigeria by Robinson-Bassey and Uchegbu (2016), where 62.42% of the respondents had high knowledge on CS. The consistency could be related to the countries where the studies were conducted. Though the studies were conducted in different countries, they are all African countries and have some similarities in terms of their level of education (primary, secondaery and tertiary). Respondents were pregnant women attending antenatal clinic in a hospital. Also, majority of the respondents (69%) in the study conducted by Robinson and Uchagbu had secondary and tertiary education, thus obtaining information due to their educational background.

However, the findings disagreed with a study conducted in India where respondents (200) had low knowledge on CS (Nathani et al., 2011). This could be related to the difference in geographical area. Though the study in India was also conducted on pregnant women, the instrument was an interview guide.

With an interview guide, respondents can express themselves very well giving rise to the low knowledge. The sample size was also less compared to the current study. The study was inconsistent with a study conducted in Isra on 446 respondents with 87.9% of the respondents having low knowledge. This could be due to the fact that the study in Isra had most of the respondents with no formal education (40%) and others with primary education (28%). Education influences knowledge and this could be a factor. Also, most of the respondents (96%) were house wife's (Nisar et al., 2009).

The study again contradicted a study conducted in Nigeria by Naeimi et al. (2015), where 46.8% of the respondent had low knowledge on CS. This could be due to lack of or inadequate information on CS. The study did not agree with the study conducted by Faremi et al. (2014), where 46.5% of the respondents (203) had low knowledge on CS. The disagreement could be related to the differences in the geographical area where the study was conducted. Also, 31% of the respondents had primary education compared with the current study. On the other hand, the disagreement with other studies may be due to the fact that the pregnant women received less or no information at the antenatal clinic on CS, or their sources of information were inappropriate and full of misconceptions about CS. It may also mean that respondents were not in favour of CS, so they as well would not want to know anything about CS. More so, most of the studies reviewed were conducted in Nigeria and their cultural background, population sample characteristics and the geographical area differ from the study conducted in Cape Coast, hence the difference. Also, studies reviewed showed that the Nigerian culture frowns at CS and has a lot of misconceptions surrounding CS.

# **Research Question 2: What is the Attitude of Pregnant Women in the Cape Coast Metropolis towards CS?**

This research question sought to determine the attitude of pregnant women in the Cape Coast Metropolis towards CS. Table 2 shows the respondents attitude towards CS. Among the study participants, 89% (n = 342) showed positive attitude towards CS.

Attitude	Frequency	Percentage (%)
Positive Attitude	342	89
Negative Attitude	42	11
Total	384	100

 Table 2: Attitude of Pregnant Women towards CS (N = 384)

 Attitude of Pregnant Women towards CS (N = 364)

The findings of the study showed that majority 89% (n = 342) of the pregnant women in the Cape Coast Metropolis have positive attitude towards CS. Once pregnant women have positive attitude towards CS, they are likely to accept medically indicated CS to promote health, and also accept CS if they feel it's safe for them. However, this can also result in CS by maternal request, and thereby contribute to the increasing CS. The findings of the study was consistent with a study conducted in Nigeria by Owonikoko et al. (2015), where 54% of the respondents (400) had positive attitude towards CS. This is because the study involved both pregnant women and their spouse whereas the current study involved only pregnant women. The study was also conducted in Nigeria among semi-urban settlements and their cultural backgrounds differ. Again, majority of the respondents had secondary (30%) and tertiary (38%) education just like the current study.

Besides, the findings of the study disagreed with the findings of a study conducted in Nigeria by Robinso-Bassey and Uchegbu (2016), where 58% and 42% of the respondents (325) had negative and positive attitudes, respectively, towards CS. The negative attitude could be attributed to the respondent's level of education. Since majority of the respondents (69%) had secondary and tertiary education and had knowledge on CS, it could mean that their knowledge on CS influenced their attitude towards CS. If respondents have information on the benefits and risk of CS, they may compare the two. If the risk outweighs the benefits, they will develop negative attitudes towards CS. This implies that knowledge on a commodity may or may not influenced by differences in culture and their sources of information. If pregnant women receive information on CS from people who have developed negative attitudes, they may have negative attitude towards CS regardless of their educational background and knowledge.

The findings was also not consistent with a study conducted in Nigeria by Owonikoko et al. (2014), where 0.4% of the total number of respondents (284) had positive attitude towards CS. This could be due to the study location. Culture could also be a determining factor since Nigerian women may have been brainwashed on CS. Their culture and religion frowns at CS and so pregnant women who deliver by CS are seen differently. Also, majority (63%) of the women had tertiary education and low knowledge compared with the current study. Though the women were educated, they did not have much knowledge on CS, hence the negative attitude towards CS. This implies that the knowledge on CS can largely influence attitude towards CS. Attitude was also

measured on a five point likert scale in the study conducted in Nigeria and on a four point likert scale in the current study. In a study conducted in Isra University Hospital by Nisar et al. (2009), only 2.2% of the study participants (446) had positive attitude towards CS. This could be due to the fact that majority of the respondents (88%) in the study had low knowledge compared with the current study. Also, 40% of the respondents did not have formal education and 28% had primary education with 96% of them being housewives. This also implies that inadequate knowledge can influence attitude. Attitude was measured on a six point likert scale in the study by Nisar et al., and a four point likert scale in the current study. The current study did not comply with a study conducted by Naeimi et al. (2015), where only 4.8% of the respondents had positive attitude towards CS. Since information is pre-requiste to attitude formation, and influences attitude formation, the disagreement may stem from their sources of information. It may also be due the fact that respondents in the other studies had less knowledge on CS. The cultural background of the respondents could also be a contributing factor.

# **Research Question 3: What is the level of Acceptability of CS among Pregnant Women in the Cape Coast Metropolis?**

This research question sought to determine the level of acceptability of CS among pregnant women in the Cape Coast Metropolis. Table 3 shows the responses to CS acceptability as a delivery method by pregnant women. From the table, 66% (n = 255) of the respondents said they will not accept CS as a delivery method.

Acceptance of CS as a Delivery Method	v	No n(%)	Total n (%)
Will you accept cesarean section	129 (34)	255 (66)	384(100)
as a delivery method?			

Table 3. Accentability of CS as a Delivery Method (N = 384)

The finding of the study showed that majority of the pregnant women in the Cape Coast Metropolis will not accept CS as a delivery method. Though the pregnant women had positive attitude towards CS, they felt that if the woman can deliver vaginally, then CS should not be an option. Others also felt that once it is a method of delivery, then it is the woman's right to determine the method of delivery. Some did not want to hear the name CS because if they listen to anything on CS, then it is likely they will deliver by CS. Most of the women believed that God will see them through normal vaginal delivery. The findings of the study was consistent with a study conducted in India by Nathani et al. (2011), where 73.5% of the respondents did not accept CS as a delivery method. This could result from the educational background of the respondents and their knowledge on CS. The result of the study also agreed with a study conducted in Nigeria by Aziken et al. (2006), where only 6% of the respondents accepted CS as a delivery method. The findings of the study partially agreed with the findings of a study conducted in Nigeria by Owonikoko et al. (2015), where only 4.3% of the study participants (400) accepted CS. This could have been due to the fact that respondents had negative perception about CS. The cultural background of the respondents could also be a factor. Though respondents in the current study had positive attitudes towards CS as a delivery method, they will only accept if medically indicated.

However, the findings of the study was inconsistent with the findings of a study conducted in Nigeria by Jerimiah et al. (2011), where 68% of the respondents (400) accepted CS as a delivery method. This is because majority of the respondents (59%) had knowledge and positive attitude towards CS. It could also be due to their educational background since almost all the respondents had tertiary (67%) and secondary education (31%). Also, there was a high level of acceptability (85%) among 201 respondents in a study conducted in Nigeria (Awoyinka et al., 2006). This could be due to their educational background and knowledge on CS, since knowledge on CS influences its acceptability (Anyasor & Adetuga, 2017).

