



ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH

KNOWLEDGE, ATTITUDE AND UTILIZATION OF PARTOGRAPH AND ASSOCIATED FACTORS AMONG OBSTETRIC CARE PROVIDERS IN PUBLIC HEALTH FACILITIES OF SUB CITIES, ADDIS ABABA, ETHIOPIA.

By: MULAGO SHAFI (BSc)

ADVISORS: Mr. NIGUSSIE ASSEFA (MPH, MSc)

Mr. TESFA MICHAEL AWOKE (MPH, MSc)

A THESIS SUBMITTED TO SCHOOL OF PUBLIC HEALTH, COLLEGE OF HEALTH SCIENCES ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF PUBLIC HEALTH.

JULY 2021

ADDIS ABABA, ETHIOPIA

ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH

KNOWLEDGE, ATTITUDE AND UTILIZATION OF PARTOGRAPH AND ASSOCIATED FACTORS AMONG OBSTETRIC CARE PROVIDERS IN PUBLIC HEALTH FACILITIES OF ADDIS ABABA, ETHIOPIA.

BY: MULAGO SHAFI (BSc): SIGNATURE _____ DATE _____

APPROVED BY THE EXAMINING BOARD

CHAIR PERSON OF DEP. GRADUATE COMMITTEE _____
SIGNATURE _____ DATE _____

ADVISORS:

Mr. NIGUSSIE ASSEFA (MPH, MSc): Sign. _____ DATE _____

Mr. TESFAMICHAEL AWOKE (MPH, MSc): Sign. _____ DATE _____

INTERNAL EXAMINER: _____ Sign. _____ DATE _____

EXTTERNAL EXAMINER: _____ Sign. _____ DATE _____

JULY, 2021

ADDIS ABABA, ETHIOPIA

Acknowledgements

I would like to express my gratitude to my advisors, Mr. Nigussie Assefa and Mr. Tesfamichael Awoke, for their helpful guidance and insightful comments throughout the development of this research project. Thank you so much to my wife and friends for their help. For technical assistance, I thank Addis Ababa University's College of Health Sciences, particularly the Department of Public Health.

Throughout the study session, I was given. I also want to express my gratitude to the research assessing teams of the Addis Ababa regional health bureau, as well as the medical directors of hospitals and heads of health centers, for supporting my work on their various facilities in a timely manner. Finally, I would want to express my gratitude to all study participants for their willingness to take part in this study.

Table of contents

Acknowledgements	I
List of tables	IV
List of figures	V
Abbreviations	VI
Abstract	VII
1 Introduction	1
1.1 Background	1
1.2 Statement of the problem	3
1.3 Significance of the study	5
2 Literature review	7
3 Objectives	12
3.1 General objective	12
3.2 Specific objectives	12
4 Methods and materials	13
4.1 Study area and period	13
4.2 Study Design	14
4.3 Source population and study population	14
Source population	14
Study population	14
4.4. Inclusion and exclusion criteria.....	14
4.4.1. Inclusion criteria.....	14
4.4.2. Exclusion criteria.....	14
4.5 Sample size	15
4.6 Data collection Procedure	18
4.7 Study variables	19
4.8 Operational definitions	20
4.9 Data quality assurance	20
4.10 Data processing and analysis	21
5 Results	22
6. Discussion	29

7. Strengths and limitations of the study	31
7.1. Strengths:	31
7.2. Limitations:.....	31
8. Conclusion.....	31
9. Recommendations	32
10. Annexes	36
10.1. Annex 1. Information sheet.....	36
10.2. Annex 2. Consent form.....	38
10.3. Annex 3: Criteria for the partograph knowledge, attitude and utilization scores	40
10.6. Annex 6. Assurance of principal investigator	43
10.8. Annex 8. Questionnaire	45
10.9. ቅጽ 9 . የ ጥናቱ አጠቃይ መግለጫ(አሚኒስትራቲቭ).....	54
10.10. ቅጽ 10. አባሪ፡ በአሚኒስትራቲቭ የተተረጎመ መመዘኛ	55

List of tables

<i>Table 1: Sample size calculation for specific objectives using Epi-Info7.1.2.....</i>	<i>16</i>
<i>Table 2. Socio demographic characteristics of obstetric care providers working in public health facilities of Addis Ababa City Administration, Ethiopia, 2019 (n=302)</i>	<i>23</i>
<i>Table 3: knowledge of partograph among obstetric care providers working in public health facilities of Addis Ababa City Administration, Ethiopia, 2019. (n=302)</i>	<i>25</i>
<i>Table 4: Attitude of partograph among obstetric care providers working in public health facilities of Addis Ababa City Administration, Ethiopia, 2019. (n=302)</i>	<i>26</i>
<i>Table 5:Factor influencing partograph utilization of obstetric care providers in public health facilities of Addis Ababa City Administration, Ethiopia, 2019 (n=302).</i>	<i>28</i>

List of figures

Figure 1. Conceptual frame work on factors associated with partograph utilization by review in the above Literature (21-38).11

Figure 2. Map of Addis Ababa City Administration,Ethiopia, 201913

Figure 3. Schematic Presentation for sampling techniques,Addis Ababa, Ethiopia, 2019.18

Abbreviations

AA	Addis Ababa
AOR	Adjusted Odds Ratio
COR	Crude Odds Ratio
CSA	Central Statistical Agency
EDHS	Ethiopian Demographic and Health Survey
EmOC	Emergency Obstetric Care
MCH	Maternal and Child Health
OCP	Obstetric Care Provider
SPSS	Statistical Package for Social Sciences
UN	United Nations
WHO	World Health Organization

Abstract

Background: Partograph is a low-cost, low-cost technology that provides a continuous graphical overview of labor progress in order to avoid protracted and blocked labor. Assessing obstetric care providers' knowledge, attitude, and practical use of partographs, as well as their determinants, aids in the development of effective intervention strategies for providing high-quality maternity care.

Objectives: The aim of this study was to assess the knowledge, attitude, utilization of partograph and associated factors among obstetric care providers in public health facilities of Arada, Yeka and Lideta Sub cities, Addis Ababa, Ethiopia.

Methods: From January 1 to March 30, 2019, researchers employed a facility-based cross-sectional design in Addis Ababa, Ethiopia. A total of 314 obstetric care providers were randomly selected from public health facilities in the Arada, Yeka, and Lideta Sub-cities of Addis Ababa, City Administration, and proportionally allocated. An interview-based structured questionnaire was used to collect data. To determine the actual use of partograph, all study participants were subjected to direct observations utilizing an observation checklist. EpiInfo version 3.5.1 was used to enter data, and SPSS version 22 was used to analyze it. Descriptive statistics were produced, including frequency, percentage, mean, and median. The researchers used bivariate and multivariable logistic regression analysis. To protect data confidentiality, no personal information about study participants was collected during data collection.

Results: 72% of people responded to this survey. 257 (85%) of the obstetric care providers had a positive view regarding partograph, and 254 (84.1%) of them used it. Partograph use was linked to being a midwife (AOR=2.6; 95 percent CI: 1.8, 5.4) and knowing how to use it (AOR=4; 95 percent CI: 2.0, 8.1). However, it was associated with a negative relationship with service years 0-2 years (AOR=0.4%; CI: 0.2, 0.9) and service years 3-5 years (AOR=0.6%; CI: 0.3, 0.7).

Conclusion: More over three-quarters of those polled knew what partograph was, had an opinion about it, and used it. Partograph knowledge and attitude were high among service providers, and usage was good. Partograph use was linked to knowledge of partograph, service year, and the profession of obstetric care providers.

1. Introduction

1.1 Background

In the year 2015, over 303,000 maternal deaths occurred globally during and after pregnancy or childbirth. 99 percent of all deaths occurred in developing countries, with 546 per 100,000 live births (66%) happening mainly in Sub-Saharan Africa(1).

The maternal death rate in Ethiopia was 871 per 1000 live births in 2000, according to the Ethiopian demography and health survey(2) . Though it decreased somewhat to 673 in 2005, it increased slightly to 676 in 2011(3, 4) Death rates were high in 2016, with 412 deaths per 1000 live births(5). According to a 2015 World Health Organization (WHO) assessment, a woman's lifetime risk of dying from preventable or curable pregnancy and delivery complications in Sub-Saharan Africa was 1 in 31, compared to 1 in 4300 in developed nations.

Obstructed and prolonged labor causes the majority of maternal deaths and complications. Delays in implementing appropriate interventions when they are not medically indicated, such as caesarean section labor induction/augmentation, can result in iatrogenic complications in many health facilities. avoidable suffering, unequal distribution of resources, and a resource scarcity (6) .This can be avoided by utilizing competent delivery services such as partograph drawing during the course of labor (7) .

Partograph is a low-cost, reduced tool that provides a continuous graphical overview of labor progress in order to avoid prolonged and blocked labor. A partograph is a tool for monitoring labor and avoiding prolonged and obstructed labor by focusing on maternal, fetal, and labor progress observations. Its purpose is to improve labor outcomes, forecast labor progress, and enable a timely and effective intervention(8,9).

According to the WHO, partograph is the most well-known and commonly utilized in underdeveloped countries to reduce feto-maternal morbidity and death(10). Partograph is a low-cost, reduced tool that provides a continuous graphical overview of labor progress in order to avoid prolonged and blocked labor. A partograph is a tool for monitoring labor and avoiding prolonged and obstructed labor by focusing on maternal, fetal, and labor progress observations. Its purpose is to improve labor outcomes, forecast labor progress, and enable a timely and effective intervention(11,12). Seventy percent of obstetric care providers were aware of the partograph and had a good overall understanding of it, although this was well below expectations. They also lacked in-depth understanding of the components (13).

According to a study done in Addis Ababa, 100% of the participants were aware of partograph. However, there was a lack of knowledge of the functions of both the alert line and the action line.

While just about half of the participants were able to accurately explain the function of the alert line, a huge majority of participants (82.6%) were able to correctly explain the function of the action line. According to the findings, 96.6 percent of the participants could name at least one partograph component. While more than half of the participants (52.3%) had a fair understanding of the partograph, slightly more than a third (39%) had a thorough understanding. Knowledge of the partograph was influenced by factors such as partograph training and working conditions. (14). Obstetric care providers in Ethiopia's East Gojjam Zone viewed partograph favorably. Only 111 individuals (40.7%) consented to utilize partograph (15).

In Ethiopia, obstetric care givers in labor and delivery room are not using partograph to all mothers continuously to follow the labor process (16). Similarly, due to several determining elements such as time of admission, nature of membrane during admission, knowledge, training, and attitude, different health facilities did not use partograph (17).

Assessing obstetric care providers' knowledge, attitude, and practical use of partographs, as well as their determinants, is important for developing effective intervention methods to offer high-quality maternity care. The goal of this study was to analyze obstetric care providers' knowledge, attitude, and use of partograph in public health institutions in Addis Ababa City Administration.

1.2 Statement of the problem

It has been claimed that health professionals all across the world use the partograph inappropriately to track labor progress. The partograph was mostly used in Ethiopian public health facilities, where it was discovered to be underutilized. This demonstrated a lack of monitoring of laboring mothers, resulting in a poor labor outcome(18).

