KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,

KUMASI, GHANA

ASSESSMENT OF USAGE OF THE MODIFIED WORLD HEALTH ORGANISATION (WHO) PARTOGRAPH BY MIDWIVES WITHIN THE ACCRA METROPOLITAN HEALTH FACILITIES, GHANA

By

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A THESIS SUBMITTED TO THE DEPARTMENT OF POPULATION, FAMILY AND REPRODUCTIVE HEALTH, COLLEGE OF HEALTH SCIENCES, SCHOOL OF PUBLIC HEALTH, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF PUBLIC HEALTH IN POPULATION AND REPRODUCTIVE HEALTH

NOVEMBER, 2015

DECLARATION

I hereby declare that this submission is my own work towards the MPH Population, Family and Reproductive Health, and that to the best of my knowledge, it contains no material previously published by another person, nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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DEDICATION

This study is dedicated to my husband Mr. Emmanuel Mottey and our children Selasi and Senam for their endurance, support and encouragement throughout the period of my study.

ACKNOWLEDGEMENTS

I thank the Almighty God for seeing me through this course successfully. I would like to express my warmest gratitude to my academic supervisor, Prof. Alexander T. Odoi and Dr Agbenyo both of Department of Obstetrics and Gynecology, KATH for their immeasurable support and constructive guidance throughout the study. My special thanks go to Dr George Mensah, the Director of Health Services at the Accra Metropolitan Health Directorate and the entire membership especially Mrs. Rose Ackuoku, the Metropolitan in-charge of the Reproductive and Child Health Unit and Ms. Joyce Dasah all of Accra Metropolitan Health Directorate for their tireless help they offered me. My thanks also goes to the medical officers in charge, the DDNS administration and maternity staff of the five health facilities namely; Mamprobi polyclinic, James Town Maternity Home, Osu Government Maternity Home, Maamobi Government Hospital and Kaneshie Polyclinic. My special appreciation goes to the Public Health specialist in charge of the Mamprobi Polyclinic, Dr. Emily Onuoha and all staff and midwives for availing themselves and the unit's data to me. It is my pleasure to thank Mr. Nakwa and Mrs. Dzomeku of the Community Health Department and Department of Nursing, KNUST, Ernest of KNUST, Amos and the various authors from whose work I extracted very valuable information to make the study successful. Finally, I would like to express my appreciation to my mates Faustine, Evelyn, Phyllis, Mathias, Sammy and all 2012/2013 PRH/MPH course mates for the various roles they played in fruition of this study.

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LIST OF ABBREVIATIONS

APH	-	Ante-Partum
APGAR	-	Appearance, Pulse, Grimace, Activity and Respiration
CHO	-	Community Health Officer
CHPS	-	Community-Based Health Planning and Services
CM	-	Centimeter
C/S	-	Caesarean Section
DHMT	-	District Health Management Team
FHR	-	Foetal Heart Rate
GDHS	-	Ghana Demographic Health Survey
GHS	-	Ghana Health Services
GMHS	-	Ghana Maternal Health Survey
GNSMP	-	Ghana National Safe Motherhood Protocol
HIV	-	Human Immunodeficiency Virus
KATH	-	Komfo Anokye Teaching Hospital
MDG	-	Millennium Development Goal
MMR	-	Maternal Mortality Rate
MOH	-	Ministry of Health
PPH	-	Post Partum Haemorrhage
RCH	-	Reproductive and Child Health
SPSS	-	Statistical Package for Social Sciences
STD	-	Sexually Transmitted Diseases
STI	-	Sexually Transmitted Infections
UNICEF	-	United Nations Children Emergency Fund
USAID	-	United States Agency for International Development
WHO	-	World Health Organization

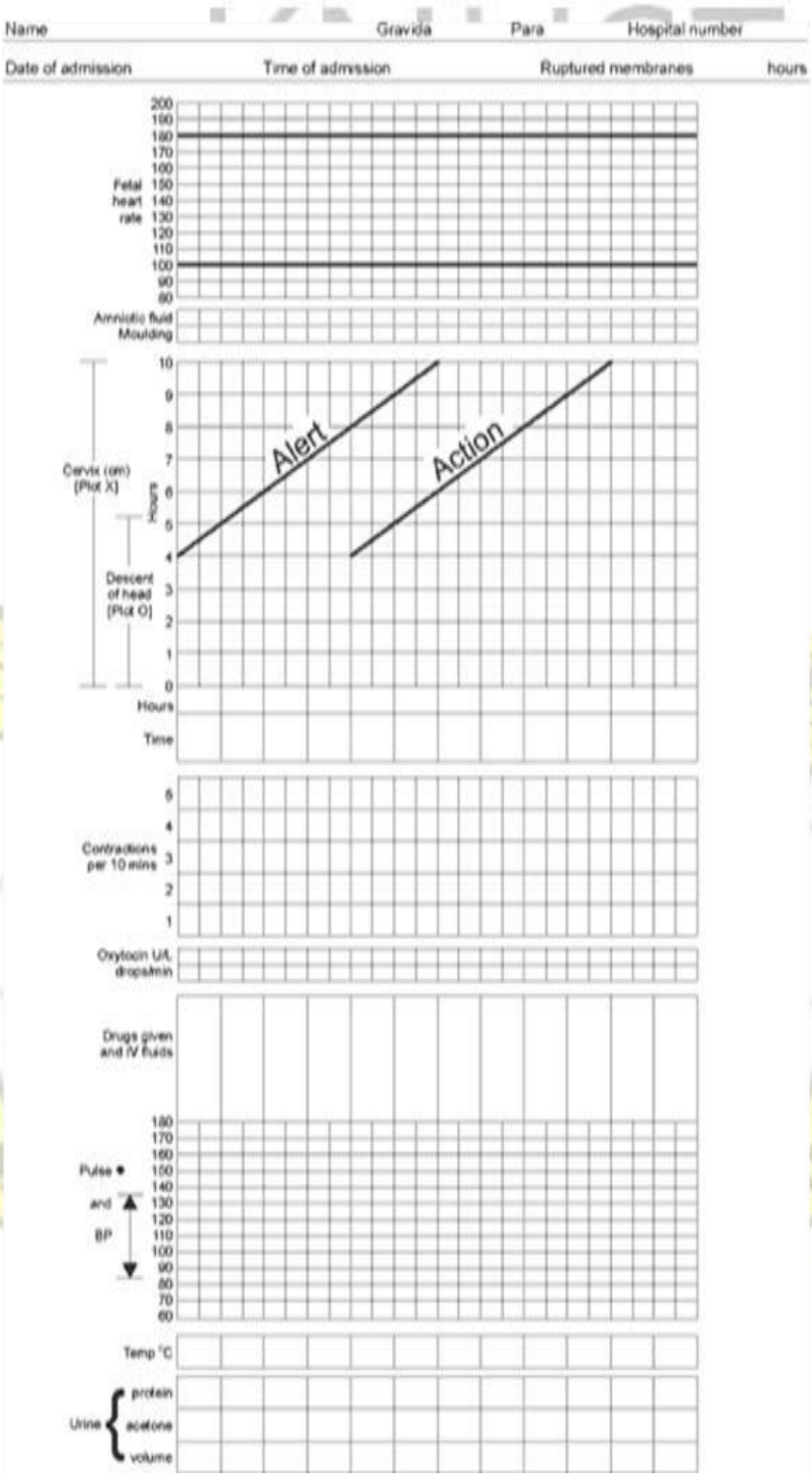
OPERATIONAL DEFINITION

Midwife : A person who is duly trained by standard to conduct delivery professionally

Modified partograph: A currently recommended graph sheet on which labour components are plotted.

Accra Metropolis: One of the ten districts in the Greater Accra Region.

THE MODIFIED WHO PARTOGRAPH



ABSTRACT

The use of Partograph reduces maternal mortality and morbidity by highly significant margins. Partograph is a simple chart for recording information about the progress of labour while monitoring the condition of the woman as well as her baby during labour. Accepted at the 1987 Safe Motherhood conference held in Nairobi after producing, testing and approving its use during labour to reduce complications it is dreadful to observe its poor utilization by midwives. The partograph was designed to record the history and observations on labour, to alert the care giver and prompt her on the action to be taken, but its parameters are not well monitored by care givers. Even though the World Health Organization (WHO) accepted and encouraged the use of partograph as one of the five pillars that were identified to help reduce maternal and infant morbidity and mortality, midwives in Ghana and many parts of the world have demonstrated little interest in the significance of its use. This study was conducted to assess the acceptability and usage of WHO modified Partograph by midwives in some selected delivery centers of the Accra Metropolis.

Methods: The study is a cross sectional design. The researcher designed a structured questionnaire containing questions based on the objectives of the study. The questionnaires comprised both open-ended and closed-ended questions. A checklist was also used to assess the consistency of maternal and foetal recordings on the partograph. Non probability sampling technique specifically purposive was used to select 73 practicing midwives in the labour wards at random for interview using carefully designed questionnaires. About 300 filled partograph were sampled within the period of June and July and used as a secondary source of data. Data from structured questionnaire was analyzed by use of SPSS version 16.0 and cross referenced with data from checklist and secondary data to ensure rigor, reliability and scalability. `

Results: The results showed that majority of midwives (89.0%) said Partograph use in monitoring labour is very good and that it should be made compulsory. The results further

showed that midwives see it necessary to use partograph. However, it will require effective monitoring to ensure that entries are complete and that there is regular utilization. Also Partograph that are filled are incomplete. The result further showed insufficient in-service training and refresher courses for midwives on the use of Partograph.

Conclusion and Recommendation: In the final analysis, an assessment of the usage of WHO Partograph shows a highly positive impact. Effective use of the Partograph does not require much effort or scarce resources but institutional, environmental and personnel permissiveness consistently hinder Partograph utilization to the detriment of the safe motherhood. The study cautiously recommended re-enforcing the use of Partograph and acknowledging the facilities that use Partograph to monitor labour. Monthly peer review on the use of Partograph and recommended prizes awarded on its appropriate use is also suggested and the need for refresher or in-service training on the use of Partograph is recommended. Lastly, it was recommended that further studies on Partograph utilization should be undertaken using a qualitative approach.

CHAPTER ONE

GENERAL INTRODUCTION

1.1 Background of the Study

Partograph is a simple chart for recording information about the progress of labour, the condition of the woman as well as her baby during labour. It is an inexpensive tool which provides pictorial view of labour and serves as an early warning system. (WHO, 2011; Lavender et al., 2008; WHO, 1994: WHO, 1993). The partograph is used to identify abnormal labours which are the cause of problems that lead to morbidity and mortality. However, most parameters on the partograph are not monitored and most health care workers do not document their findings on the partograph after reviewing a woman in labour (Mathew et al, 2007). Hence the progress of labour may not be closely monitored or labour monitoring may not translate into actions required when need arise.

The partograph was accepted at the 1987 Safe Motherhood conference held in Nairobi after producing, testing and approving its use during labour to reduce complications (WHO, 1987). It was recommended by WHO as a Safe Motherhood protocol in monitoring labour. The use of partograph is one of the 5 pillars that were identified to help reduce maternal and infant morbidity and mortality. (WHO, 1993 Safe Motherhood, 2000; Magon, 2011). WHO also responded to recommendations made at latent and active phases, and re-named the Partogram as the Partograph. The composite partograph (the original design): includes a latent phase of 8 hours: the active phase starts at 3 cm cervical dilation. The modified partograph (adopted in 2000, for use in hospitals): Excludes the latent phase, and the active phase starts at 4 cm cervical dilation. The simplified partograph (further adopted): for use by skilled attendants in health centers): Excludes the latent phase and descent of the presenting part; the active phase starts at 4 cm cervical dilation (Mathew et al, 2007).

WHO (2010) report on maternal mortality for the year 2008 was 358/100,000 live births. The report revealed that quite a number of women who suffered complications of childbirth leading to death could have been prevented during delivery if partograph is used. (Desmond Tutu Centre, 2011; WHO, 2010). Maternal mortality is the death of a woman while pregnant or within 42 days of termination of pregnancy, (irrespective of the duration or site of the pregnancy) from any cause related to, or aggravated by the pregnancy or its management, but not from accidental or incidental causes (WHO, 1993).

The partograph was designed to record the history and observations on labour, to alert the care giver and prompt her on the action to be taken. (Safe Motherhood Initiative 2000, WHO, 1993). Its concept is to serve as a record for all labour observations, as an identifier and decision making tool, to function in referral system, to improve efficiency and effectiveness of maternity services and to prompt the user for timely and appropriate action based on the pictorial view. However its parameters are not well monitored by care givers. This statement is similar to the findings of Dans-Lartey et al. (2012), which highlighted on the poor utilization of the partograph by care givers. It expresses the need for early identification of abnormal labour as well as prompt and appropriate action which are important to determine the outcome of labour. (Orhuem et al., 2012).

Global estimation of maternal death in 2010 was 287,000. Eighty five per cent (245,000) of these deaths occurred in Sub-Saharan Africa and Southern Asia. It was estimated that obstructed labour is one of the key factors among others contributing to this huge figure. (WHO, 2012). Each year, more than 200 million women become pregnant and about 500,000 will die as a result of pregnancy or childbirth. (Magon, 2011). More than half of these deaths occur in sub-Saharan Africa and almost one third occur in South Asia, and one per cent in the developed countries. The major causes of maternal deaths are: severe bleeding/haemorrhage

(25%), infections (13%), unsafe abortion (13%), eclampsia (12%), obstructed labour (8%), other direct causes (8%), and indirect causes (20%). It is not surprising that many manuals relating to maternal and new born health focus on problems and complications that arise during childbearing cycle; pregnancy, labour and puerperium. (WHO, 2012). Yisma et al., (2013) concluded in their study that partograph is the best tool to monitor and render quality care during labour.