## **Reasons for Acceptability of CS as a Delivery Method**

This section is part of research question three and its aim was to determine respondent's reasons for acceptability of CS as a delivery method. Results presented in Table 4 shows that, 57% (73) of the respondents will accept CS as a delivery method based on doctor's advice, whiles 43% (56) will not. Table 4 again shows that 95% (123) of the study participants will accept CS for the baby's safety, whiles 5% (6) will not. More so, 96% (124) of the participants will accept CS for the mother's safety whiles 4% (5) will not. Besides, 19% (25) of the respondents will accept CS on their husband's approval, whiles 81% (104) will not.

<b>Reasons for Acceptability of CS</b>	Yes n(%)	No n(%)
Based on doctors advice	73 (57)	56 (43)
Based on previous CS	41 (32)	88 (68)
Due to fear of labour pain	40 (31)	89 (69)
For the baby's safety	123 (95)	6 (5)
For the mothers safety	124 (96)	5 (4)
On my husband's approval	25 (19)	104 (81)

Table 4: Reasons for Acceptability of CS (N= 129)

The findings of the study showed that pregnant women in the Cape Coast Metropolis have various reasons for accepting CS as a delivery method. Those who accepted gave reasons for accepting CS as a delivery method. Interestingly, the highest percentages among the reasons for acceptability of CS were for the baby's safety (95), and for the mother's safety (96%). This implies that most pregnant women will accept CS as a delivery method only if it will save their lives and that of their babies. This is a positive reason because according to the WHO, CSs should be performed if medically indicated. This is because CS by maternal request is believed to increase morbidity and mortality of mother and baby compared with medically indicated CSs (Beischer et al., 1997; Villa et al., 2007; WHO, 2015). This also implies that the increasing percentages of CSs carried out in Cape Coast may not be on maternal request but with medically indicated reasons. It could either be emergency or planned CS. The pregnant women believed that if a woman undergoes CS for the first delivery, she can undergo vaginal delivery in the subsequent deliveries if there is/are no complication(s). Also, the women believed that labour pain is normal for every woman to endure; therefore they will not undergo CS because of

labour pain. Others said normal delivery is painful, hence they will choose CS over vaginal delivery. Majority of the pregnant women will not accept CS on their husband's approval. They believed that if the doctors feel it is safe for them, then they don't need their husband's approval. It is their lives and that of the babies they have to think of and not what their husbands say. Considering those who will accept CS on their husband's approval, it gives an indication that husbands matter when it comes to their wives delivery, hence they should be involved in education on pregnancy and delivery.

The findings of the study was consistent with the findings of a study conducted in Cape Coast by Prah et al. (2013), where 96% of the respondents will accept CS if indicated. The conformity may be due to the study location and the population sample characteristics which might be related. The study findings also agreed with a study conducted in Nigeria by Ashimi et al. (2013), where 99% of the respondents will accept CS if indicated. Since women in sub Saharan Africa are averse to CS, they may be of the opinion that CS should be accepted if it is necessary to save the lives of the woman and the baby. The study findings also acceded to the findings of a study carried out in Nagpur by Soaji et al. (2011), where 92% and 88% of the respondents will accept CS if it will protect the health of the baby and the mother, respectively. To add to that, 71% of the respondents said they will accept CS if it is the advice if the treating doctor for them to undergo CS. The study complied with the study conducted in India by Nathani et al. (2011), where 83% of the respondents accepted CS on the advice of the treating doctor. This also implies that pregnant women trust in the attending gynecologists and so will heed to whatever they feel it's good for them. This also means that the attending physicians should advice positively

and only recommend CS if medically indicated and not when they feel it should be so. The study was consistent with a study conducted in Nigeria by Jerimiah et al. (2011), where 19% and 65% of the respondents will accept CS after consulting their husbands, and if need be for the operation, respectively.

However, the findings of the study was inconsistent with a study conducted in Nigeria by Aziken et al. (2007), where only 8% of the respondents will accept CS if it will save their lives and that of the baby. The study was again different from a study conducted in Nigeria by Awoyinka et al. (2006), where 95% of the respondents said they will accept CS on their husband's approval. The study findings again disagreed with the findings of a study carried out in Isra where 8%, 5% and 5% of the participants will accept CS on doctor's advice; fear of the operation and for the baby's safety, respectively (Nisar et al., 2009).

# Reasons for non Acceptability of CS as a Delivery Method

This section is part of research question three and it sought to determine the reasons for respondent's non acceptability of CS as a delivery method. Results in Table 5 indicate that 40% (103) of the respondents in the study will not accept CS as a delivery method due to delayed recovery, whiles 60% (152) said it was not due to delayed recovery. Again, 55% (139) of the study participants said they will not accept CS due to fear of the operation, whiles 45% (116) said it is not due to the fear of the operation. Also, 43% (100) of the respondents said they will not accept CS due to fear of death; whiles 57% (145) said it is not because they are afraid of death.

Reasons for non Acceptability of CS	Yes n(%)	No n(%)
Due to delayed recovery	103 (40)	152 (60)
Due to prolong bed rest	52 (20)	203 (80)
Fear of the operation	139 (55)	116 (45)
Fear of death	100 (43)	145 (57)
Due to the high cost	26 (10)	229 (90)
CS is painful	71 (28)	184 (72)

Table 5: Reasons for non Acceptability of CS (N= 255)

The findings of the study showed that pregnant women in the Cape Coast Metropolis did not accept CS based on specific reasons. Though majority of the respondents did not accept CS, some of the pregnant women did not accept CS on any grounds. Those who did not accept CS felt the woman should be allowed to deliver per vagina if there is no problem with the mother and the baby. Fear of the operation had the highest percentage with regard to the reasons for non acceptability. Due to the fear, pregnant women may refuse indicated CS which may have negative health implications. Hence, education should be intensified to remove the phobia that some pregnant women have concerning CS. The findings of the study agreed with the findings of a study conducted in India where 53% of the respondents did not accept CS due to fear of the operation, and 43% due to delay in resuming household work (Nathani et al., 2011). The study findings was again consistent with the findings of a study conducted in Isra where 15% of the respondents did not accept CS because it is expensive, 6% was due to delayed recovery, 8% was due to prolong bed rest, and 52% was due to fear of the operation (Nisar et al., 2009). Besides, the findings of the study agreed with the findings of a study conducted in Nigeria where 24% of the participants did not accept CS due to fear of death, 5% said CS was expensive, and 19% said CS was very painful (Jerimiah et al., 2011)

# **Research Question 4: To What Extent is Knowledge on CS Associated with Acceptability by the Pregnant Women in the Cape Coast Metropolis?**

This research question sought to examine the extent to which knowledge of CS is associated with the acceptability of CS by pregnant women in the Cape Coast Metropolis. Results in Table 6 shows that 22% (n = 2) of respondents with low knowledge of CS, 46% (n = 35) of those with moderate knowledge of CS and 31% (n = 92) of those with high knowledge of CS indicated that they will accept CS. The results of the chi-square test shows that there is a statistically significant association between knowledge of CS and acceptability of CS ( $\chi 2 = 6.88$ ; p = 0.032).

Variable	No	Yes	χ2	p-value
	n (%)	n (%)		
Knowledge				
Low	7(77.8)	2(22.2)	6.88	0.032
Moderate	41(53.9)	35(46.1)		
High	207(69.2)	92(30.8)		

Table 6: Chi-Square Analysis on Knowledge and CS Acceptability

The findings of the study showed that knowledge of CS was associated with CS acceptability. Those with moderate knowledge are more likely to accept CS than those with low knowledge. Also, those with high knowledge on CS are more likely to accept CS than those with low knowledge. This means that pregnant women who have knowledge on CS will accept CS. It also implies that the level of acceptability of CS is lkely to be high if knowledge on CS is high. This means that if pregnant women have the right information on CS, they are

likely to accept CS, whiles those who do not have knowledge are less likely to accept CS. Therefore, they need the right information and attitude towards CS. The findings of the study agreed with the findings of the study conducted in the Netherlands by Longwe et al. (2012), where high knowledge influenced the acceptance of contraceptive use in Africa among 462 respondents. This could result from the large sample size used in the study.

