UTILIZATION OF PARTOGRAM AMONG NURSES AND MIDWIVES IN RWAMAGANA HEALTH FACILITIES IN THE EASTERN PROVINCE OF RWANDA

BY

Oliva BAZIRETE

Student Number: 3312355

A mini-thesis submitted in partial fulfillment of the requirements

for the degree of Masters' in Nursing , Advanced Midwifery and

Neonatology in the School of Nursing

University of the Western Cape

Supervisor: Professor Nomafrench Mbombo

August 2014

KEYWORDS

Competence

Knowledge

Labour

Maternal mortality ratio

Midwife

Nurse

Obstetrical care provider

Partogram

Partograph

Skills

ABSTRACT

Maternal mortality continues to be a global burden worldwide. Each year, more than 200 million women become pregnant and a large number of mothers die as a result of complications of pregnancy or childbirth. Rwanda is still one of those developing countries with high maternal mortality ratio and child mortality rate, estimated at 340/100,000 and 21/1000 live births respectively. The world health organization (WHO) has recommended the use of partogram to monitor labour and delivery, in order to improve healthcare and reduce maternal and fetal mortality rate. Only 69% of deliveries in Rwanda are assisted by skilled attendants, with 10% assisted by doctors, 59% by nurses or medical assistants and 0.3% by midwives. Specifically, 67.5% of deliveries are assisted by skilled providers in the Eastern province while in the urban area assisted deliveries are 83.1%.

The present study examined the extent of utilization of partogram among nurses and midwives in Rwamagana health facilities located in the eastern province of Rwanda. The study specifically sought to; assess knowledge and use of partogram among nurses and midwives in Rwamagana health facilities, to identify the challenges facing nurses and midwives with regards to the utilization of partogram in the health facilities and to determine factors influencing the use of partogram among nurses and midwives in Rwamagana health facilities. Patricia Benner's model of nursing practice was used to guide this study.

A descriptive quantitative and cross-sectional research design was used in this study. The entire population comprised of 131 nurses and midwives providing obstetric care in 15 health institutions (one hospital and 14 health centers). Data collection was done with the aid of a self-administered questionnaire, designed originally in English and with the permission of the author, was adapted to the research context and translated into French.

A statistical package for social sciences (SPSS 21.0) was used to capture and analyze data. Descriptive statistics was used to present data and inferential statistics such as chi-square test was conducted to test the relationship between different variables of the study at 5% significant levels. Correlation coefficients in terms of cross-tabulation were also studied at 1% level of significance. Of all participants, only 19.8 % were working in the hospital while 80.2% were working in health centers. The current study demonstrates that, factors affecting the utilization of partogram included professional qualification of skilled birth attendants (registered midwives are only 9.9%), years of experience and shortage of staff.

The results revealed that 36.6% of nurses and midwives did not receive any in-service training on how to manage women in labour. Despite the fair partogram's knowledge of nurses and midwives in this study, only 41.22% of respondents were reported to have properly used the partogram, with 58.78% they reported not to properly use it. Nurses and midwives' years of professional experience as well as having received training in managing pregnant mothers in labour, were found to be both predictors for the likelihood for the proper use of partogram. In-service training of obstetrical care givers in the Eastern province is recommended to improve the utilization of partogram while managing pregnant mothers in labour.

DECLARATION

I hereby declare that "A descriptive study on utilization of partogram among nurses and midwives in Rwamagana health facilities in the Eastern Province of Rwanda" is my own work, that it has not been submitted for any degree or examination at any other university, and that all sources I have used or quoted have been indicated and acknowledged by complete references.

Oliva BAZIRETE

Signature……………………………..**Date**………………………..

DEDICATION

This thesis is dedicated to my beloved husband UWINTORE Nothelme and our daughters Ineza M.F., Agaba H. and Iganze M., who have been a source of support and inspiration throughout this study. This thesis is also dedicated to all midwives who believe in the richness of care rendered for the promotion of maternal and neonate health.

.

ACKNOWLEDGEMENT

ABBREVIATIONS

ALSO: Advanced Life Support in Obstetrics

AUC: African Union Commission

CARMMA: Campaign on Accelerated Reduction of Maternal Mortality in Africa

EmoNC: Emergency Obstetric and Newborn Care

ICM: International Confederation of Midwives

KHI: Kigali Health Institute

MDG: Millennium Development Goals

NCCEMD: The National Committee on Confidential Enquiries into Maternal deaths

NISR: National Institute of Statistics of Rwanda

RDHS: Rwanda Demographic and Health Survey

RMOH: Rwanda Ministry of Health

RCNM: Rwanda National Council for Nurses and Midwives

SPSS: Statistical Package for Social Sciences

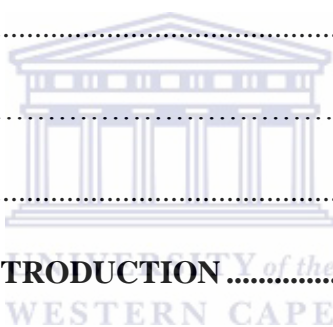UNFPA: United Nations Population Funds

UWC: University of the Western Cape

WHO: World Health Organization

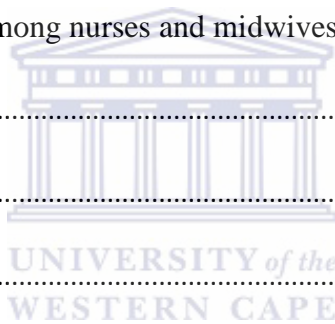**TABLE OF CONTENTS**   **Page**

LIST OF TABLES **Page**

LIST OF FIGURES **Page**

UNIVERSITY *of the*
WESTERN CAPE

LIST OF APPENDICES   **Page**

CHAPTER ONE

GENERAL INTRODUCTION

1.1   Introduction

Maternal mortality continues to be a global burden worldwide. Each year, more than 200 million women become pregnant and a large number of mothers die as a result of the complications of pregnancy or childbirth (Magon, 2011: 2). According to United Nations report (2012:31), maternal mortality has nearly halved since 1990, but levels are far from the target set for 2015. The report indicates that there was an estimated number of 287,000 maternal death in 2010 or maternal mortality ratio of 210 deaths per 100 000 live births and 85% of these deaths occurred in sub-Saharan Africa and Southern Asia. In addition, the African Union (2012:1) reports that, the lifetime risk of dying due to pregnancy or child birth related complications for woman in Africa is 1 out 39 while in developed countries the risk is 1 out of 3 800.

Global initiatives to strengthen policy intervention for maternal mortality started with the Safe Motherhood Initiative in 1987 by World Health Organization (Horton, 2010:1581).The aim was to raise awareness about the numbers of women dying each year from complications of pregnancy and childbirth. The target was to reduce maternal morbidity and mortality by 50% by the year 2000 (Magon, 2011:2). According to Horton (2010: 1581) the initiative did not succeed although maternal health has always been a major focus of WHO effort. In 1994, the International Conference on Population and Development intensified its commitment to reproductive health by establishing the Millennium Development Goals (MDG) and the targets of MDG by three-quarters (75%) from 1990 to 2015 (Horton 2010: 1581).

According to Hogan, Foreman, Naghavi, Ahn, Wang, Makela, & Murray, (2010:1618), a big step has been achieved, nevertheless; a lot is still needed to be done in MDG 4 (Reduce Child Mortality) and MDG 5 (improve maternal health). Rwanda is still one of those countries with high maternal mortality ratio and child mortality rate, standing at 340/100,000 and 21/1000 live births respectively (WHO, 2012:21; UNFPA &AUC, 2013:15). Major causes of maternal mortality and morbidity in Rwanda include among others severe bleeding, septicemia, ecclampsia, infections, heart failure, malaria, anaesthetic complications and obstructed labour. The most outstanding cause of these deaths is attributed to severe bleeding (38, 26%) and many cases of severe bleeding were due to uterine rupture (RMOH, 2010: 20).

To avoid the risk of complications or maternal death, women should be assisted during delivery by personnel who have received training in normal childbirth and who are able, if needed, to diagnose, treat, and refer complications. The results show that almost 7 in 10 births (69 percent) was assisted by a skilled birth attended (NISR, 2012:116).

The majority of maternal deaths and complications attributable to obstructed and prolonged labour could be prevented by cost-effective and affordable health interventions like the use of partogram (Magon, 2011:2). A partogram is one of the valued suitable technologies in use for an improved monitoring of labour progress for maternal and fetal well being, and this tool will be discussed throughout this study.

1.2 Background

The partogram (sometimes known as partograph) is usually a pre-printed paper form, on which labour observations are recorded. The aim of the partogram is to provide a pictorial overview of

labour, to alert midwives and obstetricians to deviations in maternal or fetal well-being and labour progress (Lavender, Hart & Smyth, 2009:3).

In 1954, Friedman introduced the concept of a partogram by graphically depicting the dilation of the cervix during labour. In 1972, Philpott and Castle developed Friedman's concept into a tool for monitoring labour by adding the so-called "action" and "alert" lines to the graph (Lavender *et al*., 2009:3 and Soni, 2009). According to Magon (2011:1), since 1990 the partogram has been revised by WHO purposely to better monitor, not only the progress of labour, but also the condition of the mother and the fetus during labour. The partogram includes different variables (fetal heart rate, dilation of the cervix, contractions, and pulse rate of the mother) plotted on a pre-printed paper. The plotted data allow the attending health-care practitioner to identify early deviations in the plotted parameters from the normal and make decisions regarding direct intervention or referral.
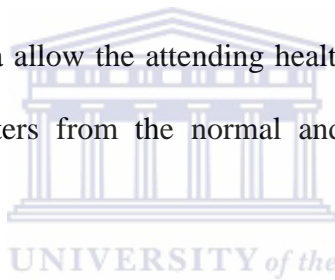
Literature suggests the utilization of partogram to make a close follow-up of expectant mothers during labour and early postpartum. The partogram offers health professionals with a pictorial overview of the labour to allow early identification and diagnosis of the pathological labour. WHO recommends using the partogram to monitor labour and delivery, with the objective to improve health care and reduce maternal and fetal morbidity and death (Magon, 2011:2).

According to Soni (2009), WHO advocates the use of partogram as a necessary tool in the management of labour and recommends its universal use during obstetrical labour, therefore, prevention of complications related to labour using the partogram is an important intervention towards reducing maternal and perinatal mortality and morbidity, and in achieving the Millennium Development Goals 4 and 5.

The National Committee on Confidential Enquiries into Maternal deaths (NCCEMD) in South Africa also recommended the use of partogram. As one of the ten key recommendations in its third report, recommendation 8 states that "the correct use of a partograph should become a norm at each institution conducting births" (Mathibe-Neke, 2009:34).

A host of researchers ascertain that to effectively use the partogram, requires knowledge and skills. For instance, a study conducted in Ethiopia by Yisma, Dessalegn, Astatkie & Fesseha (2013:15) found that knowledge about the partogram was fair at 96.6%. The utilization of the partograph was significantly higher among obstetric care givers working in health centres (67.9%) compared to those working in hospitals (34.4%). Hence, it is recommended that pre-service and on-job training of obstetric care givers on the use of the partogram should be emphasized.

The tool was also appreciated in Ghana as an effective instrument to safely monitor expectant mothers during labour, however, skilled birth attendants have not consistently 'bought in' the partogram use. This tool was only completed adequately at 25.6% (Gans-Lartey, Brien, Gyekye & Schopflocher, 2012). The same author highlights that when the partogram was completed effectively, it was associated with less maternal blood loss, with less assisted delivery, less neonatal injuries, fewer low Apgar scores and NICU admissions(Gans-Lartey *et al*., 2012). While in some countries the partogram is widely used, in Nigeria it is the contrary. Knowledge about the partogram and monitoring of mother in labour is mostly lacking. According to Fawole, Adekanle & Hunyinbo(2010:200) the problem of availability of partogram was felt. Only 27.3%

of respondents had received prior training on partogram and the minority of 9.1% reported that partogram was available in their labour ward.

The findings from a study conducted in one of the urban hospitals in Rwanda (Uwimana, 2008:5), show that the majority of respondents (78%) have been trained to use a partogram. However, most of them (76%) indicated that they still met problems in using a partogram, particularly due to the shortage of midwives and nurses working in the labour ward, and as a result of the lack of adequate related knowledge and skills among this staff.

The initiatives of international organizations and the studies mentioned in this section show how important it is, to explore the factors influencing the use of a partogram by obstetric care givers with a view to improve labour management and reduce maternal and foetal morbidity and mortality. It is against this background that, the present study focuses on the use of partogram among nurses and midwives, in Rwamagana health facilities in the Eastern Province of Rwanda.
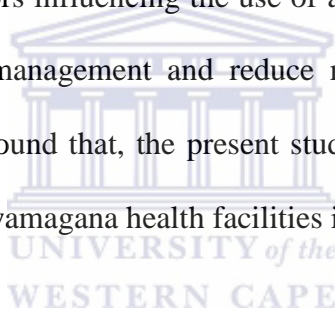
1.3 Problem statement

Rwanda is still one of those developing countries with high maternal mortality ratio and child mortality rate, estimated at 340/100,000 and 21/1000 live births respectively (WHO, 2012:21 and UNFPA &AUC, 2013:15). WHO recommends using the partogram to monitor labour and delivery, with the objective to improve health care and reduce maternal and fetal morbidity and death (WHO, 2013 & Magon, 2011:1). Only 69% of deliveries in Rwanda are assisted by skilled attendants with 10% deliveries assisted by medical doctors, 59% by nurses or medical assistants and only 0.3% by midwives. With regards to place of delivery, 67.5% of deliveries are assisted

by skilled service providers in the eastern province (predominantly rural), while in the urban area it accounts for 83.1% (NISR, 2012:116).

Consequently due to this shortage of skilled birth attendants, it is not rare that nurses and midwives encounter difficulties while using the partogram. In addition, there is limited literature highlighting nurses and midwives' knowledge and use of partogram in health facilities of Rwanda. Therefore, there is a need to determine the utilization of the partogram among nurses and midwives in Rwanda, focusing on the Eastern Province, where human resources are insufficient to safely assist deliveries.

1.4 Purpose of study

The purpose of this study was to describe factors affecting the utilization of partogram among nurses and midwives, in Rwamagana health facilities in the Eastern Province of Rwanda.
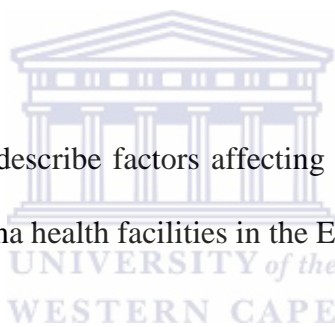
1.5 Research questions

The following research questions were central to this study:

- What is the knowledge and use of partogram among nurses and midwives in maternity wards of Rwamagana health facilities?
- What are the challenges facing nurses and midwives with regards to utilization of the partogram in labour wards of Rwamagana health facilities?
- What factors influence the use (proper or not proper) of partogram by nurses and midwives in maternity wards in Rwamagana health facilities?

1.6 Research objectives

The objectives of this study were to:

- Assess the knowledge and use of partogram among nurses and midwives in Rwamagana health facilities,

- Identify the challenges facing nurses and midwives with regards to the utilization of partogram in maternity wards in Rwamagana Health facilities, and

- Determine the factors that influence the use (proper or not proper) of partogram among nurses and midwives in maternity wards in Rwamagana health facilities.