Complicated deliveries are more damaging as they cause severe psychological and physical harm to women, serious economic and social change as well as adverse maternal and fetal outcomes. Managing complications is expensive for both the mother and institution. This is not exceptional for Ethiopia evidenced by the high maternal and prenatal mortality rate those Preventable deaths (2).

Despite the fact that the partograph is vital for making prompt clinical judgments when issues develop during a normal birth, obstetric caregivers are not completely utilizing the tool. [11]. In Ghana, the partograph was not used to monitor nearly half of laboring mothers. On the other hand, only 40–60% of laboring moms who were monitored with the partograph were monitored to standard, implying either a competence gap in charting discoveries on the partograph to the standard or a lack of appreciation for the tool's function in monitoring labor progress (19).

Despite the fact that the partograph is vital for making prompt clinical judgments when issues develop during a normal birth, obstetric caregivers are not completely utilizing the tool(12). In Ghana, the partograph was not used to monitor nearly half of laboring mothers. On the other hand, only 40–60% of laboring moms who were monitored with the partograph were monitored to standard, implying either a competence gap in charting discoveries on the partograph to the standard or a lack of appreciation for the tool's function in monitoring labor progress. (20).

Similarly, there is no regular use of the partograph during labor in Ethiopia. Only 40.2 percent of obstetric care providers in North Shoa, Central Ethiopia, used the instrument on a regular basis, and its use was strongly linked to midwifery, on-the-job training, knowledge, and the attitude of the obstetric caregivers (14). According to a research conducted in Addis Ababa, Ethiopia, 57.3 percent of obstetric care professionals at public health facilities used the partograph to monitor mothers in labor. The tool's use was found to be strongly linked with and greater among obstetric care providers working in health centers than in hospitals (15). Documentation of the modified WHO partograph during labor was low in the public health facilities of Bale Zone, Ethiopia (16).

Poor labor and delivery care are the leading causes of maternal and newborn morbidity and mortality in Ethiopia. The partograph, on the other hand, is utilized for early identification and prevention of maternal and fetal problems, although the elements that contribute to this are not well understood in Addis Ababa. As a result, the goal of this study was to investigate the level of knowledge and attitude, the amount of partograph usage, and the factors related with its use among obstetric caregivers in public health institutions in Addis Ababa in 2019.

1.3 Significance of the study

According to the World Health Organization, education, attitude, and the use of partograph can all help to prevent delivery problems. As a result, the findings of the study will focus on partograph knowledge, attitude, and use, as well as factors that influence partograph use, in order to improve maternal health by providing high-quality care to pregnant women during delivery. By minimizing maternal mortality, which is one of the strategies to improve maternal and fetal outcomes by taking action, the study could have an impact on the national agenda. It will help government and non-government groups identify problems, recognize complications, and implement early basic interventions. It will also help in regions where partograph teaching approaches, as well as mentorship and supportive supervision procedures, need to be improved. Finally, the healthcare workforce will be better positioned to monitor the health of both the mother and the baby. It might potentially form the basis of a healthcare delivery system aimed at enhancing the quality of care in labor and delivery units. Furthermore, the findings of this study could be used as a starting point for future research on the use of partographs and quality care in labor and early postpartum wards in Addis Ababa health facilities and throughout Ethiopia.

This study revealed potential gaps in knowledge and application of partograph, which has a positive influence on maternal morbidity and mortality reduction by assisting decision-makers in implementing evidence-based interventions. It can be used directly or indirectly by local and ministry of health decision-makers, non-governmental organizations, and other stakeholders involved in mother and child health.

2. Literature review

2.1 Knowledge of partograph

According to a research performed in India, 9 (30.0 percent) of respondents have a good level of knowledge on Partograph, 17 (56.7 percent) have a low level of knowledge, and 4 (13.3 percent) have a very poor level of knowledge on Partograph. (21).

According to a study conducted in south western Nigeria, 58.3 percent of them had an excellent understanding of the partograph. Only 16 percent of all respondents properly stated at least one component of the partograph, 7.6% correctly explained the role of the alert line, and 10.9 percent correctly explained the function of the action line, indicating insufficient knowledge of the partograph. The partograph was known by 84 percent of obstetric care providers. (22).

According to a study done in Cameroon, the majority of 28 (39.4%) respondents had moderate understanding of partograph, while fewer than one-third (29.6%) of respondents had high knowledge, and up to 22 (31.0%) of respondents had low knowledge. The overall knowledge scores varied from 2 to 20, with a mean of 12.8. (SD = 5.7). (23)

According to a research conducted in Ghana among midwives in the Tamale Metropolis, all respondents were aware of the partograph's alleged use. However, the study found that there was a lack of understanding on how to use the tool properly (as observation showed that some of the partograph sheets were inadequately filled). Inadequate understanding, staffing (1.0 percent of responders), and an increased strain on the few midwives (2.6 percent) were all factors that hampered the successful use of the partograph. 91.4 percent of respondents had access to partograph sheets in the health facilities under study, indicating that there were plenty of them (24).

According to a study done in eastern Ethiopia, 53.7 percent of health professionals had a good level of knowledge about partograph and 45.4 percent of health professionals had a reasonable level of understanding about partograph. Working at a health facility, being a midwife, and receiving in-service training were all linked to a high degree of expertise(25).

According to a study done in the North Shoa Zone, 71.2 percent of obstetric care professionals had a strong understanding of the partograph. Working in a hospital and receiving on-the-job training were both linked to having knowledge of partograph knowledge (26).

96.6 percent of all respondents accurately stated at least one component of the partograph, 53. percent correctly explained the function of the alert line, and 82.6 percent correctly explained the function of the action line, according to a study performed in Addis Ababa (27).

2.2 Attitude towards partograph

According to a research conducted in the North Shoa zone of central Ethiopia, 337 (83.6 percent) of obstetric care practitioners favoured partograph. Nearly three-quarters of them, 293 (72.7%), believed that using partographs can reduce maternal and new born fatalities. Nearly half of the providers, 195 (48.4%), agreed that partograph is required to improve care quality. Only 138 (34.3%) of care providers agreed that partograph was developed only for midwives. In contrast, more than half of the 239 obstetric care providers (59.3%) disagreed with the concept of a partograph as a chart for all obstetric care providers to monitor labor. More than half of the survey participants (223 (55.3%) believed that partograph is a complicated instrument with a visual overview of labor, whereas 238 (59.1%) thought that partograph is a simple graphic recording of labor progress (26) .

According to a study done in Bloemfontein, South Africa, 90% of participants had favorable attitudes toward the usage of partograph. Two people (16.7percent) said the partograph is helpful, nine (75.0 percent) said it is really helpful, and only one (8.3%) said it isn't helpful at all. The majority of respondents (83.3%) said partograph makes care for patients easier, and 91.7percent said it helps them spot potential issues (28).

2.3 Partograph utilization and associated factors

Data and experience on 'opportunities for Africa's Newborns' from throughout the continent. imply that, despite the fact that the partograph is a well-known intervention, it is frequently underutilized or misused. There are a variety of causes for this, including a lack of human resources and time constraints, insufficient monitoring of maternal and fetal critical indicators, information collected but not always used to improve practices, or delays in providing emergency care, notably caesarean section(29).

Mid wives were more knowledgeable about the use of partograph than CHEWs, nursing aids, and JCHEWs, according to a study conducted in Calabar, Cross River State, Nigeria. Even though real knowledge and utilization were low in all health professionals, being an expert of the obstetric unit had better knowledge and utilization than other health professionals, and the difference that may occur among working at different levels of health facilities with contributing factors was unknown (30).

According to a study conducted in Nigeria among non-physician Obstetric Care Providers at the University of Calabar Teaching Hospital, 88 (66.7%) of health workers utilized partograph to monitor labor on a regular basis. (31).

According to a study conducted in India, the majority of study participants (86.67%) had poor practice, while only 13.33 percent had excellent practice (32).

Only 91 (57.2%) of the gathered files had finished partograph, according to a research done in Bloemfontein, South Africa. More than half of individuals (56.0 percent) had multiple entries on the partograph. Except for the duration of labor, which was only recorded in 45.1 percent of instances, patient baseline information was properly documented. Except for decelerations, which received just 57.1 percent, fetal well-being scored above 80 percent. In 96.7 percent of patients, cervical dilation was observed as a sign of labor progress. The posture of the head, on the other hand, was only recorded in 26.4 percent of the time. On 96.7 percent of partographs, the number and strength of contractions were recorded. The completion rate for the complete partograph was 81.1 percent (range 35.1 to 97.3%)(28).

In a study conducted in South Africa at Odi District Hospital in Gauteng, more than two-thirds (79.4%; n = 54) of patients used the partograph on a regular basis. For a number of reasons, including being too busy (26.1 percent; n = 6), the partograph taking too long (21.7 percent; n = 5), and believing that the partograph should be completed by the nurses (26.1 percent; n = 6), the partograph was not used(33).

A study in Rwanda found a link between the proper/improper use of partograph and whether or not the nurses and midwives who took part in the study received in-service training (34).

According to a study from Uganda, partographs were utilized in 70% of deliveries, with only 2% of partographs meeting the standard monitoring of fetal heart rate. There were few trained health personnel on hand, and there were no rules for using partographs. A good Apgar score was statistically significant as compared to conventional fetal monitoring. The inadequate usage of partograph during labor was caused primarily by health input considerations (35).

Midwives were 3.97 times more likely than other obstetric care providers to use partograph as a decision-making tool, according to a meta-analysis study conducted in Ethiopia(36).

According to a study conducted in Ethiopia's western Oromiya region, 180 (89.1%) of study participants were partographed for laboring mothers. Underutilization of partograph was linked to factors such as a lack of particular training on partograph, lack of information on partograph, a lack of local policy on partograph use, and doing more than 10 deliveries in a single day. Being a female obstetrics care provider and having more than four midwives on duty at the same time, on the other hand, were positively associated with partograph utilization (37).

Participants who received partograph training were about two times (AOR 14.94, 95 percent CI 14.15, 7.54) more likely than those who did not receive partograph instruction, according to a study done in the Bale zone (38).

As can be observed from the findings above, there is a disparity between obstetric care providers' knowledge, attitude, and utilization of partograph due to a variety of determinant factors.