The United Nations 5th Millennium Development Goal and current WHO initiative aims to improve maternal health and reduce maternal mortality to 75% of the 1990 level by 2015. (WHO, 2012; Orji, 2008). In spite of this aim, the national target for Ghana in relation to MDG-5 is reduction of 214/100,000 live births of 1990 to 54/100,000 live births by 2015. To achieve this, the problem of obstructed labour will need to be addressed effectively. (Yisma, et al. 2013). Also, the GDHS (2008) report emphasize on the need for every woman to receive skilled care at birth by 2015. Prevention of prolonged or obstructed labour chiefly depends on the early recognition of possible cephalopelvic disproportion (CPD). The recommended tool by WHO for monitoring the progress of labour is the use of partograph. (WHO, 1993). Government of Ghana shows concern and partnership with the Safe Motherhood initiative and formulated policies and guidelines to serve as a measure to its appropriate use.

It was important for WHO to change the composite partograph which has prolong and questionable latent phase to a modified one in the year 2000 to make it simpler and easier for use. The composite partograph was testified by many users that it is difficult to use in case of transferring the cervical dilatation (and other parameters) from latent phase of 0-3 cm to active phase of 4 cm and above. Other problems include prolong latent phase indicating much work, labour factors (parameters of the components of labour) crossing the action line and the need for caesarean section. The modified or simplified partograph do not have the latent phase, but the active phase begins at 4cm of cervical dilatation, fewer labouring women cross the action

line and may need an intervention such as caesarean section. Also the modified partograph is user friendly in terms of plotting its parameters. (Orji, 2008; Mathew et. al, 2007). Studies have shown that if the partograph is used religiously by care givers, intrapartum-related deaths can be reduced from the current level by 42%. (Lawn et al., 2009).

It was estimated that only half of Ghanaian women receive skilled care at birth. (GDHS, 2008)

This study seeks to find out whether midwives use the WHO Partograph appropriately to monitor labouring women in some selected public facilities of the Accra Metropolitan Health Directorate comprising of one hospital, two polyclinics and two maternity homes. The study begins with chapter one comprising of the introduction, chapter two is the literature review, chapter three is methodology, chapter four is data analysis, chapter five is discussion and recommendations and chapter six conclusion.

1.2 Problem statement

Partograph is a labour monitoring tool which gives the user (midwife) the opportunity to view the progress of labour and prompt her action. (WHO, 2011; Lavender et al, 2008; WHO,1994; WHO, 1993). Labour is expected to end naturally and successfully with both mother and baby alive and healthy. The partograph was designed to record the history and observations on labour, to alert the care giver of abnormal labour and prompt her on the appropriate action to be taken. (Safe Motherhood, 2000; WHO, 1993). For this reason, the partograph was recommended by WHO as a Safe Motherhood protocol in monitoring labour. (WHO, 2000; Safe Motherhood, 2008).

Despite the concept and benefits in the use of the partograph such as a record and legal document, decision making tool and a guide line for efficient and effective care by the midwife, its parameters are not well monitored by care givers.

Even though many agree that the partograph is a useful tool, there has been a little evidence of its practical application in health facilities. Studies shows that less than 35% of midwives utilize the partograph in monitoring labour and maternal death represents the greatest health disparity between high and low income countries. Findings indicated that introduction of partograph protocol reduced prolonged labour from 6.4% to 3.4%. (WHO, 2001; Safe Motherhood, 2008). Global estimation of maternal death in 2010 was 287,000. Eighty five per cent (245,000) of these deaths occurred in Sub-Saharan Africa and Southern Asia. When the components or the partograph parameters are religiously observed in monitoring labour, about 42% of intrapartum deaths and complications will be prevented. (Lawn, et al (2009). To achieve the MDG -5, which is to improve maternal health and reduce maternal mortality to 75% of the 1990 level by 2015, it is estimated that an annual decline in maternal mortality of 5.5% is needed. Currently the average annual decline of maternal mortality is just 2.3% between 1990 and 2008. (WHO, 2012). In support of the achievement of MDG 5, WHO through health ministry and Safe Motherhood formulated strategies to enable every pregnant woman get access to basic obstetric care (Yisma et al. 2013; WHO, 2012; Orji, 2008).

In spite of this aim, the national target for Ghana in relation to MDG-5 is reduction of 214/100,000 live births of 1990 to 54/100,000 live births by 2015. It was estimated that obstructed labour is one of the key factors among others contributing to this huge figure. For every woman who died as a result of pregnancy-related causes, between 20 and 30 more will develop short and long term disabilities, such as obstetric fistula, ruptured uterus or pelvic inflammatory disease. When the components or the partograph parameters are religiously monitored, about 42% of intrapartum deaths and complications will be prevented. (Lawn, et al (2009).

Midwives need to identify themselves as major contributors to the achievement of MDG 4&5 hence the need to adopt positive attitude towards the use of the partograph. The GDHS (2008)

report emphasize on the need for every woman to receive skilled care at birth by 2015. It is therefore important that the essence of partograph and its positive effect on the birth outcome is understood by midwives so as to increase its usage or improve their attitude towards its use in monitoring labour.

1.3 Rationale of the study

The findings document the challenges faced by midwives in its use and encourage policy makers to come out with strategies aimed at addressing the challenges. This goes a long way to increase partograph use and thus help reduce maternal and neonatal morbidity and mortality associated with labour, ultimately leading to the attainment of MDGs 4 and 5.

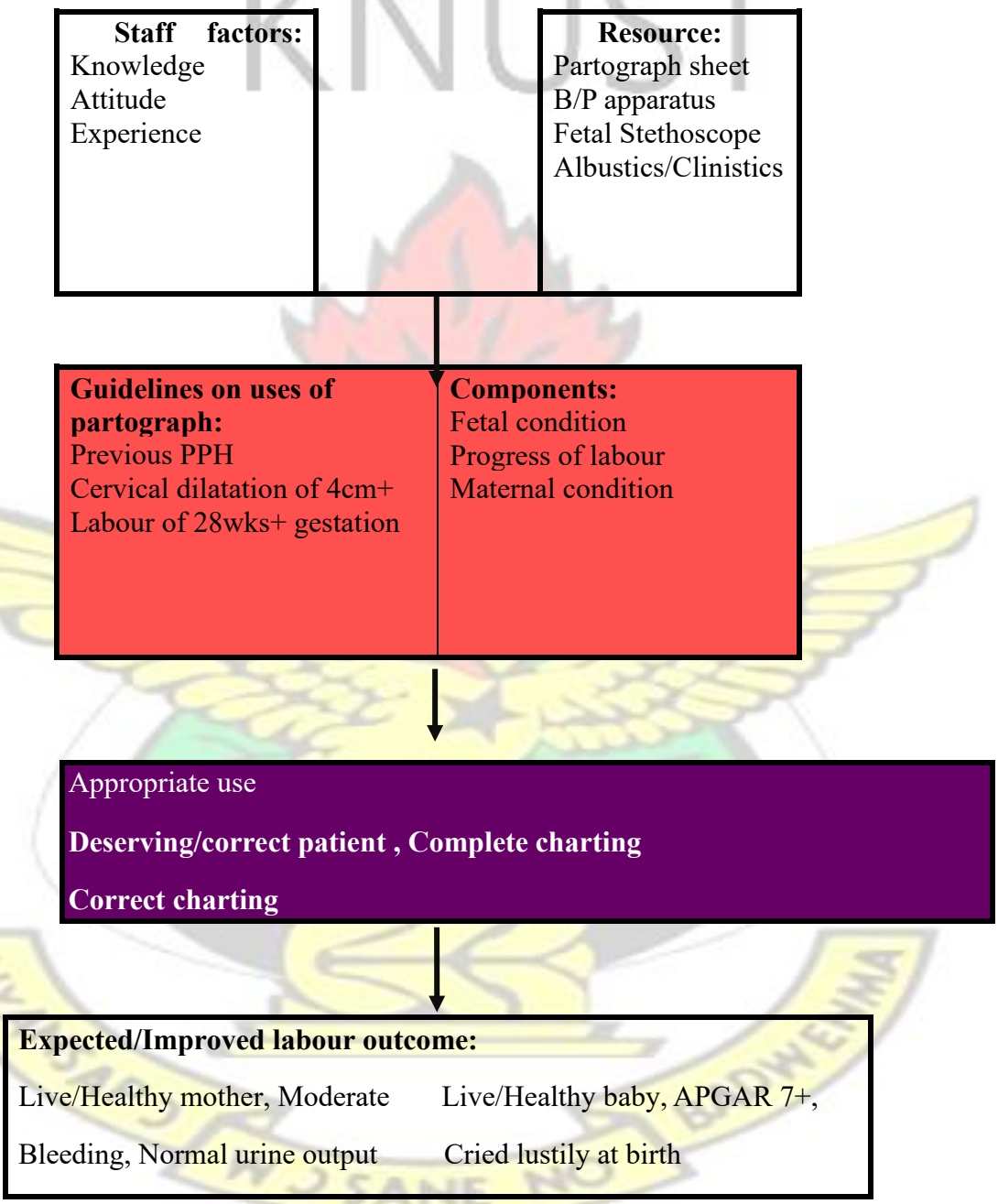
1.4 Conceptual framework

The partograph dated back in the 1950's by Friedman, and also in the 1970's by Philpott, was testified by many that it reduces maternal and foetal morbidity and mortality. It was adopted by WHO in 1993 and in 1998 as a safe motherhood protocol in monitoring labour. It was important for WHO to change the composite partograph which has a prolong latent phase and was questioned as not useful to a modified one in 2000 to make it simpler and easier for use. Government of Ghana shows concern and partnership to the safe motherhood initiative and formulated policies and guidelines to serve as a measure to its appropriate use. Studies revealed that insufficient knowledge, workload pressure on staff and unavailability of the partograph sheet are some of the reasons for the inappropriate and non-use.

The policies and guidelines of the partograph demand that all the three components should be correctly and completely charted. These components are the foetal condition, the progress of labour and the maternal condition. Also the guidelines spelt out the category of labouring women for which the partograph should or not be used. For instance all labouring women should be monitored on the partograph except those who arrived in second stage of labour,

those booked for caesarean section or a labouring woman of APH. The staff side considered knowledge and skills of staff, training on the use of partograph and attitude of staff were all considered for the appropriate use of partograph. This is illustrated in figure 1.1 below.

Figure 1.1 Conceptual Framework



Source: Author, 2014

1.5 Research Questions

1. What is the knowledge level of midwives on Partograph usage?
2. To what extent is the Partograph being utilized by midwives during labour?

3. What is the attitude of midwives towards the use of the Partograph?
4. What are the challenges associated with the usage of Partograph?

1.6 General objectives

To assess the usage of the modified WHO Partograph by midwives in the Accra Metropolitan Health Facilities.

1.7 Specific objectives

1. To assess the knowledge of midwives in the use of the Partograph.
2. To evaluate the utilization of the Partograph indications during labour
3. To assess the attitude of midwives towards the use of the Partograph.
4. To examine challenges associated with the utilization of the Partograph by midwives.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

For the purpose framing a body of knowledge that served as a guide for the study, this chapter undertakes a review of existing literature on the topical issues of partograph usage. It presents the review in an objective oriented fashion in order to ensure a consistent and logical harmony with the preceding and subsequent chapters. Specifically, it assesses the knowledge of midwives in the use of the partograph, the utilization of the partograph indications, attitudes of midwives towards the use of the partograph and the challenges thereof. In addition to this, the chapter also presents a historic highlight of partograph utilization as a precursory section providing a background to the subsequent sections.

Partograph or Partogram “Labour Curve” is a simple, inexpensive tool which gives continuous pictorial overview of labour (Radhakrishnan, 2012). There are many versions of the partograph available today. . Friedman's labour curve is a crude version that is used by many midwives and healthcare professionals (Magon, 2011). Philpott's partograph is an improved version of Friedman's labour curve and was developed to meet maternal health needs in Harare, Zimbabwe (WHO, 1994)

The composite partograph (the original design): includes a latent phase of 8 hours: the active phase starts at 3 cm cervical dilatation. The modified partograph (adapted in 2000, for use in hospitals): excludes the latent phase; but have an active phase which starts at 4 cm cervical dilation. The simplified partograph (further adapted for use by skilled attendants in health centre): excludes the latent phase and descent of the presenting part; the active phase starts at 4 cm cervical dilation. It is colour coded. (WHO, 2006; Mathai, 2009; Desmond Tutu research centre, 2012).

Issah Zainabu (2011) Ghana's tit bits: midwives sensitized to use the partograph; submitted in her article the need for midwives to make use of partograph in Ghanaian health centers.

The WHO developed its own partograph as an adaptation of the Philpott Partograph (WHO, 1991). It includes a latent phase of 8 hours and active phase starts at 3 cm cervical dilation. A simpler and more user friendly second version of it was created in 2000, removing the latent phase, and the active phase starting at 4 cm cervical dilation (Mathews et al, 2007). The latest version is the simplified one, designed especially for use by skilled attendants in health centers, it excludes the latent phase and descent of the presenting part; the active phase starts at 4 cm cervical dilation, for making it further simpler it is made colour coded (WHO, 2006; Mathews et al, 2007). In 1991 in Asia, the WHO examined over 35,000 births in the largest trial of the partograph ever done (WHO. 1994a. The study found evidence that prolonged labour, postpartum sepsis, and stillbirth were significantly reduced when the partograph was used. Augmentation rates and caesarean rates were also reduced. In the 1970s in Zimbabwe, Philpott and Castle also reported positive outcomes. Although only a small number of controlled and quasi-controlled studies has examined the impact of partograph use on labour outcomes. However, other uncontrolled and generally smaller studies have reported that the tool has had a positive impact on maternal and perinatal health outcomes, especially in low-resource settings (Lavender et al. 2008; Magon, 2011). Although the partograph has been viewed as an important tool in obstetric care, current levels of knowledge and use are low in developing countries (WHO 1994a).