Although the study by Longwe et al. (2012) was on contraceptive use, they all assessed the extent of association between knowledge and acceptability. Besides, the finding of the study was consistent with the study conducted in Nigeria on 200 respondents by Obalase and Joseph (2017) on contraceptive use. The consistency could result from the fact that they were all conducted in Africa. Again, the age range of the study population was the same. Also, the findings of the study conformed to the findinds of the study conducted in Nigeria on 200 respondents by Panti et al. (2018), where there was high knowledge and high level of CS acceptability. The reason could be due to the fact that the study participants were the same, that is, pregnant women attending antenatal clinic. Also, chi-square test was used to find association between knowledge of CS and CS acceptability.

Similarly, the finding of the study was consistent with the findings of a study conducted in Ethiopia on 448 respondents on acceptability of human papilloma virus vaccine acceptability. Low knowledge and low acceptability was seen among respondents. The consistency could have resulted from the fact that chi-square test was used to find the association between knowledge of CS and CS acceptability. The sample size for the study was also large (Geneti et al., 2016). The findings of the study also agreed with the findings of a study

conducted in Lusaka on 50 respondents to determine cervical cancer screening acceptability. Low knowledge and acceptability level was found among respondents (Kalongo, 2011). The agreement could emanate from the chi-square test used in the analysis of the study as was used in the current study.

However, the finding of the study did not corroborate with the finding of a study conducted in Malawi on 60 respondents regarding contraceptive acceptability, where high Knowledge did not influence contraceptive acceptability. Though knowledge was high, acceptability was low (Chipeta et al., 2010). This could be due to the fact that the respondents have already formed attitudes about contraceptive use, and so their knowledge on it did not influence their acceptability. Also, the dependent variables were different. The study was on contraceptive use whiles the current study was on CS. The sample population and the geographical areas for the study were also different. The sample size was also small compared with the current study. Furthermore, finding of the study was not consistent with the finding of a study conducted in Turkey and Slovenia on 281 respondents to determine genetic modification acceptability. There was no significant association between knowledge and acceptability of genetic modification (Sorgo et al., 2011). This could be due to the fact that both studies had different dependent variables. The data collection tools were also different. The study used interview guide to collect data whiles the current study used questionnaire to collect data. Also, the study population and the statistical analysis tools were different. The study by Sorgo et al., (2011) was analysed using correlation, whiles the current study analysis was by chi-square test.

## **Research Question 5: To What Extent is Attitude towards CS Associated** with Acceptability by the Pregnant Women in the Cape Coast Metropolis?

This research question sought to examine the extent to which attitude towards CS is associated with the acceptability of CS by pregnant women in the Cape Coast Metropolis. Results in Table 7 shows that 32% (n = 13) of the respondents with negative attitude towards CS and 34% (n = 116) of those with positive attitude towards CS indicated that they will accept CS. The results of the chi-square test shows that there is no statistically significant association between attitude of CS and acceptability of CS ( $\chi 2 = 0.07$ ; p = 0.79).

Variable	No	Yes	χ2	p-value
	n (%)	n (%)		
Attitude				
Negative	28(68.3)	13(31.7)	0.07	0.79
Positive	227(66.2)	116(33.8)		

Table 7: Chi-Square Analysis on Attitude and CS Acceptability

The finding of the study showed that attitude of CS was not associated with CS acceptability in the Cape Coast Metropolis. This implies that there is no association between attitude towards CS and CS acceptability. Positive attitude on CS may not influence CS acceptability. This could be associated with their knowledge on CS or their sources of information on CS. Therefore it is imperative for pregnant women to have the right information on CS and from the appropriate or right sources to impact positively on their attitude. This will aid pregnant women to make the right decisions regarding CS. The finding of the study was consistent with the finding of a study conducted in Nigeria on 89 respondents where attitude was not associated with utilization of family planning methods (Ojewole & Gigi, 2017). Though the dependent variables were different and with small sample size, the consistency could be due to the

fact that respondents are actually not in favour of CS due to their cultural background and the misconceptions associated with CS. Again, since studies in Nigeria have shown that women who deliver by CS are not regarded as women, it could result in non acceptability (Ashimi et al., 2013; Awoyinka, et al., 2006).

Besides, finding of the study opposed the finding of the study conducted on 1,115 respondents in Malawi on acceptance of family planning methods. Negative attitude was associated with non acceptability of family planning methods. This could be due to the differences in the dependent variables. The study was on acceptance of family planning methods whiles the current study was on CS acceptability. Also, the study population and the statistical analysis tools were different. The study comprised both men and women while the current study comprised pregnant women. The sample size was also large compared to the current study. The data collection and analysis tools were different. The study used focus group discussion and interview, whiles the current study used questionnaire. The study population and the geographical areas where the studies were conducted were also different (Chipeta et al., 2010). Also, the finding of the study did not correspond to the finding of a study carried out in Nigeria on 200 respondents on acceptance of family planning methods by Obalase and Joseph (2017), where positive attitude increased the level of acceptance of modern family planning methods. The dependent variables looked at in both studies were different. Also, probability sampling was used in the study. The statistical analysis tools were different, and the study populations were also different. The study consisted of post natal women, whiles the current study comprised pregnant women.

Additionally, the finding of study did not agree with the finding of a study conducted in Nigeria on 89 respondents where positive attitude was associated with acceptance of natural family planning methods. This could be due to the sample size which was small, as well as the statistical analysis tool used. Pearson correlation was used to analyse the data. The dependent variables involved in both studies were also different (Ojewole & Gigi, 2017). Furthermore, finding of the study was not consistent with another study carried out in Nigeria on 927 participants where attitude was significantly associated with family planning and contraceptive use (Odimegwe, 1999). Though chi-square test was also used to analyse the data, the inconsistency in the results could be due to the large sample size involved in the study.

# **Research Question 6: What Socio-cultural Factors Influence the Acceptability of CS by Pregnant Women in the Cape Coast Metropolis?**

This research question sought to examine the extent to which sociocultural factors influence the acceptability of CS by pregnant women in the Cape Coast Metropolis. Table 8 shows that the full model containing all the predictors was not statistically significant ( $\chi 2$  [9, n = 384] = 51.56, p = .438), indicating that the model was not able to distinguish between respondents who reported will accept CS and those who will not accept CS. The model as a whole explained 17% (Nagelkerke R<sup>2</sup>) of the variance in acceptability of CS

The results indicated that most of the independent variables did not predict acceptability except religion. This implies that religious acceptance of CS as a delivery method statistically influenced the level of acceptability of CS. Those whose religions accepted CS as a delivery method were about 3 times more likely to indicate acceptability of CS compared to those whose religions did not accept CS as a delivery method (OR = 2.91, 95% CI = [1.53-5.55], p

=.00).

Influencing C	S Acceptabi	lity				
Variables	No	Yes	Wald	OR	p-value	95% CI
	n (%)	n (%)				
Rich women u	undergo CS					
No	235(68)	109(32)		Ref		
Yes	20(50)	20(50)	3.90	2.22	0.05	0.22-0.77
Cursed wome	n undergo C	S				
No	226(65)	119(35)		Ref		
Yes	29(74)	10(26)	0.53	0.72	0.47	0.39-1.41
Women who	undergo CS a	are not wom	en			
No	236(68)	113(32)		Ref		
Yes	19(54)	16(46)	0.91	1.58	0.34	0.91-5.62
My husband a	ccepts CS as	a delivery r	nethod			
No	150(77)	44(23)				
Yes	105(55)	85(45)	1.04	1.38	0.31	0.80-3.39
My friends ac	cept CS as a	delivery me	thod			
No	140(76)	43(24)				
Yes	115(57)	86(43)	0.02	0.95	0.88	0.23-0.88
My family acc	cept CS as a	delivery met	hod			
No	145(79)	39(21)				
Yes	110(55)	90(67)	0.64	1.32	0.42	
Women who a	are unfaithful	l to their hus	bands ur	ndergo (	CS	
No	242(67)	119(33)				
Yes	13(56)	10(44)	2.94	2.53	0.09	
My religion a	ccepts CS as	a delivery n	nethod			
No	137(82)	29(18)				
Yes	118(54)	100(46)	10.49	2.91	0.00	
CS is against the will of God concerning delivery						
No	203(64)	114(36)				
Yes	52(78)	15(22)	2.30	0.57	0.13	
Nagelkerke	0.174					
$\mathbb{R}^2$						
χ2	51.56					

 Table 8: Logistic Regression Analysis on Socio-cultural Factors

 Influencing CS Acceptability

The study found that socio-cultural factors did not influence the acceptability of CS by pregnant women in the Cape Coast Metropolis. Although most of the socio-cultural factors did not predict acceptability of CS, religious acceptance of CS predicted CS acceptability. This means that for a pregnant woman to accept CS, her religions acceptability of CS is more likely to

influence her choice than her religions non acceptability. If pregnant women will undergo CS because their religions accept CS, then education on CS will have to commence in our churches and Mosques, since majority of the respondents were Christians and Moslems. The findings of the study agreed with the findings of a study conducted in Swaziland and in Tamale, Ghana, where religions acceptance of contraceptives influenced its use (Abdulai, 2015; Hussain, 2011; Ziyani et al., 2003).