1.7 Rationale and significance of the study

According to WHO, the use of a partogram can be highly effective in reducing complications from childbirth (WHO cited in Berglund, Lefevre-Cholay, Bacci, Blymina & Lindmark 2010:235). Therefore, findings from this study highlight the factors affecting the utilization of partogram, in order to improve maternal health through provision of quality care to pregnant mothers during labour.

The results from this study may contribute to understanding the extent of utilization of partogram among nurses and midwives. It may also serve as basis for health policy-makers to instill good management practices in the healthcare delivery system, with respect to improvement of quality of care in labour and early post-partum wards. In addition, the findings from this study could provide baseline information for further studies on the use of partogram and quality care in the labour and early post-partum wards in Rwamagana Health facilities in particular, and in Rwanda in general.

## 1.8	Definition of key terms

### 1.8.1	Midwife

A midwife is " a person who has successfully completed a midwifery education programme which is duly recognized in the country where it is located, and which is based on the ICM Essential Competencies for Basic Midwifery Practice and the framework of ICM Global Standards for Midwifery Education; who has acquired the requisite qualifications to be registered and/ or legally licensed to practice midwifery and use the title 'midwife'; and who demonstrates competency in the practice of midwifery" (ICM, 2011).

### 1.8.2	Nurse

"A graduate who has been legally authorized (registered) to practice after examination by a state board of nurse examiners or similar regulatory authority. Education includes three, four or more years in nursing school, and leads to a university or postgraduate university degree or the equivalent. A registered nurse has the full range of nursing skills" (WHO, 2010). Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well, and in all settings.

Nurses who participated in the current study had in their routine work to attend to pregnant mothers in labour.

### 1.8.3	Skilled birth attendant

Refers to "an accredited health professional - such as a midwife, medical doctor or nurse - who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and immediate postnatal periods, and in the identification, management and referral of complications in women and new-born" (Yakoob, Ali , Ali , Imdad, Lawn, Van Den Broek & Bhutta, 2011:2).

In this study, a skilled birth attendant refers to a trained staff providing obstetrical care to a pregnant mother in labour and postpartum periods as well as caring for a new born.

1.8.4   Obstetric labour

Obstetric labour is "a physiological process whereby the conceptus is expelled out from the uterus and delivered. It is also known as partition or confinement" (Sellers, 2012:757). In this study, the term labour and obstetric labour will be used interchangeably.

Nurses and midwives who participated in the current study are those who attend pregnant mothers in labour.

1.8.5   Partogram

The partogram also called partograph or cervicograph (Sellers, 2012:755), is defined as "a composite graphical record of key data (maternal, foetal and progress of labour) during labour entered against time on a single sheet of paper". In the present study the partogram used in selected health facilities, is the one modified by WHO in 2000 (Magon, 2011:1), whereby the latent phase was excluded and the active phase commences at 4 cm dilatation.

The aim of this study is to determine factors affecting the utulization of the partogram in labour wards.

1.8.6   Maternal mortality

Maternal mortality refers to the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and 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, 2013). To facilitate the identification of maternal deaths in circumstances in which cause of death attribution is inadequate, a new category has been

9

introduced: Pregnancy-related death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the cause of death.

1.9   Conclusion

The first chapter presented the research topic and background of the study. The aims and objectives of the study were also clearly set out in a logical manner. The problem statement and definition of selected key words have also been provided to facilitate understanding of the context in which the study was conducted. The next chapter provides a review of the relevant literature that informs the present study.

UNIVERSITY of the
WESTERN CAPE

CHAPTER TWO

LITERATURE REVIEW

2.1   Introduction

This chapter explores a number of studies that have been conducted in Africa and overseas pertaining to utilization of partogram. Grove, Burns & Gray (2013: 97) ascertain that literature review includes both theoretical and empirical sources that document the current knowledge of the problem. These authors continued that the theoretical component consists of theories, models and conceptual frameworks while the empirical component consists of sources from various studies published in journals, books and theses. Therefore, the literature for the present study was gleaned from published journal articles, textbooks, published reports, newsletters and internet search on partogram. The review is organized and presented into four headings namely: knowledge on utilization of partogram and use of partogram, nurses and midwives and their challenges/limitations with regards to utilization of partogram and finally, a description of Patricia Benner's model of nursing practice as a conceptual framework that guided this study.

2.2   Knowledge on utilization of the partogram

Partogram is a universal tool for monitoring of labour (Ogwang, Karyabakabo & Rutebemberwa, 2009:27). Yisma *et al.* (2013:13) after conducting a cross-sectional quantitative study in Ethiopia reported that, the use of the partograph is a well-known best practice for quality monitoring of labour and subsequent prevention of obstructed and prolonged labour. However, a number of cases of obstructed labour still occur in health facilities due to poor quality of intrapartum care. For effective monitoring of pregnant mothers in labour, the researcher recommended that pre-

service and on-job training for obstetric care givers on the use of partogram should be given emphasis. Such recommendation is also in use in Rwanda as stated in the referential manual on Emergency obstetric and Neonatal care (RMOH, 2012:5).

The source of knowledge on partogram was identified in the study conducted by Oladapo, Daniel & Olatunji (2006:540). The authors highlight that Life Saving Skill training workshop was reported as the primary source of knowledge by one-third of those aware of the partograph and these individuals generally had fair and good levels of knowledge. Opiah , Bola, Ekere & Monjok (2012:128) in a cross-sectional study to assess knowledge and utilization of the partograph among midwives in two tertiary health facilities in the Niger Delta Region of Nigeria, 86.2% of respondents had partograph training while in school of midwifery,13% said they were not trained in the midwifery school. The source of knowledge on partogram needs to be determined in Rwanda.

With regards to the knowledge of different components of the partogram, Yisma *et al.* (2013:4) in a cross-sectional quantitative study to assess knowledge and utilization of partograph among obstetric care givers in public health institutions of Addis Ababa, affirms that knowledge of the function of both alert line and action line were poor. Results from the same study reveal that there was no statistically significant difference between respondents from hospitals and health centres regarding correctly mentioning at least one component of the partograph [Crude OR = 2.3 (95% CI: 0.44, 11.50). The present study was conducted in one hospital and health centers of Rwamagana health district to assess knowledge of nurses and midwives from theses health facilities.

The above studies revealed that even though midwives may have good knowledge of the partogram, there is poor utilization of the partogram in monitoring women in labour in health facilities. Though the utilization of partogram is part of pre-service education program of health professionals namely nurses and midwives, the reality on the field may be affected by different factors which are subject part of the discussion in the present study.

2.3   Use of partogram

The utilization of partogram requires skills, as part of the Safe Motherhood Initiative. WHO's partograph clearly differentiates normal from abnormal progress in labour and identifies those women likely to require intervention. Its use in all labour wards is recommended (Berglund *et al*., 2010:230). Findings from the study on knowledge and utilization of the partograph among midwives in the Niger Delta region of Nigeria, inferred that despite midwives good knowledge of the partogram, there was poor utilization in labour monitoring in both centers. Assessment of utilized partogram charts revealed that only 37.5% in Federal Medical Centers and 32.6% in Niger Delta University Teaching Hospital were properly filled (Opiah *et al.,* 2012:130).

The problem of filling the partogram was also felt in the study conducted by Khonje (2012:68) in Malawi where by high proportions of incompletely recorded parameters on the partogram were identified. Likewise, Diarra, Camara & Maiga (2010:36) in a study conducted in Mali only 18, 85% partogram were found to be correctly filled. Such poor level of utilization is yet to be determined in Rwanda.

Similarly, Fawole, Adekanle & Hunyinbo (2008:22) in a cross sectional study analyzed the utilization of the partogram in primary health facilities in Southwestern Nigeria. Gross

deficiencies have been highlighted in relation to knowledge about normal characteristics during labour. Hence, in Rwanda, there is a need to ascertain the extent to which nurses and midwives use this tool to monitor pregnant mothers in labour.

Furthermore, a gap in quality of using partogram has been the subject of discussion in the study by Nyamutma, Urassa, Massawe, Massawe, Lindmark & Roosmalen (2008:37) conducted in Dar es Salaam. Ogwang *et al*. (2009:33-34) confirms poor use of partograms during labour and recommend training of health workers on partogram use, provision of guidelines and adequate resources.

Nausheen, Jalil, Anwer & Akhter (2010:845) confirm insufficient skills by findings from a study conducted to assess the improvement in knowledge and skills among trainees of a workshop on "labour and partogram". The ability to monitor pregnant mothers during labour using the partogram continues to be the subject of discussion by many authors. For instance, Maroof, Al-Hadithi & Al-Towil (2012:15) in their study using criterion based audits of medical care and services, reported that, overall quality of care was poor with non use of partogram. A need for development of clinical guidelines and protocols was felt. There is no study that has focused on partogram as a major contributor to efficient and effective labour management in different health institutions in Rwanda, particularly focusing on both rural hospitals and health centers. Hence, findings from this current study are vital in improving efficiency in labour management.

Likewise, Fawole *et al.* (2008:25) conducted a cross sectional study to understand why the problem of maternal mortality persists in Nigeria by assessing knowledge and utilization of the partogram among obstetric care givers in South West Nigeria. Their findings showed that only 32.3% used the partogram to monitor women in labour. Partogram use was reported significantly

more frequently by respondents in tertiary level compared with respondents from primary/secondary levels of care. The health system in Rwanda is no different from Nigeria, and the partogram is more likely to be well used in secondary and tertiary level than in primary level.

Though, in some developing countries a paper based partogram still needs improvement, in order to improve its utilization, in some other countries technology has been advanced to monitor pregnant mothers during labour. Nunes, Ayres-de-Campos, Figueiredo & Bernardes (2013:93) in a review article entitled "An overview of central fetal monitoring systems in labour" assert that a variety of systems for centralised viewing of fetal signals during labour are currently available, allowing simultaneous monitoring of multiple tracings in one or more locations. This system displays maternal vital signs, and an electronic partogram is available in majority of these systems. Underwood, Sterling & Bennett (2013:1-10) present the "PartoPen Maternal Health Monitoring System" in their paper. As explained by the authors, the goal of the PartoPen project is to increase the effectiveness of the partogram, using an interactive digital pen with custom software, together with partogram forms printed with a background dot pattern that is recognized by the pen (Underwood *et al.*, 2013). In Rwanda, a printed paper form of partogram is in use in different health facilities but its proper utilization has been assessed by the present study.

2.4 Challenges/limitations in the utilization of partogram

As presented earlier in this study, the partograph is a form on which labour observations are recorded to provide an overview of labour, aiming at alerting obstetrical care providers to deviations in labour progress as well as maternal and fetal well-being. When deviations in labour progress are recognized earlier and corrected, complications are prevented and normal labour and delivery can occur. Yisma *et al.* (2013:17) reported that the use of the partograph during

labour was affected by factors such as lack of knowledge, lack of training of obstetric care givers on the use of the partogram and lack of positive attitude towards the use of the partogram.

In addition to the above, Ogwang *et al.* (2009:33) in a cross-sectional study involving observations; recorded reviews and interviews, concluded that the poor use of partogram during labour is mainly affected by health input factors. The researchers recommended training of health workers on partogram use, provision of guidelines and adequate resources. There were few trained health workers and lack of guidelines on partogram use. According to Rwanda Ministry of health referential manual (2011:20-21), poor monitoring of labour results into among others, obstructed labour, maternal exhaustion and fetal distress.

Fatusi, Makinde, Adeyemi, Orji & Onwudiegwu (2008:41) in a cohort study, evaluated the impact of training on use of the partogram for labour monitoring among various categories of primary health care workers where a total of 242 partograms of women in labour were plotted over a 1-year period. From these results, the authors concluded that lower cadres of primary health care workers can be effectively trained to use the partogram with satisfactory results, and thus contribute towards improved maternal outcomes in developing countries with scarcity of skilled attendants.

With regards to in-service training; Kinfu, Poz Dal, Mercer & Evans (2009:225), in a study to estimate systematically the inflow and outflow of health workers in Africa, suggests that pre-service training needs to be expanded as well as combined with other measures to increase health worker inflow and reduce the rate of outflow in order to reach WHO's recent target of 2.28 professionals per 1000 population for the countries taken as a whole. Moreover, in the study conducted by Saviola, Raddi Sudha, & Metgud, (2009:57) to assess effectiveness of a planned

teaching program on knowledge and skill in the use of partograph among nurses working in maternity units, inferred that the planned teaching program was effective to improve knowledge and skills on partogram.

Similarly, Medhanyie, Spigt, Dinant & Blanco (2012:44) observed inadequate use of partogram associated with lack of trained personnel. This could be also applicable to Rwanda where only 69% of deliveries are assisted by skilled health care attendants and where only 0.3% of deliveries are assisted by midwives (RMOH, 2012:116).

2.5   Conceptual framework

2.5.1 Benner's model of nursing practice

Patricia Benner's model of nursing practice was used as a theoretical foundation for this study. Benner (1984) has identified five levels of competency based on the five stages of skills development and attainment as described in the Dreyfus model (Christensen, 2009:13). The five stages, in ascending order, are novice, advanced beginner; competent, proficient and expert (Figure 1).
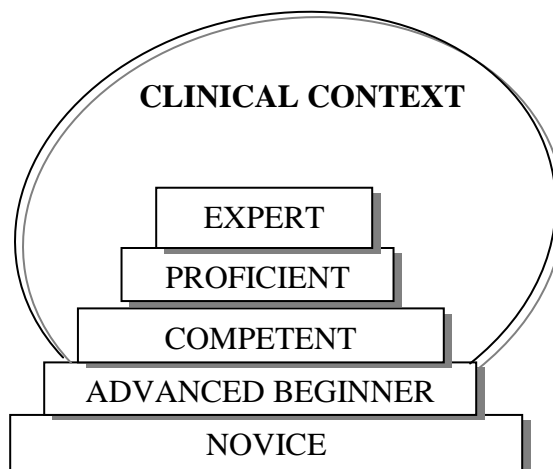
Figure 1: Diagram of Benner's levels of competency in nursing practice

2.5.1.1 Novice stage

The first stage of skills development, the clinical environment is new and unusual to the novice nurse/midwife. Without prior experience of the clinical situation, the nurse/midwife relies on rules and principles to guide the achievement of attributions (Quinn & Hughes, 2007:371).

2.5.1.2 Advanced beginner stage

At this stage, the nurse/ Midwife start to demonstrate improved skills. Based on regular experience on the clinical ground, the nurse/ midwife builds up and utilizes guidelines to produce adequate work performance (Benner, 2004:184).

2.5.1.3 Competent stage

Within two to three years of working in the same work environment, Benner proposes that the nurse is competent. Competency is reflected in the ability of the nurse/midwife to assess, plan and evaluate patient care (Quinn & Hughes, 2007:372).

2.5.1.4 Proficient stage

This stage is the felt crisis in the limits of formalism and limits of planning and prediction along with an enhanced ability to read the situation that may propel the nurse into the proficient stage of performance. Whereas skills development, up until this point, has been incremental, to progress, the learner must make a qualitative leap in the way he or she engages and performs in the situation. The nurse/midwife must literally learn to situate himself or herself differently in relation to his or her work (Benner, 2004:194). Although timelines are not the only benchmark,

the nurse can be recognized as proficient after three to five years. The nurse provides holistic nursing care to patients based on constant exposure within the same clinical environment.

2.5.1.5 Expert stage

The expert nurse/midwife is able to take up theories and ends of practice in multiple ways, often creating new possibilities in the situation.