2.4 Conceptual framework

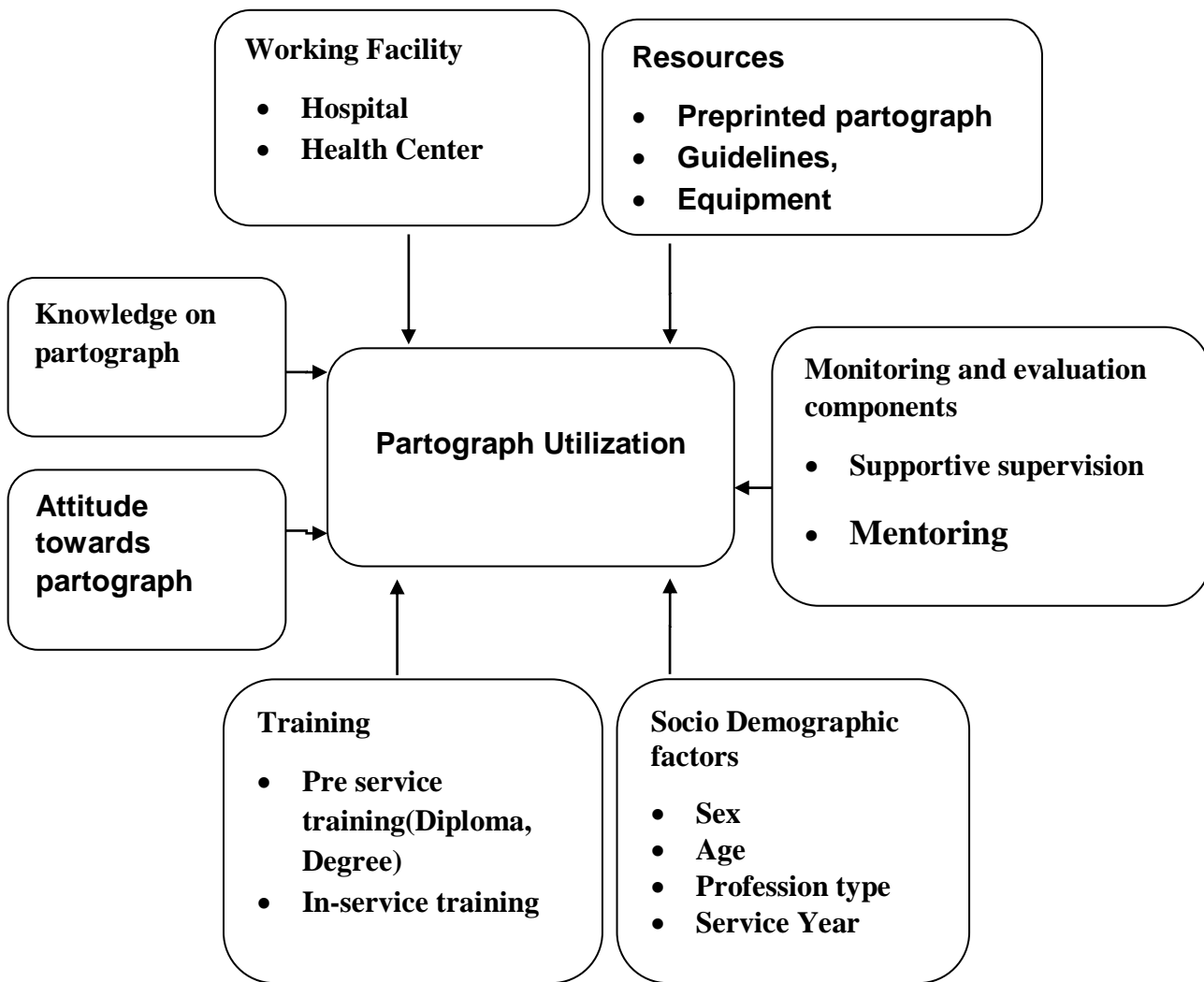


Figure 1. Conceptual frame work on factors associated with partograph utilization by review in the above Literature (21-38).

2. Objectives

3.1 General objective

To assess knowledge, attitude, utilization of partograph and associated factors among obstetric care providers in public health facilities of Addis Ababa City Administration, Ethiopia, 2019.

3.2 Specific objectives

- To determine knowledge level of obstetric care providers' about partograph in public health facilities of Addis Ababa City Administration, Ethiopia, 2019.
- To assess attitude of obstetric care providers towards partograph in public health facilities of Addis Ababa City Administration, Ethiopia, 2019.
- To determine the magnitude of partograph utilization among obstetric care providers in public health facilities of Addis Ababa City Administration, Ethiopia 2019.
- To identify factors associated with partograph utilization among obstetric care providers in public health facilities of Addis Ababa City Administration, Ethiopia, 2019.

3. Methods and materials

4.1 Study area and period

The research was carried out in Addis Ababa, Ethiopia's capital and the seat of the African Union and the United Nations World Economic Commission for Africa. Addis Ababa is located at 9° 1' 48" North and 38° 44' 24" East with an average elevation of 2,500 meters above sea level and has a population of over 3 million (3,038,096) with an annual growth rate of 2.1 percent (data obtained from Ethiopia's central statistical agency). It is located at 9° 1' 48" North and 38° 44' 24" East with an average elevation of 2,500 meters above sea level. (4).The city is divided in to ten sub cities and 116 woredas (lowest administrative units in Ethiopia

There are 11 public hospitals in the city, 6 of which are run by the Addis Ababa Regional Health Bureau (AARHB) and the other 5 by the Ethiopian Federal Ministry of Health. In addition, the city contains 103 public health centers, three private NGO health centers, 76 NGO clinics, and over 700 privately operated clinics. The total number of health professionals employed by the Addis Ababa City Administration's public health facilities was 1142 (Addis Ababa Food Medicine and Health Care Administration Authority, Annual review meeting report, Addis Ababa: Addis Ababa Food Medicine and Health Care Administration authority; 2009 EFY (2017/2018 G.C. Unpublished).The study period was from January 1- March 30, 2019)(Figure 2).

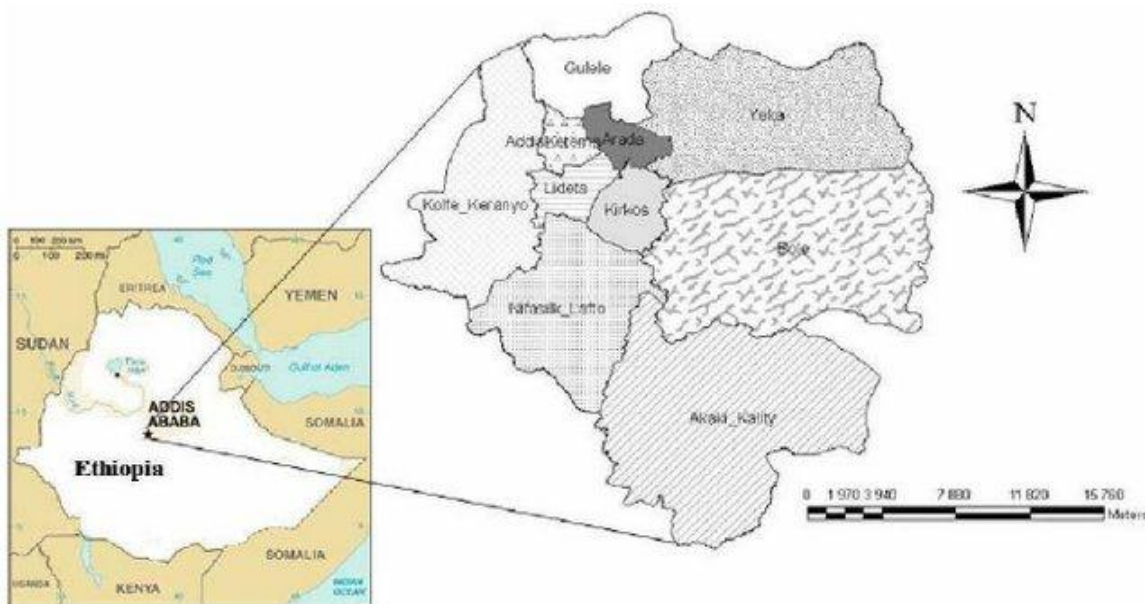


Figure 2. Map of Addis Ababa City Administration, Ethiopia, 2019

4.2 Study Design

Institutional based cross-sectional study design was applied to conduct this study.

4.3 Source population and study population

4.3.1 Source population

The participants in this study were all obstetric care providers working in Addis Ababa City Administration public health facilities' obstetric care units.

4.3.2 Study population

The study population was all obstetric care providers working in the obstetric care units of selected public health facilities.

4.4 Inclusion and exclusion criteria

4.4.1 Inclusion criteria

This study was conducted among all obstetric care providers who were working in the delivery ward which includes; midwives, nurses, health officers, general practitioners, masters in emergency surgery and obstetrics.

4.4.2 Exclusion criteria

Those providers who were in annual, maternity, sick leave, not found within data collection period, and not volunteer to participate were excluded from the study.

4.5 Sample size

The sample size was determined using a single population proportion formula based on the following assumption.

$$n = \frac{(Z_{\alpha/2})^2 p(1-p)}{w^2} \text{-----Let } q=1-p \quad , n = (z_{\alpha/2})^2 P (1-p) /d^2$$

The assumption was that; n= the desired sample size; $Z_{\alpha/2}$ = is critical value for normal distribution at 95% confidence level which equals to 1.96(Z value at 0.05).The proportion of knowledge and attitude was 0.56 and 0.55 in East Gojam Zone respectively (15) and the utilization of partograph during the progress of labor was 0.689 in Addis Ababa, Ethiopia(39). d is the margin of error to be tolerated (5%).

Objectives	p(Reference)	Sample size calculated
Knowledge	56.04% (15)	379
Attitudes	55 % (15)	380 (selected)
Utilization	69% (39)	329

The sample size for the variables addressed, such as knowledge, attitude, and use of partograph, was calculated. The variable with the largest sample size was chosen to determine the sample size for this investigation.

The sample size for knowledge was $(1.96)^2 \times (.56 \times 0.44) / (0.05)^2 = 379$; the sample size for attitude was $(1.96)^2 \times (0.55 \times 0.45) / (0.05)^2 = 380$; and the sample size for partograph utilization was $(1.96)^2 \times (0.689 \times 0.311) / (0.05)^2 = 329$. The maximum sample size was taken from the attitude of partograph, resulting in a sample size of (n=380) for this investigation. We multiply by at least 1.5 percent when considering the design effect due to multistage sampling. As a result, $380 \times 1.5 = 570$.

Table 1: Sample size calculation for specific objectives using Epi-Info7.1.2

Sample size was calculated by a two population proportion formula using EPI-Info 7.2.1 considering a two sided confidence interval of 95%, power 80% and odds ratio of conducted from researches

Since, the source population (1142) was less than 10,000, correction factor was used to estimate the final sample size required.

By using final correction formula, $nf = \frac{n}{1+\frac{n}{N}}$ $n = n \times N / n + N = 570 \times 1142 / 380 + 1142 = 380$

And Adding 10% Non-response rate The minimum estimated sample size **418**.