Lavender et al. (2008) in their study determined that the progress of labour may not be monitored at all or that labour monitoring may not translate into the emergency actions required when complications arise. To be effective, the partograph requires a strong supervisory component. (Pettersson et al., 2000; Fahdhy & Chongsuvivatwong, 2005). The partograph may have quality-of-care benefits that go beyond effective labour monitoring and management,

including improved continuity of care and increased interaction between health care providers and the labouring woman (Midwifery, 2005; WHO, 1994b). In developing countries, most poor women and many other women give birth at home without the assistance of a skilled birth attendant or any formal monitoring of labour progress (Lavender et al., 2008).

2.2 Knowledge of Midwives on Partograph Use

Knowledge and utilization of the partograph is a major challenge among health staff in the delivery units of health facilities. Even though obstetric care givers have fair knowledge of the partograph and why it is necessary to use it in the management of labour, it is not used religiously by obstetric care givers to monitor mothers in labour. However, this study also showed that despite midwives good knowledge of the partograph, there was poor utilization in labor monitoring in both centers. Training of midwives on the use of the partograph with periodic workshops and seminars and a mandatory hospital policy are recommended as vital to the safety of women in labour in the Niger Delta region of Nigeria (Radhakrishnan, 2012). Study conducted on partograph use showed that despite midwives knowledge of the Partograph, there was poor utilization of it in monitoring labour. (Opiah et al, 2012) A study conducted in Amhara Region, Ethiopia revealed poor knowledge of midwives on the components of partograph and poor knowledge in proper filling of partograph (Fantu et al, 2013). The study revealed only 26.6% of participants were able to mention 50% or more of components of the partograph; females, midwives, and those having prior obstetric training were found to have better knowledge of components of the partograph than their counter parts. Conversely, another study conducted by Yisma, et al. (2013) in Ethiopia indicated that all midwives surveyed knew what a partograph was, and a little less than half the sample population knew its correct definition. Majority of the respondents could correctly mention at least one component of the partograph. Also, the study revealed that midwives in the health centers know and utilize partograph more than midwives in the public hospitals. Out of the 195

respondents surveyed, almost all (97.9%) of the respondents in the study admitted that the use of the partograph could prevent prolonged labour and facilitate early referral to specialized health facilities.

In line of midwives knowledge on partograph however, study by Opiah et al. (2012) showed that despite midwives good knowledge of the partograph, there was poor utilization in labour monitoring. Training of midwives on the use of the partograph with periodic workshops and seminars and a mandatory hospital policy are recommended as vital to the safety of women in labour in the Niger Delta region of Nigeria.

2.3 Indications of utilization of Partograph during labour

Burgess in 1986 reported that use of partograph reduced active interventions in normal labours but also allows timely referral of patient with problems for essential management. She concurred with the findings of Lavender and Malcomson that decisions about management in labour cannot be based only on cervical dilatation but considering also nature of contractions and descent of foetal head (Lavender et al., 2008).

In most parts of Africa and more so Ghana, the partograph is not optimally used, evidenced by incomplete documentation and a small proportion of correctly documented and properly filled partograph (Khonje, 2012). A study conducted by Yisma, et al. (2013), revealed that even though majority of the participants may have favorable attitude towards the use of partograph, only 29% of the paragraph papers reviewed were properly filled to monitor the progress of labour. Two studies were conducted on partograph use in a tertiary hospital, Queen Elizabeth central hospital. One study conducted by Kwast and Rogerson in 1973 found significant reduction in prolonged labours, C/S and perinatal deaths. Women who had laboured longer than 24 hours reduced from 14% to 3% of total deliveries, C/S from 21.3% to 9.5% and perinatal deaths from 5.3% to 3.8%.

In a cluster randomized trial by Fadhy & Chongsuntwong (2005) in Indonesia, the nurses were randomized to receive training alongside using the partograph. The findings showed an improvement in fetal and maternal outcomes in that there was a significant increase in referral rate and reduced vaginal examinations and Apgar score of less than 7 at 1 minute, 44 concluding that education, training and supervision of health workers promote effective use of partograph. Significant improvement in documentation of fetal heart rate, colour of amniotic fluid, cervical dilatation, uterine contraction and vital signs of the mother were found in a quasi experimental study in Angola. The aim was to assess the impact of education on midwives on use of partograph. Although the study showed improvements in

documentation after training, the staff failed to correctly observe descent and crossing of alert line which are the most important parameters in detecting obstructed and prolonged labour respectively. Interviews and observations of midwives could have been used to explore their attitudes towards use of partograph and understand their critical and analytical thinking in action. Two cross- sectional questionnaires based- surveys conducted in Nigeria that assessed knowledge and utilization of partograph among health workers in primary, secondary and tertiary facilities; found different knowledge levels. Doctors demonstrated more knowledge on partograph than nurses. Poor results were shown in non – professional cadres. Since it was a questionnaire based survey, and there was no exploration of why such a difference between the professionals existed. It was also found that health workers at tertiary facilities used the partograph more than those at secondary and primary facilities. This too, needed further exploration to find out the reasons for the differences. However, the results confirmed the significance of formal training and need for in service trainings. Although the need for formal training and on-going in-service education has been noted, the study did not asses these in relation to maternal and perinatal outcomes (Fadhy & Chongsuntwong, 2005). It is therefore not known whether in-service education would decrease deaths in mother and baby.

In another study conducted at Addis Ababa, Ethiopia it was revealed that more than 50% of obstetric care givers use partograph in monitoring women in labour and this utilization is higher among care givers in the health centers (67.9%) than those at the hospitals (34.4%). Yisma et al. (2013). Various studies revealed average knowledge of staff on partograph but proportion of women monitored on partograph during labour is still questionable. This alludes to the notion that, knowledge may not be the only key determinant to partograph utilization. This study therefore attempts to also assess the attitudes of midwives towards the use of partograph.

2.4 Attitude of midwives towards the use of Partograph

The attitude of midwives towards the use of partograph could be positive or negative depending on the prevailing circumstances. A positive attitude towards the use of partograph generally would enhance the optimal use of partograph while a prevailing negative attitude would mean poor utilization of the partograph (Sara and Alice, 2009). The preceding sections have revealed that in most observed cases, a partograph is either rarely used by midwives or used incorrectly; or incomplete documentation, not always correctly interpreted and there is a poor labour monitoring skills and poor knowledge within a larger context. This prevailing poor attitude towards the utilization of the partograph is underpinned by certain factors including:

a) Understaffed Health care centers: Shortage of human resources is a chronic challenge for health services in low-resource settings (Watson, 2001). In the Accra Metropolitan Assembly, reproductive and child health care are carried out by public, private, quasi, and traditional health care providers. A total of one hundred and forty one (141) health facilities including hospitals, polyclinics, maternity homes, clinics/health centers and CHPS zones can be located in the five sub metros of the Accra metropolis. Only 59(41.84%) of this health facilities render delivery services. There has been an increase in the number of maternal deaths during the period under review. The total maternal deaths recorded in 2011 were 162 compared to 118 in 2010 and 133 in 2009. This has been largely attributed to the inadequacy

of well trained, qualified and experienced staff (Accra Metro Annual report-2012). Rarely are there enough personnel with the needed skills and knowledge, and labour wards are often dangerously understaffed.

b) Poor knowledge and lack of ongoing in-service trainings: Use of partograph requires underlying clinical competence in labour management and resulting complications. It has been observed that Nursing and midwifery curriculum does not provide sufficient knowledge to use it effectively in peripheral settings, neither is its significance properly conveyed to the students. Most pre-service training sites are based in urban teaching hospitals and institutes of education, far from the settings in which most students are likely to eventually practice. Nursing, midwifery, and medical students often have few opportunities to know their partograph skills in real-world environments. Furthermore, if providers have not acquired competency in Partograph use during pre-service training, it is unlikely that they will become proficient as a result of short, one-off in-service training programs. Even if the staff is trained for using the partograph, they are not supported with in-service trainings and assessment of their practices to get feedbacks. Khonje, (2012).

c) Too much records to keep: In many health systems where paper records are available, the customary way of capturing patient information is the written narrative. Such documentation tends to be subjective in nature and to lack standardization; it is less detailed, specific, and objective than the partograph. For health care providers accustomed to conventional medical records, the graphic format of the partograph and the plotting skills it requires may be difficult both to understand and to use (Beenu, et al., 2013). While the tool appears simple, providers may lack the underlying skills and knowledge that it requires. Also, health care providers may be reluctant to record medical events in detail, for fear that their performance will later be found wanting (Opiah, et al., 2012).

There is a good example of relieving the record keeping burden; one facility in Bangladesh faced challenges with record keeping in general and with the partograph in particular. When the staff analyzed the situation, they found that providers were required to complete 11pieces of paper per patient; thus, the facility decided to consolidate some records (Yisma et al., 2013). As a consequence of this streamlining, completion and use of the partograph improved.

2.5 Challenges associated with the use of Partograph

Challenges on partograph use by midwives are numerous, of which some researchers earlier documented some as non-availability of the partograph, shortage of staff, little or no knowledge in the use of the partograph as well as time consuming (Opiah, et al., 2012). Yisma et al (2013) revealed from their study that reasons that pose as challenges to the usage of partograph are; the knowledge level of midwives to the use of partograph. A total of 195 midwives from both health centers and public hospitals were surveyed. Majority of the respondents indicated that they lack adequate knowledge on partograph use (30.66%), the next majority indicated that the partograph is time consuming (28.23%). Others also indicated that it demands much detail to fill (10.48%), 6% indicated that there is the lack of adequate number of personnel, 16.13% indicated that it is the doctors job to fill partograph.

While 8.06% indicated that they lack training in the use of partograph. Reproductive and child health care consist of both preventive and curative services for improvement of the health of the total population, especially women and children, and to ensure a healthy and reproductive population that reproduces itself safely. One of the ministry's objectives is to ensure that people live long, have healthy and good productive lives and reproduces without risk of injuries or death. For this reason, the metropolitan set an objective of achieving 80% supervised delivery, of which only 52,083 (38%) was achieved in 2011. (Accra Metro Annual Report, 2012). Partograph is essential in monitoring delivery, yet it is underutilized (Beenu, et al., 2013). Several other studies which were conducted to assess the effects and impact of partograph use

have also reported barriers to correct use of the partograph. The barriers include lack of knowledge, lack of resources, lack of supportive supervision and women's perspective.

2.5a Lack of resources

Despite health workers positive attitude on use of partograph, lack of resources was also one of the reasons why the partograph was not utilized. The resources include the graph paper, guidelines, equipment for carrying out vital signs observations and pens. Availability of health workers to attend to women in labour is another factor. In a study conducted in Benin, more staff on duty was associated with high utilization of the partograph. There were more partograph completed where there was more than one midwife and few partograph were completed where there was only one midwife on duty ((Nyamtema et al., 2006).

2.5b Lack of supportive supervision

In Indonesia, Fadhy & Chongsuntwong, (2005). found that when staff were trained and then given supportive follow up, there was an increase in the referral rate from primary health care centers to secondary or tertiary levels. A higher rate of correct use of partograph was shown which resulted in reduction in vaginal examination, augmented labour and increased referral. In Tanzania, Bosse et.al, and in Uganda, Ogwang et.al, reported that the health workers lacked follow-up and supervision. This resulted in poor monitoring of maternal –fetal condition and there were high perinatal deaths (Nyamtema et al., 2006; Ogwang et al., 2009).

One of the eight centers which participated in the study in Uganda correctly used the partograph. This center received more supportive technical supervision than any other centre.

2.6 Summary of Chapter

Most studies herein have shown that monitoring the progress of labour with correct use of the partograph improves maternal and fetal outcomes, but some studies have failed to document that using partograph reduces maternal morbidity and mortality at all times. The aim of using

Partograph is to differentiate normal from abnormal progress in labour. The partograph acts as an early warning system identifying those women who will likely require some form of intervention. Success of its use requires knowledge and skills gained through formal education and on- going regular in-service training. It requires resources to carry out the observations and documenting. Without these, monitoring of labour becomes incomplete hence problems are missed, or identified late; resulting in complications which cause maternal and neonatal morbidity and mortality. Most studies employed a quantitative method to assess effect of use and impact. Those that were explorative did not use cross sectional methods. Therefore, it was decided that this study employs cross sectional methods to assess the use of partograph against a backdrop of other factors that hinder its use.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This section details out the scientific pillars of the study with emphasis on the philosophical background which encapsulates the research design, sample size and the sampling techniques used. It also highlights the data collection, data handling and analysis, ethical considerations and the primary limitations of the study. A case study approach was used to integrate both empirical and constructive perspectives of this research laying emphasis on primary and secondary data as well as the inherent relationships in a therein that together influence the utilization of a partograph.

3.1 Profile of Study Area

The study was conducted in the sub-metros of the Accra Metropolitan District Health Facilities. The Accra Metro Area is one of the ten (10) Districts in the Greater Accra Region. It is the national, as well as the regional capital. It occupies a land area of approximately one hundred and forty-four kilometers square (144km. sq.) The metropolis shares boundaries with two Districts. North is the Ga District and south is by the Gulf of Guinea, which stretches from Osu to the Chemu Lagoon near Chorkor. East is Tema Municipal Area. Although the

District covers a small land area, it has about 70% of Greater Accra Region's population. The total population is 1,965,005 for the year 2012 projected from 2010 census with a growth rate of 2.8 %. There are five Sub Metros in the Accra Metro Health Directorate namely; Ablekuma, Ashiedu Keteke, Ayawaso, Okaikoi and Osu Klottey. The population of WIFA is 1,179,003. Reproductive and child health care consist of both preventive and curative services which are carried out in the five Sub Metros of the District by public, private, Quasi, and traditional health care providers. In all, a total of one hundred and forty one (141) health facilities including hospitals, polyclinics, maternity homes, clinics/health centers and CHPS zones can be located

in the five sub metros of the metropolis. 59(41.84) of this number of health facilities render delivery services, out of which five (8.7%) were selected. There has been an increase in the number of maternal deaths during the period under review. The total maternal deaths recorded in 2011 were 162 compared to 118 in 2010 and 133 in 2009. (Accra Metro Annual Report, 2012).