Although the dependent variables were different, the agreement with the study conducted in Swaziland could be due to the fact that the study assessed the use of a commodity. Also the agreement with the study conducted in Tamale, Ghana by Abdulai (2015) could be due to the fact that both studies were conducted in Ghana. Quantitatively, the factors influencing contraceptives uptake were analysed using logistic regression. The sample size for both studies was also large. Although the studies were conducted in different regions in Ghana, the study populations were women in their reproductive ages (15-19). The study populations were both Christians and Moslems and their religion could influence the decisions made on a commodity. Again, the agreement with the finding of the study carried out by Hussain (2011) in West Bengal on 2587 married women could be related to the fact that the age range (15-44 years) of the women involved in the study was closely related, that is, women in their reproductive age.

The finding of the study also agreed with the finding of a study carried out in South Sudan by Obwoya, Wulifan, and Kalolo (2018), on 377 respondents where socio-cultural factors did not influence contraceptive use. This could be due to the fact that the study population comprised women in their

reproductive age, and analysis was done using binary logistic regression. Although the dependent variable and the geographical areas for the conduct of both studies were different, the sample size was closely related and this could have influenced the result. The finding of the study did not corroborate with the finding of a study conducted in Ndhiwa, Kenya, by Ouma (2014), where religious preference showed no significant relationship with contraceptive use. The disagreement could be related to the fact that the dependent variables involved in both studies were different. Also, both studies were conducted in different geographical areas and the study was analysed using chi-square test. The study in Kenya was a community based study and used both quantitative and qualitative methods, whiles the current study was a facility based study.

The study disagreed with the finding of a study conducted by Mboho, (2013) in Nigeria where CS was culturally seen as a curse and a failure of womanhood. A study at Korle-Bu Teaching Hospital found elective CS to be higher in the upper socio-economic class, suggesting that class influences the decision to having CS (Gulati & Hjelde, 2012). The study was inconsistent with studies conducted by Ghana and Nigeria where spousal approval and opposition of contraception influenced its use (Abdulai, 2015, Eliason et al., 2014; Ekwugha & Hayes, 2016; Kana et al., 2016; Mairiga et al., 2010). The inconsistency with the study by Abdulai (2015) could be due to the fact that the study by Abdulai was both quantitative and qualitative whiles the current study was just quantitative. Also, the inconsistency with the study conducted in the Northern part of Ghana by Eliason et al. (2014) could result from the fact that the study was a case control study and the dependent variables involved in both studies were also different. This could impact on the decisions made by

husbands on the commodity. With contraception, husbands may not accept based on their religion but with CS, the life of the mother and baby matters, hence most of the women are independent of their husband's decisions. Again, the study conducted in Port Hartcourt by Ekwugha and Hayes (2016) used a small sample size (100) giving rise to the variation in the result. The dependent variables were also different and the study was analysed using correlation.

Furthermore, the inconsistency with the study conducted in Nigeria by Kana et al. (2016) on 200 respondents could result from the fact that the study was conducted in rural Nigeria and both quantitative and qualitative methods were employed in the study. More so, the inconsistency with the study conducted in North Eastern Nigeria by Mairiga et al. (2010) could result fromt he fact that the study was quantitative and it used interview guide and focused group discussions.

# **Research Question 7: What Demographic Factors Influence the Acceptability of CS by Pregnant Women in the Cape Coast Metropolis?**

This research question sought to examine the extent to which demographic factors influence the acceptability of CS by pregnant women in the Cape Coast Metropolis. Table 9 shows that the full model containing all the predictors was not statistically significant ( $\chi 2$  [29, n = 384] = 47.05, p =.259), indicating that the model was not able to distinguish between respondents who reported will accept CS and those who will not accept CS. The model as a whole explained 20% (Nagelkerke R<sup>2</sup>) of the variance in acceptability of CS.

The results showed that level of income, ethnicity and number of previous birth statistically influenced the level of acceptability of CS. With level of income, 42.5% (n = 34) of respondents whose level of income was GH¢ 300 to GH¢500 were 2 times more likely to indicate acceptability of CS compared

to those whose income was below GH¢ 300. The result further showed that respondents whose income was GH¢ 300 to GH¢500 were more likely to indicate acceptability of CS compared to those whose income was below GH¢ 300 (OR = 2.23, 95% CI = [1.09-4.58], p = .03).

With ethnicity, 57% (n = 8) of respondents who were Ga-Adangbes indicated acceptability of CS. Respondents who were Ga-Adangbes were 3 times more likely to indicate acceptability of CS compared to those who were Akans (OR = 3.27, 95% CI = [1.18-9.07], p = .02). In relation to number of previous births, 47% (n = 14) of respondents with 4 children indicated acceptability of CS. The results further showed that those with 4 children were about 40 times more likely to indicate acceptability of CS compared to those with no child (OR = 39.5, 95% CI = [1.35-1156], p = .03).

Variables	No	Yes	Wald	OR	p-value	95% CI
	n (%)	n (%)				
Age						
15-19	17(74)	6(26)		Ref		
20-24	56(79)	15(21)	3.38	0.07	0.07	0.00-1.19
25-29	89(66)	46(34)	2.67	0.10	0.10	0.01-1.59
30-34	60(60)	40(40)	2.80	0.09	0.09	0.01-1.52
35-39	27(59)	19(41)	2.51	0.09	0.11	0.01-1.76
40-44	6(75)	2(25)	3.76	0.03	0.05	0.00-1.04
45-49	0(0)	1(100)	-	-	-	-
Level of income						
Below GH¢ 300	176(72)	70(28)		Ref		
GH¢ 300 to	46(58)	34(42)	4.78	2.23	0.03	1.09-4.58
GH¢500						
Above GH¢ 500	33(57)	25(43)	0.08	1.15	0.78	0.45-2.96
Marital status						
Single	69(73)	25(27)		Ref		
Married	184(64)	103(36)	0.14	0.86	0.71	0.39-1.88
Separated/Divorced/	2(67)	1(33)	0.06	0.71	0.81	0.04-12.3
Widowed						
Educational level						
No formal	14(64)	8(36)		Ref		
education						
Primary	138(72)	55(28)	0.17	0.94	0.53	0.34-2.59
Secondary	75(71)	31(29)	0.00	1.01	0.19	0.33-3.14
Tertiary	28(44)	35(56)	1.66	2.35	0.13	0.64-8.58
Ethnicity/tribe						
Akan	212(69)	95(31)		Ref		
Ga-Adangbe	6(43)	8(57)	5.20	3.27	0.02	1.18-9.07
Ewe	10(42)	14(58)	0.17	1.24	0.68	0.44-3.54
Others	27(69)	12(31)	2.41	1.94	0.12	0.84-4.49

 Table 9: Logistic Regression Analysis on Demographic Factors that

 Influence CS Acceptability

Religion						
Christianity	221(68)	103(32)		Ref		
Islam	34(57)	26(43)	2.41	1.94	0.12	0.84-4.49
Number of previous						
pregnancy						
0	62(80)	15(20)		Ref		
1	51(65)	27(35)	0.01	0.95	0.93	0.31-2.93
2	59(62)	36(38)	1.50	0.43	0.22	0.11-1.65
3	47(64)	27(36)	1.25	0.39	0.26	0.07-2.05
4	19(51)	18(49)	2.67	0.11	0.10	0.01-1.57
5	7(70)	3(30)	1.84	0.15	0.18	0.01-2.37
6+	9(75)	3(25)	-	-	-	-
Number of previous						
birth						
0	71(78)	20(22)		Ref		
1	65(66)	33(34)	1.34	5.29	0.25	0.32-88.7
2	58(64)	32(36)	1.27	5.53	0.26	0.28-108
3	39(60)	26(40)	3.41	18.8	0.07	0.84-422
4	16(53)	14(47)	4.55	39.5	0.03	1.35-1156
5	3(60)	2(40)	3.88	78.9	0.05	1.02-6097
6+	3(60)	2(40)	2.85	53.4	0.09	0.53-5441
Delivery method of						
last birth						
Cesarean section	20(46)	23(54)		Ref		
Vaginal delivery	166(66)	87(34)	2.72	0.53	0.10	0.25-1.13
Nagelkerke R <sup>2</sup>	0.201					
χ2	47.05					