Associate factors	Category reference	Confidence level	% of Partograph Utilized	% of Partograph not Utilized	Power	Ratio of early to late ANC	Odds ratio to be detected	Sample size
Health facilities (23)	Hospitals	95%	30.7	22.1	80%	1	3.346	104
Knowledge on partograph (5)	Knowledgeable	95%	51.7	48.3	80%	1	3.54	108
Profession (11)	midwife	95%	33.8	59.3	80%	2	2.8	155
Number of midwives on duty at a time(31)	≥4	95%	34.7	55.9	80%	2	2.39	212
On job training on partograph(29)	Yes	95%	24.6	75.4	80%	3	2.6	226
Sex (17)	female	95%	47.5	52.5	80%	1	1.52	138

4.6 Sampling techniques

In the city of Addis Ababa, there are 11 government hospitals spread throughout ten sub-cities. In addition, the city has 103 government health centers, with 1142 obstetric care providers on staff. 418 research participants were recruited using a multi-stage sampling procedure. To begin, the Addis Ababa City Administration was chosen as a research topic. Second, using a basic random sample procedure, three of the ten sub cities were chosen. Thirty health clinics and three hospitals are located in these three sub-cities (only hospitals under the city administration i.e. Yekatit 12 Hospital, Gandhi Memorial Hospital and Minilik II Hospital). All public hospitals and health centers in selected sub cities were included, and the number of obstetric care professionals working in each facility was proportionally determined as a sample. Thus, 148 obstetric care providers from Arada sub city (from 9 health centers), 165 obstetric care providers from Yeka Sub city (from 12 health centers), and 105 obstetric care providers from Lideta Sub city were identified (from 9 health centers). Finally, the study included OCPs from the specified sub cities who met the inclusion criteria .We used a simple random sampling strategy because each health facility has a large number of OCP. (figure 3).

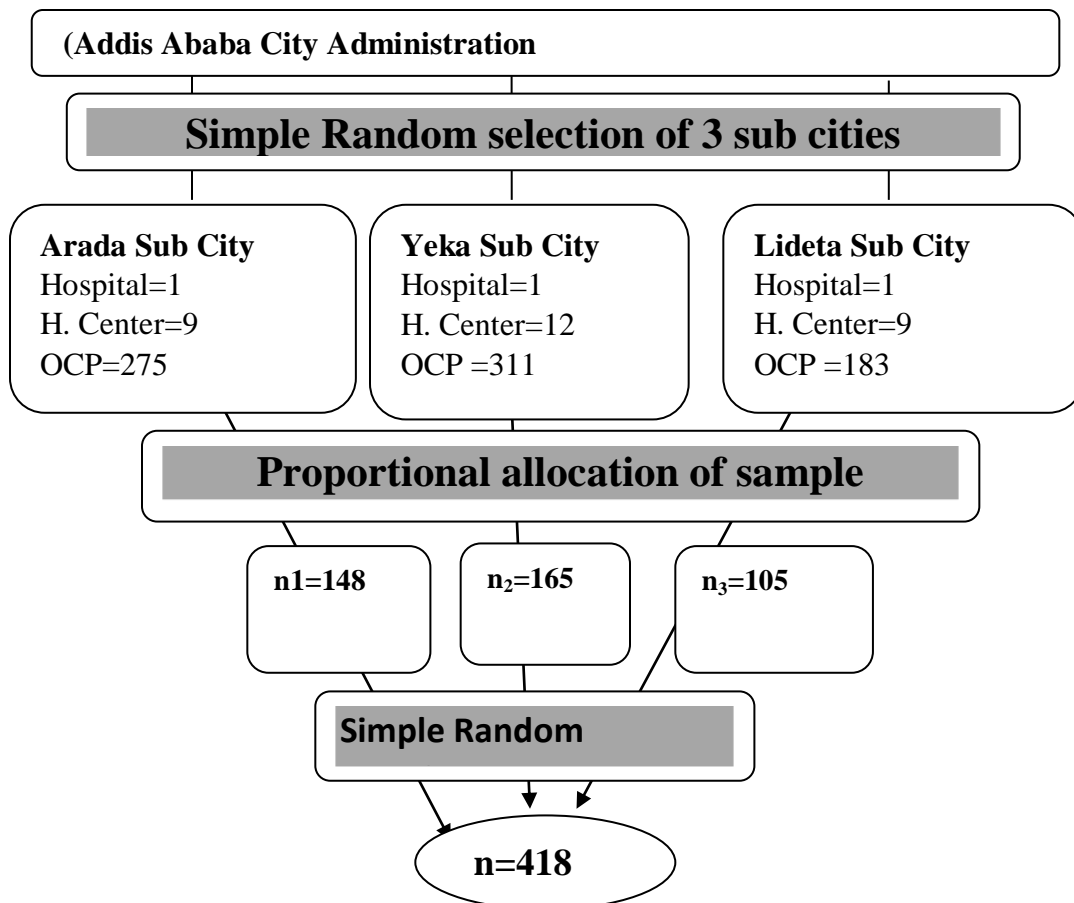


Figure 3. Schematic Presentation for sampling techniques, Addis Ababa, Ethiopia, 2019.

Key :- OCP=Obstetric Care Providers (midwives, nurses ,health officers, general practitioners, gynecologists and masters in emergency surgery and obstetrics

Ni=768

4.7 Data collection Procedure

Data was collected firstly by direct observation of obstetric care providers during the progress of labor followed by interviewing the participant by structured questionnaire.

4.7.1 Phase 1: Direct Observation:

To begin, an observation conducted using the partograph chart as a tool for direct observation of research participants as labor progressed. The principal investigator observed some of the obstetric care providers who were involved in the study to see if they used and filled out the partograph parameters correctly. It was done after the study's goal was explained and formal informed consent was obtained.

4.7.2 Phase 2: Interviewing the study participants:

Then, using an interview-based structured questionnaire, data on obstetric care providers' knowledge, attitude, and use of partograph were obtained. It was created from a variety of sources while keeping the study aims in mind. The structured questionnaire on partograph recording included socio-demographic characteristics of study participants, knowledge-related questions, attitude-related questions, and practice-related questions. This tool's data gathering strategy included largely closed-ended questions and interviews with obstetric care professionals working in maternity wards at three hospitals and 30 health centers in three sub-cities.

Six midwives were hired as data collectors, and three public health specialists were hired as supervisors. The data collection team was split into three sections, each with two data collectors. One supervisor was assigned to each squad. An expert translated the survey questionnaire into Amharic after it was written in English. Staff were encouraged to complete the questionnaires by case team leaders from several maternity wards..

4.8 Study variables

4.8.1 **Dependent variables:** Utilization of partograph.

4.8.2 **Independent variables:** independent variables include Working facilities (hospital, health center), availability of resources (partograph, guidelines, protocol), supervision, mentoring, socio demographic factors (age, sex, marital status, profession, service year), training (pre-service and in-service Training) knowledge and attitude.

4.9 Operational definitions

Obstetric care providers: were those health workers who were assigned at maternity unit permanently or by rotation to give maternity care service except gynecologist.

Knowledge of partograph: was assessed using thirty-two knowledge-based questions. Each accurate response was worth one point, while any incorrect response was worth nothing. As a result, the total knowledge score was calculated (32 points). The rank cutoff was determined using the mean score of partograph knowledge (16). Respondents who received a score of 0–16 were regarded to have weak knowledge, while those who had a score of 17–32 were considered to have strong knowledge (Annex 3).

Attitude towards partograph: was assessed using` attitude scoring method. The attitude score for each of the personnel was obtained by adding up the scores for correct answers given to the 15 questions (Annex 4).

Utilization of partograph: care provider during labor when they recording partograph. Obstetric care providers who had been recording complete all variables of Partograph were considered as utilizers; if not they were not utilizing it (Annex 5).

Maternal pulse: is the regular beating of blood through mother body, which she can feel when you touch particular parts of her body, especially mothers' wrist.

4.10 Data quality assurance

To ensure the tool's uniformity, two different public health professionals back translated the questionnaire into English (data translators). The data collectors and their supervisors received the necessary training in data gathering techniques, processes, and instructions in order to conduct the surveys. The instrument was pretested with 16 (5%) of obstetric care providers at a public health center in Bole sub city, which was not part of the study region. The data gathering instruments were then modified and reconfigured to accommodate the study's necessary data. (5). Field supervisors rechecked the cleanliness and correctness of the filled questionnaire immediately after collecting data from the field level and throughout submission.

4.11 Data processing and analysis

The data were visually reviewed for correctness before being coded and entered into EpiInfo version 3.5.1 and exported to social science statistical software (SPSS version 22). For each variable, descriptive statistics such as frequency, percentage, mean, and median were generated. Using bivariate logistic regression, the presence of any association between independent variables and partograph utilization as a dependent variable among obstetric care providers was investigated. Variables with a $P < 0.2$ in the bivariate logistic regression analysis were included in the final multivariable logistic regression model under the assumption that the dependent variable is dichotomous, that there is no or very little multicollinearity between independents, and that observations are not repeated or matched to manage the possible confounding effect on the outcome. Only variables with a p value of less than 0.05 were considered to have a significant relationship with the use of partograph.

4.12 Ethical considerations

To conduct the study at the specified hospitals and health centers, an ethical clearance letter was acquired from Addis Ababa University's Ethical Clearance Committee, College of Health Sciences, and School of Public Health. Before the interview, each study subject gave their oral consent. Participants were assured that their privacy and confidentiality would be respected during the interview, and that any information they supplied would be kept private. During data collection, no personal information about research participants was recorded. The questionnaires and data were kept in a secure location to ensure information confidentiality. They were informed that participation in the study was voluntary, and that they might withdraw at any point if necessary. In addition, the study participants were told that their comments would have no negative consequences for them or their jobs. Before the study began, consent and essential information were communicated to the matron/medical director at each of the selected study locations. The findings of this study will be disseminated to interested parties, who will then intervene on behalf of the participants. Others' work was acknowledged by quoting it, and references were cited inside the text citation.

4.13 Dissemination of results

The study's findings were presented to the Addis Ababa University School of Public Health and the School of Public Health. It was appearing in prestigious international magazines. It was given to relevant stakeholders in the area, and the ministry of health, regional health bureau, zonal health department, district health offices, and administration offices was advocate for its implementation.

5. Results

5.1 Socio demographic characteristics

Table 1 shows the socio-demographic characteristics of the obstetric care providers who took part in this study.

A total of 302 health professionals took part in the study, with a 72 percent response rate. One hundred and fifty-four (51%) of them were men. Two hundred and nine (69.2%) of them had worked for more than two years. The majority of the responders, 177 (58.6%), worked in hospitals. Respondents were 29.54 years old on average, with a standard deviation of 29.544.7. 4903.5 Birr (SD: 4903.51869.7) was the average monthly wage. In the previous year, 188 people (35.8%) obtained on-the-job training, with only 29 people (9.6%) learning about partographs (Table 2).

Table 1. Socio demographic characteristics of obstetric care providers working in public health facilities of Addis Ababa City Administration, Ethiopia, 2019 (n=302)

5.2 Knowledge of partograph

Table 2 shows the various knowledge components as well as the overall score for participants' knowledge on partograph. The aggregate knowledge of the participants was 275 (91.0%), indicating that they knew a lot about partograph. In addition, 92.1 percent of participants were familiar with the definition of partograph. Partograph (91.7%), maternal pulse (92.7%), uterine contraction (91.0%), maternal blood pressure (93.0), temperature (91.3%), intravenous fluids, and medicines are all beneficial. (See Table 3).