Figure 3.1 A Map of Study Area

3.1. a A map indicating study areas within Accra Metropolitan

3.2 Study Design

The study used a cross sectional analytical design. The study population was all in midwives the Accra Metropolitan Health directorate. Target population; Midwives, offering services in deliveries. Inclusion criteria: practicing midwives providing child delivery services. Exclusion criteria; midwives practicing in other sections of the maternity unit, midwives that are not rendering delivery care services and all midwives who provide delivery services, but are on leave.

(a) Inclusion Criteria

The study included all midwives rendering delivery services within the maternity unit, all partograph and folders/delivery records of women who delivered between 1st June 2013 and 31st July 2013 with gestational ages between 28+ weeks and 40+ weeks, partograph of both primiparous and multiparous women, partograph of cervical dilatation from 4cm to 8cm, partograph of all presentations and partograph of singleton fetus.

(b) Exclusion Criteria

Exclusion criteria included all midwives practicing in other units apart from the maternity wards, all health staff in the labour wards that are not midwives and all partograph of women with any medical condition during pregnancy.

3.4 Study Variables

The variables for the study are categorized into dependent and independent variables. The dependent variables show how knowledge of midwives, correct plotting, and outcome of labour as well as challenges can affect the appropriate use of partograph. The independent variables try to find ways to address the dependent variables or to get to the basis of the problem. These are educational background, training and workshops, healthy mother and baby or outcome of

labour, appropriate charting of all the components of partograph as well as adequate supply of the sheets.

Table: 3.1 Table of Variables

Objective	Dependent Variables	Independent Variable	Conceptual Definition	Scale of Measurement	Method of Analysis
To assess knowledge level and attitude of staff towards the use of Partograph.	Knowledge level and attitude of midwives.	Educational background of midwives, experience of midwives, workshops and in-service trainings.	Knowledge and willingness in using the Partograph.	Ordinal	Statistical inference with cross tabulation
To ascertain the correct & complete charting of the Partograph.	Correct & complete charting.	Fetal condition, maternal condition progress of labour are chartered	The 3 components will guide to identify any deviation from normal and prompt action taken.	Ordinal	Statistical Inference with P-value
To assess the consistency of maternal & foetal recordings on the Partograph	Maternal & foetal outcome.	Live baby. Lustily cry. Apgar score of 7+. Healthy baby. Healthy mother. Normal urine output. Normal B/P. Moderate bleeding.	Healthy mother and baby.	Ordinal	Statistical inference with cross tabulation
To identify challenges associated with utilization of the Partograph.	Challenges with Partograph use.	Busy ward. Less number of staff. Partograph availability.	Note difficulties of using the Partograph.	Nominal	Statistical inference with cross tabulation
To document the proportion of women monitored on Partograph	Women monitored on Partograph	Conditions that do not permit Partograph use.	Number of women actually monitored on Partograph	Nominal	Statistical Inference with P-value
To assess the consistency of maternal and foetal recordings	Maternal and foetal recordings		Accuracy and completeness in the plotting.	Nominal	Statistical inference with cross tabulation

Source: Researcher's Construct, 2014

3.5 Sampling Techniques

Non probability sampling technique specifically purposive was used. One facility which provide delivery services was purposively selected from each of the five (5) Sub Metros for the study. Owing to the realization that some of the midwives within the sample frame were either not on duty during the survey period or not directly engaged in delivery, convenience sampling technique was adopted to select midwives who worked at the labour ward and were directly in charge of delivery during the survey period. Base on the convenience sampling technique, three nurses were interviewed on the average in each facility daily; starting from 17th September to 12th October 2013, during which a total number of seventy three (73) respondents were interviewed. After interviewing 73 participants which is about 91% of the sample size, the data began reflecting saturation. Using the delivery register, total number of deliveries for the above period was noted. Partograph from 1st June to 31st July 2013 were counted to counter check the number as shown in the delivery book and to identify any missing files. An average of twenty (20) partograph were reviewed twice a week for the two months period. This gave a total of 40 partograph reviewed in a week for the period of 16 weeks. In all 60 filled partograph sheets were randomly selected at each of the five study facilities. This resulted in a total of 300 partograph sampled and reviewed.

3.6 Data Collection Techniques and Tools

The study used two (2) main techniques in data collection. Structured questionnaire was used to collect socio demographic data of staff and to measure level of knowledge and attitude of staff. Delivery records and already filled partograph were reviewed by use of check list to assess the consistency. The researcher designed a two-page questionnaire containing questions based on the objectives of the study. The questionnaires comprised both openended questions and closed-ended questions. The researcher also designed a checklist used to observe the recording pattern of randomly selected partograph from the various health centers under study. This was

to determine whether partograph of the attendant clients were fully completed, partly completed or not filled at all.

3.7 Structured Questionnaire

This was used to assess; Socio-demographic characteristics of respondents and knowledge of staff. The questionnaire also had a section to identify what indicators the midwives utilize on the partograph. It also identified the attitude of midwives on partograph use. Finally it assessed the challenges with the usage of partograph among the midwives. The researcher personally administered all the questionnaires. Consent form was signed by the participant after the purpose of the research has been explained. Participants were informed that, they could decide not to take part in the research if they wished to do so. Participants were assured of confidentiality.

3.8 Pre-testing

In order to ensure that the questionnaire are clear and well understood by the participants, questionnaire was pretested in one of the non-selected facilities, the Amanfro Health Centre to also ensure that the tools generate the required results. After the tools were tested, the needed modification and any identified flaws were corrected.

3.9 Data handling

Participants were assured of confidentiality and privacy. The data forms were collected daily and numbered in a chronological order to ensure that none was lost after which they were placed in a sealed envelope for data analysis later.

3.10 Data analysis

The data collected from the questionnaire was entered in to SPSS software programme. The data was checked for completeness and all corrections were done. These checks were done on regular basis and back-up copies was saved on an external disc for safe keeping. The analysis

of data followed an objective-based approach in order to emphasize the field observation under each key objective. In analyzing the field data, the study made use of simple analytical tools comprising: descriptive statistics (frequencies, percentages and means), chi square analysis and data triangulation by source.

3.11 Ethical Consideration

An introductory letter from the department of community health KNUST was sent to the Accra Metropolitan Health Directorate asking permission from the metropolitan health directorate and various health facilities that was used for the study. Ethical approval was also obtained from Committee for Human Research and Publication Ethics (CHRPE), KNUST before the study was conducted.

3.12 Limitations of the Study

The labouring women who received labour care were not considered for interview in this study. Including them in the study would have accessed the usage and effect of partograph of another stakeholder of this issue under study. Some of the respondents show unwillingness to response in the study.

CHAPTER FOUR

RESULTS

4.0 Introduction

This chapter details out the results of the field survey based on the stated objectives of the study. The study used appropriate mix of close-ended and open-ended questions to elicit quantitative data from midwives who were directly in charge or engaged in the labour wards in Mamprobi Polyclinic, Maamobi Government Hospital, Kaneshie Polyclinic, James Town Maternity Home and Osu Maternity Home. It also made use of in-depth interviews to extract data on staffing and working conditions in the labour ward from administrators in charge of the labour wards.

Using a deductive approach, the chapter features knowledge levels of midwives with respect to various parameters of partograph, the indications of partograph utilization, attitude of midwives as well as the inhibiting factors of partograph utilization. The chapter however precedes these with a biographic description of the survey participants for the purpose of enhancing a contextual understanding of the results presented (Table 4.1).

4.1 Biographic Description of the study

Table 4.1.1. Biographic Data

Variable	Frequency(73)	Percentages (100)
Age of the Respondents		
20-29 years	32	43.8
30-39 years	10	13.7
40-49 years	12	16.4
50-59 years	19	26
Level of Education		
Middle School Leaving Certificate (MSLC)	12	16.7

SSSCE/GCE/ 'O' or 'A' Level	14	19.4
Diploma	41	56.9
Degree/Postgraduate	5	6.9
Rank of the Respondents		
Staff Midwife	33	51.6
Midwifery Officer	10	15.6
Senior Midwifery Officer	7	10.9
Senior Staff Midwife	6	9.4
Senior Nursing Officer	4	6.2
Principal Midwife Nursing Officer	5	7.6
Ret. Midwife	7	9.6
Length of Experience		
Less than 10 years	46	63.9
10-19 years	23	31.9
20-29 years	2	2.8
29-39 years	1	1.4

Source: Researcher's field survey, 2014 Table 4.1.1 shows the biographic data of the midwives surveyed by the researcher. The age distribution of the respondents shows that 32(43.8%) of the respondents were between the ages of 20 and 29 years. Nineteen (26%) of the respondents were between 50 and 59 years. Twelve (16.4%) also indicated that they are between 40 and 49 years and 10(13.7%) indicated that they are between 30 and 39 years. The next issue on the biographic data is the level of education, majority of the respondents 41(56.9%) have diploma certification as their highest level of education. The next majority of respondents indicated that they have

GCE/'O' level/'A' Level of education as their highest education level. Five (6.9%), the least category indicated that they have degree/postgraduate certification as their highest level of education. The third issue in the biographic data is the rank of the respondents. Thirty three

(51.6%) indicated that their staff midwives, 10(15.6%) indicated that they are midwifery officers, 7(10.9%) indicated they are occupy the ranks of senior midwifery officers. Six (9.4%) indicated that they are senior staff midwife. The next issue on the biographic data is the length of experience of the respondents. Majority of the respondents, thus 46(63.9%) of the respondents indicated that they have less than 10 years of experience, 23(31.9%) also indicated that they have between 10 and 19 years of experience. Furthermore, 2(2.8%) indicated that they have between 20-29 years of experience in the midwifery practice and only 1 person indicated that she has between 20 and 39 years of experience.

Table 4.1.2: Relationship between Length of experience as a midwife and Age category

Length of experience as a midwife	**Age category**				**Total**	***P-value***
	20-29 years	30-39 years	40-49 years	50-59 years		
Less than 10 years	26	9	7	4	46	
10-19 years	6	0	5	12	23	
20-29 years	0	0	0	2	2	*0.001*
30-39 years	0	0	0	1	1	
Total	32	9	12	19	72	

Significant at 5%, Significant at 1%

Source: Researcher's computation, 2014

Table 4.2 shows the relationship between lengths of experience of the midwives as against the age category of the respondents. The chi-square test of significance shows that there is a strong significance between the age of the respondents and the length of experience they have in the midwifery profession. The result shows a significance of 1%, in which direction younger midwives were less experienced

4.2 Assessing Staff Knowledge of Partograph Usage

This section aims at identifying the respondents' knowledge on Partograph.

Table 4.2.1: Respondent's definition of Partograph

Partograph Defined	Count	Column N %
Graphical presentation of labour	57	79.2%
Labour guide	40	55.6%
Decision making tool	42	58.3%
Referral tool	12	16.7%

Source: Researcher's field survey, 2014

Table 4.3.1 shows the respondents views and how they define a Partograph. The question was framed as a multiple response data set. Results indicated that 57 (79.2%) respondents out of the 73 surveyed indicated that a partograph is a graphical presentation of labour. This represents the majority perception of what a Partograph is. Forty two (58.3%) indicated that a partograph is a decision making tool. Forty (55.6%) also indicated that a partograph is a labour guide. However, 12(16.7%) indicated that a partograph is a referral tool.

Table 4.2.2: Main components of Partograph

Partograph Main components	Count	Column N %
Foetal condition	73	100.0%
Uterine condition	40	55.6%
Progress of labour	71	98.6%
Maternal condition	70	97.2%
Vital signs	37	51.4%

	Medications	37	51.4%

Source: Researcher's field survey, 2014

Table 4.2.2 shows the respondents views on the main components of partograph. All 73(100%) of the respondents mentioned that a main component of the partograph is the fetal conditions, the next item identified as a component of the partograph is the progress of labour, followed by maternal conditions, urine condition, vital signs and medications.

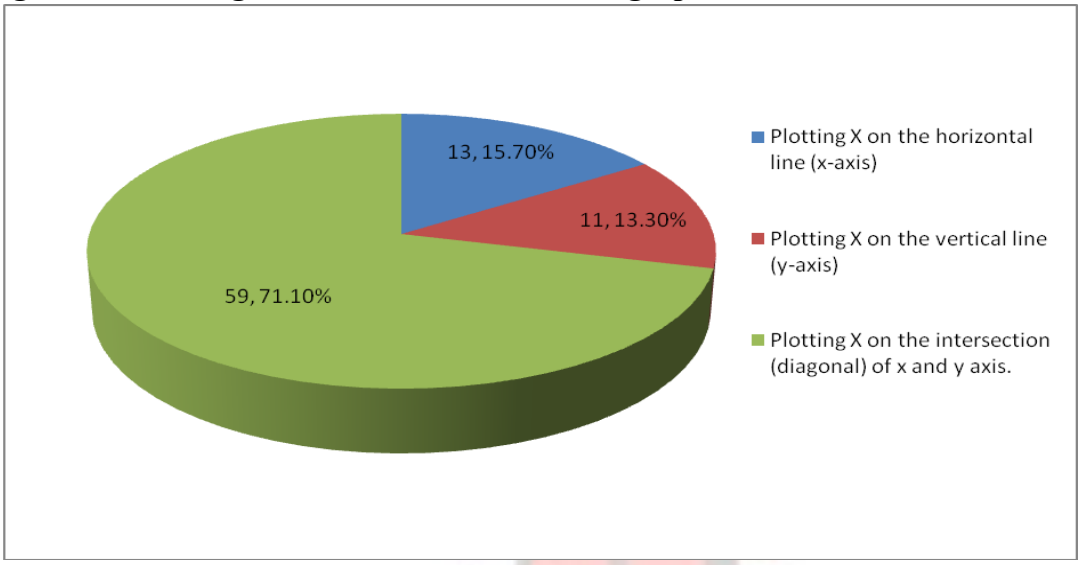
Table 4.2.3: Observations to plot on Partograph

Observations to plot on Partograph	Count	Column N %
Foetal heart rate	73	100.0%
Colour of amniotic fluid	67	93.1%
Degree of moulding	71	98.6%
Dilatation of the cervix	71	98.6%
Descent of foetal head	69	95.8%
Strength of uterine contraction	66	91.7%
Maternal blood pressure	70	97.2%
Maternal temperature	68	94.4%
Amount, colour and consistency of urine passed	66	91.7%
Maternal Pulse	61	84.7%

Source: Researcher's field survey, 2014

Table 4.2.3 was aimed at finding out from the respondents what observations they know would be plotted on the partograph. This question was also designed as a multiple response data set. All respondents indicated that fetal heart rate will be plotted on the graph. In all the above items and their responses indicated that the respondents identify that all the items listed are observations to be plotted on the partograph. All the observations in the table are observed to be plotted on the partograph.