Tabl	e 9,	continued
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The findings of the study showed that demographic factors did not determine the acceptability of CS by pregnant women in the Cape Coast Metropolis. Although all the independent variables did not predict acceptability

of CS, level of income, ethnicity and number of previous birth predicted acceptability of CS. Those whose income was between GH¢ 300 to GH¢500 were 2 times more likely to indicate CS acceptability compared to those with income below GH¢ 300. This means that for a pregnant woman to accept CS, her income is more likely to influence it. This could be as a result of the belief that CS is for rich women, and so will accept it if they have the money for it. With regard to ethnicity, Ga-Adangbes indicated acceptability of CS. This implies that pregnant women are more likely to accept CS if their ethnic backgrounds accept CS. The acceptance of CS by Ga-Adangbe's could stem from their cultural background or their knowledge and positive attitude towards CS.

Also with number of previous birth, women who have 4 children are more likely to accept CS than those without children. This means that for a pregnant woman to accept CS, the number of birth is more likely to influence it. Again, having more children put the woman at risk for CS, and this may make them accept CS if it will be safe for the woman and the baby. It could also mean they have undergone CS before, and therefore find it safe compared to those who have not delivered before. Those who have not delivered before may also think that CS is associated with complications and one of such is not being able to have the number of children you want to have. However, age, marital status, level of education, religion, number of previous pregnancy, and delivery method of last birth did not predict CS acceptability.

The finding of the study was concurrent with the finding of a study conducted in Iran on 17991 respondents where parity and economic status influenced CS acceptability (Ahmad-Nia et al., 2009). This was because the

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sample for the study had different characteristics from the study conducted. The study sampled respondents from rural and urban communities, whiles the current study sampled pregnant women from health facilities. The study finding was again consistent with a study conducted in China on 734 respondents (Zhao & Chen, 2013). Although the population sample had different characteristics and was a case control study, it consistency could be linked to the large sample size. However, the findings of the study disagreed with the finding of a study carried out in Nigeria by Aziken et al. (2007), involving 413 respondents which found that low level education and previous delivery method influenced acceptability of CS. This could be because the study combined both quantitative and qualitative methods, whiles the current study was a quantitative study.

The finding of the study again did not agree with the finding of a study conducted in Nigeria where previous CS influenced acceptability of CS (Awoyinka et al., 2006). More so, the study was not consistent with a study conducted in India by Nathani et al. (2011), where educational status up to the graduate level and previous CS were found to be associated with acceptability of CS. This was because respondents had differences in geographical background. Also, the statistical analysis tool used was chi-square test whiles the current study was analysed with binary logistic regression. The findings of the study contradicted the finding of a study carried out in Iran on 840 respondents where level of income (high or low) did not influence acceptability of CS, but higher educational status and CS for last delivery influenced CS acceptability (Yilmaz et al., 2013). This could be due to the fact that respondents had different characteristics. The sample size for the study could be a factor. The study again did not cooroborate with the finding of a study conducted in

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Nugpur where age, parity, level of education and income did not predict CS acceptability. However, multiparous women with previous CS accepted CS (Soaji et al., 2011). The inconsistency could be due to the fact that chi-square test was used to analyse data whiles the current study was analysed with binary logistic regression. Also, having more children puts the woman at risk of CS. Again, having one or more CS makes the woman prone to future CSs depending on the woman's condition.

#### **CHAPTER FIVE**

#### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to assess the knowledge, attitude and acceptability of CS among pregnant women in the Cape Coast Metropolis. This chapter focused on the summary, conclusions and recommendations. The summary provides an overview of the purpose of the study, the research questions which guided the study, the research methods employed and the summary of the results. The conclusions are the deductions derived from the results of the study and the recommendations section puts forth suggestions for policy update and practice.

#### Summary

The study sought to assess the knowledge, attitude and acceptability of CS among pregnant women in the Cape Coast Metropolis. A descriptive cross sectional design was employed in the study. A total of 384 respondents participated in the study. A researcher generated questionnaire comprising 37 items was used to collect data. Facility-based study was done and purposive sampling was used to select the facilities. Quota sampling was used to get the number of respondents from the facilities and convenient sampling used to select respondents from the facilities. Ethical approval was obtained from the Institutional review Board of the University of Cape Coast. Research questions one, two and three were analysed using descriptive statistics of frequencies and percentages counts. Research questions four and five were analysed using chi-square test, while research questions six and seven were analysed using binary logistic regression.

#### **Main Findings**

Based on the results, the main findings of the study were that;

- Knowledge about CS was high among pregnant women in the Cape Coast Metropolis. Most of the respondents knew about some benefits and risk of CS.
- 2. Attitude of pregnant women in the Cape Coast towards CS was positive.
- The level of acceptability of CS among pregnant women in the Cape Coast Metropolis was low. However, respondents will only accept CS if it will save their lives and that of their babies.
- 4. Knowledge on CS was significantly associated with CS acceptability by pregnant in the Cape Coast Metropolis. Pregnant women who had high knowledge on CS were more likely to accept CS compared to those with low knowledge.
- 5. Attitude towards CS was not significantly associated with CS acceptability by pregnant women in the Cape Coast Metropolis. Positive attitude towards CS did not indicate CS acceptability and negative attitude did not indicate non acceptability of CS.
- 6. Most of the socio-cultural factors did not predict CS acceptability. Only religious acceptability of CS predicted CS acceptability. Those whose religion accepted CS were 3 times more likely to indicate CS acceptability compared to those whose religion did not accept CS.
- 7. Demographic variables such as level of income; ethnicity and number of previous birth statistically influenced the level of CS acceptability. However, age, marital status, religion, level of education, and delivery method of last birth did not predict CS acceptability. Respondents whose

level of income was GH¢ 300 to GH¢500 were 2 times more likely to indicate acceptability of CS compared to those whose income was below GH¢ 300. Also, respondents whose income was above GH¢500 were more likely to indicate acceptability of CS compared to those whose income was below GH¢ 300. With ethnicity, respondents who were Ga-Adangbes were 3 times more likely to indicate acceptability of CS compared to those who were Akans. With regard to number of previous birth, respondents with 4 children were about 40 times more likely to indicate acceptability of CS compared to those with no child.

#### Conclusions

Based on the findings, the following conclusions have been drawn. Pregnant women in the Cape Coast Metropolis have knowledge on CS, and positive attitude towards CS. This implies that pregnant women in the Cape Coast Metropolis have information on CS and this may influence their decisions on CS. Acceptability of CS in the Cape Coast Metropolis by pregnant women was low. This might be in line with the assertion that sub-Saharan African women are averse to CS. Despite the aversion towards CS, pregnant women in the Cape Coast Metropolis may only accept CS if indicated, to save their lives and that of their babies. Again, they are not likely to request CS on their own or on account of physicians, friends and family request without medical indication.

Knowledge on CS was associated with CS acceptability. This means that pregnant women in the Cape Coast Metropolis are likely to accept medically indicated CS if they have knowledge on it. Lack of knowledge on CS is also likely to cause non acceptability of medically indicated CS. This may affect

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maternal and neonatal health, and contribute to maternal and neonatal morbidity and mortality. Additional resources may also be required to improve maternal and neonatal health. Pregnant women in the Cape Coast Metropolis are likely to accept CS due to their religions acceptance. This may also imply that those whose religion does not accept CS may refuse to undergo medically indicated CS, contributing to maternal and child mobidity. Pregnant women with moderate income, may also refuse CS if indicated. This may impact negatively on maternal and child health. Also, women with four children may accept CS either because they have done it before and think it's safe for them.