Table 2. knowledge of partograph among obstetric care providers working in public health facilities

Knowledge of Variables	Responded correctly	Responded wrongly
Definition of partograph	278 (92.1%)	24(7.9%)
Benefit of the partograph	277(91.7%)	25(8.3%)
Component of partograph cervical dilatation	267(88.4%)	35(11.6%)
Maternal pulse	280(92.7%)	22(7.2%)
Fetal heart rate	255(84.4%)	47(15.6%)
Component of partograph uterine contraction	275(91.0%)	27(9.0 %)
Component of partograph descent of the presenting part	258(85.4%)	44(14.6%)
Component of partograph maternal blood pressure	281(93.0%)	21(7.0)
Component of partograph color of liquor	247(81.8%)	55(18.2%)
Component of partograph maternal temperature	276(91.3%)	26(11.6%)
Component of partograph oxytocin regiments	256(84.8%)	46(15.2%)
Component of partograph intravenous fluids and drugs	277(91.7%)	25(8.3%)
Component of partograph urine test results	258(85.4%)	44(14.6%)

of Addis Ababa City Administration, Ethiopia, 2019. (n=302)

5.3 Attitude towards partograph

Different dimensions and overall score of participants' attitudes towards partograph utilization are presented in Table 3. . The study showed that 274 (90.7%) like to use partograph and 281 (93%) of the participants I agree that partograph is important. Similarly, 268 (88.7%) agreed with the statement that partograph should be utilized for all labors, and 259 (85.8%) agreed that partograph is necessary to increase care quality. On the other hand, nearly half of obstetric care providers, 152 (50.3%), disagree with the effectiveness of the partograph in monitoring labor. Overall, 257 (85%) of obstetric care professionals had a favorable view regarding partograph.

Table 3: Attitude of partograph among obstetric care providers working in public health facilities of Addis Ababa City Administration, Ethiopia, 2019. (n=302)

Attitude variables	Agree	Disagree
Like to use partograph(n=302)	274(90.7%)	28(9.3%)
Partograph is important to monitor labor (=302)	281(93%)	21(7%)
Partograph should be used in all labor (n=302)	268(88.7%)	34(11.3%)
Partograph use reduces risks of maternal and/neonatal morbidity and deaths (n=302)	267(88.4%)	35(11.6%)
Partograph is necessary to improve quality of care(n=302)	259(85.8%)	43(14.2%)
Partograph helps for early detection for surgery or cesarean section(n=302)	250(82.7%)	52(17.3%)
Wish to use partograph routinely(n=302)	259(85.7 %)	43(14.7%)
Not all normal labors need partograph(n=302)	193(63.9%)	109(36.1%)
Using partograph is the only responsibility of physicians(n=302)	158(52.3%)	144(47.7%)
Partograph is not effective to monitor labor(n=302)	152(50.3%)	150(49.7%)
Using partograph is time consuming(n=302)	163(54%)	139(46%)
Attitude calculated from attitude score (10)	Negative	45(15%)
[Negative (0–6) and Positive (7–12)]	Positive	257(85 %)

5.4 Partograph use during delivery

All 302 obstetric care providers were observed in person to see if they were utilizing the partograph correctly while monitoring the progress of labor. Two hundred and fifty-four (84.1%) of them correctly filled out the partograph.

The Principal Investigator (PI) observed 40 health care providers from three hospitals and fifteen health clinics. According to our observations, 30% of health care providers complete the Partograph after birth, 25% of health care providers partially complete the Partograph, 32% of health professionals complete the Partograph adequately, and 13% of health care providers do not complete the Partograph..

5.5 Factors influencing partograph utilization

Association results of factors assessed in the bi-variate and multivariable logistic regression analysis is presented in Table 4.

Three variables, namely profession, knowledge of partograph, and service year, were revealed to be factors linked with the use of partograph in the multivariable model. The odds of using a partograph by obstetric care providers who were also midwives were 2.6 times greater than the odds for other professions (AOR=2.6; 95 percent CI:[1.8,5.4]). Similarly, obstetric care providers who were informed of partograph had a fourfold higher chance of using it than those who were not (AOR=4;95 percent CI:[2.0,8.1]). Obstetric care providers with less than 2 years of experience were 60 percent less likely to use partograph than those with more over 9 years of experience (AOR=0.4 percent; CI: 0.2, 0.9). Similarly, obstetric care providers with 3-5 years of experience were 40% less likely to use partograph than those with ≥ 9 years of experience (AOR=0.6 percent; CI: 0.3, 0.7).

Table 4: Factor influencing partograph utilization of obstetric care providers in public health facilities of Addis Ababa City Administration, Ethiopia, 2019 (n=302).

Variables		Utilization of partograph (N=302)		COR [95% CI]	AOR [95% CI]	P. Value
		Yes	No			
Sex (N=302)	Female	122(82.5)	26(17.5)	0.78 (0.42-1.45)		
	Male	132(85.7)	22(14.3)	1		
Service year (N=302)	0- 2 year	53	12	0.5[0.2-0.9]	0.4[0.2-0.9]	0.02**
	3-5 years	41	31	0.16[0.01-0.39]	0.6[0.3-0.7]	0.04**
	6-8 years	21	19	0.06[0.01-1.12]	0.7[0.182-3.8]	0.68
	>=9 years	110	13	1		
Type School from they attended (N=302)	Government	223(85.4)	38(14.6)	1.893(0.858-4.177)		
	Private	31(75.6)	10(24.4)	1		
Working facility type (N=302)	Hospital	142(80.2)	35(19.8)	2.124(1.072-4.204)	0.602 (0.293-1.235)	0.166
	Health center	112(89.6)	13(10.4)	1		
Knowledge on partograph (N=302)	Good	219(88.7)	28(11.3)	4.5[2.3-8.8]	4.0 [2.0-8.1]	0.01*
	Poor	35(63.6)	20(36.4)	1		*
Profession	Mid wives	34(20.4)	133(79.6)	2.2[1.1-4.3]	2.6 [1.2-5.3]	0.01*
	Other professionals	14(10.4)	121(89.6)	1		*

Key: ** Statistically significant in multivariable association, AOR=adjusted odds ratio, COR= crude odds ratio, CI= 95 % confidence interval

6. Discussion

The purpose of this study was to investigate the level of knowledge, attitude, and utilization of partograph among obstetric care professionals in public health facilities in Addis Ababa City Administration, as well as to identify factors impacting utilization.

The results of this investigation revealed that 275 (91.0%) of the respondents knew a lot about partograph. This figure is higher than one found in an Indian study (30 %)(21), South West Nigeria (16%) (22), Cameroon (33.8%)(23). This could be attributed to the Ministry of Health's reinforced and repeated in-service trainings for obstetric care professionals and other stakeholders involved in reproductive health services.

This study's degree of expertise was lower than that of Addis Ababa studies (96.6%)(27) and Ghana (24). This could be owing to the fact that this study used a bigger sample size and used a different data collection approach.

A positive attitude regarding partograph was indicated by 257 (85 percent) obstetric care professionals. This is a better result than a research conducted in central Ethiopia's North Shoa zone. (26). The variation might be due to variation in study area. It was lower than study conducted in South Africa (28). In this study, partograph was used 84 percent of the time. This means that out of the total 302 observations, 84 percent of the subjects filled out the partograph completely and properly during direct observation. This utilization is higher than that of a study conducted in Nigeria at Calabar Teaching Hospital (66.7%), India (13.3%), and South Africa (57.2%) (n=91) (28), Uganda (70%) (35), Nigeria has the highest percentage of obstetric care providers (37%). This may be due to trainings provided by the Ministry of Health Ethiopia and its partner NGOs in order to eliminate maternal mortality as part of the transformation agenda. In Rwanda, (34) The need of training for proper usage of partograph is emphasized in Ethiopia-Bale Zone (Bale zone) (38)(38).

This use of partograph is lower than in a research conducted in Ethiopia's western Oromiya region in 180. (89.1 percent)(37). This could be because the study used a bigger sample size, resulting in a lesser proportion due to a higher denominator.

The use of partograph was also 21.7 percent (percentage point difference) greater in this study than in a previous survey conducted in Addis Ababa two years ago(2017), which was 68.9 percent.(39). Many basic and refresher trainings on partograph have been provided to help gynecology and

obstetrics workers develop their skills. Furthermore, an upgrade in partograph implementation could play a significant influence in this shift.

According to the findings of this study, despite the fact that the majority of obstetric care providers in public health facilities were informed with partographs and had a positive attitude toward them, there is a difference between respondents' knowledge and attitudes regarding their use. There were unrecorded (incomplete) recording of parameters on the partograph during direct observation of labor sheets, as compared to the suggested WHO partograph criteria.

The three independent factors of service year, knowledge of partograph, and kind of occupation were all found to be significantly linked with partograph use in this study. According to this study, obstetric care providers with a service year of 0-2 years were 60% less likely to use partograph as a tool guide than those with a service year of 9 or more. Similarly, obstetric care providers with a service year of nine or more were 40% less likely to use partograph as a tool guide than those with a service year of 3-5 years.

In Nigeria, a similar discovery was made. It's possible that obstetric care providers with more years of expertise can use partograph as a guide to take action early and have enough proof to recommend to a higher health institution. Furthermore, obstetric care professionals with more years of experience have the knowledge, skills, interpretation, and even confidence in recording the partograph (30).

This finding also revealed that knowledge is an important determinant of partograph usage. Obstetric care providers who were familiar with partograph were four times more likely to use it than those who were unfamiliar with it. In Nigeria, a similar study was conducted (30) and western Oromiya–Ethiopia (37), a previous study in Addis Ababa (39). This could be because obstetric care providers who are familiar with partograph can recognize and forecast when important stages of labor will occur, allowing them to choose between referral and caesarean section.

The findings of this study also demonstrated that there is a substantial link between partograph use and the type of profession. Obstetric care providers who worked as midwives were three times more likely than other obstetric care providers to use partograph. In Ethiopia, a similar investigation was conducted. (36) and Nigeria (30). This could be because midwives have more opportunities for training, which has helped them enhance their knowledge, attitude, and skill.

This research emphasizes the necessity of recruiting midwives as skilled birth attendants who can help improve the quality of labor.

7. Strengths and limitations of the study

7.1 Strengths:

- This research had a lot of advantages. One of the study's strengths was the monitoring of study participants, which increased the data's trustworthiness for assessing partograph consumption. Furthermore, research units were chosen using simple random selection to ensure that everyone had an equal chance of being chosen. Direct monitoring of participants could provide a thorough picture of the administration's usage of partograph in Addis Ababa.

7.2 Limitations:

- Only governmental health institutions were examined in the study. Other care providers that work in private health facilities or MCH centers, as well as hospitals that specialize in maternity care, are not included in this research.
- This study had a disadvantage in that it was difficult to analyze the exact cause-effect relationship between independent factors and partograph consumption because of the nature of the cross-sectional study.

8. Conclusion

- This study revealed that majority of obstetric care providers had good level of knowledge on partograph, good attitude towards partograph and level of their knowledge. 84% obstetric care providers utilize partograph appropriately.
- Service year, type of profession and knowledge were factors associated with partograph utilization.

9. Recommendations

Health professionals: Every obstetric care provider should consider using Partograph for every woman in labor as a tool of diagnosing difficulties as labor progresses. To correctly use partograph, a high level of devotion is required.

Addis Ababa Health Bureau and stake holders: To improve maternal health, the training system will be strengthened; work experience will be the primary criterion for hiring obstetric care providers; midwives will be preferred during a pregnant mother's labor follow-up; and a spirit of commitment will be instilled among administrative bodies through the development of strategies for implementing the use of partographs.