Figure. 4.1 Plotting cervical dilatation on Partograph



Source: Researcher's field survey, 2014

Figure 4.1 shows the perception of the respondents on the appropriate way of plotting cervical dilation on the partograph. Majority of the respondents 59(71.10%) indicated that plotting on the intersection (diagonal) of the X and Y axis is the appropriate way of plotting cervical dilation on the partograph. Thirteen (15.70%) of the respondents also indicated that plotting x on the horizontal line (x-axis) is the appropriate way of plotting cervical dilation. Also, 11(13.30%) indicated that plotting x on the vertical line (y-axis) is the appropriate way of plotting cervical dilation on the partograph.

Table 4.2.4: How often the descent of foetal head is assessed during 1st stage of labour

Period	Frequency	Percent
2 hourly	4	5.5
4 hourly	67	91.8
Missing data	2	2.7
Total	73	100.0

Source: Researcher's field survey, 2014

Table 4.2.4 shows the responses on how often the descent of foetal head is assessed by the midwife during 1st stage of labour. Results indicate that majority of the respondents, thus

67(91.8%) assess the descent of foetal head 4 hourly. Four (5.5%) indicated that this issue is assessed 2 hourly and 2 others did not respond to this question, hence captured as missing data.

Table 4.2.5: How often the strength of uterine contraction is assessed

Period	Frequency	Percent
1/4 hourly	4	5.5
1/2 hourly	60	82.2
1 hourly	5	6.8
Missing data	4	5.5
Total	73	100.0

Source: Researcher's field survey, 2014

Table 4.2.5 shows responses on how often the strength of uterine contraction should be assessed by the respondents. Majority of the respondents indicated that the uterine contraction is assessed ½ hourly. Four (5.5%) others indicated that the strength of uterine contraction is assessed ¼ hourly. However, 4(5.5%) others did not respond to this question hence captured as missing data. .

Table 4.2.6: Whether Cervical dilation is assessed every 4 hours during 1st stage of labour.

Options	Frequency	Percent
Yes	68	93.2
No	1	1.4
Missing data	4	5.5
Total	73	100.0

Source: Researcher's field survey, 2014

Table 4.2.6 shows response on whether cervical dilation is assessed every 4 hours during the 1st stage of labour. Majority of the respondents, 68(98.6%) indicated that it is assessed every 4 hourly, and only 1 (1.4%) indicated that it is not assessed every 4 hourly during the 1st stage of labour. However 4 (5.5%) did not respond to this question hence captured as missing systems.

Table 4.2.7: Interpretation of the following observations on the Partograph

Interpretation	Delayed Action	Intervention instituted/done	Normal progress	Precipitate labour	Slow progress/Prolong labour
a. When the alert line is crossed vertically (bottom to top)	1 (1.4%)	4(5.9%)	7(10.3%)	47 (69.1%)	9 (13.2%)
b. When the alert line is crossed horizontally (left to right)	8(11.9%)	11(16.4%)	3(4.5%)	6(9.0%)	39(58.2%)
c. When the alert line is crossed diagonally (across/from left bottom to right top)	3(4.6%)	2(3.1%)	54(83.1%)	4(6.2%)	2(3.1%)
d. When the action line is crossed diagonally (across/from left bottom to right top)	9(15.0%)	40(66.7%)	6(10.0%)	3(5.0%)	2(3.3%)
e. When the action line is crossed horizontally	40(64.5%)	3(4.8%)	-	1(1.6%)	18(29.0%)

Source: Researcher's field survey, 2014

Table 4.2.7 shows the responses of respondents on the interpretation of the observations as presented. These results can also be used to determine the knowledge of midwives on how to use the partograph. 47(69.1%) of the midwives surveyed indicated that when the alert line is crossed vertically (bottom to top) it indicates precipitate labor. Also, 39(58.2%) of the midwives also indicated that when the alert lines is crossed horizontally (left to right) it indicates slow progress/prolong labour. Also, Majority, 54(83.1%) indicated that when the alert line is crossed

diagonally (across/ from left bottom to right top) it indicates normal progress. Furthermore, 40(66.7%) indicated that when the action line is crossed diagonally

(across/from left bottom to right top) it indicates intervention instituted/done. Finally 40(64.5%) indicated that when the action line is crossed horizontally it is interpreted that there is delayed action.

Table 4.2.8: What form did the refresher course take

Type of refresher course	Frequency	Percent
In service training/seminar	25	34.2
Conference	2	2.7
Internet	2	2.7
Information by other health care providers	5	6.8
Missing data	39	53.4
Total	73	100.0

Source: Researcher's field survey, 2014

Majority of those who indicated that they had a refresher course detailed that the refresher course was in the form of in-service training/seminar, others indicated that the refresher course was in the form of conference, on internet or information by other health care providers.

4.3 Indication for the Use of Partograph

Statistical analysis with Fischer's exact test confirmed an association between the following partograph components and delivery methods; gravida, parity, fetal monitoring (FHR, moulding and liquor), monitoring labour progress (descent, contractions and cervical dilatation), the crossing of alert line, reaching of action line, monitoring blood pressure ($p<0.01$, Fisher's exact test). The strength of the linkage as measured by the Phi and Cramer's V indicate that there is a moderate linkage between delivery methods and parity, gravida, BP, pulse, crossing of alert line and rupture of membranes. There was no death in the month of June

and one death occurred in the month of July but was not sampled. The foetal outcome which was the status of new-born at birth included alive (live full term infant (LFTI), Premature infant (Prem); and dead (FSB and MSB).

Table 4.3.1: Use of the Partograph

Partograph Utilization	**Yes**	**No**	**Uncertain**
Do you monitor all clients on the Partograph	15(21.1%)	48(67.6%)	8(11.3%)
Issues to be monitored on the Partograph			
Primiparous woman with cephalic presentation	65(91.5%)	4(5.6%)	2(2.8%)
Multiparous woman with previous C/S	30(43.5%)	27(39.1%)	12(17.4%)
Multiparous woman with previous SVD	68(95.8%)	2(2.8%)	1(1.4%)
Cervical dilation of 4cm+	70(98.6%)	-	1(1.4%)
Trial of labour	56(81.2%)	9(13.0%)	4(5.8%)
Premature labour at more than 28 weeks gestation	30(46.9%)	28(43.8%)	6(9.4%)
Previous PPH/Retained placenta	51(76.1%)	14(20.9%)	2(3.0%)
Cord prolapse	9(13.6%)	55(83.3%)	2(3.0%)
Ante partum haemorrhage	7(10.4%)	56(83.6%)	4(6.0%)

Source: Researcher's field survey, 2014

Table 4.3.1 shows the responses on the respondents about the use of partograph. 48(67.6%) indicated that they do not monitor all clients on the partograph. A further probing into the issues to be monitored on the partograph indicated that Primiparous women with cephalic

presentation, multiparous women with previous C/S, multiparous women with previous SVD, Cervical dilation of 4cm+, Trial of labour of pregnancy more than 28 weeks gestation and previous PPH/retained placenta are issues monitored on the partograph as provided by the respondents. Also, cord prolapse and ante partum haemorrhage is not monitored on the partograph.

Table 4.4.1: Consistency of maternal and fetal recordings on the partograph

Maternal & Fetal Recordings	Item	Frequency	Percent
Fetal condition	Fetal Heart Rate	240	80
	Liquor	250	83.3
	Moulding	180	60
Progress of labour	Cervical dilatation	276	92
	Contraction	134	44.6
	Head descent	254	84.6
Maternal condition	Blood pressure	147	49
	Pulse	130	43.3
	Urine	102	34

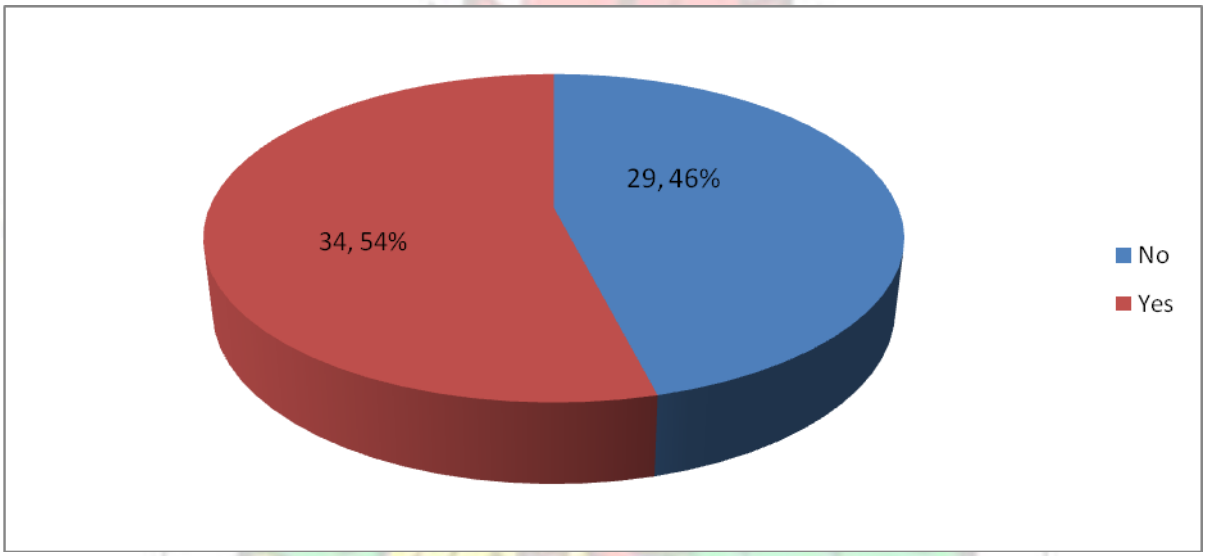
Source: Researcher's field survey, 2014

Table 4.4 1 shows the result of the check-list on consistency of recordings of maternal and fetal conditions as well as progress of labour by midwives on the partograph. Under progress of

labour, 254(84.6%) filled partograph shows consistent plotting of fetal head descent and cervical dilatation while 134(44.6%) shows consistent plotting of uterine contraction.

Recording on fetal condition reveals 180(60%) consistency in plotting of moulding while 240(80%) of the partograph shows consistency in recording of FHR. Maternal condition was poorly plotted. Only 147(49%) had blood pressure plotted. 130(43.3%) partograph shows consistency in plotting of pulse while urine was the poorest parameter recorded as 102(34%).

Figure 4..2 Respondent has any refresher course on Partograph



Source: Researcher's field survey, 2014

Figure 4.2 shows the midwives responses on whether they had any refresher course on partograph. Fifty four percent of the respondents indicated that they had a refresher course on partograph and 48% indicated that they have not had any refresher course on partograph.

A strong association was found between delivery methods and referral, FHR, moulding, liquor, descent, contractions, cervical dilatation and reaching of action line. The results show that monitoring of the parameters except temperature were significant with $p<0.01$ and would influence the mode of delivery either by SVD or instrumental delivery. The association was

found to be strong with information documented on referral, FHR, moulding, liquor , descent, contractions ,cervical dilatation and reaching action line. The findings also show a strong linkage between fetal monitoring and method of delivery. The condition of foetus whether healthy or compromised assessed through monitoring of FHR, moulding and liquor can influence the choice for mode of delivery. FHR that is persistently below 120 beats and above 160 beats maximum per minute indicate fetal compromise and this can influence the mode of delivery. While fetal compromise can also be seen in the status of liquor and in the degree of moulding. Proper monitoring of fetal condition would detect these and would show the course of labour whether labour continues to be normal or abnormal. The method of delivery can therefore be influenced by the state of fetus. The regular monitoring is therefore required to achieve this.

4.4 Attitude of Midwives To Partograph Usage

Table 4.4.1 Partograph Usage (regularly)

Usage	Frequency	Percent
Yes	55	75.3
No	6	8.2
Not always	6	8.2
Missing values	6	8.2
Total	73	100.0

Source: Researcher's field survey, 2014

Table 4.4.1 shows the attitude of partograph usage by the respondents. Fifty five (82.1%) indicated that they use partograph regularly and 6(9.0%) indicated that they do not use partograph regularly. Whiles another 6(9.0%) indicated that they do not always use Partograph. However, another 6 did not respond to this question and hence captured in the analysis as missing data. Those who indicated that they do not use partograph regularly and those who

indicated not always gave the following as the reasons: because she (the midwife) is at the ANC, Other reasons are if the cervix is 7cm dilated, it is time consuming. The midwife is not always at the labour ward.

Table 4.

4.2: Ranking the Importance of the Partograph

Rank	Frequency	Percent
Very good	65	89.0
Somewhat good	2	2.7
Missing values	6	8.2
Total	73	100.0

Source: Researcher's field survey, 2014

Table 4.4.2 shows the perspective of midwives on how importance the usage of partograph is within the maternal health practice. Sixty five (97.0%) indicated that partograph use is very good, 2(3.0%) indicated that partograph usage is somewhat good.