#### Recommendations

Based on the conclusions, the following recommendations have been made;

- There should be ongoing or continuous education of pregnant women on the indications, benefits and risk of CS and vaginal delivery at the antenatal clinics by the midwives in the Cape Coast Metropolis. This is imperative because it will build on the client's knowledge; provide first hand information to clients and also clear misconceptions regarding CS.
- There is the need for programs to increase the understanding of women and the community about CS as a method of delivery in the Cape Coast Metropolis. This will help them to accept CS as a delivery method.
- Religious institutions need to encourage pregnant women to undergo medically indicated CS where necessary.
- 4. The women need to be empowered financially so as to be able to undergo medically indicated CSs when the need arises.

5. Further research using qualitative method should be conducted to further ascertain the attitudes towards CS and reasons accounting for non acceptability of CS by pregnant women in the Cape Coast Metropolis.

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APPENDICES

#### **APPENDIX A**

## UNIVERSITY OF CAPE COAST DEPARTMENT OF HEALTH, PHYSICAL EDUCATION AND RECREATION

#### **QUESTIONNAIRE FOR PREGNANT WOMEN**

I am Joyce Evelyn Ansah, an MPhil Health Education Student, University of Cape Coast. I am conducting research on the topic; knowledge, attitude and acceptability of CS in the Cape Coast Metropolis. I will be very glad if you could provide responses to the set of questions to the best of your knowledge and understanding. You are free to withdraw from the study at any time. Your responses will be treated with confidentiality and will be used solely for academic purpose. You may contact my principal supervisor, Dr. Charles Domfeh of the Department of Health, Physical Education and Recreation for any clarification on 0504595527. You may also contact my co-supervisors Dr. Nancy Innocentia Ebu Envan on 0541145193 and Dr. Thomas Hormenu on 0244213465. This exercise will last for about 10 minutes. The results of the study will provide information which may inform strategies to addressmisconceptions about CS by the Maternal and Child Health Division in the Metropolis, and help address the problem of maternal mortality caused by methods of delivery in the Metropolis. My contact number is 0244488625. Thank you for your time and co-operation.

Instructions: This section has statements that seek to assess pregnant women's knowledge on cesarean section. Kindly respond to the statements by ticking ( $\sqrt{}$ ) either "Yes", "No" or "Don't know" in the space provided.

Section A: Knowledge of Pregnant women about Cesarean Section

No	Questions	Yes	NO	Don't Know
1	CS is done for a woman who is in labour for a long time			
2	CS may be done when the woman is carrying twins			
3	CS may be done for a woman who is carrying a big baby			
4	Vaginal delivery is not possible after a CS			
5	CS may require blood transfusion			
6	CS requires longer maternal hospital stay after delivery (2-4 days)			
7	CS does not require medicine (anaesthesia) before it is done			
8	CS does not require the consent of the woman before it is done			
9	CS saves the life of the mother			
10	CS saves the life of the baby			

Instructions: This section has questions that seek to assess pregnant women's attitude towards cesarean section. Kindly respond to the following statements by ticking ( $\sqrt{}$ ) in the column that represent the extent to which you "Strongly agree", "Agree", "disagree" or "Strongly disagree" to the statements.

No	Questions	Strongly Agree	Agree	Disagree	Strongly Disagree
11	It is right to undergo CS with medical reasons				
12	Weak women undergo CS				
13	Lazy women undergo CS				
14	CS is expensive				
15	CS is associated with a lot of complications				
16	Women who undergo CS cannot have the number of children they wants to have				
17	CS is more painful				
18	CS is done for women who cannot deliver on their own				

Section B: Attitude of Pregnant Women towards Cesarean Section

Instructions: This section has a question on pregnant women' acceptability of cesarean section. Kindly respond to the question by ticking ( $\sqrt{}$ ) either "Yes" or "No" in the space provided.

Section C: Acceptability of Cesarean Section by Pregnant Women

No	Question	Yes	No
19	Will you accept cesarean section as a delivery method?		

19. i. If your response to Q19 is "yes", which of the following reasons will make

#### you accept? Tick as many that apply. I will accept CS;

- a. Based on doctors advice []
- b. Based on previous CS [ ]
- c. Due to fear of labour pain []
- d. For the baby's safety [ ]
- e. For the mothers safety [ ]
- f. On my husband's approval []

19. ii. If your response to Q19 is "no", which of the following reasons will not make you accept? Tick as many that apply. I will not accept CS;

- a. Due to delayed recovery []
- b. Due to prolong bed rest []
- c. Due to fear of the operation [ ]
- d. Due to fear of death [ ]
- e. Due to the high cost []
- f. BecauseCS is painful [ ]

Instructions: This section has statements on the socio-cultural factors influencing the acceptability of cesarean section. Kindly respond to the statements by ticking ( $\sqrt{}$ ) either "Yes", "No" or "Don't know" in the space provided.

Section D: Socio-cultural Factors Associated with Cesarean Section

No	Questions	Yes	NO	Don't Know
20	Rich women undergo CS			
21	Cursed women undergo CS			
22	Women who undergo CS are not women			
23	My husband accepts CS as a delivery method			
24	My friends accept CS as a delivery method			
25	My family accept CS as a delivery method			
26	Women who are unfaithful to their husbands undergo CS			
27	My religion accepts CS as a delivery method			
28	CS is against the will of God concerning delivery			

Instructions: This section has items on the demographic data. Kindly write or circle your response where appropriate, or tick ( $\sqrt{}$ ) in the box provided.

#### Section E: Demographic Data

29. Age .....

30. Level of income (monthly)

a.	Below GH¢300	[	]
b.	GH¢300 to GH¢500	[	]
c.	Above GH¢500	[	]
31. Mari	tal status		
a.	Single	[	]
b.	Married	[	]
c.	Divorced/widowed/separated	[	]
32. Leve	el of education		
a.	No formal education	[	]
b.	Primary	[	]
c.	Secondary	[	]
d.	Tertiary	[	]
33. Ethn	icity/tribe		
a. A	Akan	[	]
b. (	Ga-Adangbe	[	]
c. E	Ewe	[	]

d. Others (Mole Dagbani, Guan, Grusi, Gruma, Mande) [ ]

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#### 34. Religion

35.

36.

a.	Christian	[]
b.	Islamic	[]
c.	Traditionalist	[]
d.	Others [ ], specify	
Num	ber of previous pregnancies (o	circle one): 0 1 2 3 4 5 6+
Num	ber of previous births (circle o	one): 0 1 2 3 4 5 6+

37. Delivery method of last birth

A.	Cesarean section	[	]
B.	Vaginal delivery	[	]

37a. If cesarean section, indicate whether it was emergency, planned (with medically indicated reasons), or maternal request (without medically indicated reasons).

a.	Emergency	[	]
b.	Planned (with medically indicated reasons)	[	]
c.	Maternal Request (without medically indicated reasons)	[	]

## UNIVERSITY OF CAPE COAST DEPARTMENT OF HEALTH, PHYSICAL EDUCATION AND RECREATION

#### **NS{MBISA MA APEMFO**

W]fr[me Joyce Ansah, adzesuanyi a morusua adze afa ap]wmudzen ho w] Oguaa Esuap]n mu. Merey[ nhwehw[mu afa d[m tsiras[m yi ho; nyimdzee, suban na mbr[ nkor]fo si gye opirehyen awo tu mu w] Oguaa Mansin mu (knowledge, attitude and acceptability of cesarean section in the Cape Coast Metropolis). }b[y[ me enyigye pii d[ ibotum eyiyi ns[mbisa yi ano d[ mbr[ woara wo nyimdzee na wo ntseasee tse. Ew] ho kwan d[ itum yi woho fi dwumadzi yi mu aber biara. W]b]b] wo iyiano no ho ban d[ mbr[ ]b[y[ a obiara ne nsa nnk[ka bi na adzesua ho dwuma nkotsee so na w]dze ns[m a eb[ka no bedzi. Ibotum enye mo hw[dofo panyin }bemfo Domfeh a ]w] Oguaa Esuap]n mu ne fa a, w]kyer[ ap]wmudzen, nyimpadua ho adzesua nye ahomgyedze (Department of Health, Physical Education and Recreation, University of Cape Coast) edzi nkitsaho w] ahomatromfo amba 0504595527 yi do. Ibotum so afr[ mo hw[dofo n'edziekyirfo }bemfo Nancy Ebu w] ahomatromfo amba do 0541145193 na }bemfo Hormenu so w] 0244213465 do. Dwumadzi yi bedzi b[y[ sima du (10). Nhwehw[mu yi no nsunsuando b]boa ma aso[e a w]hw[ abaatan na mbofra h]n ap]wmudzen ho ns[m do w] Mansin no mu no eehu akwan ahorow a ]b[fa do aboa eyi amanfo h]n adwen a ]nny[ nokwar fa opirehyen awo ho efi h] na ]aboa ma woeyi ]haw a ]w] ho d[ nkrofo k] awodo a w]mmba no ]nam akwan ahorow a w]fa do gye awo w] Mansin no mu no efi h]. Ibotum afr[ me w] 0244488625 do. Meda wo ase d[ enya mber dze edzi dwuma yi bi.