2.5.2 Application of Benner's model of nursing practice to the study

According to Benner (1984:21), nurses/midwives develop and improve their nursing skills by exposure to, and experience of real situations in the clinical field. Therefore, in the present study, the model was applied to determine knowledge and use of partogram among nurses and midwives in relation to their clinical experience. The knowledge and clinical skills of nurses and midwives to use the partogram should improve as the nurse and midwife pass through the competency levels of Benner's model.
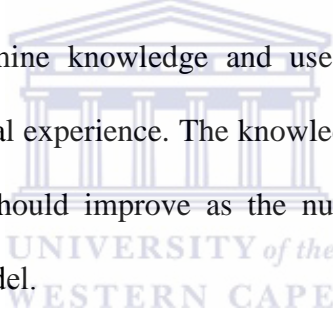
2.6   Conclusion

This second chapter highlighted the overall information regarding utilization of the partogram among obstetrical care providers, with emphasis on nurses and midwives. The review discussed information on the knowledge of partogram, its utilization and challenges met while using the partogram. Most of the studies cited above, have shown that monitoring the progress of labour with correct use of the partogram improves maternal and fetal outcomes. The correct use of partogram allows differentiating normal from abnormal progress in labour. Thus partogram works as an early warning system identifying those women who will likely necessitate special 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 which, monitoring of labour becomes inadequate therefore important conditions are missed, or identified late; resulting in complications which cause maternal and neonatal morbidity and mortality. In the next chapter the researcher will present the methodology that was utilized in this research.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1   Introduction

This chapter presents the research design and methodology employed by the study to address the objectives and questions under study. It begins with a description of the study design, the target population, study setting, data collection and analysis and validity as well as reliability. The last section of the chapter provides ethical issues related to the study.

3.2   Study design

This study adopted a descriptive quantitative and cross-sectional research design to gather information on utilization of partogram among nurses and midwives in Rwamagana public Health facilities.
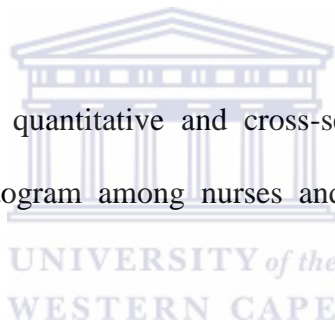
3.3   Population and sample

The study population and sample included all nurses and midwives who provide obstetrical care to pregnant mothers during labour in Rwamagana health facilities. According to Grove, Burns & Gray (2013:352); the entire population may be the target of a study when the population is small and well defined. Hence, the study results could be generalized to nurses and midwives of Rwamagana health facilities in the eastern Province where the study was conducted. Health professionals who do not attend labour cases in selected health facilities were excluded from participating in the study. There is a total of 170 nurses and midwives working in Rwamagana health facilities, however, only 140 were considered as part of the study population as 30 of them

were not available. Some were on annual and maternity leaves, others on sick leave, others purely involved in administrative work and others were attending in-service training in another province. After all, a total of 140 nurses are the ones who participated in the study, and out of the 140 questionnaires that were distributed, 1 questionnaire was not well completed as it had missing data and 8 were not returned back. Therefore, a total of 131 questionnaires were completed and analyzed for the present study.

3.4   Setting of the study

Figure 2: Map of Rwanda (Ministry of Local Government, 2013)

The present study was conducted in Rwanda (figure 2); a country located in East Central Africa, covering an area of 26,338 square kilometres with 10,537,222 inhabitants as in 2012 (NISR, 2012:11). The country has 5 provinces: North, South, East, West and Kigali City. The national

language is Kinyarwanda, and the official foreign languages are French and English. The Eastern Province is the largest, most populous and least densely populated of Rwanda's five provinces. It has seven administrative districts, and the capital city of the eastern province is Rwamagana, which represent the study site for this study.

The setting of the present study included 1 hospital (Rwamagana hospital) and 14 health centers of Rwamagana health district. Rwamagana hospital is a public hospital with a catchment population of 267,525. The hospital receives the largest number of maternity cases referred by the 14 public health centers in the catchment area. The hospital conducts nearly 350 deliveries per month according to the annual report of Rwamagana hospital (Rwamagana hospital, 2012).

3.5 Methods of data collection

3.5.1 Data collection tool

A self- administered questionnaire was used to collect data (appendices L & M). The permission to use and adapt the original questionnaire (Appendix K) was granted by the author (Opiah *et al.*, 2012). Adaptation was made on 4 sections of the questionnaire: demographic characteristic, knowledge of the partogram, characteristics of partogram utilization and factors affecting the utilization of partogram for labour monitoring.

3.5.1.1 Translation

The questionnaire was translated from English into French by a professional translator; both languages are officially used in Rwanda. The data collection instrument was translated to facilitate respondents' understanding of the tool by using the language with which they are conversant. Translation from French to English was done by an independent professional

translator, to confirm that the meaning and content of the questions of the original copy have not been changed during the translation. Verification of the translated instrument was also done to ensure its validity.

3.5.1.2 Variables under study

The dependent variable of this study is the use (proper /not proper use) of partogram by nurses and midwives in Rwamagana health facilities, while the independent variables are socio-demographic variables and other important variables under study.

3.5.2 Validity and reliability

The original instrument for data collection that was adapted to the present research had demonstrated a high degree of validity and reliability with a coefficient of 0.89 at an alpha level of 0.05 (Opiah *et al.*, 2012:127). A pre-test of the data collection instrument was carried out to enhance the validity and reliability of the modified questionnaire.

3.5.2.1 Validity

Validity is a concept that broadly concerns the soundness of the study's evidence that is, whether the findings are cogent, convincing, and well grounded. It is an important criterion for assessing the methods of measuring variables (Polit & Beck, 2004: 209; Grove *et al.*, 2013:393). The content validity of the questionnaire was pre-tested by the researcher's supervisor, an expert in the field and the researcher herself who is a registered midwife, and thus familiar with the area of research. Also validity concerned knowing whether there is evidence to support the assertion that the methods are really measuring the variables that they are supposed to measure. Hence, the construct validity of the present study was ensured by carrying out a pre-test of the instrument prior to data collection process. The research assistant was given training in the process of the

present study and the researcher was prepared to give clarifications to questions needing explanation. The following table describes items and specific concepts measured for content validity.

Table 1: **Content validity**

Research objectives	Questions
To assess knowledge and use of partogram among nurses and Midwives in Rwamagana health facilities.	11,12,13,14,15,16,17,18,23,24
To identify challenges faced by nurses and midwives on utilization of partogram in Rwamagana Health facilities.	19,20,21,22,25,26
To determine factors influencing the use (properly or not properly) of partogram among nurses and midwives in Rwamagana health facilities maternity	1,2,3,4,5,6,7,8,9,10,27,28

3.5.2.2 Reliability

Reliability refers to the accuracy and consistency of information obtained in a study. For the sake of enhancing reliability, the translation of the data collection instrument was done by a professional translator. According to Polit & Beck (2004:209), statistical reliability refers also to the probability that the same results would be obtained with a completely new sample of subjects. Therefore reliability was improved by the expertise of a statistician during the process of interpreting and analyzing the results from this study.

3.5.2 Procedure for data collection

After obtaining the ethical clearance and permission from the administration of Rwamagana Health district, the investigator started with pre-testing of the questionnaire prior to data collection. A research assistant was trained to facilitate data collection.

3.5.2.1 Pre-test of the questionnaire

Before beginning the process of data collection, a pre-test of the instrument was carried out two days before the data collection in one of the health facilities in the study site. A total of five respondents participated in this pilot study. The data collection tool was pre-tested to check clarity and applicability in order to avoid methodological errors during data collection. Findings pointed out areas that needed clarity which were not known before. The investigator addressed those areas to make sure all questions were comprehensible to all participants.

3.5.2.2 Training of the research assistant

One registered midwife was recruited to facilitate data collection. The registered midwife was a new graduate who had been in labour ward for a period of 8 months. He was informally trained and provided with sufficient explanations about the objectives of the study and data collection tool, in order for him to get familiar with the study. The research assistant was not employed in any of the health facilities in the study site. This enhanced the objectivity, while participating in data collection. He also had knowledge in research process with little experience in midwifery care.

3.5.2.3 Data collection

The researcher in collaboration with the hospital director and officers in charge of health centers made an appointment to meet with nurses and midwives. As the investigator had to collect data

from 15 health facilities within a limited time, at least 2 sites were covered each day. The data collection was conducted during the first two weeks in August 2013. The questionnaires were given to all nurses and midwives who were willing to participate in the study after having signed a consent letter. The investigator explained to nurses and midwives the purpose and nature of the study. Confidentiality was explained to respondents before completing the questionnaire, requesting them not to include any names. They were requested to complete a questionnaire as soon as possible and return it to the investigator within 2 days.

3.6 Data analysis

The researcher worked closely with the Department of Postgraduate Enrolment and Throughput (PET) in order to learn the Statistical Package for Social Sciences (SPSS 21.0) which was used to capture and analyze data. All 131 completed questionnaires were captured with SPSS version 21.0. After data collection, the researcher proceeded with data entry, followed by neither data cleaning as well as data screening, to ensure that there were neither errors nor missing data. Data were analyzed in three steps: first, univariate analysis was used to summarize data in terms of frequency distributions of the variables under study.

Second, the bivariate analysis was used to determine the relationship between dependent variable (use of partogram by nurses and midwives in the Rwamagana health facilities) and independent variables (socio-demographic variables and other selected variables under study). In this case, the cross-tabulations together with the chi-square test for independence were employed for categorical variables. Lastly, the multivariate analysis was conducted to find out the extent to which independent variables affect dependent variables. The logistic regression model was used

here. The overall model helped to identify the factors affecting the use of partogram by nurses and midwives in general. Captured and analyzed data were reviewed by a statistician for possible mistakes at the department of statistics at the University of the Western Cape.

3.7   Ethical aspects

3.7.1 Ethical approval

In undertaking this research, various sources were consulted in order to ensure that the study adhere to acceptable ethical guidelines. Before conducting data collection, ethical approval was provided to the researcher:

The research proposal was submitted simultaneously to the ethics committees of the University of the Western Cape, in the Republic of South Africa, to the Institutional Review Board of Kigali Health Institute in Rwanda as well as to Rwamagana district hospital which is the hospital liable for supervision of the health facilities under this study. This was to allow the researcher to conduct the study within a limited time. To be able to remain ethical, data collection was done in August 2013 only when all the required ethical clearances from the three institutions were obtained. Therefore Ethical approval Registration Number 13/6/22 was obtained from the Senate Higher Degrees Committee and the Ethics committee of the University of the Western Cape (Appendix A). In addition, the Institutional Review Board of Kigali Health Institute (Ethics clearance No KHI/IRB/25/2013 as per appendix B) as well as Rwamagana Health District gave consent for the study to take place (Appendix D).

Permission to conduct the study was sought from the Director of Rwamagana Hospital, from Chief of Nursing of Rwamagana hospital, from the head of maternity departments, from officials in charge of Health Centers in Rwamagana area, and from all the respondents of this study.

3.7.2 Informed consent and participant rights

Participants in this study gave their consent to participate in the study (Appendices G&H) after getting explanations about the purpose of the study as detailed in the information sheet. This consent was voluntary and was based on an adequate understanding of the study. Participants were informed of their rights to withdraw from the process at any stage of the project. In order to give participants a clear understanding of the study, the following were provided to them:

- Letter of invitation to participate in the study (Appendices G&H)

- Information statement (appendices I &J)

- Verbal overview of the study by the investigator handing out the paper questionnaires.

Participants were informed of the nature and significance of the study and assured that no harm will come to them by participating in the study. They were informed about the purpose of the study, and confidentiality and anonymity were ensured by numbering the questionnaires and excluding participant names in the questionnaires. Questionnaires and consent forms were filed separately. Participants' names were not linked to any questionnaire. The participants were informed that their names would not be used in any report, presentations or publications from this study. All records of the survey will be kept confidentially by the researcher herself and in a

safe place if not utilized for the study purpose. Feedback and dissemination of the findings would be issued to staff of the research setting once this has been approved by UWC.

3.8   Conclusion

This third chapter has presented the research design and methodology of the present study. The section has explained the self-administered questionnaire that was used to collect data and the connection between different sections of the tool and objectives of the study. The ethical considerations underlying the study were also outlined. In the following chapter, findings from this study are presented in the form of tables and figures, followed by interpretations of these findings.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.1 Introduction

This chapter presents the results of the current study. A total of 140 questionnaires were distributed among nurses and midwives attending to pregnant mothers in labour in Rwamagana health facilities out of which 131 questionnaires were fully completed, and thus giving a response rate of 93.5%. One of the distributed questionnaires had missing data and was therefore excluded from analysis, and 8 were not returned back. Hence data from 131 (N=131) self-administered questionnaires were analyzed using the Statistical Package for Social Sciences (SPSS) version 21 to capture and analyze data. After data entry, data cleaning and screening were done to ensure that there were neither errors nor missing data. The results are presented in terms of frequencies, using tables and graphical displays.

4.2 Demographic data

4.2.1 Distribution of respondents according to age group, gender, professional qualification and years of experience

Table 2 shows that, of the 131 nurses and midwives, 58.8% were females and 41.2% males. The participants' ages ranged from 23 to 61 years, with a mean age of 33.7 years (SD=6.9). The ages were recorded into six different age groups with age interval of five years.

Most respondents were enrolled nurses (74.8%), with a secondary level of education (A2). Only 9.9% of respondents were midwives. More than half of participants (55%) had a professional experience between 0 to 4 years, 28.2 % of respondents had between 5-9 years, and 7.6 %

between 10 to 14 years and 9.2% respondents had a professional experience of 15 years and above. The table below presents distribution of demographic characteristics of the respondents.

Table 2: Distribution of demographic characteristics of respondents (N=131)

Variables	Frequencies(n)	Percentage (%)
Age group		
20-24	6	4.6
25-29	33	25.2
30-34	41	31.3
35-39	28	21.4
40-44	9	6.9
45 and above	14	10.7
Total	131	100
Gender		
Female	77	58.8
Male	54	41.2
Total	131	100
Professional qualification		
Registered Midwives	13	9.9
Registered Nurses	18	13.7
Enrolled nurses (Secondary school of nursing)	98	74.8
Auxiliary Nurses	2	1.5
Total	131	100
Years of experience		
0-4 years	72	55
5-9 years	37	28.2
10-14 years	10	7.6
15 years and above	12	9.2
Total	131	100

4.2.2 Distribution of respondents according to received training in management of labour, place of work and unit of service

In table 3 presented below, it is found that more than half of the participants (63.4%) received training in management of pregnant mothers in labour, while 36.6% of nurses and midwives did not receive any in-service training on management of labour. Of this, 55.7 % were trained on EmONC, 7.6% were trained on ALSO, while 36.6% participants declared not having been trained on any of the mentioned trainings. Of all participants, 89.3% affirm that they have been trained on using the partogram. The source of knowledge of using the partogram was attributed to college/teaching institution by 51.1% participants while 48.9% declined.

Of all participants, only 19.8 % were working in the hospital, while 80.2% were working in health centers and 51.1% of respondents were permanently working in labour wards. The remaining 48.1% participants were working in units affiliated to labour wards (Ante natal clinic, Family Planning, Post natal wards). All nurses and midwives who participated in this study were exposed to pregnant mothers in labour. Even though, some participants were not found in labour wards during the time of data collection, they rotate in different services and attend to pregnant mothers in labour especially during night shifts and over the weekends.