Table 4.4.3: Perception on whether Partograph usage is time consuming

Time consuming	Frequency	Percent
Yes	7	9.6
No	56	76.7
Not really	5	6.8
Missing values	5	6.8
Total	73	100.0

Source: Researcher's field survey, 2014

Table 4.4.3 shows the perceptions of the respondents on whether partograph usage is time consuming. Fifty six (76.7%) indicated that partograph usage is not time consuming, 7(9.6%) indicated that partograph usage is time consuming. However 5(7.4%) indicated that partograph

Table 4.

usage is not really time consuming. 5 others did not respond to this question and hence was captured as missing system.

4.4: Opinions on whether Partograph usage should be made compulsory/optional

Opinions	Frequency	Percent
Compulsory	65	89.0
Optional	3	4.1
Missing values	5	6.8
Total	73	100.0

Source: Researcher's field survey, 2014

To further assess the perceptions of the respondents on whether partograph usage should be made compulsory/ optional the above question in table 4.4.4 was asked and the responses are illustrated in the table. Responses indicated that 65(89.0%) indicated that partograph usage should be made compulsory and 3(4.1%) indicated that partograph usage should not be made compulsory, thus optional. However, 5(6.8%) did not respond to this question hence captured as missing system.

Table 4.4.5: Opinions on whether they are being forced to use the Partograph

Forcible Use	Frequency	Percent
Yes	2	2.7
No	63	86.3
Missing data	8	11.0
Total	73	100.0

Source: Researcher's field survey, 2014

Table 4.

Table 4.4.5 gathered the opinions of the midwives on whether they are being forced to use partograph. Majority of the respondents, 63(86.3%) indicated that they are not being forced to use partograph. However 2(3.1%) others indicated that they are being forced to use the partograph.

4.6: Respondent will go out of her way to look for Partograph when there is shortage

Variable	Frequency	Percent
Yes	56	76.7
No	11	15.1
Missing data	6	8.2
Total	73	100.0

Source: Researcher's field survey, 2014

Table 4.4.6 illustrates respondents' attitudes on whether they would inconvenience themselves to look for partograph when there is shortage. Fifty six (76.7%) indicated that they would inconvenience themselves to get partograph when they are in short supply. Eleven (15.1%) indicated that they would not go out of their ways to look for partograph when there is shortage. Furthermore, 6(8.2%) did not respond to this question.

4.5: Challenges Associated With Partograph Use

Quite a number of studies have recommended use of partograph in detecting abnormal labour and have also reported barriers to its implementation. In this study, there were varied reasons which attributed to the improper use of partograph. These included shortage of staff with a high workload, negligence, inadequate skill to carry out assessments and interpret correctly despite going through a formal training; inadequate supervision, lack of motivation and pregnant women not coming in time to labour ward. Supply of material or equipment cannot be said to be a major contributor to the poor utilization of partograph

Table 4.

5.1: Regular supply of Partograph

Variable	Frequency	Percent
Yes	60	82.2
No	5	6.8
Uncertain	4	5.5
Missing data	4	5.5
Total	73	100.0

Source: Researcher's field survey, 2014

Table 4.5.1 is the response on whether respondents receive regular supply of partograph. 60 (82.2%) indicated that they receive regular supply of partograph. Five (7.2%) indicated that they do not regularly receive supply of partograph. However, 4(5.5%) did not respond to this question.

Table 4.5.2: Encounter any hindrances with the use of the Partograph

Variable	Frequency	Percent
Yes	13	17.8
No	54	74.0
Missing data	6	8.2
Total	73	100.0

Source: Researcher's field survey, 2014

Table 4.5.2 shows responses from further questioning on whether respondents encounter any hindrances with the use of partograph. Fifty four (74.0%) indicated that they do not encounter any hindrances with the use of partograph. Thirteen (17.8%) also indicated that they encounter hindrances with the use of partograph. However, 6(8.2%) did not respond to the question.

Table 4.

Those who indicated that they experience hindrances gave the following as their experiences:

"At some instances the graphs come in different forms and some of them are not clear. New changes occur in the partograph that are not properly announced. There is the need to devote more time to its use so as to get familiar with it."

5.3: whether there is labor management guidelines/protocol in the facility that directs (whom, when and how) to use Partograph

Variable	Frequency	Percent
Yes	40	54.8
No	17	23.3
Uncertain	6	8.2
Missing data	10	13.7
Total	73	100.0

Source: Researcher's field survey, 2014

Table 4.5.3 shows responses of midwives on whether there is labour management guidelines/protocol within their facility that indicates whom, when and how to use partograph. Majority of the respondents, 40(54.8%) indicated that there are guidelines/protocol in the facility. Seventeen (23.3%) indicated that there are not protocols within their facility. Six (8.2%) others responded that they are uncertain about this issue.

Those who indicated that there are guidelines/protocols gave the following as some of the protocols.

Table 4.

Table 4.5.4 Summary of Partograph Utilization Protocols and Recommendations as per table 4.3.1

Existing Partograph Utilization Protocols	Strategies recommended in improving the use of Partograph by midwives.
▪ Partograph should not be used in 2nd stage ▪ Partograph should be used for labour at cervical dilatation of 4cm. ▪ Use red and blue pen in plotting FHR of twin gestation ▪ No plotting of descent in breech presentation. ▪ Examine client before using partograph, APH should not have partograph ▪ All mothers in active labour. Not to be used for women booked for elective C/S. Those who come in 2nd stage of labour. ▪ If vagina examination is 8cm, partograph is not needed, if there is cord prolapse prepare case and refer, if client is having APH there should be no vaginal examination. ▪ Vaginal examination should be done 4 hourly and monitor and record FHR every 30 minutes.	Suggestions made by respondents on ways to improve upon the usage of Partograph by midwives: ▪ All those in charge should ensure that after every delivery, the Partograph is inspected to know any deviation or ensures it is plotted well. ▪ Assess every pregnant woman in labour who comes to the labour ward to know if she is to be put on partograph. ▪ Concentrate on the monitoring than the writings. Address challenges at the facility level. Encourage often supply and use. ▪ Constant supervision on the use of partograph by unit heads. ▪ Enforcing the use of partograph and acknowledgement of the facilities that use partograph to monitor labour. ▪ Monthly peer reviews on the use of partograph.

Source: Researcher's field survey, 2014

The study found inadequate supervision and lack of motivation as reasons for improper use of the partograph. Refer Table 4.3.1.

Records on the partograph were complete where clinical supervision was regularly carried out. It was observed that owing to inadequate supervision, supervisors may not be acquainted with their health workers and even performance appraisal may be difficult. Supervisors may be unable to know the knowledge gaps and motivation of the health workers but also they may not know whether standards are complied with. Some routines or shortcuts as reported in this study among some health workers could easily be avoided.

CHAPTER FIVE

DISCUSSION

5.0 Introduction

Several studies have been conducted worldwide focusing on the design and implementation of the partograph. More systematic studies have been widely implemented in high- income countries and have focused on design of the partograph, while more distinct studies have been locally implemented in low income countries like Ghana focusing on benefits of using the partograph. In this study, focus has been on investigating the implementation, monitoring and evaluation of the utilization of partograph as evidenced in the preceding chapters.

This chapter center on discussing the main results obtained in from the field survey in line with the specific objectives of the study and compared with the findings from the literature reviewed in chapter two.

5.1 Biographic Data

The results about the biographic distribution of the respondents indicated that majority of the midwives within the public facilities of the Accra metropolitan health centers are young persons within the ages of 20 and 29 years. Also, the majority of the midwives out of the 73 surveyed, 41 have diploma as their highest level of education, and the majority of these midwives are staff midwives with less than 10 years of experience in the midwifery practice. Therefore, the distribution of the midwives in Accra metropolitan health directorate display young and not so well experienced personnel. (Accra Metro Annual Report, 2012). There is a strong relationship between the age category of the midwives and their level of experience. This means that the more they increase in age, the more experienced they become in the midwifery practice. Therefore younger midwives are less experienced. This is represented by a p-value of 0.001 from the chi-square calculations.

5.2 Knowledge of Midwives in the Use of Partograph

The introduction of the partograph and its use should be an organizational (hospital) policy that has to be carried out regardless of prevailing circumstances. This finding is similar to other studies which found support for the relationship between knowledge and the utilization of any relatively new policy Watson (1997). The researcher went on to assess the knowledge level of midwives on partograph. About 96% defined partograph as a graphical presentation of labour. This generally indicates that majority of the midwives know what partograph represents. The respondents in the study admitted that the use of the partograph could prevent prolonged labour. This study is similar to that of Yisma et al. (2013) in Ethiopia, which showed that all 197 midwives surveyed knew what a partograph was, and a little less than half the sample population knew its correct definition. The study also conforms to that of

Opiah et al. (2012), which indicate midwives' good knowledge of the partograph, yet its low utilization.

Also, to further find out their knowledge on the components of partograph, the results show that 73(96%) of the respondents know that fetal condition is a major component of a partograph, majority also know that progress of labour and maternal condition are also main components of partograph. In general, fetal condition, uterine contractions, progress of labour, maternal condition, vital signs and medications are all components of partograph. However fetal condition, progress of labour and maternal condition are noted as the major components of partograph. (Opiah et al. 2012, WHO, 1994)

All the midwives know that fetal heart rate, colour of amniotic fluid, degree of moulding, dilatation of the cervix, descent of fetal head, strength of uterine contraction, maternal blood pressure, maternal temperature, amount, colour and consistency of urine passed and maternal pulse are observations to plot on partograph. However, fetal heart rate, degree of moulding and

dilatation of the cervix are major observations to plot on partograph as indicated by the respondents.

To further probe on their knowledge, the research inquired how the plotting of cervical dilatation is done on the partograph. Fifty nine (71.10%) indicated that it is done by plotting X on the intersection (diagonal) of X and Y axis. Majority of the midwives also indicated that the descent of foetal head during 1st stage of labour is assessed 4 hourly and the strength of uterine contraction is assessed ½ hourly. (WHO, 1994; Magon, 2011).

The midwives were made to interpret certain observations on the partograph, majority (69.1%) of the respondents indicated that when the alert line is crossed vertically from bottom to top it signifies precipitate labour. When the alert line is crossed horizontally from left to right, it indicates slow progress/prolong labour. When the alert line is crossed diagonally from left bottom to right top is indicates normal progress. When the action line is crossed diagonally across from left bottom to right top it indicates that interventions must be instituted/done. Finally when the action line is crossed horizontally it indicates delayed
action.

Fifty four percent (54%) of the respondents indicated that they have had refresher course on partograph before and these refresher courses were in the form of in service training/seminar, conference, and information by other health care providers. This contradicts with the findings in a study in Ethiopia by Fantu et al. (2013), which revealed poor knowledge of midwives on the components of partograph and poor knowledge in proper filling of the partograph. In this study only 26.6% of the participants were able to mention 50% or more of the components of the partograph. This could be contrary to the findings of Yisma et al.(2013) and Opiah et al. (2012),in that most correspondents acknowledged that they had some form of formal training on the use of the partograph.

5.3 Indication of Partograph Utilization

Utilization of the partograph which takes place in the first stage of labour is the most required activity for early and maximum detection of problems that arise during labour. The study revealed that documentation on the partograph was scarce and in some cases illegible. A lot of women delivered without proper use of partograph. Documentation forms part of communication in a range of care; and this study has shown that in most cases, communication through the partograph/labour chart was poor (Nyantema et al., (2006). With the scarce documentation, simple problems which could probably be corrected with simple interventions likely ended in complications which were managed with costly interventions in terms of time and resources for all the staff/institution and patient. This might have contributed to fetal mortality and maternal mortality that do occur.

It is generally expected that that health workers working in big hospitals are more familiar with use of partograph than health workers in the health centers. They manage different cases and gain wide experience. They also work in environment which at least has resources, better supervision than the health centre. Moreover, there is good skill mix where midwives work with doctors, obstetricians and other specialists who can promote knowledge transfer hence improved performance of staff (Ogwang et al., 2009). However, the findings show improper use of the partograph in all units. It could be inferred that the health centre staff would perform poorer on the partograph. This probably explains the observation that some referred cases had incomplete or blank partograph which also existed in the partograph at the referral canters. Unlike the findings of the study reported by Bosse et al., (2007) where there was more use of partograph in tertiary hospitals than in secondary and primary centers. This study had found no significant difference in terms of the use of the partograph in all the five selected deliveries or hospital. Furthermore, the findings of this study on documentation of the parameters on the partograph were not different from the findings reported in previous studies (Bosse et al.,

(2007), Nyantema et al., (2006), Ogwang et al., (2009). It was observed that less than 5% of observed cases had each parameter on all the three components of the partograph properly filled. This sums up how partograph is used in the study area.

5.4 Attitude of midwives towards Partograph usage

Fifty five (75.3%) of the respondents indicated that they regularly use partograph, although they do not monitor all clients on the partograph. The issues monitored on the partograph are mainly primiparous woman with cephalic presentation, multiparous woman with previous C/S, and multiparous woman with previous SVD, Cervical dilation of 4cm and above, trial of labour, premature labour at more than 28 weeks maturity, previous PPH or retained placenta.

The associations found between the partograph (FHR and descent) and the method of delivery; and also between partograph (FHR and descent) and fetal outcomes, support the reservations the midwives had on use of partograph, that the action line could be the only parameter used when making decision in labour. Almost all previous studies have presented their results with decisions made in labour also based on action line only (Lavender et al., 2006). This study reveals that descent and FHR are also important parameters to guide in decision making in labour. They are seen to strongly influence the outcomes. So where action line is routinely used as a guide in labour decisions, this study suggests FHR and descent should also be considered. There is also need to use experience and clinical judgment to come up with right decisions. This is further argued that when cervix is fully dilated, cervical assessment also stops but the woman has not yet delivered. Descent continues to be graphically assessed. Descent can guide in decision making in second stage where cervical dilatation has previously shown no problem. Prolonged second stage is not diagnosed from assessment of alert or action line but from the assessment of descent (Sizer et al., 2000).