Akwankyer[: D[m ]fa yi w] ns[nka bi a ]p[ d[ ohu apemfo h]n nyimdzee w] opirehyen awo ho. B] mb]dzen yi ano w] ber a edze d[m ahy[nsedze yi  $(\sqrt)$  rehy[ adaka mu dze akyer[ d[ "Nyew", "Oho" anaa d[ "Innyim" w] kwan a woegya w] h] no.

Amba	Ns[mbisa	Nyew	Oho	Innyim
1	}pemfo a awo kaa no aky[r na w]y[			
	no opirehyen			
2	Wobotum ay[ basia a onyinsen ntafo			
	opireyen			
3	Wobotum ay[ basia a abofra a ]da			
	ne yamu no so opirehyen			
4	S[ w]y[ wo opirehyen ma ewo wie a			
	nnkotum akyen awo bio			
5	Opirehyen awogye no botum aba no			
	d[ wobehia d[ wobo mb]gya ma			
	]pemfo no			
6	S[ w]y[ obi opirehyen ma ]wo wie a			
	obotum ama ]baatan no aky[r w]			
	asopitsi h] (nda 2-4)			

}fa A: Apemfo h]n nyimdzee w] opirehyen awo ho.

7	Wonnhia edur biara ansaana w]ay[		
	awo opirehyen (d[ w]b[ma ]pemfo		
	no edur ma ]nnk[tse yaw biara)		
8	Wommbisa ]pemfo no ma ]nngye		
	pen ansaana w]ay[ no awo  mu		
	opirehyen		
9	Opirehyen awo gye maame/]baatan		
	no nkwa		
10	Opirehyen awo gye abofra/ab]doma		
	no nkwa		

Akwankyer[: D[m ]fa yi w] ns[mbisa bi a ]p[ d[ ohu apemfo h]n suban fa opirehyen awo ho. B] mb]dzen yi ano w] ber a edze d[m ahy[nsedze yi ( $\sqrt{}$ ) rehy[ adaka mu dze akyer[ d[ "Egye ns[nka no to mu paa", "Egye to mu" anaa "Enngye nnto mu koraa".

Ns[mbisa	Megye	Megye	Menngye	Menngye
	to mu	to mu	nnto mu	nnto mu
	раа			koraa
Oye d[ ]nam eduy[				
ntsi w]b[gye wo				
opirehyen awo				
Mbasiafo a w]y[				
mber[w na w]y[ h]n				
opirehyen ma w]wo				
	Oye d[ ]nam eduy[ ntsi w]b[gye wo opirehyen awo Mbasiafo a w]y[ mber[w na w]y[ h]n	Image: constraint of the second se	to muto mupaato muOye d[]nam eduy[ ntsi w]b[gye wo opirehyen awoImage: Comparing the second secon	to muto munnto mupaapaaImage: Second

}fa B: Suban a apemfo w] fa opirehyen awo ho

13	Mbasiafo a w]y[		
	akwadwer na w]y[		
	h]n opirehyen ma		
	w]wo		
14	Opirehyen awo no		
	bo y[ dzen		
15	}haw pii w]		
	opirehyen awo ho		
16	Mbasiafo a w]y[ h]n		
	opirehyen ansaana		
	w]awo no nnkotum		
	awo mba dodow a		
	w]p[ d[ w]wo		
17	Opirehy[n awo y[		
	yaw pa ara		
18	Mbasiafo a h]n		
	ankasa nnkotum		
	akyem awo na w]y[		
	h]n opirehyen		

Akwankyer[: Ns[mbisa a ]w] ]fa yi mu yi fa mbr[ apemfo si gye opirehyen awo to mu ho, B] mb]dzen yiyi ano w] ber a edze ahy[nsewdze yi ( $\sqrt{}$ ) rehy[ adaka no mu dze akyer[ Nyew anaa Oho w] kwan a woegya no w] h] no mu.

}fa C: Mbr[ Apemfo si gye opirehyen awo to mu.

Amba	As[mbisa	Nyew	Oho
19	Eb[gye opirehyen awo ato mu d[ kwan fofor		
	a w]fa do gye awo?/ Eb[pen do ma w]agye wo		
	opirehyen awo?		

19. i S[ wo nyiano ma as[mbisa 19 y[ "nyew" a, siantsir a odzidzi do yi mu
hendze na ]b[ma apen do? Fa dodow biara a ]fata. Meb[pen opirehyen awo
do;

a. Ogyina datsernyi n'afotu do	[]
b. Ogyina d[ mafa opirehyen do awo da	[]
c. }nam d[ musuro yaw a ]w] awo ne nkyemee mu	[]
d. }nam ab]doma/abofra ne yiey[ ntsi	[]
e. }nam maame ne yiey[ ntsi	[]
f. Osian d[ mo kun pen do ntsi	[]

19. ii. S[ wo nyiano ma as[mbisa19 y[ "oho" a siantsir a odzidzi do yi mu hendze na ]nnk[ma agye opirehyen ato mu?

#### Fa dodow biara a ]fata. Mennk[gye opirehyen awo ato mu;

a.	Osiand[ ]ky[r ansaana wo ho at] wo	[]
b.	Osiand[ eda mpa mu ky[r	[]
c.	Osian suro/hu a ]w] opirehyen ho ntsi	[]
d.	Osian owu ho suro a ]bata ho ntsi	[]
e.	Osian d[ no bo y[ dzen ntsi	[]

f. Osiand[ opirehyen awo y[ yaw []]
Akwankyer[: D[m]fa yi w] ns[nka a ]fa ]man-amambra mu ndz[mba bi a otum nya tum w] egyinae a nyimpa si w] opirehyen awo ho. B] mb]dzen yiyi ano
w] ber a edze ahy[nsewdze yi (√) rehy[ adaka no mu dze akyer[ Nyew anaa
Oho w] kwan a woegya no w] h] no mu.

Amba	Ns[mbisa	Nyew	Oho	Minnyim
20	Esikafo na w]gye h]n opirehyen			
	awo			
21	Mbasiafo a w]apaa/w]adom h]n			
	na w]gye h]n opirehyen awo			
22	Mbasiafo a w]gye h]n			
	opirehyen awo nny[ mbasiafo			
23	Mo kun gye opirehyen awo to			
	mu d[kwan fofor a w]fa do wo			
24	M'any[nkofo gye opirehyen			
	awo to mu d[ kwan fofor a w]fa			
	do wo			
25	M'ebusuafo gye opirehyen awo			
	to mu d[ kwan fofor a w]fa do			
	wo			

26	W]gye mbasiafo a wonndzi nokwar mma h]n kun nom		
	opirehyen awo		
27	Mo som gye opirehyen awo to mu d[ kwan fofor a w]fa do wo	 	
28	D[ opirehyen awo y[ kwan fofor a w]fa do wo no nye Nyankop]n ne p[ b] ebira		

Akwankyer[: D[m ]fa yi w] ns[m a ]fa nyimpa n'asetsena mu ns[m bi tse d[ awo/owu, awar, sikas[m/edwumay[ ho. B] mb]dzen kyer[w anaa twa wo mbuae no ho kanko w] mber a ]s[, anaa fa d[m ahy[nsewdze yi ( $\sqrt{}$ ) hy[ adakaba a woegya no w] h] no mu.