Forty five percent (45%) of participants revealed that, while working in labour, the shift is made up by only one staff, 33.6 % work at 2 staff per shift, 20.6% work at 3 staff per shift, whilst the minority of 0.8% indicate that the shift is made up by 4 persons. The table below presents a distribution of respondents according to training received on management of labour, place of work and unit of service.

Table 3: Distribution of respondents according to training received on management of labour, place of work and unit of service (N=131)

Variables	Frequency(n)	Percentage (%)
Trained on management of labour		
Yes	83	63.4
No	48	36.6
Type of training received		
EmONC	73	55.7
ALSO	10	7.6
None of the above	48	36.6
Trained on using the partogram		
Yes	117	89.3
No	14	10.6
Source of knowledge/ college or teaching institution		
Yes	67	51.1
No	64	48.9
Place of work		
Hospital	26	19.8
Health Center	105	80.2
Unit of service		
Ante natal Clinic	24	18.3
Family planing	27	20.6
Labour ward	67	51.1
Post natal	8	6.1
Other	5	3.8
Number of staff member per shift/ unit of service		
One per shift	59	45
Two per shift	44	33.6
Three per shift	27	20.6
Four per shift	1	0.8

4.3   Nurses and midwives' knowledge of partogram

The results from the table 4 show that, all the 131 (100 %) nurses and midwives studied have already used the partogram previously and 80.9 % of them agreed that the partogram is a simple graphic recording progress of labour and salient conditions of mother and   fetus against time in hours. Out of 131 respondents, 79.4% knew the function of the partogram as one of the tools to implement safe motherhood program, while 20.6% disagreed. A big percentage of 90.1 % of participants acknowledged the use of partogram in reducing maternal mortality with 87.8% agreeing that this tool plays a key role towards reducing newborn mortality. Respondents, representing 58% agreed that, action line of partogram plot falls on the left of the alert line, with only 42% disapproving.

Less than half of respondents-(32.1%), agreed with the right role of action line on the partogram to take appropriate action, with only 67.9 % of participants in disagreement. The majority of participants (78.6%) attributed the role of the action line to the wrong function- indicating that it allows time for the woman to be adequately assessed for appropriate intervention.   However, only 54.2% of respondents were of the view that in normal labour, the minimum duration of a strong contraction is 40 seconds, while 45.8% opposed this view. Results show further that 68.7% of respondents claimed that at least ten minutes is required to effectively assess adequacy of uterine contractions.

Table 4: Nurses and midwives' knowledge of the partogram (N=131)

Variables	Agree		Disagree	
	Frequencies (n)	**(%)**	**Frequencies (n)**	**(%)**
Partogram is a simple graphic recording of progress of labour and salient conditions of mother and fetus against time in hours	106	(80.9)	25	(19.1)
Partogram is used to implement the safe motherhood program	104	(79.4)	27	(20.6)
Reduce maternal deaths	118	(90.1)	13	(9.9)
Reduce new born deaths	115	(87.8)	16	(12.2)
In a normal progress of labour, the graph/plot on Partogram should fall on the left of alert line	76	(58)	55	(42)
In normal labour, minimum duration of a strong contraction is 40 seconds	71	(54.2)	60	(45.8)
10 minutes are required to effectively assess adequacy of contractions	90	(68.7)	41	(31.3)
Labour is prolonged when it lasts more than 12 hours	98	(74.8)	33	(25.2)
The function of the action line on the partogram indicates that appropriate action must be taken	42	(32.1)	89	(67.9)

4.4   Characteristics of partogram utilization and challenges

As presented below in table 5, a large number of participants (92.37%) were of the view that it is a managerial policy that all women in labour should be monitored with a partogram in respective health facilities, whereas 3.82% disagreed and 3.82% revealed that they did not know. However only 30 nurses and midwives (22.90%) considered the partogram useful in obstetric review, with 3.10% disagreed and 74% did not know. Majority of respondents failed to describe the two important lines of the partogram namely: the alert line and the action line. Only 58% of nurses and midwives agreed that in a normal progress of labour, the graph/plot on the partogram should fall on the left of the alert line, with 42% of respondents disagreeing. Of all participants, 32.1% agreed with the right role of the action line which is to indicate the appropriate action to be taken for a pregnant mother in labour.

Results also show that 45% of participants claimed that, while working in labour, the shift was made up by only one staff with 33.6 % working at 2 staff per shift, 20.6% working at 3 staff per shift whilst the minority represented by 0.8% revealed that the shift was made up by 4 persons. In addition to the insufficient number of staff to monitor pregnant mothers in labour, the partogram has been found to be misused by majority of respondents. The minority of respondents represented by 41.2% were found to properly use the partogram, whereas 58.8.1% were found to not properly use the partogram. The proper use of the partogram refers, in the current study, to monitoring of the pregnant mother in labour and recording findings at least once every 30 minutes. In this regard, 41.2% of nurses and midwives monitored pregnant mothers and have been recording every 30 minutes, 16.8% recorded every hour, 23.7% every 4 hours, 9.9% every 6 hours and 8.4% recorded the pregnant mother's information after 12 hours. All respondents (100%, N=131) agreed that partogram is available in their respective health

facilities. Out of 131 respondents, 93.9% agreed that there was a need to develop managerial guidelines/protocols for each unit in the maternity of their health facility to facilitate effective use of partogram while 6.1% disagreed. Almost all participants (represented by 93.9%) opted to be trained on partogram utilization, while the minority represented by 6.1% did not opt for the training. The following below table presents challenges hindering the utilization of partogram among nurses and midwives.

Table 5: The use of partogram and its associated challenges (N= 131)

Variables	Frequencies (n)	Percentage%
Partogram available in work place	131	100
It is a policy to monitor pregnant mothers in labour using the partogram		
Yes	121	92.4
No	5	3.8
Don't know	5	3.8
Total	131	100.0
How often do you use the partogram?		
Routinely	126	96.2
Rarely	2	1.5
Occasionally	3	2.3
Total	131	100.0
Partogram used in obstetrical review		
Agree	126	96.2
Disagree	3	2.3
Don't know	2	1.5
Total	131	100.0
Use (Properly or not properly) of partogram by nurses and midwives		
Properly used	54	41.2
Not properly used	77	58.8
Total	131	100.0
Need to develop managerial guidelines/protocol on using the partogram		
Agree	123	93.9
Disagree	8	6.1
Total	131	100.0
Need to be trained on partogram		
Agree	123	93.9
Disagree	8	6.1
Total	131	100.0

4.5   Distribution of respondents according to utilization of partogram

As presented above (refer to table 5), and in diagram 3, it was found that 41.2% of nurses and midwives used properly the partogram, whereas 58.8% did not use it properly. The figure below presents the distribution of participants according to the dependent variable of the present study (use of partogram).
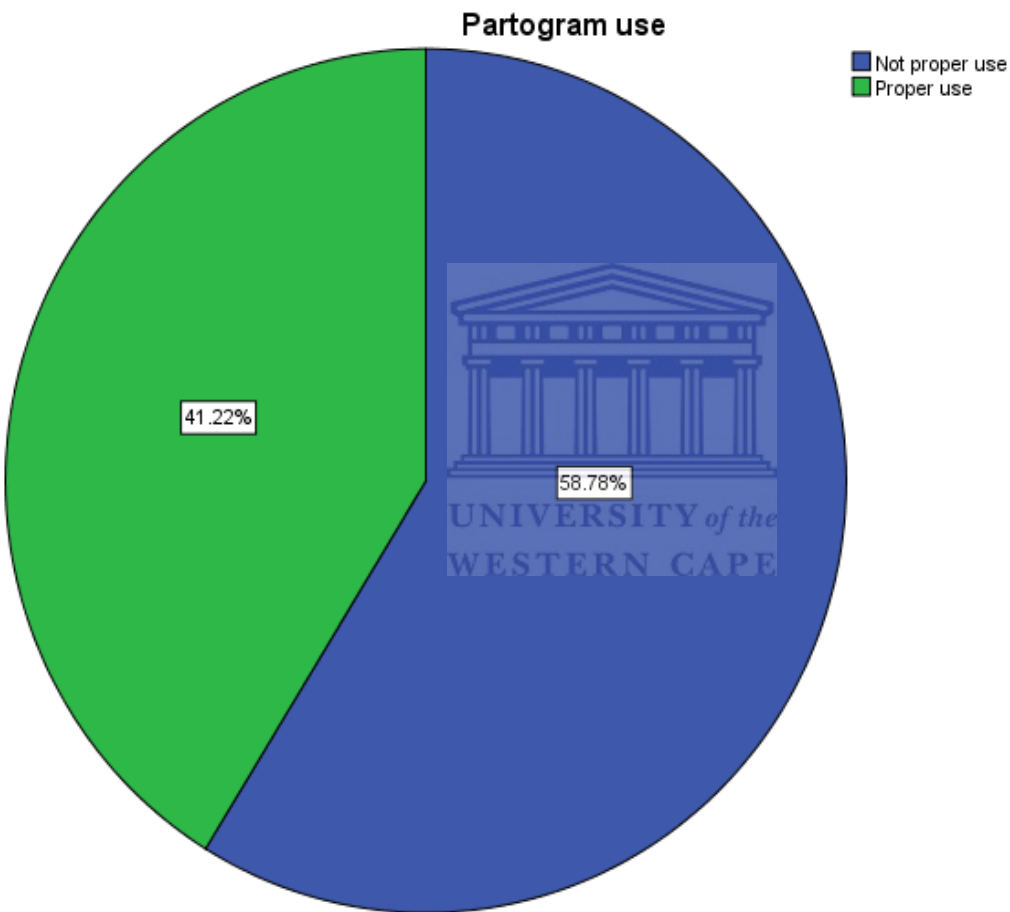
Figure 3: Distribution of respondents according to the use of partogram among nurses and midwives (Properly used or not properly used)

4.6 Factors influencing the use (proper/ not proper use) of the partogram

In order to identify some of the factors that affect the use of the partogram, a chi-square test for independence was used. The level of significance was set to 5%. This means that any p-value less than 0.05 indicated that there is a statistical significant association between two variables under study. Correlations were computed between the dependent variable which is the use of partogram (proper use/ not proper use) and participants' demographic characteristics (age, professional qualification, number of staff member per shift, years of experience and place of work) and other selected variables under study (training received and knowledge on the use of partogram).

The results (as shown in table 6 below), indicated that among the factors believed to affect the use of partogram , those having a significant association with its use are only professional qualification, years of professional experience and in-service training received. As presented in table 6, out of 13 (9.9%) registered midwives who responded to this study, 8.4% properly used the partogram, while 1.5% did not properly use it. Out of 18 (13.7%) registered nurses, 8.4% properly used the partogram and 5.3% did not properly use it. Also in table 6, the Pearson chi-square test revealed that there was a statistically significant association between the use of the partogram (proper use/ not proper use) and professional qualification of nurses and midwives ($\chi^2_{(3)} = 17.414$, p-value $= 0.001 < 0.05$ level of significance).

Furthermore, with professional experience between 0-4 years, out of 72 nurses and midwives, only 16% used properly the partogram, while 38.9% did not use it properly. Data shows that there is an association between the number of years of professional experience and use of

partogram (proper/ not proper use) by nurses and midwives ($\chi^2_{(3)}$= 10.547, P-value = 0.014 which is less than the level of significance of 0.05).

With regards to in-service training received, of all nurses and midwives who received training in management of labour, 34.4% used properly the partogram, while 29% did not use it properly. Among those who were trained in emergency obstetric and neonatal care (EmONC), 30.5% used the partogram properly, while 25.2% did not use it properly. Among nurses and midwives trained in advanced life support in obstetrics (ALSO), 2.3% used the partogram properly and 5.3% did not use it properly. Hence, this difference in proportions is consistent with the Pearson chi-square test output that showed a statistical significant association between the use of partogram and the training received in management of labour ($\chi^2_{(1)}$ =15.789; p- value= 0.000<0.05).
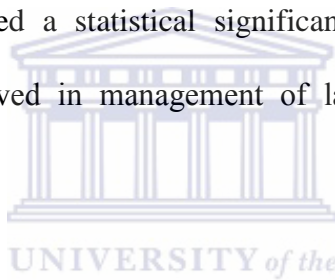
However, the differences in proportions did not show a statistical association between the use of partogram and number of staff per shift as well as the place of work. Of 59 nurses and midwives (45%) who revealed that they work at 1 staff per shift in labour ward, 15.3% used the partogram properly, whereas 29.8% did not use it properly. However, the Pearson chi-square analysis of the results from this study did not indicate a relationship between the use of partogram and shortage of nurses and midwives attending to pregnant mothers in labour ($\chi^2_{(3)}$ = 6.479, p-value of 0.091 >0.05). Results did not show the difference in proportions.

Similarly, results from this study do not indicate a significant relationship between use of partogram and place of work, that is to say there is no association between proper use/ not proper use of the partogram among nurses and midwives working in a hospital, including those

working in health centers ($\chi^2{}_{(1)}$ = 0.102, p-value = 0.456>0.05). In addition, there was no significant link between proper/ not proper use of the partogram and knowing the role of partogram in terms of reducing of maternal mortality ($\chi^2{}_{(1)}$ =2.459; P-value=0.103>0.05) as well as knowing the role of partogram in reducing neonatal mortality ($\chi^2{}_{(1)}$ =0.580; P-value=0.309>0.05). The following table (table 6) presents an association between the use (properly/ not properly) of the partogram and other selected variables.
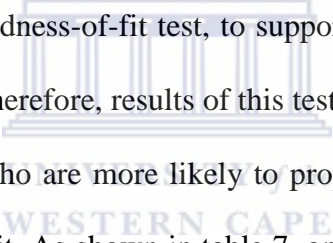
Table 6: A summary of association between use of partogram and selected variables

Characteristics	Use of partogram		Total (%)	Chi-square(χ^2)	df	p-value
	Properly used (%)	Not properly used (%)				
Professional qualification				17.414	3	0.001*
Registered midwifes	11(8.4)	2(1.5)	13(9.90)			
Registered Nurses	11(8.4)	7(5.3)	18(13.7)			
Enrolled Nurses	32(24.4)	66(50.4)	98(74.8)			
Auxiliary Nurses	0(0)	2(1.5)	2(1.5)			
Total	*54(41.2)*	*77(58.8)*	*131(100)*			
Years of professional experience				10.547	3	0.014*
0-4 years	21 (16)	51 (38.9)	72 (55)			
5-9 years	19 (14.5)	18 (13.7)	37 (28.2)			
10-14 years	6 (4.6)	4 (3.1)	10 (7.6)			
15 and above	8 (6.1)	4(3.1)	12 (9.2)			
Total	*54(41.2)*	*77(58.8)*	*131(100)*			
Number of staff per shift in labour ward				6.479	3	0.091
1 per shift	20 (15.3)	39 (29.8)	59 (45)			
2 per shift	17 (13)	27 (20.6)	44 (33.6)			
3 per shift	16 (12.2)	11 (8.4)	27 (20.6)			
4 per shift	1 (0.8)	0(0)	1 (1.8)			
Total	*54(41.2)*	*77(58.8)*	*131(100)*			
In-service training				15.789	1	0.000*
Yes	45 (34.4)	38 (29)	83 (63.4)			
No	9 (6.9)	39 (29.8)	48 (36.6)			
Total	*54(41.2)*	*77(58.8)*	*131(100)*			
Place of work				0.102	1	0.465
Hospital	10 (7.6)	16 (12.2)	26 (19.8)			
Health Center	44 (33.6)	61 (46.6)	105 (40.2)			
Total	54(41.2)	*77(58.8)*	*131(100)*			
Partogram reduce maternal mortality				2.459	1	0.103
Yes	46(35.1%)	72(55%)	118(90.1%)			
No	8(6.1)	5(3.8%)	13(9.9%)			
Total	*54(41.2)*	*77(58.8)*	*131(100)*			

*: Significant at 5% level, df: degrees of freedom

4.7 Logistic regression predicting likelihood of proper use/not proper use of the partogram

In table 7, the Binary logistic regression was performed to assess the impact of a number of factors on the likelihood that nurses and midwives would report to properly use/not properly use the partogram. The model contained various independent variables (Socio demographic characteristics and other selected variables), however, only two variables were found to be significant: (number of years of professional experience and being trained in management of pregnant mother in labour). The full model containing these predictors was statistically significant as shown by the Hosmer- Lemeshow goodness-of-fit test with a Chi-square value of 5.923 with a significance level of 0.432 at a degree of freedom of 6.