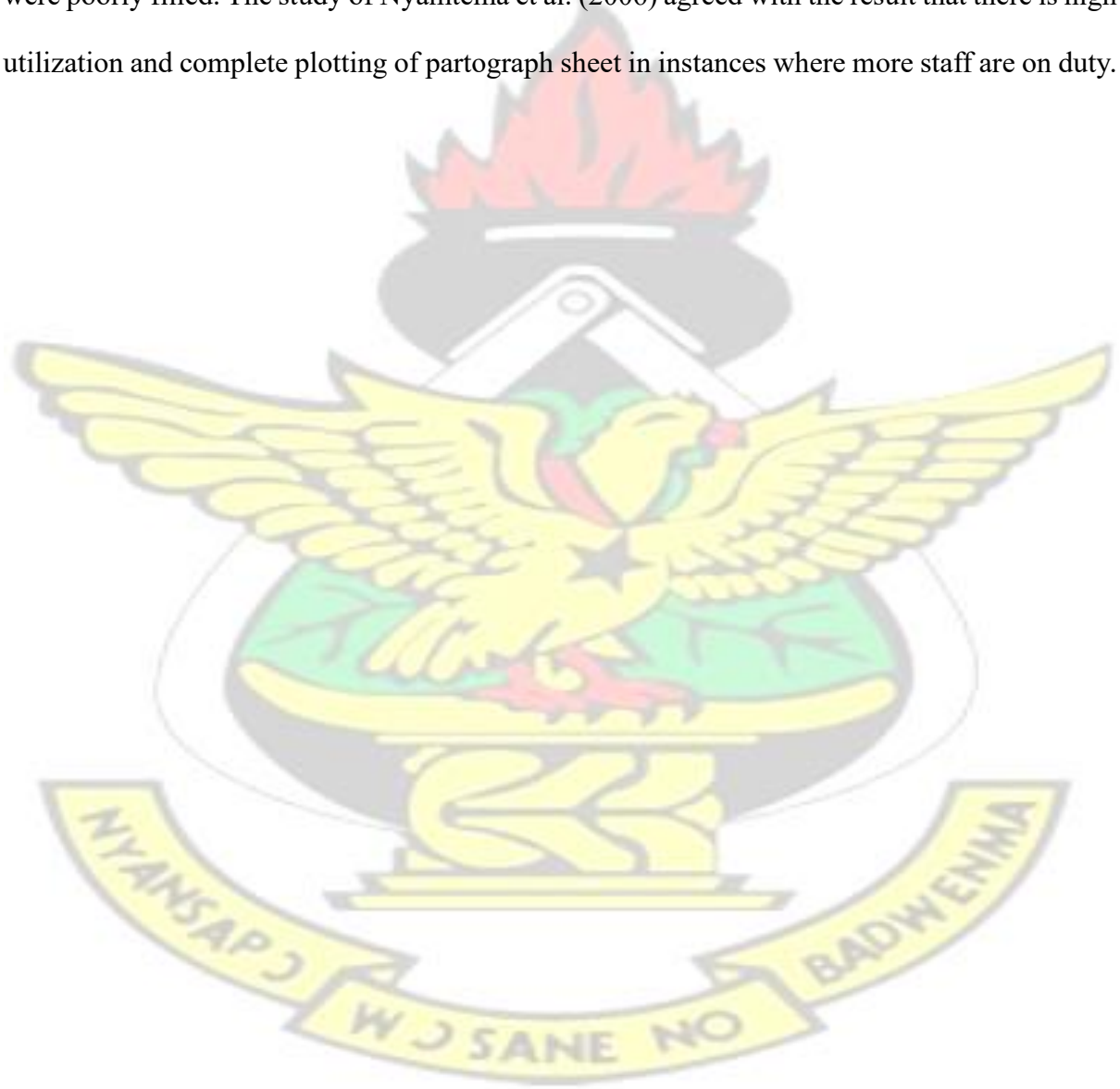
One interesting attitude that was identified is that majority of the midwives are willing to be inconvenienced to obtain partograph when there is shortage in partograph. The study also observed that cord prolapse and APH are not usually monitored on the partograph. Eighty nine percent (89%) of the respondents indicated that the use of partograph is very good. This is an indication of a positive attitude towards the use of partograph during labour. Also, some midwives perceive that partograph usage is time consuming although majority of them perceive otherwise. Furthermore, majority of the midwives are of the view that partograph usage should be made compulsory. On whether they are forced to use partograph, they indicated that they are not being forced to use partograph. This is reflected in their early submission that partograph usage is very good (important).

5.5 Challenges associated with Partograph Use

Several studies have confirmed that there is indeed a significant relationship between the availability and utilization of the partograph. Dujardin et al (1992) had found that lack of support from management in terms of providing the essential supplies and equipment including the provision of partograph charts for use by midwives are profound problems in the adoption and utilization of the partograph. In this study, 82.2% of the midwives indicated that they receive regular supply of partograph and therefore the supply/ availability of partograph is not a challenge to the usage. In general, the respondents indicated that they do not encounter hindrances with the use of partograph, however those who indicated that they encounter hindrances reported the following; the graphs may come in different forms and may not be clear.

The utilization of the partograph is also significantly related to staff strength as shown in this study. It was inferred from the responses of participants in this study that Midwives find filling partograph a time consuming practice. It is probably as a result of staff shortages that some midwives consider the use of the partograph as a waste of valuable time. Sara and Alice (2001)

showed that some midwives often think that completing the partograph is an additional time-consuming task and as such have no understanding of how it can save a woman's life. So, the more midwives there are per shift, the more likely that they will complete the graph during labour. The few midwives on duty are faced with so much responsibilities on a shift that some important aspects of midwifery care are haphazardly done or not done at all. This could be one of the reasons why a large number of utilized partograph charts assessed in the study settings were poorly filled. The study of Nyamtema et al. (2006) agreed with the result that there is high utilization and complete plotting of partograph sheet in instances where more staff are on duty.



CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This study dealt with evaluating the utilization of partograph by midwives in the Greater Accra Region. To this end, it set the primary objective of assessment the usage of the modified WHO Partograph by midwives in the Accra Metropolitan Health Facilities.

This chapter therefore presents a final conclusion of the study and the study recommendations for policy actions and for further studies.

6.1 Conclusions

In the final analysis, it was realized that the midwives were highly aware of the use and the effect of the partograph. They know the components of the partograph and its utilization which is within their ability to practice. However, the respondents identified various challenges to the appropriate use of the partograph. Chief amongst the issues are limited staffing, regular changes in the graph which are not properly announced to them and some of the partograph are not clear. Other inferences include poor supervision of partograph utilization and lack of motivation to use it. It was identified that they monitor some labouring women on partograph while others who even qualify to be monitored are not monitored on it. There is the need to devote more time to its use so as to get familiar with its use. Even though the midwives agreed that the partograph is an important tool, they seem not to use it regularly, with reasons such as it is time consuming; she (the midwife) is transferred from the ANC, or not always at the labour ward. Out of 73 midwives who were interviewed, 55 indicated that they use partograph regularly. The rest gave various reasons for non-use and six (6) did not respond.

To conclude, an assessment of the usage of WHO Partograph shows a highly positive impact. Effective use of the partograph does not require much effort or scarce resources but

institutional, environmental and personnel permissiveness consistently hinder partograph utilization to the detriment of the safe motherhood.

6.2 Recommendations for Policy Action

Training of Midwives: Obstetrician or Midwives at peripheral centers should be encouraged by the monitoring team of the stake holders, chief nursing and midwifery officer's team as well as by their respective departmental heads to refresh their knowledge regarding partograph maintenance, according to facilities and environment of their work places through undertaking in-service trainings. Although it's been almost 20 Years since WHO recognized partograph as an essential tool in labour monitoring and management, its use has been very inconsistent and incorrect. Providers often lack the underlying knowledge and skills required to manage labour and delivery; Training in using partograph in a right way should be in place right from the under graduate courses of Midwives and Doctors while they are learning the basics of labour room protocols. Students should be made maintaining the partograph records themselves under supervision and be told about the necessary intervention if required.

Training should address competency within the facility, not just among individual providers. For the partograph to be used correctly, all key members of the maternity care team must be trained and clinically competent to assess cervical dilation, to accurately plot dilation on the partograph, and to analyze and use the data to make decisions about referral and action. (To help address partograph training issues, the World Health Organization has published WHO Partograph: E-Learning Tool (2010). This CD-ROM is designed to be used for self-learning or as an aid in classroom learning in pre-service and in-service midwifery and medical training)

Documentation on the Partograph: Hospital administrators should conduct quarterly reviews and use charts to assess health workers performance and progress. Incomplete charts which can be due to laziness of health workers, in-charges and matrons to instill professional discipline

and motivate those using partograph by mentorship. Clinicians to be sensitized on documentation of partograph and all health workers should document on the partograph.

Adequate Supply of Resources: Apart from the health care providers, administrators should also understand the importance of providing basic infrastructure and resources that are needed to make it a routine practice. Frequent non-availability of resources creates frustration amongst health care workers and causes an undesired break of practice, further causing inconsistent use of this important tool. It should be considered as a part of routine medical record maintenance practices. Under supply of a mere pre-printed form, which doesn't cost much but could be a lifesaving tool for both the mother and baby, should never be a hindrance in the use of partograph. Human resource shortage is a long standing problem but there is the need for appropriate deployment and improved commitment to their work. Proper deployment will ensure right health workers with right skills to work in the right place and doing the right things.

Provision of Patron-ship: By now we have understood the importance of ongoing training and support to the staff in case of any difficulty arising. It is desirable that the departmental head to assign the trainee to a clinically competent patron who can reinforce learning, assess performance, and promote improvement without casting blame. In the absence of patron, providers find it difficult to use partograph consistently and correctly. These patrons can be chosen from the nearest teaching institutes. Patrons are essential; professionals who take this role must themselves be properly trained and have dedicated time to it. Patron ship should be completely volunteered and not to be added on the already heavy duties of individuals who are not willing to take this role.

Health Worker Motivation: The MOH should also empower ward in-charges to carry out orientation of health workers and supervise them. Rewards can be given occasionally on exceptional behaviors. In the study, it was deduced that lack of performance-related rewards

and recognition was perceived as a demonization. Performance relies on internal motivation but external factors are also important. Motivation enables one to access her/his skills and perform the task in hand effectively and efficiently. If health workers are motivated externally, results fluctuate while if internally, results are consistent. Health workers need to be empowered, help them to realize their potentials and feel resourceful in the same situation through supervision, mentoring and appropriate deployment.

Supervision: The MOH should encourage supervision at all levels. The ministry should encourage peer learning among health workers and to check each other's work. When people are clear about what is expected, they take more responsibility for their behaviors. The immediate bosses to share their schedules of supervision with their health workers in the wards so that health workers can also prepare on their part how they can benefit from the supervision. Conduct regular meetings. Meetings are important and should be regular to educate, motivate and inspire. Meetings should keep people informed about their progress and objectives. Maternal audit results should be shared in these meetings. Health workers should be encouraged to attend maternal audit meetings. Audit results should also be shared at ward level. The DHO needs to strengthen the referral system by supporting and supervising the health centers; and emphasize on the health workers following correct referral procedures.

6.4 Recommendations for Future Research

The following future research may be undertaken by reproductive health research centers:

1. Assess use of partograph in other tertiary, secondary and primary level facilities to establish pattern of utilization and documentation which would help if need be, to modify the partograph to suit the local context.

2. Assess the factors for improper utilization of partograph among health workers using a qualitative approach.

3. Evaluate the outcome of labour in terms of partograph use in monitoring labour.

REFERENCES

Accra Metro Annual Report, RCH. (2012). Annual Reproductive and Child Health Report. Accra Metropolitan Health Directorate: Accra

Accra Metro Annual Report,RCH. (2013). Annual Reproductive and Child Health Report. Accra Metropolitan Health Directorate: Accra

American College of Nurse-Midwives. (2008). Life saving skills: Manual for midwives, 4th ed. Silver Spring, MD. Bergstrom.

Beenu, K., Alok, P.S., Shipra, S., (2013). The Partograph: an Essential Yet underutilized Tool. Journal of Evolution of Medical and Dental Sciences: Vol.2, Issue 24, June 17; Page: 4373-4379.

BMC Pregnancy and Childbirth. 13:17, http://www.biomedcentral.com/1471-2393/13/17

Bosse, G., Massawe, S. & Jahna, A. (2007). The Partograph in daily practice: It's quality that matters. International Journal of Gynecology & Obstetrics; 77: 243-244.

Dujardin, B., De Schampheleire, I., Sene, H., & Ndiaye, F. (1992) Value of the alert and action lines on the partogram. Lancet; 339: 1336-1338.

Fahdhy, M., & Chongsuvivatwong, M. (2005). Evaluation of World Health Organization Partograph. Midwifery implementation by midwives for maternity home birth in Medan, Indonesia. Midwifery; 21: 301-310.

Famle, A.O., 'Hunjinbo, K.I., & Adekanle, D.A., (2008) Knowledge and Utilization of the Partograph among obstetric care givers in South West Nigeria African Journal of Reproductive Health Vol.12 Nat. April.

Fantu, A., Dereje, B., Worku, A., & Tadesse, E. (2013) Assessment of Knowledge and Utilization of the Partograph among Health Professionals in Amhara Region, Ethiopia. DOI: 10.11648/j.sjcm.20130202.11

Gans-Lartey, F., O'Brien, B., Oware-Gyekye, F., & Schopflocher D., (2012). The relationship between the use of Partograph and birth outcomes at Korle-Bu Teaching Hospital. Journal of Midwives. Pp. 2

Groeschelle, N. & Glover, P. (2001) The Partograph Used Daily But Rarely Questioned. Australia College of Midwives Incorporated. Vol.14 No. 3 September.