Researchers: Further research into predictors for partograph usage and titles linked to partograph knowledge, attitude, and usage is encouraged for the investigators.

References

1. WHO. Trends in maternal mortality: 1990 to 2015: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations population division. Geneva, Switzerland: World Health Organization. 2015.
2. Central Statistics Agency [Ethiopia], International I. Ethiopia demographic and health survey 2000. Addis Ababa, Ethiopia and Calverton, Maryland, USA 2000.
3. Central Statistical Authority (CSA) [Ethiopia] and ICF. Ethiopia Demographic and Health Survey 2011. Addis Ababa, Ethiopia, and Rockville, Maryland, USA: CSA and ICF. 2005.
4. Central Statistical Authority (CSA) [Ethiopia] and ICF. Ethiopia Demographic and Health Survey. Addis Ababa, Ethiopia, and Rockville, Maryland, USA: CSA and ICF. 2011. 2011.
5. central Statistical Agency [Ethiopia]. Ethiopian demographic health survey 2016. Addis Ababa, Ethiopia and Rockville, Maryland, USA. 2016.
6. Lawn JE, Lee AC, Kinney M, Sibley L, Carlo WA, Paul VK, et al. Two million intrapartum still births and neonatal deaths :where, why and what can be done? international journal of Gynaecol obst. 2009:107.
7. World Health Organization. World Health Organization partograph in management of labor. Lancet.343:1399–404.
8. Mathai M. The partograph for the prevention of obstructed labor. Clin Obstet Gynecol. 2009;52:25–69.
9. Lavender T. HA, Rmd,. Effect of partogram use on outcomes for women in spontaneous labour at term (Review). . TheCochrane Libr 2009;4.
10. WHO. systematic analysis. The Lancet Global Health. 2014;2.
11. Luwei Pearson. Margareta Larsson. Vincent Fauveau. Judith Standley. Opportunities for Africa's newborns. Journal of Africa Health. 2014:66–7.
12. M M, A A, K. P, . Partograph Utilization and Associated Factors among Obstetric Care Providers Working in Public Health Facilities of Wolaita Zone J Pregnancy. 2017.
13. Asibong U, OI., Agan T, Oku A. The use of the partograph in labor monitoring: a cross-sectional study among obstetric caregivers in general hospital, Calabar, crosses river state. Int J Womens Health. 2014:6873–880.

14. Engida Yisma, Berhanu Dessalegn, Ayalew Astatkie and Nebreed Fesseha. Knowledge and utilization of partograph among obstetric care givers in public health institutions of Addis Ababa, Ethiopia. . BMC Pregnancy and Childbirth. 2013;13(17).
15. Desalegne Amare Zelellw, Teketo Kassaw Tegegne and Girma Alem Getie. knowledge and attitude of obstetric care providers on Partograph and its associated factors in East Gojjam Zone, Northwest Ethiopia. . Hindawi Publishing Corporation Advances in Medicine. 2016:4-6.
16. EH, KE, Dubale D. Magnitude of Partograph use and associated factors among obstetric care givers in public health institution in Sidama zone, southern Ethiopia. Divers Equality Health Care. 2017.14(6):316–23.
17. Haymanot Mezmur, Agumasie Semahegn, and Balewgizie Sileshi Tegegne. Health professional’s knowledge and use of the partograph in public health institutions in eastern Ethiopia. BMC Pregnancy Childbirth. 2017;17(1):291.
18. Md. Jahid Hasan1 MSH, . etal., . Comparative Analysis of Life Curve Mobile Application: an Easier Alternative to Existing Traditional Paper Partograph IOSR Journal of Mobile Computing & Application (IOSR-JMCA) Jan.-Feb./2017;4(1):2394-0042.
19. Simon Ogwang, Zepher Karyabakabo, Elizeus Rutebemberwa. Assessment of partogram use during labour in Rujumbura Health Sub District, Rukungiri District, Uganda. African Health Sciences. 2009;9(2):27-34.
20. Okokon IB OA, Agan TU, Asibong UE, Essien EJ, Monjok E. Available from. An Evaluation of the Knowledge and Utilization of the Partograph in Primary , Secondary , and Tertiary Care Settings in Calabar , South-South Nigeria Int J Family Med. 2014;9.
21. Geetha C, Saranya S. Knowledge and Practice on Partogram among Staff Nurses. International Journal of Science and Research (IJSR). May 2015;4(5):2272.
22. Fawole ao ad, hunyinbo ki,. Utilization of the partograph in primary health care facilities in south western nigeria. Africa Journal of Reproductive Health. 13 june/2010:200–4.
23. Sama C TN, Danwe VK, Melo UF, Dingana TN, Angwafo FF, . Knowledge and utilization of the partograph: A cross-sectional survey among obstetric care providers in urban referral public health institutions in northwest and southwest Cameroon. PLoS ONE 2017;12(2).
24. Konlan et al. Knowledge and attitudes of midwives on the use of the partogram: a study among midwives in the Tamale Metropolis Maternal Health, Neonatology, and Perinatology 2016 2(2).

25. Mezmur H SA, Tegegne BS, . Health professional ' s knowledge and use of the partograph in public health institutions in eastern Ethiopia : a cross-sectional study. *BMC Pregnancy & Childbirth* 2017;17(291):1–7.
26. Wakgari. N, Amano. A, Berta. M, Tessema. GA. Partograph utilization and associated factors among obstetric care providers in North Shoa Zone, Central Ethiopia: a cross sectional study. *African Health Sciences* June 2015;15 (2).
27. Yisma E, Astatkie A, Fesseha N, Ababa A, Dessalegn B, et.al. Knowledge and utilization of partograph among in public health institutions of Addis Ababa ,Ethiopia. *BMC Pregnancy Childbirth* 2013;13(17):1–9.
28. Hanneke B, et.al. The completion of partograms:knowledge,attitudes and practices of midwives in a public health obstetric unit in Bloemfontein,South Africa. *The pan African Medical journal*. 18th August,2020;36(301):4.
29. Luwei Pearson ML, Vincent Fauveau, Judith Standley. Opportunities for Africa's Newborns.3:66.
30. Udeme A, Ita B O, Thomas U A, Affiong O, Margaret O, E James Essien, et al. The use of the partograph in labor monitoring: a cross-sectional study among obstetric caregivers in General Hospital, Calabar, Cross River State, Nigeria. *international Journal of Women's Health* international Journal of Women's Health 2014;6:876-7.
31. Thomas U A, Ubong A, Ita B. O, Oku. AO, Asibong. UE, Opiah. MM, et al. Assessment of the Knowledge and Utilization of the Partograph among Non-physician Obstetric Care Givers in the University of Calabar Teaching Hospital, Calabar, Nigeria *British Journal of Medicine & Medical Research* 2014;4(36):5745.
32. K Varnish. Knowledge and Practice on Partograph. *International Journal of Nursing Research and Practice in India*. . *International Journal of Nursing Research and Practice in India*. July—December 2014;2(2).
33. OM Maphasha, Govender, DP. Motloba, C. Barua. Use of the partogram by doctors and midwives at Odi District Hospital, Gauteng, South Africa. *South African Family Practice*. 2017.
34. Oliva B. utilization of partogram among nurses and midwives in rwamagana health facilities in the eastern province of rwanda. August 2014.

35. Ogwang S, Karyabakabo Z, Rutebemberwa E. Assessment of partogram use during labour in Rujumbura Health Sub District , Rukungiri District , Uganda. *Afr Health Sci.* 2009;9(1):27–34.
36. Asteray Assmie Ayenew, Biruk Ferede Zewdu. Partograph utilization as a decision making tool and associated factors among obstetric care providers in Ethiopia:a systematic review and meta analysis. 2020;9(251).
37. Habtamu R. TT. Hasen A. Partograph utilization and its determinant factors among obstetric care givers in hospitals of Western Oromia, Ethiopia. *Panacea J Med Science* January-April 2018;8 (1):21–4.
38. Markos D, Bogale D. Knowledge and utilization of partograph among health care professionals in public health institutions of Bale zone , Southeast Ethiopia. March 2016;137:162–8.
39. Azeb Abrham Hagos, Eshetu Cherinet Teka, Genet Degu. Utilization of Partograph and its associated factors among midwives working in public health institutions, Addis Ababa City Administration, Ethiopia. *BMC pregnancy child birth* 2017;20(49).

10. Annexes

a. Annex 1. Information sheet

Title of the Research Project: Assessment of Knowledge Attitude, and Utilization of Partograph and associated factors among Obstetric Care Providers in Addis Ababa Public Health Institutions, 2018/2019.

Name of Principal Investigator: Mulago Shafi Awol (BSc.)

Name of Advisor: Mr. Nigussie Assefa (MPH,MSc)

Name of Co-advisor: Mr. Tesfamichael Awoke (MPH,MSc.)

Name of Organization: Addis Ababa University

Name of the Sponsor: Addis Ababa University

Introduction: The purpose of this information sheet is to outline the research study in which you and a group of research investigators have been asked to participate. The study team consists of one lead investigator (Masters student), trained data collectors, one supervisor, and two advisers from Addis Ababa University.

Purpose: The aim of this study is to analyze obstetric care providers' knowledge, attitudes, and utilization of partographs, as well as associated factors, in Addis Ababa public health institutions in 2018/2019. The findings of this study will be used to offer recommendations to those in charge of obstetric care intervention.

Procedure: Health care providers will be interviewed as part of this study; health facilities will be approached for permission to perform the study, and health care professionals will be interviewed based on informed consent to measure partograph knowledge, attitude, and use.

Risk and/or Discomfort: There is no risk or discomfort associated with taking part in the study. Each and every piece of information will be kept private. There are no risks associated with this research project.

Benefits: There will be benefit for improvements of obstetric care services.

Incentives/Payment for Participating: There is no incentive or payment to be gained by taking part in this project.

Confidentiality: The information Collected from this research project will be kept confidential. Information will be accessed by the researcher and research assistant only.

Persons to contact: The Addis Ababa University's ethics committee has evaluated and approved this study endeavor. If you require further information, please contact the committee at the address shown below. If you have any questions, please contact the people listed below.

Investigator(MPH student): Mulago Shafi Awol(BSc)

Email: mulagoshafi2@gmail.com

Mobile: :+251916041569

Advisor : Nigussie Assefa (MPH, MSc)

Co-advisor: Tesfamichael Awoke (MPH, MSc)

b. Annex 2. Consent form

Title of the research: Assessment of Knowledge, Attitude and Utilization of Partograph and associated factors among Obstetric Care Providers in Addis Ababa Public Health Institutions, 2018/2019

Introduction

You, _____, have been asked to be in this research study, which has been explained to you by _____(data collector). This study is being conducted by Mulago Shafi MPH student in the Public Health Addis Ababa University under supervision of his two advisors Mr. Nigussie Assefa (MPH) and Mr. Tesfamichael Awoke (BSC) from Addis Ababa University sponsored by the University.

Purposes of the Study: The goal of this study is to learn more about Obstetric Care Providers' knowledge, attitudes, and use of Partograph, as well as associated factors, in Addis Ababa Public Health Institutions.