With the Hosmer - Lomeshow goodness-of-fit test, to support the logistic model, the p-value is expected to be greater than 0.05. Therefore, results of this test indicate that the model was able to distinguish between respondents who are more likely to properly use the partogram than those who are less likely to properly use it. As shown in table 7, only 2 independents variables made a unique statistically significant contribution to the model (training in management of pregnant mother in labour reporting a p-value of 0.000, and number of years of experience reporting a p-value of 0.050). The place of work did not contribute significantly to the model considering its p-value of 0.728 which is greater than the significance level of 0.05.

The strongest predictor of reporting the proper use of the partogram was the fact of being trained in the management of pregnant mother in labour, recording an odd ratio of 4.847 (95% C.I = 2.005-11.719). This indicated that nurses and midwives who were trained in management of pregnant mothers in labour were over 4 times more likely to properly use the partogram than

those who were not trained to do so. On the other hand, the odds ratio of 0.310 and of 0.745 for nurses with 0-4 and 5-9 years of experiences, were less than 1.000. This indicates that respondents falling in these categories (under mentioned groups of years of experience) were respectively 0.310 and 0.745 less likely to properly use the partogram than nurses and midwives with more experience than them (Odd ratios = 0.310, Odd ratios= 0.745 <1.000). Following table shows the likelihood of the proper use of partogram.

Table 7: Logistic regression predicting the likelihood of use of the partogram (properly/ not properly)

Independent variables	B	Wald	df	P	Odds Ratio	95 % C.I For Odds Ratio	
						Lower	Upper
*Training in management of labour**							
Yes	1.578	12.282	1	**0.000**	4.847	2.005	11.719
No (r)					1.000		
*Years of experience**		7.474	3	**0.05**			
0-4 years	-1.171	2.888	1	0.89	0.310	0.08	1.197
5-9 years	-.259	0.165	1	0.684	0.745	0.18	3.081
10-14 years	0.269	0.08	1	0.777	1.309	0.202	8.469
15 and above (r)					1.000		
Place of work							
Hospital	-.174	0.121	1	0.728	0.841	0.816	2.238
Health Center (r)					1.000		
Constant	-.711	.894	1	.344	.491		

Note: *: Predicators with a significant P-value, "r": Reference category, df: degree of freedom; p: P-value; B: Regression coefficients.

4.8 Summary of findings

Data from this study revealed that 58.8% of respondents were females and 41.2% males. The participants' ages ranged from 23 to 61 years, with a mean age of 33.7 years (SD=6.9). Most respondents were enrolled nurses (74.8%), with a secondary level of education (A2). Only 9.9% of respondents were midwives. More than half of participants (55%) had a professional experience between 0 to 4 years, 28.2 % of respondents had between 5-9 years, and 7.6 % between 10 to 14 years and 9.2% respondents had a professional experience of 15 years and above.

It is found that more than half of the participants (63.4%) received training in management of pregnant mothers in labour, while 36.6% of nurses and midwives did not receive any in-service training on management of labour. Of all participants, only 19.8 % were working in the hospital, while 80.2% were working in health centers. A big percentage of 90.1 % of participants acknowledged the use of partogram in reducing maternal mortality with 87.8% agreeing that this tool plays a key role towards reducing newborn mortality. Less than half of respondents-(32.1%), agreed with the right role of action line on the partogram to take appropriate action, with only 67.9 % of participants in disagreement. The minority of respondents represented by 41.2% were found to properly use the partogram, whereas 58.8.1% was found to not properly use the partogram.

Bivariate analysis was used to determine the relationship between dependent variable and demographic characteristics and other selected variables under study. The results, indicated that among the factors believed to affect the use of partogram, those having a significant association with its use are only professional qualification ($\chi^2_{(3)}$ = 17.414, p-value = 0.001< 0.05 level of significance), years of professional experience ($\chi^2_{(3)}$= 10.547, P-value = 0.014 which is less than

the level of significance of 0.05) and in-service training received($\chi^2_{(1)}$ =15.789; p- value= 0.000<0.05).

The Binary logistic regression was performed to assess the impact of a number of factors on the likelihood that nurses and midwives would report to properly use/not properly use the partogram. With the Hosmer - Lomeshow goodness-of-fit test, only 2 independents variables made a unique statistically significant contribution to the model (training in management of pregnant mother in labour reporting a p-value of 0.000, and number of years of experience reporting a p-value of 0.050). The strongest predictor of reporting the proper use of the partogram was the fact of being trained in the management of pregnant mother in labour, recording an odd ratio of 4.847 (95% C.I = 2.005-11.719).

4.9 Conclusion

This chapter four has presented the results from completed questionnaires that were administered to study participants. The findings were grouped into demographic characteristics, nurses and midwives' knowledge and use of partogram, challenges and factors influencing the proper/ improper utilization of partogram. The next chapter discusses the results in light of their relevance and how they compare with other relevant researches in the field.

CHAPTER FIVE

DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

5.1   Introduction

This final chapter discusses the study's results in relation to the aim and objectives as well as relevant literature reported from different studies. The primary aim of this study was to describe the factors that affect the utilization of partogram among nurses and midwives in labour wards of Rwamagana public health facilities in the Eastern Province of Rwanda. The response rate of 93.5% of administered questionnaires implied that the study was relevant and could be beneficial to manage pregnant mothers in Rwanda. In this chapter, discussions of results are categorized according to the study's specific objectives: knowledge and use of partogram, challenges facing nurses and midwives during utilization of partogram and factors affecting the utilization of partogram. Finally, conclusion and recommendations from this study are drawn.

5.2   Discussion of findings

5.2.1 Research objective 1: To assess the knowledge and use of partogram among nurses and Midwives

The present study focused on nurses and midwives' knowledge and use of partogram to gain an insight into how they monitor obstetric labour since this is crucial to the achievement of the MDG's 4 and 5 in Rwanda, especially given its high levels of maternal and neonatal mortality. The results indicate that 80.9 % of all of respondents (131) knew what a partogram was and more than half of the respondents (79.4 % of them) knew its role as a tool to implement the safe motherhood program. The data in terms of knowledge of nurses and midwives also confirm the

results from Uwimana (2008:39) which evaluated the use of the partogram in one of the urban hospitals in Rwanda with results showing that majority of midwives and nurses (88%) reported that a partogram is a tool of decision making in the labour ward, and (98%) confirmed that the correct use of partogram can improve the management of pregnant women in a labour ward.

However, knowledge of the function of alert line as well as the action line was poor as per results of the present study. Only 76 (58%) of the respondents could explain the function of alert line and 42 (32.1%) of the respondents could explain the function of action line, which may indicate the need for urgent steps to improve the knowledge of nurses and midwives on the partogram through training and seminars in order to maximize the utilization and proper use of the partogram. This is confirmed by findings from Yisma *et al.* (2013:4) where 53.3 % respondents could correctly explain the function of alert line while 53 (27.2%) and 38 (19.5%) of the respondents gave incorrect explanation and didn't know the correct function of alert line at all respectively .

This results, however, shows higher figure compared with a study done in Nigeria (Fawole *et al*., 2008:28) in which about 119 (16.6%) of the respondents could explain the function of alert line, while 175 (24.3%) could explain the function of action line. This could be due to differences in the approaches of pre-service training of nurses and midwives in Rwanda and Nigeria. This result implies that knowledge of nurses and midwives on partogram may be inadequate for better utilization of partogram in health institutions where the study was conducted. This also relates to the study conducted in Nigeria (Opiah *et al*., 2012:130; Fawole *et al.,* 2008:28) and in Ethiopia (Yisma *et al.,* 2013:9).

Furthermore, college/ teaching institution was reported as the primary source of knowledge by the majority (51.1%) of those who received training on partogram. The low percentage of midwives (9.9%) who responded to this study might justify the reason why the few respondents of this study reported having received pre service training on partogram (from school/ teaching institution). The source of knowledge about partogram in this study is similar to the findings of a study conducted in Ethiopia (Yisma *et al*., 2013:10).

In addition to education received from school, of all nurses and midwives who participated in this study, 73 (55.7%), were trained in Emergency obstetric and Neonatal care, 10(7.6%) were trained in Advanced Life support in Obstetric while 48 (36.6%) didn't receive any in-service training in management of pregnant mother in labour. Similarly, life-saving skill training workshop was reported as the primary source of knowledge by one-third of those who are aware of the partogram in a study done in Nigeria (Oladapo *et al*, 2006:540). This indicates that knowledge from pre-service training need to be updated by planned on job training for better monitoring of pregnant mother using the partogram. The nurses and midwives knowledge on partogram was generally reported to be fair amongst nurses and midwives who participated in the current study, and this is supported by recent studies (Opiah *et al*. 2012:129 and Yisma *et al*., 2013:5).

Despite the fair knowledge of the partogram, there was poor utilization in labour monitoring considering that WHO recommended its widespread use for all women during labour (WHO, 1994 in Nyamtema *et al.,* 2013:37). Less than half of participants (41.2%) were fund to properly use the partogram while 58.7% was found to not properly use the partogram. Several and similar studies in Africa confirmed the low utilization of the partogram (Fawole *et al*., 2008:27; Fawole

*et al.,*2010:203; Khonje, 2012:101; Ogwang *et al*., 2009:S33; Opiah *et al*., 2012:130 and Yisma *et al*.,2013:8). Inadequate knowledge and improper utilization of this simplified tool could be part of the reason for the high maternal mortality in developing countries especially in Africa (Saviola *et al*., 2009; Opiah *et al*., 2012:130 and Yisma *et al*., 2013:8). This requires the need for regular pre-service and on-job training of nurses and midwives on use of the partogram to safely monitor pregnant mothers in labour.

5.2.2 Research objective 2: To identify the challenges facing nurses and midwives during utilization of partogram

With respect to professional qualification of respondents in the present study, the findings confirm the problem of shortage of skilled birth attendants in Rwanda. The national Institute of statistics of Rwanda reports that 10% of deliveries are assisted by medical doctors, 59% by nurses or medical assistants, and only 0.3% by midwives (NISR, 2012:116). All nurses and midwives, who participated in this study, attended to pregnant mothers in labour, and of the 131 respondents, only 9.9% were represented by midwives. The majority of respondents were enrolled nurses. According to Opiah *at al.* (2012), midwives form the bulk of the skilled birth attendant in all levels of health care. Their knowledge on partographic labour monitoring is thus a significant factor for prevention of obstructed labour.

Furthermore, the findings of this study reveal shortage of staff per shift in labour ward. The majority of respondents (45%) claim that they work as 1 person per shift, 33.6 % work at two, 20.6% work at 3 and the minority represented by 0.8% confirm that they work at 4 per shift. In comparison with the study conducted by Yisma *et al*. (2013:4), most of the respondents were midwives while the least respondents, public health officers, constituted one-sixteenth of

respondents. The present study suggests regular pre-service training of midwives and deployment of skilled birth attendants in rural health facilities. To buttress this, Fatusi *et al*. (2007:41) in a study to evaluate health workers' training on use of the partogram reported that lower cadres of primary health care workers can be effectively trained to use the partogram with satisfactory results, and thus contribute towards improved maternal outcomes in developing countries with scarcity of skilled attendants. The majority of nurses and midwives who participated in this study reported the need to develop managerial guidelines/ protocols on how to use the partogram to ensure its proper utilization.

The above suggestion aligns with the overall objective of human resource for health under the Ministry of Health of Rwanda as stipulated by the third Health Sector Strategic Plan (HSSP III) which is to ensure availability of an adequate, equitably distributed, qualified, motivated and productive workforce responsive to the country's changing needs and demands (RMOH, 2012:38). One of its priorities is expanding and strengthening the capacity of teaching institutions to augment Human Ressource for Health (HRH) production with a target to reach the ratio midwife/population and nurse/population of 1/25.000 and 1/1000 in 2018 respectively (the baseline ratio of midwife/population and nurse population in 2011 was 1/66.749 and 1/1.294 respectively according to RMOH, 2012:38).

In contrast to previous studies (Ongwang *et al*., 2009:S34 and Opiah *et al*., 2012:129), on the problem of non availability of partogram in health facilities, all participants (100%) in the present study reported availability of partogram in their health institutions.

5.2.3 Research Objective 3: To determine factors influencing the use (properly used or not properly used) of partogram among nurses and midwives

Although all nurses and midwives interviewed in this study had formal training on how to use the partogram, the impact of such training was not reflected in their performance; the tool was poorly utilized (only 41.2% reported the proper use, whereas 58.7% reported improper use). Results from the present study revealed a statistical significant association between the utilization of partogram and whether the nurses and midwives had received in-service training, the number of years of experience, the shortage of staff as well as the professional qualification.

Results from the present study revealed that, there was a significant relationship between the proper/impoper use of partogram and whether nurses and midwives who participated in this study received in-service training (at a degree of freedom of 1, the p-value was 0.000, which explains a strong relationship). This is in line with literature confirming this relationship (Nyamtema *et al*., 2007:40; Ongwang *et al*. 2009:S34). The fact of being trained in the management of pregnant mothers in labour has been as well a strong predictor in the logistic model reporting the proper use of the partogram, which recorded an odd ratio of 4.847 (C.I: 2.005-11.719). This may be due to the program of the ministry of health of Rwanda to train skilled birth attendant country wide in emergency Obstetric and newborn care (MOH, 2012:20). These findings are confirmed by the results from Yisma *et al*., (2013:7), where more obstetric care givers who had not been previously trained on the partograph had lesser odds of utilizing the partograph compared to those who had been previously trained [Adjusted OR = 0.39 (95% CI: 0.16, 0.97)].

The number of years of professional experience was also another predictor to the proper use of partogram. The results revealed that the more years of professional experience nurses and

midwives have in practice, the more likely they are to properly use the partogram. There was a significant relationship between the years of professional experience of nurses and midwives and their use of the partogram. This finding is similar to findings from the study of Opiah *et al.* (2012:129) which found support for the relationship between knowledge and years of professional experience. This also responds to the conceptual framework guiding the present study which is Patricia Benner's model of nursing practice. The author ascertains that that nurses/ Midwives develop and improve their nursing skills by exposure to, and the experience of real situations in the clinical field (Benner, 1984:21). In the present study, the knowledge and clinical skills of nurses and midwives to use the partogram seems to improve as the nurse and midwife pass through the competency levels of Benner's model. The five stages, in ascending order, are novice, advanced beginner; competent, proficient and expert.