Issah, Z. (2011) Ghana's tit bits: midwives sensitized to use the Partograph; (http://zaindarling.blogspot.com/2011/12/midwives-sensitised-to-use-Partograph.html

Kabagema, J. d'Arc., & Levin, K., (2002). Use of Partograph: What we need to know, what do we need to find out? Fistula Care: USAID.

Khonje, M. (2012). Factors that prevent optimal utilization of the partograph. Ethel Mutakari Units. Lilongwe- Malawi.

Kuma - Aboagye, P. Lassey, A.T. & Wilson, J. B. (2008) National Consultative Meeting on the Reduction of Maternal Mortality in Ghana. Partnership for Action. A Synthesis Report. Ghana Health Service: Yamens Press Limited: Accra.

Kuma - Aboagye, P., Lassey, A.T. & Wilson J. B. (2008) National Safe Motherhood Service Protocol. Ghana Health Service: Yamens Press Limited: Accra. 57-59.

Lavender, T., Lugina, H. & Smith, H. (2008). Evidence of Partograph in proving maternal and foetal outcome. Cochrane Database of Systematic Reviews. Pub. 2; 4. CD005461.

Lawn, J. E., Kinney, M., Lee, A.C.C., Chopra, M., Donnay, F. N., Vinod, K.P., Zulfiqar, A. B., Bateman, M., & Darmstadt, G. L. (2009). Reducing intrapartum-related deaths and disability: Can the health system deliver? Journal of International Federation of Gynecology and Obstetrics, Ireland. 107: S123-S124.

Magon, N. (2011) Partograph Revisited. International Journal of Clinical Cases and Investigations 3(1) 1:6. 6th August, Kanpur

Mathews J.E., Rajaratnam A, George A & Mathai M, (2007) Comparison of the WHO Partograph. International Journal of Gynecology and Obstetrics; 96: 147-50).

Mohammed, F. & Chongsuvivatwong, V. (2005) Midwifery implementation by midwives for maternity home birth. Medan: Indonesia. Midwifery: 21: 301-10. 16076515 Cit: 9

Nakkazi, S. and Asio, A. (2001). Beyond the call of duty: A paper presented Global Health annual conference of the American College of Nurse Midwives.

Nyamtema, A., Urassa, D., Massawe, S., Lindmark, G. & van Roosmalen, J. (2006). Partograph use in Dar es Salaam perinatal care study. International Journal of Gynaecology and Obstetrics; 100 (1):37-40.

Ogwang S; Karyabakabo Z; Rutebemberwa E. (2009). Assessment of partogram use during labour in Rujumbura Health Sub District, Rukungiri District, African Health science. 9: special issue.

Opiah, M.M., Ofi, A.B., Essien, E.J. & Monjok, E. (2012) Knowledge and Utilization of the Partograph among Midwives in the Niger Delta Region of Nigeria: African Journal of Reproductive Health March 16(1): 127

Orji, E. & Olabode, O.T. (2008) Comparative study of labour progress and delivery outcome among induced versus spontaneous labour in nulliparous women using modified WHO partograph: pp.3

Pettersson, K.O., Svensson, M.L., and Christensson, K. (2000). Evaluation of an adapted model of the World Health Organization Partograph used by Angolan midwives in a peripheral delivery unit. Karolinska University Press. Midwifery 16(2):82–88

Radhakrishnan, A. (2012) Partogram or Partograph. Maternity-nursing—midwifery:

pp:5-6.

Safe Motherhood (2000). Critical Issues. Blackwell Science for Reproductive Health Matters, Spider Web, London.

Sizer, A. R., Evans, J. Bailey, S. M. & Wiener, J. A. (2000). Second- Stage Partogram. Obstetrics & Gynecology: 96: Issue 5, Part 1:678-683

Watson S. (1997). An exploratory study into a methodology for the examination of decision making by nurses in the clinical area. J. Advanced Nursing: 20: 351-360.

World Health Organization (2009). Integrated Management of Pregnancy and Childbirth: WHO recommended interventions for improving maternal and newborn health, Geneva: WHO.

World Health Organization (2010). Trends in maternal mortality 1990 to 2008, Geneva: WHO.

World Health Organization (WHO 1994a). The application of the WHO Partograph in the management of labour: Report of a WHO multicentre study 1990-1991, Geneva: WHO.

World Health Organization. (1994b). Preventing prolonged labour: A practical guide. The Partograph. Part I: Principles and strategy. Geneva: WHO.

World Health Organization, (1993) Preventing Prolonged Labour. A Practical Guide: The Partograph Part I: Principles and Strategy. Geneva: WHO

World Health Organization, (1989) Maternal & Child Health & Family Planning Programme: The Partograph Section III. Facilitators Guide. Geneva: WHO.

Yisma, E., Dessalegn, B., Astatkie, A. & Fesseha, N. (2013). Knowledge and utilization of Partograph among obstetric care givers in public health institutions of Addis Ababa, Ethiopia,

Yisma, E., Dessalegn, B., Astatkie, A. & Fesseha, N. (2013).Completion of the modified World Health Organization (WHO) Partograph during labour in public health institutions of Addis Ababa, Ethiopia Reproductive Health.. 10:23 doi:10.1186/1742-4755-10-23

APPENDIXES

QUESTIONNAIRE (MIDWIVES)

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF MEDICAL SCIENCES

DEPARTMENT OF COMMUNITY HEALTH

I am a student offering Population and Reproductive Health programme of the community Health Department at KNUST and I am conducting a research on the assessment of usage of WHO partograph by midwives in the Accra Metropolitan Health Directorate. Your participation in this research is very much appreciated and you are assured of confidentiality and anonymity. Please respond to the following questions as objectively as possible. Please indicate your choice of answer by a tick (√) or provide an answer of your choice where appropriate.

SECTION A (Biographic data)

1. What is your highest level of education?

a. Middle School Leaving Certificate (MSLC) [ ] b. SSSS/ GCE '' or 'A' Level [ ]

c. Diploma [ ] d. Degree [ ] e. Others, specify ……..

2. What is your rank? a. Staff midwife [ ] b. Midwifery Officer [ ] c. Senior Midwifery Officer [ ] d. Senior Staff Midwife [ ] e. Nursing Officer [ ] f. Senior Nursing Officer [ ] g. Principal Nursing Officer [ ] h. Others, specify……..

3. How many years have you being practicing as a midwife? a. Less than 10 years [ ]

b.10 – 19 years [ ] c. 20. – 29 years [ ] d. 30 – 40 years [ ] e. 40 years and above [ ]

SECTION B: Staff Knowledge

4. What is Partograph?

Answer: …….

……...

5. What are the components of the partograph?

a. Foetal condition Yes [ ] No [ ] b. Uterine condition Yes [ ] No [ ].

c. Progress of labour Yes [ ] No [ ] d. Maternal condition Yes [ ] No [ ]

e. Vital signs Yes [ ] No [ ] f. Medications Yes [ ] No [ ]

6. What observations will you plot on the partograph?

a. Foetal heart rate Yes [ ] No [ ]

b. Colour of amniotic fluid Yes [ ] No [ ]

c. Degree of moulding Yes [ ] No [ ]

d. Dilatation of the cervix Yes [ ] No [ ]

e. Descent of foetal heart rate Yes [ ] No [ ]

f. Strength of uterine contraction Yes [ ] No [ ]

g. Maternal blood pressure Yes [ ] No [ ]

h. Maternal vital signs Yes [ ] No [ ]

i. Amount, colour and consistency of urine passed Yes [ ] No [ ]

j. Others, specify …….

7. How is the descent of foetal head measured?

……

8. How are the following parameters chartered? Please indicate your answer in the box

a. Descent of foetal head is plotted by letter ☐

b. Uterine contraction which is less than 20 seconds ☐

c. Uterine contraction lasting 20-40 seconds ☐

d. Uterine contraction lasting more than 40 seconds. ☐

9. The appropriate way of plotting cervical dilatation on the partograph is by

a. Plotting (X) on the x axis Yes [ ] No [ ]

b. Plotting (X) on the y axis Yes [ ] No [ ]

c. Plotting (X) on the intersession of x and y axis. Yes [ ] No [ ]

d. Others, specify …….....

10. How often are the following assessed during the 1st stage of labour?

a. Descent of foetal head: i. 2 hourly [ ] ii. 3 hourly [ ] iii. 4 hourly [ ]

iv. others, specify……

b. Strength of uterine contraction: i. ¼ hourly [ ] ii. ½ hourly [ ] iii.1 hourly [ ] others, specify ……..

c. Cervical dilatation: 4 hourly Yes [ ] No [ ] others, specify ……..……..

11. What will be your interpretation of the following observations on the partograph?

Indicate your answer by choosing from options: i – iv below.

i. Delayed action ii. Intervention instituted iii. Normal progress iv. Precipitate labour v. Slow progress

a. When the alert line is crossed vertically ……..

b. When the alert line is crossed horizontally……..

c. When the alert line is crossed diagonally …..……..

d. When the action line is crossed diagonally ……

e. When the action line is crossed horizontally ……...

12. How are the following parameters of maternal condition recorded?

a. Drugs and fluids ……..……

……..…….

b. Vital signs ……

c. Blood Pressure (B/P) ….……. others, specify ……..…….

13. What key observation(s) do you make on urine output?

…..……

….……..…….……..

Indication for the use of the Partograph/ Knowledge?

14. Do you monitor all clients on the partograph? Yes [ ] No [ ] Uncertain [ ]

15. When should the partograph not be used?

a. Primiparous woman with cephalic presentation Yes [ ] No [ ] Uncertain [ ]

b. Multiparous woman with previous caesarean section Yes [ ] No [ ] Uncertain [ ]

c. Multiparous woman with previous spontaneous vaginal delivery Yes [ ] No [ ]

Uncertain [ ]

d. Cervical dilation of 4cm+ Yes [ ] No [ ] Uncertain [ ]

e. Trial of labour Yes [ ] No [ ] Uncertain[ ]

f. Premature labour > 28 weeks Yes [ ] No [ ] Uncertain [ ]

g. Previous PPH /Retained placenta Yes [ ] No [ ] Uncertain [ ]

h. Cord prolapsed Yes [ ] No [ ] Uncertain [ ]

i. Ante Partum Haemorrhage Yes [ ] No [ ] Uncertain [ ]

j. Others, specify ……

16. Which of the following diagnosis can you make using the partograph?

a. Inefficient uterine contraction Yes [ ] No [ ]

b. Prolong labour Yes [ ] No [ ]

c. Obstructed labour Yes [ ] No [ ]

d. Foetal distress Yes [ ] No [ ]

e. Dehydration in mother Yes [ ] No [ ]

f. Severe PIH or Pre – eclampsia Yes [ ] No [ ]

17. According to WHO standard how often should the parameters of foetal condition be monitored during the 1st stage of labour?

a. FHR: …….…….....

b. Membrane assessed: ……..……..

c. Moulding: ……

18. How often should the parameters of the maternal condition be monitored during the 1st stage of labour?

a. Blood Pressure: ..…….……..…

b. Pulse: ..…….……

c. Temperature: …….

d. Urine: ……

19. What are the indications for abnormality regarding the following observations?

a. FHR: ……...……

b. Membrane: ……..……..……..

c. Descent: ……..……..

…….

20. What action should be taken in relation to each of the observations mentioned in 18?

a. FHR? …….

b. Membrane? ....…….……

c. Descent? …….

21. How is the degree of moulding plotted? Please indicate your answer in the box

a. When sutures are felt easily without touching each other it is ☐

b. When bones are touching each ☐ other

c. When bones are overlapping ☐

d. When bones are overlapping ☐ severely

22. Have you had any refresher course on partograph? Yes [ ] No [ ] Others, specify……
….

23. If yes to question 21, how long ago?

< 5years [ ] 5 - 9 years [ ] 10+ years [ ] others, specify ……

24. What form did the refresher course take? a. In-service training / seminar [ ]
b. Conference [ ] c. Internet [ ] d. Information by other health care providers [ ]
e. others, specify ……..

25. If no to 21 do you think it is necessary to have a refresher course on partograph?

a. Strongly Agree [ ] Agree [ ] Uncertain [ ] Disagree [ ] Strongly disagree [ ]

Attitude of midwives on partograph use

26. How important is the partograph? Very [ ] somewhat [ ] not really [ ]

27. Do you think it is time consuming? Yes [ ] No [ ]

28. Should it be made compulsory or optional? Compulsory [ ] Optional [ ]

29. Do you use the partograph regularly? Yes [ ] No [ ] Not always [ ]

30. If not, why? ....……

31. Do you think you are being forced to use the partograph? Yes [ ] No [ ]

32. If you run out of the partograph sheet will you go out of your way to look for some? Yes [ ] No [ ]

SECTION D: Challenges Associated with the Partograph use

33. Do you receive regular supply of partograph? Yes [ ] No [ ] Uncertain [ ] 34. Do you encounter any hindrance(s) with the use of the partograph? Yes [ ] No [ ]

35. If yes to question 33 what are some of these hindrances?

……

.. ……..……...

36. Is there labour management protocol in your facility that uses partograph? Yes [ ] No [ ] Uncertain [ ]

37. If yes to question 36, mention 3 key items that the protocol spells out.

i. ……

ii…… iii.

…….

38. What strategy (ies) will you recommend in order to help improve the use of the partograph by Midwives? ……...

…….

…….

…….

SECTION E: Check-list to assess the consistency of maternal and foetal recordings on the Partograph

		YES	NO	INCOMPLETE
FETAL HEART RATE	FETAL HEART RATE			
	LIQUOR MOULDING			
CERVIX				
CONTRACTIONS				
OXYTOCIN				
DRUGS GIVEN				
PULSE AND BP				
TEMPERATURE				
URINE				

INCOMPLETE MEANS: The chart is not fully recorded as required.

COMMENTS……...

……..

……..
……
……..
……..

THE MODIFIED WHO PARTOGRAPH