Description of Procedures: We may ask you questions on partograph usage, practical definitions, interest in learning and utilizing partograph, and interviews that may last 30

minutes, and you do not have to answer all of the questions. Before signing this consent form, you will have the option to view the questions.

Risks and discomforts: Except for the slight frustration connected with completing the questions, there are no known or expected dangers associated with participating in this study. You have the option to drop out of the study at any time.

Benefits: This study may not provide any immediate benefits to you. This study's findings may someday be useful to others.

Financial considerations: No payments will be made for participating in this study.

Confidentiality: Any information about you collected as a result of your participation in this study will be kept as private as practicable under the law. Without your permission, any publications resulting from this research will not include your name or any information that could be used to identify you.

Voluntary participation: It is entirely up to you whether or not you choose to take part in this research. At any moment, you may withdraw your consent to participate in this study.

You will not be affected or penalized if you refuse to participate or withdraw.

You have been given the opportunity to ask questions about the research, and you have received answers concerning areas you did not understand.

I willingly consent to participate in this research.

Name of the participant: _____ Signature of participant, ___Date_____and
Time_____

Investigator: _____Signature of Investigator___Date _____ and Time_____

Contact persons: For more information about this research, you may contact Mr. Nigussie Assefa (MPH, MSc) and Mr. Tesfamichael Awoke (MPH, MSc) from Addis Ababa University. This research has been approved by the Institutional Review Board of Addis Ababa University for research with human subjects.

c. Annex 3: Criteria for the partograph knowledge, attitude and utilization scores

Annex 1.1. Knowledge assessment scores among obstetric care providers in Addis Ababa public health facilities, Ethiopia, 2019.

.Parameters	Response	
	No	Yes
1. Awareness of Partograph	0	2
2. Correct definition of the partograph	0	2
3. Knows the benefit of the partograph to parturient	0	2
Knowledge of observations on component of partograph	0	2
1. Cervical dilatation	0	3
2. Fetal heart rate	0	3
3. Uterine contraction	0	2
4. Descent of the presenting part	0	2
5. Maternal blood pressure	0	2
6. Maternal pulse	0	2
7. Color of liquor	0	2
8. Maternal temperature	0	2
9. Oxytocin regiments	0	2
10. Intravenous fluids and drugs	0	2
11. Urine test results	0	2
Total		32

d. **Annex 4. Attitude assessment scores** among obstetric care providers in Addis Ababa public health facilities, Ethiopia, 2019.

Parameters	Disagree	Agree
1. Like to use partograph	0	1
2. Partograph is important to monitor labor	0	1
3. Partograph should be used in all labor	0	1
4. Partograph reduces risks of maternal and/neonatal morbidity and mortality	0	1
5. Partograph helps for early detection for surgery or cesarean section	0	1
6. Wish to use partograph routinely	0	1
7. Not all normal labor needs partograph	1	0
8. Using partograph is the only responsibility of physicians	1	0
9. Partograph is not effective to monitor labor progress	1	0
10. Using partograph is time consuming	1	0
Over all attitude scores	4	6

- e. **Annex 5. Utilization assessment scores** among obstetric care providers in Addis Ababa public health facilities, Ethiopia, 2019.

.Parameters	Response	
	No	Yes
1. Cervical dilatation	0	1
2. Fetal heart rate	0	1
3. Uterine contraction	0	1
4. Descent of the presenting part	0	1
5. Maternal blood pressure	0	1
6. Maternal pulse	0	1
7. Color of liquor	0	1
8. Maternal temperature	0	1
9. Oxytocin regiments	0	1
10. Intravenous fluids and drugs	0	1
11. Urine test results	0	1
Total		11

g. **Annex 7. Assurance of investigators:** The undersigned agrees to accept responsibility for the scientific ethical and technical conduct of the research project and for provision of required progress reports as per terms and conditions of the Research Publications Office in effect at the time of grant is forwarded as the result of this application.

Name of the student: Mulago Shafi Awol

Date. _____ Signature _____

Approval of the primary Advisor:

Name of the primary advisor: Nigussie Assefa

Date. _____ Signature _____

Approval of the secondary advisor:

Name of the secondary advisor: Tesfamichael Awoke

Date _____ Signature _____

h. Annex 8. Questionnaire

Addis Ababa University

College Of Health Sciences

School Of Public Health

Assessment of knowledge, attitude and utilization of partograph and associated factors among obstetric care providers in Addis Ababa public health facilities.

Greetings, responder My name is Mulago Shafi, and I am a second-year public health student at Addis Ababa University. I am currently conducting a study of health care providers' knowledge and attitudes toward partograph and related factors in Addis Ababa.

Participating in this study can assist the researchers in determining the participant's knowledge and attitude. There may be no direct gain from the study, but the knowledge and utilization data will be used to improve the service utilizing partograph methods, and there will be no cost for participation. This study could take up to 30 minutes to complete. Participating in the study carries no risk for the participants.

I want to reassure you that your privacy will be respected at all times. It is not necessary to include your name or roll number on the format. It is entirely your choice whether or not to engage in the study. If there is anything that needs to be clarified, please do not hesitate to question the facilitator.

Do you want to take part in the research?

1. Yes 2. No

Let begin, I would like to get some basic information about back ground in formations?

Part A: Back socio demographic		
Q#	Question	Response
101.	What is the gender of the respondent?	<input type="checkbox"/> Female-----0 <input type="checkbox"/> Male1
102.	How old are you at your last birthday?	____ ____ Age in completed years
103.	What is your profession?	<input type="checkbox"/> _____] Nursing..... 1 <input type="checkbox"/> _____] Midwife2 <input type="checkbox"/> _____] Medical doctor3 <input type="checkbox"/> _____] Emergency surgery..... 4 <input type="checkbox"/> _____] Health officer.....5 <input type="checkbox"/> _____] Other(sp ecify)
104.	What is your monthly salary?	_____ _____ETB
105.	From where did you graduate?	<input type="checkbox"/> Private 1 <input type="checkbox"/> Government 0
106.	Year of experience(Year and month)	Year _____month____

107.	Did you receive on job training in the last one year? [Hint: <i>On-job training</i>]	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0.....skip to 201
108.	Did the training include Partograph?	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
109.	Does the training include practical activities on partograph use for service?	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
Part B Attitude of the care providers on Partograph		
201.	Some care provider likes to use partograph; Do you agree?	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
202.	Some care providers say partograph is important to monitor labor; Do you agree?	<input type="checkbox"/> yes 1 <input type="checkbox"/> No 0
203.	Some care providers say partograph should be used in all labor; do you agree?	<input type="checkbox"/> yes 1 <input type="checkbox"/> No 0
204.	Some care providers say partograph utilization can reduce maternal and new- born deaths; Do you Agree?	<input type="checkbox"/> yes 1 <input type="checkbox"/> No 0
205.	Some care providers say partograph is necessary to improve quality of care; Do you agree?	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
206.	Some care providers say partograph helps for early detection for surgery or cesarean section; do you agree?	<input type="checkbox"/> yes 1 <input type="checkbox"/> No 0
207.	Some care providers wish to use partograph routinely; Do you agree?	<input type="checkbox"/> yes 1 <input type="checkbox"/> No 0
208.	Some care providers say not all normal labor needs partograph; do you agree?	<input type="checkbox"/> yes 0 <input type="checkbox"/> No 1
209.	Some care providers say using partograph is the only responsibility of physicians; do you agree?	<input type="checkbox"/> yes 0 <input type="checkbox"/> No 1
210.	Some care providers say partograph is not effective to monitor labor progress; do you agree?	<input type="checkbox"/> yes 0 <input type="checkbox"/> No 1
211.	Using partograph is time consuming; do you agree?	<input type="checkbox"/> yes 0

		<input type="checkbox"/> No 1
212.	Some care providers think partograph is developed only for obstetric care givers; do you agree?	<input type="checkbox"/> Yes 0 <input type="checkbox"/> No 1
213.	Some providers say partograph is a chart for monitoring labor by all obstetric care providers; Do you agree?	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
214.	Some care providers say partograph is a complex tool with a pictorial overview of labor; do you agree?	<input type="checkbox"/> yes 1 <input type="checkbox"/> No 0
215.	Some care providers say partograph is a simple graphic recording of progress labor; do you agree?	<input type="checkbox"/> yes 1 <input type="checkbox"/> No 0
Part C: Knowledge of the care providers		
301.	Did he/ she knows definition of partograph correct?	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
302.	Did She/ he mention at least one component of partograph?(awareness)	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
303.	Did he/she define the use of partograph?(benefit)	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
304.	Did he/she know functions of alert line?(cervical dilatation)	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
305.	Did he/she know functions of action line?(Descent of head)	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
306.	Knowledge of observations on component of partograph (Cervical dilatation)	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
307.	Knowledge of Observation on Component of partograph(Foetal_heart_rate)	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
308.	Knowledge of observations on component of partograph (Uterine contraction)	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
309.	Knowledge of observations on component of partograph (Descent of the presenting part)	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
310.	Knowledge of observations on component of partograph (Maternal blood pressure)	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0

311.	Knowledge of observations on component of partograph (Maternal pulse)	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
312.	Knowledge of observations on component of partograph (Color of liquor)	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
313.	Knowledge of observations on component of partograph (Maternal temperature)	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
314.	Knowledge of observations on component of partograph (Oxytocin regiments)	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
315.	Knowledge of observations on component of partograph (Intravenous fluids and drugs)	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
316.	Knowledge of observations on component of partograph (Urine test results)	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
317.	Did he/ she know when to start plotting on partograph?	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
318.	Did she/he know satisfactory labor progress?	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
Part D: Utilization of Partograph		
401.	Are You using partograph?	<input type="checkbox"/> Yes 1 <input type="checkbox"/> No 0
402.	How often you use partograph? (Frequency?)	<input type="checkbox"/> Rarely 0 <input type="checkbox"/> Routinely 1 <input type="checkbox"/> Some times 2
403.	What is your reason for not using partograph? (Note: We are asking you for our knowledge.)	<input type="checkbox"/> I don't know how to use 1 <input type="checkbox"/> It is time consuming 2 <input type="checkbox"/> No supply3 <input type="checkbox"/> It is not useful.....4

		[] I forget it5 [] other specify.....6
--	--	---

Part IV. Practice of recording of partograph. Q401-----405		
S.No	Questions	<u>Coding Categories</u>
Q401	Are partograph always readily available at your facility?	1. Yes 2. No
Q402	How many deliveries are conducted at your facilities on average per day?	1. _____
Q403	How many skilled birth attendants work in labor ward per shift?	1. _____
Q404	What would make a skilled attendant difficult to use the partograph when monitoring women in labor?	1. Lack of orientation on how to use the partograph being used at the facility 2. Availability of other methods of observation

		3. Lack of commitment 4. Lack of supervision
Q405	Do you have any problem in using the partograph?	1. Yes 2. No

Part V: 5-10 Direct observation during skilled birth attendants follow women in labor at ward (by using checklist). Observer please checks if the following are recorded on the check list. Q501—505

<u>S.No</u>	<u>Questions</u>	<u>Coding Categories</u>
Q501	Are the following patient information record?	1 Yes 2. No
501-1	Name	1 Yes 2. No
501-2	Gravida, para,	1 Yes 2. No
501-3	Hospital number,	1 Yes 2. No
501-4	Date and time of admission,	1. Yes 2. No
501-5	Time of membranes ruptured	1 Yes 2. No

Q.502 Are the following information about the fetus recorded		<u>Coding Categories</u>
502-1	Fetal heart rate,	1. Yes 2. No
502-2	Amniotic fluid	1. Yes 2. No
502-3	Molding	1 Yes 2. No
Q .503-Are the following information about Labour progress recorded:-		
503-1	Cervical dilatation	1. Yes 2. No
503-2	Contractions	1. Yes 2. No
503-3	Descent	1 .Yes 2. No
Q.504 :Are the following information about maternal conditions record review		
504-1,	Temperature	1. Yes 2. No
504-2	Pulse,	1. Yes 2. No
504-3	Blood pressure	1. Yes 2. No

504-4	Urine output	1. Yes 2. No
-------	--------------	-----------------

End!