Results of this study also show an association between the number of nurses and midwives there is per shift and the proper use /improper use of partogram. The shortage of staff was also confirmed by literature (Opiah *et al*., 2012:131) as a factor influencing the utilization of partogram.

In ongwang *et al.*, (2009:S34), the utilization of partogram was found as additional time-consuming task as some of participants were of the opinion that the partogram was a detailed tool that was not practical to use where there is one midwife in the unit as she/he has to execute other duties like administering treatment, managing labour, providing health education, offering family planning services among others. This might be the reason of poor utilization of partogram in the present study as majority of nurses and midwives confirmed that the shift in labour ward is made up by only one staff member or two. Kinfu *et al*. (2009:225), in a study to estimate

systematically the inflow and outflow of health workers in Africa, suggests that pre-service training needs to be expanded as well as combined with other measures to increase health worker inflow and reduce the rate of outflow in order to reach WHO's recent target of 2.28 professionals per 1000 population for the countries taken as a whole.

Finally, another factor found to influence the proper/improper use of partogram was the professional qualification. This is closely linked to the shortage in midwifery workforce in Rwanda (RMOH, 2012:38), and yet registered nurses are not enough to attend effectively pregnant mothers in labour country wide. Saviola *et al*. (2009:59) confirm the relationship between the professional qualification and the utilization of partogram. The present study suggests regular formal training combined with in-service training of nurses and midwives for a better monitoring of pregnant mother in labour.
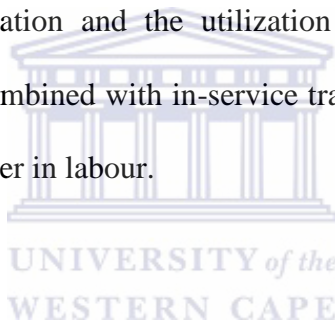
5.3 Conclusion of the study

For many years, the partogram has been used as a standard for monitoring obstetrical labour. The main reason for using the partogram in monitoring labour is the assumption that it would guide in early identification of problems during labour, and hence assist to take appropriate action that can lead to reduction in complications of pregnancy and birth. The proper use of partograph is an essential procedure in midwifery care, and also helps in clinical decision-making during labour. To this end, the purpose of this study was to describe factors affecting the utilization of partogram among nurses and Midwives, in the labour wards of Rwamagana public health facilities in Eastern Province of Rwanda.

In sum, a significant percentage of midwives in the selected health facilities have fair knowledge of the partogram and why it is necessary to use it in the management of labour. However, despite fair knowledge of nurses and midwives in this study, a large percentage of participants were reported to poorly complete the partogram. Nurses and midwives' years of professional experience as well as having received training on managing pregnant mothers in labour, were found to be both predictors for the likelihood for the proper use of partogram. This also responds to the conceptual framework guiding the present study which is Patricia Benner's model of nursing practice suggesting that knowledge and clinical skills of nurses and midwives to use the partogram should improve as the nurse and midwife pass through the competency levels of Benner's model which are in ascending order; novice, advanced beginner; competent, proficient and expert.

In addition to the two predictors, the numbers of staff members per shift as well as the professional qualification demonstrate a significant influence on the utilization of partogram. The findings in this study could be useful in designing professional continuing education programs for nurses and midwives as well as formulating policies that may influence delivery of care to pregnant mothers in labour.

5.4   Limitations of the study

The sample size was part of the limitations for the present study. The study was only conducted in 15 health facilities in one province of Rwanda. This implies that the findings cannot be generalized to the whole country since it is limited to some health facilities in the Eastern province. Moreover, the methodology especially the quantitative design used in this study to

describe factors affecting the utilization of partogram, generated data that could not assess the quality in documenting the partograph and determine the outcomes of the mother and the new born. Therefore, below recommendations are made to improve delivery of care to pregnant mothers in labour.

5.5   Recommendations

Despite the limitations, the findings may be useful to health care professionals, program managers and policy makers. The key recommendations therefore concerns shortage of staff members, shortage of nurses and midwives, training of nurses and midwives and a call for further research.

Shortage of nurses and midwives

Human resource shortage (particularly nurses and midwives) is a long standing problem but there is a need for appropriate deployment and improved commitment to their work:

- Proper deployment will ensure that, right health workers with the relevant skills work in the right place and adhere to right principles.

Training of nurses and midwives

The scientific process based on process of assessment, planning, implementing and evaluating health care delivery is required in midwifery practice. This implies that actions need to be based on knowledge and evidence. Hence, it is important that nurses and midwives are empowered with necessary knowledge and skills that are linked to job responsibilities and roles. It is proposed that:

- The emphasis of training of nurses and midwives in partographic labour monitoring should be mandatory in all schools of nursing and midwifery.

- Periodic workshops and seminars should be organized for nurses and midwives and other obstetrical healthcare providers on the use of partogram in assessment and monitoring of labour and all registered nurses and midwives should always renew their knowledge through continuous education. The Rwanda Nurses and Midwives Council (RNMC) needs to consider incorporating use of partogram in the Continued Professional Development (CPD) checklist.

- In collaboration with health facilities, the Ministry of Health needs to put in place practical guidelines on the use of partogram and also make sure the charts are properly used in all labour and maternity units.
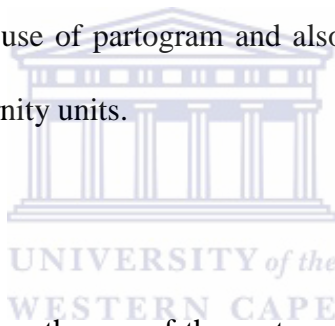
Call for further research

Further research is required to assess the use of the partogram in other primary, secondary and tertiary level facilities to establish pattern of utilization and documentation which would help to improve monitoring of pregnant mothers in labour and hence reduce maternal and neonatal mortality rates.

There is a need to assess the factors affecting the utilization of partogram among obstetrical health workers through participant observation and in-depth interview. The qualitative study is to be recommended as a follow up study of the quantitative study to explore specific factors that keep nurses and midwives from utilizing and filling properly the partogram. The study could be designed to provide opportunity to investigate their professional experiences and identify issues that they confront collectively as well as individually.

REFERENCES

African Union Commission, 2012, 'Success in Maternal Death Reduction: Report Describes Africa on a   Winning Track', *Retrieved from www.carmma.org* on 21/02/2013:3-8.

Benner P., 1984, '*From Novice to Expert: Excellence and Power in Clinical Nursing Practice'*. Addison Wesley Publishing, New York.

Benner P., 2004, 'Using the Dreyfus model of skill acquisition to describe and interpret skill acquisition and clinical judgment in nursing practice and education', *Bulletin of Science, Technology & Society*, 24(3): 188-199.

Berglund A., Lefevre-Cholay H., Bacci A., Blymina A. & Lindmark G., 2010, 'Successful implementation of evidence-based routines in Ukrainian maternities', *Acta Obstetricia et Gynecologica*, 89: 230–237.

Boswell B. & Cannon S., 2011, *Introduction to Research: Incorporating Evidence Based Practice*, Second Edition, Canada: Jones and Bartlett Publishers.

Burns, N. & Grove, S., 2009, *The practice of nursing research: appraisal, synthesis and generation of evidence*, 6th Ed. Elsevier Saunders, USA.

Burns N. & Grove S., 2007, *Understanding Nursing Research: Building an evidence-based practice*, Fourth Edition, Elsevier/Saunders, USA.

Christensen M., 2009, 'Advancing practice in critical care model of knowledge integration, British association of critical care Nurses', Nursing *in critical care*, 14 (2):86-94.

Diarra I., Camara S. & Maiga M.K., 2010, 'Assessment of the use of partogram at the district maternity hospital of commune II in Bamako area', Le *Mali Medical*, 25(2):36-41.

Fatusi A.O Makinde O.N, Adeyemi A.B., Orji E.O. & Onwudiegwu U., 2008, 'Evaluation of health workers' training in use of the partogram International', *Journal of Gynaenecoly and Obstetrics*, 100 (1):41-44.

Fawole A.O.; Adekanle D. & Hunyinbo K., 2008, 'Knowledge and Utilization of the Partograph among obstetric care givers in South West Nigeria', *African Journal of Reproductive Health*, 12(1):22-29.

Fawole A.; Adekanle D. and Hunyinbo K., 2010, ' Utulization of partograph in primary Health Care in Southwestern Nigeria', *Nigeria Journal of clinical Practice*, Vol 13(1):200-204.

Gans-Lartey, F., O'Brien BA, Gyekye F.O. & Schopflocher D., 2012, 'The relationship between the use of the partograph and birth outcomes, Korle-Bu teaching hospital' *Midwifery*, accessed at http://dx.doi.org/10.1016/j.midw, on 11 Feb 2013.

Grove S.K.; Burns N. & Gray J.R., 2013, T*he practice of nursing research: Appraisal, Synthesis, and generation of evidence*, Seventh edition, Elsevier Saunders, China: 732.

Hogan, M. C., Foreman, K. J., Naghavi, M., Ahn, S. Y., Wang, M., Makela, S. M. & Murray, C. J., 2010, 'Maternal mortality for 181 countries, 1980–2008: a systematic analysis of progress towards Millennium Development Goal 5', *The Lancet*, *375*(9726), 1609-1623.

Horton R., 2010, 'Maternal mortality: surprise, hope, and urgent action', *The Lancet*, 375(9726): 1581-1582.

ICM, (2010)**,** *ICM International Definition of the Midwife*, accessed at http://www.internationalmidwives.org, on 19/08/2013.

Khonje M., 2012, *A cross sectional study on use and documentation of partograph and factors that prevent optimal utilization of the partograph:* Perspectives of health workers at Bwaila and Ethel Mutharika Maternity Units in Lilongwe – Malawi*, University of Oslo, Norway, 1-155.

Kinfu, Y., Dal Poz, M. R., Mercer, H., & Evans, D. B., 2009, 'The health worker shortage in Africa: are enough physicians and nurses being trained?', *Bulletin of the World Health Organization*, *87*(3): 225-230.

Lavender T.; Hart A. & Smyth R., 2009, 'Effect of partogram use on outcomes for women in spontaneous labour at term (Review)', *The Cochrane Collaboration, John Wiley & Sons,* 1-24.

Magon N., 2011, 'Partograph Revisited', *International Journal of Clinical Cases Investigations,* 3:1–6.

Maroof Raof A., AL-Hadithi T.S. & Al-Tawil N.G., 2012, 'Delivery criterion–based auditing system at two health facilities in Erbil city-Iraq', *Journal of Clinical Nursing,* 2 (1):10-16.

Mathibe-Neke J.M., 2009, 'Facilitation of midwifery students regarding utilization of a partograph', *Africa Journal of Nursing and Midwifery*, 11(1): 34-47.

Medhanyie A., Mark Spigt M., Dinant G., & Blanco B., 2012, 'Knowledge and performance of the Ethiopian health extension workers on antenatal and delivery care: a cross-sectional study', *Hum Resource Health*. 10 (1):44.

Ministry of Local Government, 2013, *Rwanda administrative map*, accessed at www.minaloc.gov.rw on 03 September 2013.

Nausheen S., Jalil S., Anwer T. & Akhter A.Z., 2010, 'Assessment of improvement in knowledge and skills amongst trainees of workshop on "labour and partograph', *US National Library of Medicine*, 60(10):844-850.

NISR, 2012, *Rwanda Demographic and Health Survey, 2010 final report*, Kigali, Rwanda: 116.

NISR, 2012, *2012* Population *and housing census, provisional results*, Kigali, Rwanda: 52.

Nyamtema AS, Urassa DP., Massawe S., Massawe A., Lindmark G. & Van Roosmalen J., 2008, 'Partogram use in the Dar es Salaam perinatal care study', *International Journal of Gynecology & Obstetrics*, 100 (1): 37-40.

Nunes I., Ayres-de-Campos D., Figueiredo C., ã o Bernardes J., 2013, ' An overview of central fetal monitoring systems in labour', *Journal of Perinatal Medicine,* 41(1):93-99.

Ogwang S., Karyabakabo Z. & Rutebemberwa E. ,2009, 'Assessment of partogram use during labour in Rujumbura Health Sub District, Rukungiri District, Uganda' *African Journal of Health Sciences* 9 (S2): 27-34.

Oladapo O.T., Daniel O.J., & Olatunji A.O., 2006, 'Knowledge and use of the partograph among healthcare personnel at the peripheral maternity centers in Nigeria', *Journal of Obstetric and Gynecology*, 26:538–541.

Opiah M., Bola O., Ekere J. & Monjok E., 2012, 'Knowledge and Utilization of the Partograph among midwives in the Niger Delta Region of Nigeria', *African Journal of Reproductive Health* 16(1): 125-132.

Orhue A., Aziken M. E. & Osemwenkha A.P., 2012, 'Partograph as a tool for team work management of spontaneous labour', Nigeria *Journal of Clinical Practice* ,15 (1):1-8.

Polit, D.F. & Beck, C.T. , 2004, *Nursing research, Principles and Methods*, 7th Ed. Philadelphia: Lippincott.

Quinn, F.M. & Hughes, S.J., 2007, *Quinn's Principles and Practice of Nurse Education*, 5th Edition. Cheltenham: Nelson Thornes.

Rwamagana hospital , 2012, *Annual report*, Eastern Province. Rwanda.

RMOH, 2012, Annual *report 2010-2011*, Accessed at www.moh.gov.rw on 20/02/2013.

RMOH, 2012, *Formation continue en soins obstetricaux et neonataux d'urgence*, Module de reference:5-100.

RMOH, 2012, *Third Health Sector Strategic Plan*, July 2012-June 2018.

Rothgeb J., Willis G. & Forsyth B., 2007, *Questionnaire pretesting Method*: 5-31, accessed at http://bms.revues.org/ on 02/05/2013.

Saviola, A., Raddi Sudha, A., & Metgud, M. C., 2009, 'Effectiveness of a Planned Teaching Program on Knowledge and Skills in the Use of Partograph among Nurses Working in Maternity Unit', *Journal of South Asian Federation of Obstetrics and Gynecology*, *1*(2), 57-59.

Sellers' M.P., 2012, *Midwifery*, Second edition, JUTA & Company Ltd, South Africa: 1-805.

Soni B.L., 2009, 'Effect of partogram use on outcomes for women in spontaneous labour at term: RHL commentary', *The WHO Reproductive Health Library*, Geneva. Accessed at http://apps.who.int on 02/03/2013.

UN, 2012, *The Millennium Development Goals Report2012:, New York,* 31.

Underwood H., Sterling, S. R., & Bennett, J. K., 2013, 'The Design and Implementation of the PartoPen Maternal Health Monitoring System', *Association for computing machinery*, (13)1:10.

UNFPA & AUC, 2013, 'Campaign on Accelerated Reduction of Maternal Mortality, *CARMMA Report 2013'.* African Regional office. South Africa, 1-36.

Uwimana C., 2008, *Evaluation of the use of parthograph by nurses and midwives at muhima hospital in Rwanda,* University of Kwazulu-Natal, Republic of South Africa.

WHO, 2012, *Global health observatory. Women and health: Maternal mortality ratio*, Accessed at www.apps.who.int on 21/02/2012.

WHO, 2013, *World Health Organization's partograph in management of labour.* Maternal Health and Safe Motherhood Programme. Accessed at www.sciencestage.com, on 07/03/2013.