}fa E: Nyimpa n'asetsena mu ns[m bi ]fa awo/owu, awar,

#### sikas[m/edwumay[ ho

29. Mfe.....

30. Sika a ]ba wo nsamu (bosom)

a.	Onndu GH¢ 300	[	]
b.	GH¢ 300 dze k] GH¢ 500	[	]
c.	}bor GH¢ 500	[	]

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### 31. Awar ho gyinabew

a.	Sigyar	[]
b.	Awar	[]
c.	Egyae awar/kunafo/hom mu atsetsew	[]
32. Skut	ılk] ho gyinabew	
a.	Ennk]r skuul da	[]
b.	Ahy[se skuul	[]
c.	Ntoado skuul	[]
d.	Esuap]n	[]

#### 33. Bea a ifi/Nyimpakw a ifi mu

a.	Akan	[]		
b.	Ga-Adangbe	[]		
c.	Ewe	[]		
d.	Biribi fofor (Mole Dagbani, Guan, Grusi, Gr	uma, Mande) [ ]		
34. }so	om			
8	a. Kristonyi	[]		
ł	o. Nkrammonyi	[]		
C	e. Ebibisomnyi	[]		
(	d. }som fofor [ ], kyer[			
35. Ny	vinsen dodow a edzi kan enyinsen (Fa kor): $0$	1 2 3 4 5 6+		
36. Awo dodow a edzi kan awo (Fa kor): 0 1 2 3 4 5 6+				
37. Kwan a efaa do woo awo a odzi ewiei yi				

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A. OPIREHYEN awo	[]
B. Ekyemee/woara woe	[]

37a. S[ ]y[ opirehyen awo a, kyer[ d[ nna ]y[ putupuw, ehy[[ da/edween ho (]nam ap]wmudzen ho siantsir bi ntsi), anaa woara bisaa d[ w]nny[ mma wo (w] aber a innyi ap]wmudzen siantsir biara).

- a. Putupruw []
- b. Edween ho (w] aber a nna ew] ap]wmudzen siantsir bi ntsi) []
- c. Woara bisaa d[ w]nny[ mma wo (w] aber a innyi ap]wmudzen siantsir biara)

#### **APPENDIX C**

## **UNIVERSITY OF CAPE COAST**

CAPE COAST, GHANA COLLEGE OF EDUCATION STUDIES FACULTY OF SCIENCE AND TECHNOLOGY EDUCATION DEPARTMENT OF HEALTH, PHYSICAL EDUCATION & RECREATION

TELEPHONE: +233 - (0)206610931 / (0)543021384 / (0)268392819

TELEX: 2552, UCC, GH.

Our Ref: ED/MHE/15/0004/25



EMAIL: hper@ucc.edu.gh

Cables & Telegrams: UNIVERSITY, CAPE COAST

19<sup>th</sup> March, 2018

The Chairman Institutional Review Board University of Cape Coast Cape Coast

#### **INTRODUCTORY LETTER**

The bearer, Ms Joyce Evelyn Ansah, is an MPhil (Health Education) student from the Department of Health, Physical Education and Recreation. She is conducting research for her thesis titled 'Knowledge, Attitude, and Acceptability of Cesarean Section among Pregnant Women in the Cape Coast Metropolis' as part of the requirements for obtaining a Master of Philosophy degree in Health Education. She has satisfied the conditions for data collection and we kindly request that she is granted ethical clearance to enable her conduct the research.

Attached is her application for ethical clearance for your consideration. We count on your usual co-operation.

Thank you.

Yours faithfully,

Dr. Charles Domfeh (Head of Department) Tel.: +233 (0)504595527 Email: cdomfeh@ucc.edu.gh

att.

APPENDIX D

## UNIVERSITY OF CAPE COAST

CAPE COAST, GHANA COLLEGE OF EDUCATION STUDIES FACULTY OF SCIENCE AND TECHNOLOGY EDUCATION DEPARTMENT OF HEALTH, PHYSICAL EDUCATION & RECREATION

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Cables & Telegrams: UNIVERSITY, CAPE COAST

19<sup>th</sup> March, 2018

The Director Metropolitan Health Directorate Cape Coast Central Region

#### INTRODUCTORY LETTER

We wish to introduce Ms Joyce Evelyn Ansah, an MPhil (Health Education) student from the Department of Health, Physical Education and Recreation of the University of Cape Coast for assistance. The bearer is conducting research for her thesis titled 'Knowledge, Attitude, and Acceptability of Cesarean Section among Pregnant Women in the Cape Coast Metropolis' and would need data collection from your Metropolis. The data will be used for academic purposes only and you are assured that the information collected will be treated with utmost confidentiality.

We would therefore be most grateful if she could be given approval to enable her conduct the research.

We count on your usual co-operation.

Thank you.

Dr. Charles Domfeh (Head of Department) Tel.: +233 (0)504595527 Email: cdomfeh@ucc.edu.gh

#### APPENDIX E

#### **ETHICAL CLEARANCE (UCCIRB)**

## UNIVERSITY OF CAPE COAST

## INSTITUTIONAL REVIEW BOARD SECRETARIAT

TEL: 0558093143 / 0508878309/ 0244207814 E-MAIL: irb@ucc.edu.gh OUR REF: UCC/IRB/A/2016/264 YOUR REF: OMB NO: 0990-0279 IORG #: IORG0009096



C/O Directorate of Research, Innovation and Consultancy

29<sup>TH</sup> JUNE, 2018

Mrs. Joyce Evelyn Ansah Department of Health, Physical Education and Recreation University of Cape Coast

Dear Mrs. Ansah,

#### ETHICAL CLEARANCE -ID: (UCCIRB/CES/2018/05)

The University of Cape Coast Institutional Review Board (UCCIRB) has granted **Provisional Approval** for the implementation of your research protocol titled *Knowledge, Attitude and Acceptability of Cesarean Section Among Pregnant Women in the Cape Coast Metropolis.* This approval requires that you submit periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research.

The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

Please note that any modification of the project must be submitted to the UCCIRB for review and approval before its implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

Yours faithfully,

Samuel Asiedu Owusu, PhD UCCIRB Administrator

ADMINISTRATOR ITUTIONAL REVIEW BOARD JNIVERSITY OF CAPE COAST Date: 29 - 06 - 2018

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#### **APPENDIX F**

# Table 1: Knowledge of Pregnant Women about CS in the Cape CoastMetropolis

Knowledge	Yes	No
	n(%)	n(%)
CS is done for women who are in labour for a long time	329(86)	55 (14)
CS may be done when the mother is carrying twins	300 (78)	84(22)
CS may be done for women who are carrying big babies	355(92)	29 (8)
Vaginal delivery is not possible after a CS	109 (72)	275(28)
CS may require blood transfusion during or after the procedure	285(72)	99 (26)
CS requires longer maternal hospital stay after delivery (2-4 days)	355(92)	29 (8)
CS does not require any medicine (anaesthesia) before the procedure	63(16)	321(84)
CS does not require the woman's consent	56(15)	328 (85)
CS saves the life of the mother when it is medically necessary	355 (92)	29(8)
CS saves the life of the baby when it is medically necessary	368 (96)	16(4)

#### **APPENDIX G**

CS				
Attitude	Strongly Agree n(%)	Agree n(%)	Disagree n(%)	Strongly Disagree n(%)
It is right to undergo CS for medical reasons	104(27)	258 (67)	20(5)	2(1)
Weak women undergo CS	17(5)	120(31)	232 (60)	15(4)
Lazy women	20(5)	62(16)	226 (69)	36 (10)
CS is an expensive	37(10)	235 (61)	102 (26)	10(3)
CS is associated with complications	48(12)	218 (55)	118 (31)	7(2)
CS prevents the woman from having the number of children she wants to have	28(7)	124(32)	218 (57)	14 (4)
CS is painful	60(16)	239 (62)	81 (21)	4(1)
CS is done for women who cannot deliver on their own	57(15)	260( 67)	64 ( 17)	3(1)

## Table 2: Attitude of Pregnant Women in the Cape Coast Metropolis towards