Thank you for sharing your golden time!

i. ቅጥያ 9 . የጥናቱ አጠቃይ መግለጫ(አሜሪካ ትርጓሜ)

አዲስ አበባ ዩኒቨርሲቲ

የጠፍ ሳይንስ ኮሌጅ

የ ማህበረሰብ ጠፍ ትምህርት ቤት

የ አሜሪካ የ ፈቃደኝነት መጠየቂያ ቅጽ

በአዲስ አበባ የ ማህ ፍ የ መንግስት ጠፍ ተቋማት የ ፓርቶግራፍ አጠቃቀም፤ አወቀት እና አመለካከት ዳሰሳ ጥናት

እንደምን አደሩ ስሜሙን ሻፊ እባላለሁ የአዲስ አበባ ዩኒቨርሲቲ የሁለተኛ ዲግሪ የ ማህበረሰብ ጠፍ ትምህርት ተማሪ ስሆን በአሁኑ ስድስት በአዲስ አበባ የ ማህ ፍ የ መንግስት ጠፍ ተቋማት የ ፓርቶግራፍ አጠቃቀም፤ አወቀት እና አመለካከት ዳሰሳ እንዲሁም ተያያዥ ምክንያቶችን በተመለከተ ጥናት እየሰራሁ ነው፡፡ በዚህ ጥናት ከተሳተፉ አጥኘው የ አወቀትና አመለካከት ክፍተቶችን ለማወቅ ይጠቅመዋል፡፡ ቀጥተኛ የሆነ ጥቅም የለውም ነገር ግን የ ጥናቱ ወጠኛ የ ፓርቶግራፍ አጠቃቀምን ለማሻሻል ይጠቅማል፡፡ በጥናቱ ስለተሳተፉ ክፍያ የለውም፡፡ መጠይቁ 30 ደቂቃ ይወስዳል በዚህ ጥናት መሳተፍ ምንም አይነት አደጋ የለውም፡፡ የሚሰጡት ምላሽ ሚስጥራዊነቱ የተጠበቀ ነው ስምዎችን መጥቀስ አይጠበቅብዎትም መጠይቁ በፍቃደኝነት ላይ የተመሰረተ ብቻ ነው ያልገባዎት ጥያቄ ካለ በሚኛውም ስድስት አስቀምጦ መጠየቅ ይቻላል

እንዲሁም መጠይቁን ማቋረጥም ይችላሉ፡፡

በጥናቱ ለመሳተፍ ፍቃደኛ ነዎት?

- 1. አዎ
- 2. አይደለሁም

j. ቅጥያ 10. አባሪ: በአሜሪካ የተተረጎመ መጠይቅ

ክፍል 1: ማህበራዊና ስነ-ህዝባዊ ገጽታዎችን የተመለከቱ ጥያቄዎች		
ኮድ	መጠይቅ	ምላሽ
110.	የታ?	[] ሴት----- ----0 [] ወንድ1
111.	እድሜ	_____ (እድሜ ሜበሙ አመት)
112.	የስራ ድርሻ/መጽ?	[] ነርስ.....1 [] አዋላጅ ነርስ2 [] ሜዲካል ዶክተር3 [] ደንገተኛ ቀዶ ጥገ4 [] ጠፍ መኮንን..... ..5 []ሌላ.....(ይገለጽ)
113.	አሜሪካ የወር ገቢዎት ስንት ነው?	----- (የአትዮጵያ ብር)
114.	ከየት ነው የተመረቁት?	[] ከግል 1

		[] ከመግባት 0
115.	የስራ ልምድ በአመት	አመት _____ ወር _____
116.	ባለፈው አንድ አመት ወስጥ ስራ ላይ ስልጠና ወስደው ያወቃሉ?	[] አዎ 1 [] የለም 0..... ወደ ጥያቄ ቁጥር 201 ይለፉ
117.	ስልጠናው ፓርቶግራፍን ይጨምር ነበር?	[] አዎ 1 [] የለም 0
118.	ስልጠናው ስለ ፓርቶግራፍ አጠቃቀም በተመለከተ ልምድ ነበረው?	[] አዎ 1 [] የለም 0
ክፍል 2: አገልግሎት የሚሰጡባቸው ሰዎች የአመለካከት ጥያቄዎችን በተመለከተ		
216.	አንዳንድ አገልግሎቱን የሚሰጡባቸው ባለሰዎች ፓርቶግራፍ መጠቀም ይወዳሉ?	[] አዎ 1 [] የለም 0
217.	አንዳንድ አገልግሎቱን የሚሰጡባቸው ባለሰዎች ፓርቶግራፍ ምጥን ለመቆጣጠር ይጠቅማል ይላሉ ይስማማሉ?	[] አዎ 1 [] የለም 0
218.	አንዳንድ አገልግሎቱን የሚሰጡባቸው ባለሰዎች ፓርቶግራፍ ለሁሉም ምጥ መጠቀም አለብን ብለው ያስባሉ?	[] አዎ 1 [] የለም 0
219.	አንዳንድ አገልግሎቱን የሚሰጡባቸው ባለሰዎች ፓርቶግራፍ መጠቀም የእናቶችንና ህጻናትን ሞት ለመቀነስ ይጠቅማል ይላሉ ይስማማሉ?	[] አዎ 1 [] የለም 0
220.	አንዳንድ አገልግሎቱን የሚሰጡባቸው ባለሰዎች ፓርቶግራፍ ጥራትን ለመጨመር ይጠቅማል ይላሉ ይስማማሉ?	[] አዎ 1 [] የለም 0
221.	አንዳንድ ጠፍ ባለሰዎች ፓርቶግራፍ አስቀድሞ ቀዶ ጥገናን ለመወሰን ይጠቅማል ይላሉ ይስማማሉ?	[] አዎ 1 [] የለም 0
222.	አንዳንድ ጠፍ ባለሰዎች ፓርቶግራፍን በመደበኛነት መጠቀም አስፈላጊ ነው ብለው ያስባሉ?	[] አዎ 1

	ይስማሉ?	[] የለም 0
223.	አንዳንድ ጠፍ ባለሙያዎች ሁሉም ትክክለኛ ለሆነ ምጥ ፓርቶግራፍ መጠቀም አስፈላጊ አይደለም ይላሉ ይስማሉ?	[] አዎ 0 [] የለም 1
224.	አንዳንድ ባለሙያዎች ፓርቶግራፍ መጠቀም የደክተኞች ብቻ ነው ብለው ያስባሉ ይስማሉ?	[] አዎ 0 [] የለም 1
225.	አንዳንድ ጠፍ ባለሙያዎች ፓርቶግራፍ ምጥን ለመቆጣጠር ወጠታማ አይደለም ይላሉ ይስማሉ?	[] አዎ 0 [] የለም 1
226.	ፓርቶግራፍ መጠቀም ስኬት ይገኛል?	[] አዎ 0 [] የለም 1
227.	አንዳንድ ጠፍ ባለሙያዎች ፓርቶግራፍ የተሰራው ለአዋላጅ ነገሮች ብቻ ነው ብለው ያስባሉ ይስማሉ?	[] አዎ 0 [] የለም 1
228.	አንዳንድ ጠፍ ባለሙያዎች ፓርቶግራፍ ካርታ ሆኖ ምጥን የመቆጣጠር በጽንሰና ማጻጸን አገልግሎት ለሚሰጡ ጠቃሚ ብለው ያስባሉ ይስማሉ?	[] አዎ 1 [] የለም 0
229.	አንዳንድ ባለሙያዎች ፓርቶግራፍ ማለት ወስብስብ የሆነ የእርግዝና መከታተያ ነው ፤ ይስማሉ?	[] አዎ 0 [] የለም 1
230.	አንዳንድ ባለሙያዎች ፓርቶግራፍ ማለት ቀላል ግራፋዊ የሆነ የእርግዝና መከታተያ ነው ይላሉ ይስማሉ?	[] አዎ 1 [] የለም 0
ክፍል 3: አገልግሎቱን የሚሰጡ ባለሙያዎች እውቀት መጠይቅ		
319.	የፓርቶግራፍን ትክክለኛ ትርጉም ያውቃሉ?	[] አዎ 1 [] የለም 0
320.	ቢያንስ አንድ የፓርቶግራፍ አካል ሊገልጹልኝ ይችላሉ?	[] አዎ 1 [] የለም 0
321.	የፓርቶግራፍ ጥቅምን መግለጽ ይችላሉ?	[] አዎ 1 [] የለም 0
322.	ስለ አለርት ላይን ጥቅም ያውቃሉ?	[] አዎ 1 [] የለም 0

323.	ስለ አክሽን ላይን ጥቅም ያወቃሉ?	[] አዎ 1 [] የሌለም 0
324.	ፓርቶግራፍ መቼ መጀመር እንዳለበት ያወቃሉ?	[] አዎ 1 [] የሌለም 0
325.	የፓርቶግራፍ ጠቀሜታን ያወቃሉ?	[] አዎ 1 [] የሌለም 0
326.	ስለ ስኬታማምጥ ሂደት ያወቃሉ?	[] አዎ 1 [] የሌለም 0
ክፍል 4: የፓርቶግራፍ አጠቃቀም በተመለከተ		
404.	ፓርቶግራፍ ይጠቀማሉ?	[] አዎ 1 [] የሌለም 0
405.	በምን ያህል ጊዜ ነው ፓርቶግራፍ የሚጠቀሙት?	[] አልፎ አልፎ 0 [] በመደበኛ ነት 2 [] አንዳንድ ጊዜ 1
406.	ፓርቶግራፍ ለምንድን ነው የሚጠቀሙት?	[] እንዴት መጠቀም እንዳለብኝ አላወቅም..1 [] ጊዜ ስለ መጀመሪያ

	<p>..... 2</p> <p>[] የአቅርቦት አጥረት</p> <p>.....</p> <p>.....3</p> <p>[] ጠቃሚ አይደለም.....</p> <p>.....4</p> <p>[] ስለምረጥ</p> <p>.....</p> <p>.....5</p> <p>[] ሌላ ይገለጽ.....</p> <p>.....6</p>
--	--