WHO, 2013, *Maternal mortality ratio (per 100 000 live births),* Accessed at http://www.who.int on 20/ 08/2013.

WHO, 1994, 'World Health Organization's partograph in management of labour, World Health Organization Maternal Health and Safe Motherhood Programme' *Lancet*,1994;343:1399–404.

Yakoob, M.Y., Ali, M. A., Ali, M.U., Imdad, A., Lawn, J., Van Den Broek, N., & Bhutta, Z., 2011, 'The effect of providing skilled birth attendance and emergency obstetric care in preventing stillbirths' *BMC public health*, *11*(Suppl 3), S7:2-8.

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'*, BMC Pregnancy and Childbirth*, 13:17.

OFFICE OF THE DEAN
DEPARTMENT OF RESEARCH DEVELOPMENT

30 July 2013

To Whom It May Concern

I hereby certify that the Senate Research Committee of the University of the Western Cape has approved the methodology and ethics of the following research project by: Ms O Bazirete (School of Nursing)

Research Project: The utilization of partogram among nurses and midwives in Rwamagana public health facilities, Eastern Province, Rwanda.

Registration no: 13/6/22

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

The Committee must be informed of any serious adverse event and/or termination of the study.

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

Private Bag X17, Bellville 7535, South Africa

T: +27 21 959 2988/2948 . F: +27 21 959 3170
E: pjosias@uwc.ac.za
www.uwc.ac.za

A place of quality,
a place to grow, from hope
to action through knowledge

KIGALI HEALTH INSTITUTE

B.P. 3286 Kigali, RWANDA
Tel: + (250) 572172; +250 571788

Institutional Review Board

24th June 2013

KHI/IRB/...25.../2013

Ms BAZIRETE Olive
Faculty of Nursing Sciences
Kigali Health Institute

Dear Ms BAZIRETE Olive

RE: ETHICS CLEARANCE

Reference is made to your application for ethics clearance for the study entitled *"The utilization of Partogram among Nurses and Midwives in Rwamagana Health facilities, Eastern Province, Rwanda"* You will be pleased to learn that the ethics clearance has been granted to your study by the KHI Institutional Review Board (IRB) on behalf of the National Ethics Committee (NEC) in accordance with the authority granted to the IRB by the National Ethics Committee letter of 13th May 2010 and in line with the "Rwanda Ministry of Health Guidelines for Researchers Intending to do Health Research in Rwanda" of February 2012.

You shall, be required to submit the progress report and any other major changes made in the proposal during the implementation stage. Also, at the end of the study the Institutional Review Board shall also require to be given a final report of the study.

I wish you success in this important study.

Prof. Kato J. NJUNWA
Chairperson, KHI Institutional Review Board
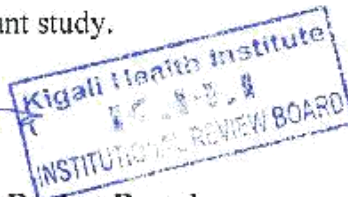
Cc:
- Rector, KHI
- Vice Rector, Academics and Research, KHI
- Chairperson, Rwanda National Ethics Committee
- Members of IRB

67

APPENDIX C

LETTER SEEKING PERMISSION TO CONDUCT THE STUDY

<u>To</u>: The director of Rwamagana Hospital,

Eastern province, Rwanda

Cape Town, on 31/07/2013

Dear Sir,

<u>Re</u>: APPLICATION FOR A PERMISSION TO CONDUCT A STUDY IN 15 HEALTH FACILITIES OF RWAMAGANA HEALTH DISTRICT

I am Oliva BAZIRETE, currently, a master's student at the University of the Western Cape in the Republic of South Africa. In partial fulfillment of the Master's Degree programme, I am required to conduct a research entitled *"Utilization of partogram among Nurses and Midwives in Rwamagana Health facilities, Eastern Province, Rwanda "*. The research has been planned to take place in the settings mentioned above.

The purpose of this letter is to apply for permission to conduct research in Rwamagana hospital and 14 health centers under supervision of Rwamagana hospital.The study will help to determine the extent of utilization of partogram, among nurses and Midwives, in the labour wards of Rwamagana health facilities.

I will be very grateful if the request meets your favorable consideration.

Yours Sincerely,

Ms Oliva BAZIRETE

School of Nursing
UNIVERSITY OF THE WESTERN CAPE
E-mail: obazirete@khi.ac.rw; 3312355@uwc.ac.za
Cell No: +250788541013/+27810685480

APPENDIX D

LETTER GRANTING PERMISSION TO CONDUCT THE STUDY

REPUBULIKA Y'URWANDA

Rwamagana, le 01/08/2013

N° 14/209/HOP/RGNA/2013

INTARA Y'IBURASIRAZUBA
AKARERE KA RWAMAGANA
IBITARO BYA RWAMAGANA
TEL : 0252567783
E-mail : hoprgna@gmail.com

Madame BAZIRETE Oliva
School of Nursing
UNIVERSITY OF THE WESTERN CAPE

Objet : Gusubiza ibaruwa yanyu.

Madame,

Nkurikije ibaruwa yanyu yo kuwa 31/07/2013 mwanditse musaba ndetse n'uruhushya (Research Ethics Committee ya UWC na IRB/KHI) rubemerera gukora ubushakashatsi kubijyanye n'uko abaforomo n'ababyaza bakoresha partogramme mu bitaro bya Rwamagana no mu bigo nderabuzima bigize akarere ka Rwamagana.

Mbandikiye mbamenyesha ko mwemerewe gukora ubwo bushakashatsi, mu bitaro bya Rwamagana no mubigo nderabuzima.

Ibigo nderabuzima tugeneye kopi birasabwa kuzaborohereza muri icyo gikorwa.

Mugire amahoro n'akazi keza.

Dr NKURANGA John Baptist
Médecin Directeur de l'hôpital Rwamagana

BIMENYESHEJWE :

-Umuyobozi w'Ikigo Nderabuzima cya..

LETTER GRANTING PERMISSION TO CONDUCT THE STUDY (TRANSLATED)

REPUBLIC OF RWANDA   Rwamagana on 01/08/2013

EASTERN PROVINCE   No 14/209/Hop/RGNA/2013

RWAMAGANA DISTRICT

RWAMAGANA HOSPITAL

Tel: +250252567783

E-mail: hoprgna@gmail.com

                                                    Ms BAZIRETE Oliva

                                                    School of Nursing

                                                    UNIVERSITY OF THE WESTERN CAPE

<u>Re</u>**: Response to your letter**

                                                    Ms,

                                            Reference made to your letter of 31/07/2013 requesting permission to conduct your study entitled "Utilization of partogram among Nurses and Midwives in Rwamagana Health facilities, Eastern Province, Rwanda",

Considering that you fulfilled the requirements of the National Ethics Committee as shown by the ethical approval from both institutions (Research Ethics committee of UWC and IRB/KHI), I am hereby write to provide you with the permission to conduct the study in Rwamagana hospital and health facilities. The concerned health centers are requested to facilitate this work.

Wishing you peace and fruitful work,

Dr NKURANGA John Baptist

Medical Director of Rwamagana hospital

Cc:

-Official in charge of the health center of…………………………………….

50 TWILLEY GARDENS,

TWILLEY STREET,

KENILWORTH, 7708

CAPE TOWN

11 November 2013

To whom it may concern,

UTILIZATION OF PARTOGRAM AMONG NURSES AND MIDWIVES IN RWAMAGANA HEALTH FACILITIES IN THE EASTERN PROVINCE OF RWANDA

I am an experienced editor with background in social sciences. I have thoroughly read the above dissertation by **Oliva BAZIRETE** and made the required changes to grammar, spelling, referencing, punctuation, paragraphing and formatting. This was done in line with UWCs guide to dissertations.

Adam Andani

Tel: 078 268 4761

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-959 2271, Fax: 27 21-959 2679

E-mail: nmbombo@uwc.ac.za

CONSENT FORM

<u>**Project Title:**</u> Utilization of partogram among Nurses and Midwives in Rwamagana Health facilities, Eastern Province, Rwanda.

The study has been described to me in a language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

- **Participant's name: ………………………..**
- **Participant's signature: ……………………………….**
- **Date: ………………………**

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Prof MbomboNomafrench

Faculty of Community and Health Sciences, University of the Western Cape

Private Bag X17, Belville 7535

Telephone: +27 21-959 2271, Fax: 27 21-959 2679

Email: nmbombo@uwc.ac.za

FORMULAIRE DE CONSENTEMENT (FRENCH VERSION)

Titre du projet de recherche: Utulization du partogramme parmis les infirmiers(ères)/ sage-femmes des formations sanitaires de Rwamagana, Rwanda.

L'étude m'a été décrite dans un langage que je comprends et j'accepte librement et volontairement d'y participer. Mes questions au sujet de l'étude ont été répondues. Je comprends que mon identité ne sera pas dévoilée et que je peux me retirer de l'étude sans donner de raison à tout moment et que cela n'affectera pas ma personne de quelque façon que ce soit.

Nom du participant… … … … … …… … … … …… … … … … …......................

Signature du participant … … … … … … …. … … … … … … … … … … … ….

Date… … … … … … … … … … … … …… ……

Si vous avez des questions concernant cette étude ou si vous souhaitez signaler les problèmes que vous aurez rencontrés relatifs à l'étude, veuillez communiquer avec le coordonnateur de l'étude :

Professor N Mbombo

University of the Western Cape

Private Bag X17, Belville 7535

Telephone: (021)959-2271

Cell: +27 722656084

Fax: (021)959-2679

Email: nmbombo@uwc.ac.za

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-959 2271, Fax: 27 21-959 2679

E-mail: nmbombo@uwc.ac.za

INFORMATION SHEET

Project Title The utilization of partogram among Nurses and Midwives in Rwamagana Health facilities, Eastern Province, Rwanda

What is this study about?

This is a research project being conducted by BAZIRETE Oliva, student at the University of the University of the Western Cape, Republic of South Africa. We are inviting you to participate in this research project because you are best suited to describe your knowledge and skills while using the partogram. The purpose of this research project is to describe factors affecting the utilization of partogram among nurses and Midwives, in the labour wards of Rwamagana health facilities in Eastern Province, Rwanda.

What will I be asked to do if I agree to participate?

You will be asked to answer to the questions on the data forms that will be provided to you for a period of 20 minutes . Those questions are in regards to your social and demographic informations, your knowledge and skills on using the partogram , and challenges you may experience while using the partogram in the health facility where you are working in Eastern Province Rwanda.

Would my participation in this study be kept confidential?

We will do our best to keep your personal information confidential. To help protect your confidentiality, we will use identification codes only on data forms, and will use password-protected computer files. All the information will not be permissible to anyone and we will never mention your name in my records. The data forms will be locked into a cabinet.

If we write a report or article about this research project, your identity will be protected to the maximum extent possible.

What are the risks of this research?

There are no known risks associated with participating in this research project.

What are the benefits of this research?

The results from this study may help the investigator learn more about the extent of utilization of partogram among nurses and midwives. We hope that, in the future, other people might benefit from this study through improved understanding of factors affecting the utulization of partogram .These might serve as a basis for policy health makers for the management of the healthcare delivery system, with respect to the improvement of quality of care in the labour and early post-partum wards. In addition, the findings from this study could serve as baseline data for further studies on the use of a partogram and quality care in the labour ward and early post-partum in Rwamagana Health facilities in particular, and in Rwanda in general.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

Is any assistance available if I am negatively affected by participating in this study?

You will be referred for counseling if you experience any psychological/emotional effects as a result of this study.

What if I have questions?

This research is being conducted by **BAZIRETE Oliva** student at the University of the Western Cape, Republic of South Africa. If you have any questions about the research study itself, please contact Ms BAZIRETE Oliva at: University of Western Cape*, telephone number:+27 8106 854 80 or +250788541013 and e-mail :3312355@uwc.ac.za* **or** *obazirete@khi.ac.rw*

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Dean of the Faculty of Community and Health Sciences:

Prof. J. Frantz (Acting)

University of the Western Cape

Private Bag X17

Bellville 7535

021-959 2631

jfrantz@uwc.ac.za

This research has been approved by the University of the Western Cape's Senate Research Committee and Ethics Committee.

FICHE D'INFORMATION (FRENCH VERSION)

Titre du projet de recherche: Utulization du partogramme parmis les infirmiers(ères)/ sage-femmes des formations sanitaires de Rwamagana, Rwanda.

En quoi consiste cette étude?

Je m'appelle BAZIRETE Oliva, étudiante de troisième cycle à "University of the Western Cape", Département des soins infirmiers. En vue de l'acquitement des exigences du grade de maîtrise, j'ai l'intention de mener une recherche sur le sujet de recherché susmentionné.L'objectif de cette étude est de déterminer l'utulization du partogramme parmis les infirmiers parmi les infirmiers(ères) / sages-femmes s'occupant des femmes enceintes au cours du travail d'accouchement dans les formations sanitaire de Rwamagana.Il est également prévu que les résultats de cette étude contribueront à enrichir les connaissances et pratiques quant à l'utulization du partogramme parmi les infirmiers(ères)/sages-femmes en ce qui concerne la prise en charge d'une femme enceinte en travail d'accouchement.

Qu'est-ce qui me serait demandé de faire si je suis d'accord pour participer?

Il vous sera demandé de répondre au questionnaire auto-administré qui vous sera remis. La plupart de questions sont sur vos connaissances et l'usage du partogramme, les difficulties rencontrées et les facteurs affectant l'utulization du partogramme. Il vous prendra environ 20 minutes pour remplir le questionnaire.

Est-ce que ma participation à cette étude sera gardeé confidentielle?

Nous ferons de notre mieux pour conserver vos informations personnelles confidentielles. Pour aider à protéger votre confidentialité, nous allons utiliser uniquement les codes d'identification sur les formulaires de données. Toutes les informations fournies ne seront accèder à quiconque d'autre, et je ne ferai jamais mention de votre nom dans mes dossiers. Votre nom ne sera pas mentionné nulle part et votre identité sera protégée dans la mesure du possible.

Quels sont les risques de cette étude?

Il n'y a pas des risques potentiels identifiés.

Quels sont les avantages de cette étude?

Il y a peut-être pas pour vous des avantages personnels direct, mais les résultats de l'étude pourrait être à la base,   pour les planificateurs de la santé au niveau institutionnel, de la mise en place des interventions ciblées qui permettrait d'améliorer l'utulization du partogramme. Cette étude pourrait aussi servir de référence pour d'autres recherches dans ce domaine non seulement dans la province de l'Est, mais pourrait être étendue à tout le pays.

Dois-je obligatoirement être dans cette étude et puis-je cesser de participer à tout moment?

Votre participation à cette étude est volontaire. Il n'y a pas de risque pour vous de ne pas y participer autre que l'utilisation de votre temps. Vous pouvez décider de cesser de participer. Si vous décidez de ne pas participer à cette étude ou si vous vous retirer à n'importe quel moment, vous ne serez pas pénalisé ou victimisé.

Que se passe-t-il si j'ai des questions?

Cette étude est entrain d'être menée par BAZIRETE Oliva, étudiante en maîtrise en Sciences Infirmières à "University of the Western Cape". Si vous avez des questions au sujet de l'étude, veuillez contacter Mme BAZIRETE Oliva sur numéro de téléphone +250 788541013 ou +270810685480   à   tout   moment   ou   l'adresse   e-mail :   3312355@uwc.ac.za   ou obazirete@khi.ac.rw.

Si vous avez des questions concernant cette étude et vos droits en tant que participant ou si vous souhaitez signaler les problèmes que vous avez rencontrés relatifs à l'étude, veuillez demander au chercheur ou contacter:

Dean of the Faculty of Community and Health Sciences:
Prof. J. Frantz (Acting)
University of the Western Cape
Private Bag X17
Bellville 7535
021-959 2631
jfrantz@uwc.ac.za

PERMISSION TO USE THE QUESTIONNAIRE

Re:fwd: request for a tool for data collection. I forward attached questionnaire on Partograph. Call me on this mobile number +234 8033448742 for explanation on some aspects of the instrument. Best wishes, Opiah Margaret

Inbox x

MARGARET, MOMBEL OPIAH <mmopiah@gmail.com>

May 3 (1 day ago)

to me

MRS. OPIAH DATA COLLECTION TOOL.doc
56K   View   Download

DATA COLLECTION TOOL (QUESTIONNAIRE) ON PARTOGRAM

(ENGLISH VERSION)

Dear Respondent,

I am **Oliva BAZIRETE**, master's student at the University of the Western Cape in the Department of Nursing, Stream of Advanced midwifery and neonatology. I am carrying out a study to describe factors affecting the utilization of partogram among nurses and Midwives, in the labour wards of Rwamagana public health facilities in Eastern Province, Rwanda.

The research is purely for the academic purpose. It will however provide data to describe factors affecting the utulization of partogram among nurses and midwives during labour monitoring. This may be useful and contribute to the improvement of the quality of care for women in labour. Participation to this study is strictly voluntarily and anonymity will be respected.

I solicit your cooperation to participate in this research. You are required to fill this questionnaire with the options that best represent your response.

Information provided will be treated with confidentiality.

SECTION A: *Demographic Characteristics: Tick as applicable.*

1. Age: .... in Years as at last birthday

2. Sex: Female ☐   Male ☐

3. Professional qualification/ Educational level

    1. Registered midwife ☐

    2. Registered nurse ☐

3. Enrolled Nurse (secondary school of nursing) ☐

4. Auxiliary Nurse ☐

4. When did you qualify from pre service training?

    1. This year ☐

    2. Two years ago ☐

    3. Three years ago ☐

    4. Four years ago ☐

    5. Five years ago and more ☐

5. Did you receive any in service training in the management of a pregnant mother in labour?

    1 .Yes ☐   No ☐

If yes answer the following question
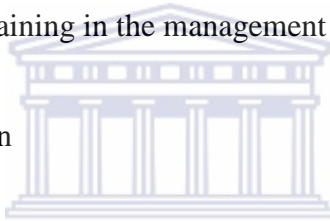
6. In service training received in management of pregnant mother in labour

    1. Emergency Obstetric and Neonatal care (EmONC) ☐

    2. Advanced Life Support in Obstetrics ☐

    3. None of the above ☐

7. Years of experience:………………………….(Years)

8. Your place of work: Hospital ☐   Health Center ☐

9. What is your unit/ward of practice?

Antenatal Clinic ☐   Family planning ☐   Labour ward ☐

Post natal ward ☐

Other units (Specify) :…………………………………………………………….

10. What is the average number of nurse-midwife per shift in your unit while working in labour ward?

1 per shift ☐

2 per shift ☐

3 per shift ☐

4 per shift ☐

5 per shift ☐

6 or more per shift ☐

SECTION B: *Knowledge on the Partogram : Tick as applicable.*

WESTERN CAPE

11. Have you ever used a Partogram before?

Yes ☐   No ☐

12. For you, the partogram may be defined as:

12.1. A chart for monitoring of labour by doctors: Yes ☐ o ☐

12.2. A complex tool with pictorial overview of labour for the use by midwives:

Yes ☐   No ☐

12.3. A simple graphic recording of progress of labour and salient conditions of mother and   fetus against time in hours: Yes ☐ No ☐

13. Did you receive any training on the use of partogram? Yes ☐ No ☐

14. If yes, where have been trained on the use of partogram?

      14.1. From a colleague   Yes ☐   No ☐

      14.2. From a medical doctor   Yes ☐   No ☐

      14.3. From school   Yes ☐   No ☐

      14.4. From in –service training   Yes ☐   No ☐

15. Are you willing in service training on the use of Partogram?
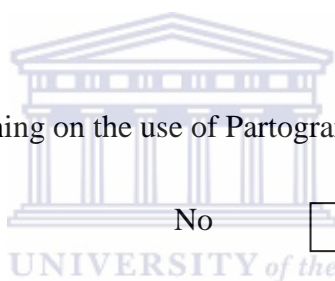
    Yes ☐   No ☐

16. Indicate your understanding about the of partogram by choosing YES or NO:

Questions	Yes	No
16.1 The Partogram is one of the tools for implementing safe motherhood		
16.2. The partogram will reduce maternal deaths		
16.3. The partogram will reduce new born deaths		
16.4. In a normal progress of labour, the graph/plot on the Partogram should fall on the alert line		
16.5. In a normal progress of labour, the graph/plot on Partogram should should fall on the left of alert line		
16.6. In a normal progress of labour, the graph/plot on Partogram should should fall on the right of alert line		
16.7. In normal labour, a woman has got 3 contractions in		

every 10 minutes		
16.8. In normal labour, minimum duration of a strong contraction is 40 seconds		
16.9. You require 10 minutes to effectively assess adequacy of contractions		
16.10. Progress of labour is assessed by the degree of cervical dilatation and descent of the presenting part		
16.11. Labour is prolonged when it lasts more than 12 hours		

17. The followings are functions of the action line on the Partogram

    17.1 Indicates appropriate action must be taken: Yes ☐ No ☐

    17.2 Allows time for the woman to be adequately assessed for appropriate intervention

                Yes ☐ No ☐

    17.3 Continuous observation till delivery: Yes ☐ No ☐

18. In your hospital/practice, you usually enter information onto the Partogram?

    18.1 Upon diagnosis of labour : Yes ☐ No ☐

    18.2 While the woman is still in labour: Yes ☐ No ☐

    18.3 After delivery of the baby: Yes ☐ No ☐

SECTION C: Characteristics of Partogram utilization: *Tick as applicable.*

19. Is the Partogram available in your labour ward? Yes ☐ No ☐

20. Is the Partogram used to monitor patients during labour in your hospital/ Health Center?

Yes ☐   No ☐

21. If *Yes* how often is it used?

Routinely ☐   Rarely ☐   Occasionally ☐

22. Is the Partogram used to monitor every woman in your hospital/Health Center

Yes ☐   No ☐

23. How often is it used once active phase of labour started?

Once/30 Minutes ☐   Once/Hour ☐   Once/4 Hours ☐   Once /6 Hours ☐

Once/12 Hours ☐

24. Do you consider Partogram useful in obstetric review?

Yes ☐   No ☐   I don't know ☐

25. Is it a managerial policy that all women in labour should be monitored with a Partogram?

Yes ☐   No ☐   I don't know ☐

26. The following diagnosis/assessment, can be made with the Partogram

26.1 Fetalwell being	Yes ☐	No ☐
26.2. Maternal well being	Yes ☐	No ☐
26.3. Progression of the labour	Yes ☐	No ☐
26.4. Medication used during labour	Yes ☐	No ☐

SECTION D:Factors affecting utilization of the Partogram in labour monitoring: *Tick as applicable.*

27. Do you consider non-availability of the Partogram a problem in monitoring of labour?

Yes ☐   No ☐

28. Do you think managerial guidelines/protocols developed for each unit can facilitate effective use of partogram.   Yes ☐   No ☐

Thank you.

UNIVERSITY *of the*
WESTERN CAPE

OUTIL DE COLLECTE DES DONNEES (QUESTIONNAIRE) SUR LE PARTOGRAMME (FRENCH VERSION)

Cher participant,

Je suis **Oliva BAZIRETE**, Etudiante au programme de maitrise à l'Université de Western Cape en Afrique du Sud, dans le Departement des sciences infirmières, option Sage femme et neonatology. Je suis en train de faire une etude pour decrire les facteurs affectant l'utulisation du partogramme au cours du suivi d'une femme en travail.

La recherche a purement des fins academiques. Il va fournir les informations aidant à identifier les problèmes connus par les infirmiers et sage femmes lors de l'utulisation du partogramme, afin de contribuer à l'amelioration de la qualité des soins reservés à la femme enceinte au travail d'accouchement. La participation est volontaire est anonyme.

Je sollicite votre collaboration pour participer à cette recherche. Veillez remplir ce questionnaire en choisissant les assertions qui correspondent à votre réponse.

Les informations fournies seront traitées de façon confidentielle.

SECTION A: *Characteristiquesdemographiques*

1. Age .... en nombre d'année

2. Sexe: Feminin ☐   Masculin ☐

3. Qualification professionnelle

      1. Sage Femme enregistrée (A1)   ☐

      2. Infirmier enregistré (A1)   ☐

      3. Infirmier (A2)   ☐

      4. Infirmier auxilliare   ☐

4. Quand est ce que tu as terminées tes études ?

      1. Au cours de cette année ☐

      2. Il y a deux ans ☐

      3. Il y a trois ans ☐

      4. Il y a quatre ans ☐

      5. Cinq ans et plus ☐

5. As tubeneficié d'une formation professionnelle en cours d'emploi en matiere de la prise en charge d'une femme en travail?

    1 .Oui ☐   Non ☐

Si oui, repondez a la question suivante

6. Formation professionnelle en cours d'emploi reçu en matiere de la prise en charge d'une femme en travail

1. Soins obstetrical en Neonatal d'urgence (SONU) ☐

2. Advanced Life Support in Obstetrics (ALSO) ☐

3. Aucune ☐

7. Nombre d'année d'experience professionnelle:………………………….(ans)

8. Lieu de travail: Hopital ☐   Centre de Santé ☐

9. Quelle est votre unité/salle de travail

    Consultaionpre natale ☐   Planning Famillial ☐   Salle d'accouchement ☐

    Post partum ☐

Autre:……………………………………………………………….

10. Quelle est la moyenne du nombre de staff dans ton equipe de travail en sale d'accouchement?

      1 par équipe ☐

      2 par équipe ☐

3 par équipe ☐

4 par équipe ☐

5 par équipe ☐

6 par équipe ou plus ☐

SECTION B: *Connaissances sur le partogramme*

11. As tuutulisé le partogramme dans le passé?

Oui ☐   Non ☐

12. Parmis les affirmations suivantes, choisissez la case qui convient pour la definition du partogramme?

12.1. Une fiche de suivi du travail utulisé par les medecins   Oui ☐   Non ☐

    12.2. Un outil complexe qui donne aux sage femmes une vue d'ensemble de la progression du travail   Oui ☐   Non ☐

    12.3.Une graphique simple utulisée pour enregistrer le progress du travail d'accouchement ainsi que les conditions maternelles et foetales par rapport au temps

Oui ☐   Non ☐

13. As tu reçu une formation sur l'usage du partogramme? Oui ☐   Non ☐

14. D'où est ce que tu as beneficié de la formation sur le partogramme?

    14.1. D'un colleague de service ☐

    14.2. Du medecin de service ☐

    14.3. De l'école ☐

    14.4. De la formation continue en cours d'emploi ☐

15. Souhaiterais tu une formation sur le partogramme?

Oui ☐   Non ☐

16. Indique ce que tu penses sur l'utulization du partogramme en choisissant OUI ou NON:

Questions	Oui	Non
16.1 Le Partogramme est l'un des outils de maternité à moindre risque		
16.2. Le partogramme va diminuer la mortalité maternelle		
16.3. Le partogramme va diminuer la mortalité des nouveau -nés		
16.4. En cas de la progression normale du travail, la graphique sera tracée sur la ligne d'alerte du partogramme		
16.5. En cas de la progression normale du travail, la graphique sera tracée à gauche de la ligne d'alerte du partogramme		
16.6. En cas de la progression normale du travail, la graphique sera trace à droite de la ligne d'alerte du partogramme		
16.7. En cas de la progression normale du travail, la femme a 3 contractions uterines /10 minutes		
16.8. En cas de la progression normale du travail, la durée minimum d'une contraction est de 40 secondes		
16.9. Il te faut 10 minutes pour evaluer efficacement la contraction uterine		
16.10. La progression du travail est determinée par le degré de la dilatation cervicale et de la descente de la presentation		
16.11. Le travail d'accouchement est dit prolongé quand il dépasse 12 heures		

17. Ci dessous, sont mentionnées les fonctions de la ligne d'action sur le partogramme

17.1 Indique la conduit à tenir   OUI ☐   NON ☐

17.2 Donne le temps de bien examiner les femmes et de prendre des interventions appropriées   OUI ☐   NON ☐

17.3 Continuer les observations jusqu' à l'accouchement OUI ☐   NON ☐

18. Dans votre hospital/ Centre de santé, Quand est ce vous commencez à transcrire les observations sur le partogramme?

18.1 Dès le diagnostic du travail OUI ☐ NON ☐

18.2 Lorsque la femme est toujours en travail d'accouchement OUI ☐ NON ☐

18.3 Après la naissance du bébé OUI ☐ NON ☐

SECTION C:Characteristiques de l'utulization du partogramme

19. Est ce le partogramme est disponible dans votre maternitee?

Oui ☐ Non ☐ Je ne sais pas ☐

20. Est ce que le partogramme est utulisé dans votre milieu de travail pour le suivi des femmes en travail?

Oui ☐ Non ☐

21. Si oui combien est itutulisé?

De routine (Chaque fois) ☐ Rarement ☐ Occasionellement ☐

22. Si utulisé chaque fois, le partogramme est-il utulisé pour suivre chaque femme en travail dans votre lieu de travail?

Oui ☐ Non ☐

23. A quelle frequence, vous utulisez le partogramme pendant la phase active du travail?

Toute les 3 minutes ☐ Une fois par heure ☐ Une fois / 4 h ☐ Une fois/ 6h ☐
Une fois/12h ☐

24. A ton avis, est ce le partogramme est essentiel dans les services d'obstretrique?

Oui ☐ Non ☐ Je ne sais pas ☐

25. Est il une politique que toutes les femmes en travail soient suivies à l'aide du partogramme?

Oui ☐ Non ☐ Je ne sais pas ☐

26. Les situations/diagnostics suivants peuvent etresdecouverts a l'aide du partogramme

26.1. Bon état de santé du foetus   OUI ☐   NON ☐

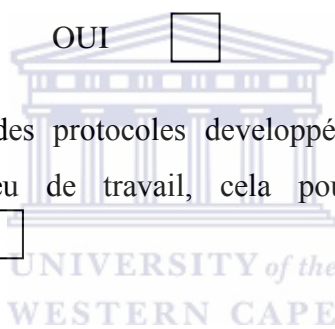26.2 Bon etat de santé de la femme en travail   OUI ☐   NON ☐

26.3 Progression du travail   OUI ☐   NON ☐

26.4. Medicamentsutulisés au cours du travail   OUI ☐   NON ☐

SECTION D:Facteurs affectant l'utilization du Partogramme pour le suivi du travail d'accouchement:

27. Est ce que tu considere que le manque de partogramme est un probleme dans ton milieu de travail?   OUI ☐   NON ☐

28. Penses tu que s'il y avait des protocoles developpés en matieres de l'utulisation du patogramme dans ton milieu de travail, cela pourriez ameliorer l'utulisation du partogramme?   OUI ☐   NON ☐

Merci.