ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCE

SCHOOL OF NURSING AND MIDWIFERY

DEPARTMENT OF MIDWIFERY

POST GRAGUATE PROGRAM

EVIDENCE BASED INTRAPARTUM PRACTICE AND ASSOCIATED FACTORS AMONG OBSTETRIC CARE PROVIDERS IN SELECTED PUBLIC HOSPITALS OF ADDIS ABABA, ETHIOPIA 2020.

BY: ASSEFA MITIKU (BSc)

A RESEARCH THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCES SCHOOL OF NURSING AND MIDWIFERY IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTERS OF SCIENCES IN MATERNITY AND REPRODUCTIVE HEALTH NURSING.

JUNE, 2020

ADDIS ABABA, ETHIOPIA

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Approval by the Board of Examiners

This thesis by Assefa Mitiku Mengiste is accepted in its present form by the board of examiners as satisfying thesis requirement for the degree of Master of Science in maternity and reproductive health nursing.

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STATEMENT OF DECLARATION

By my signature below, I declare and affirm that this thesis is my own work. I have followed all ethical principles of scholarship in the preparation, data collection, data analysis and completion of this thesis. All scholarly matter that is included in the thesis has been given recognition through citation. I affirm that I have cited and referenced all sources used in this document. Every effort has been made to avoid plagiarism in the preparation of this thesis.

This thesis is submitted in partial fulfillment of the requirement for a graduate degree from the Addis Ababa University at College of Health Sciences, School of nursing and midwifery. The thesis is deposited in the Addis Ababa University Digital Library and is made available to local, national and international scientific community. I solemnly declare that this thesis has not been submitted to any other institution anywhere for the award of any academic degree, diploma or certificate.

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LIST OF ACRONYMS AND ABBREVIATIONS

AFSL – Active First Stage of Labour

AMTSL – Active Management of Third Stage of Labour

AOR – Adjusted Odds Ratio

BSc – Bachelor of Science

CCT – Cord Control and Traction

CI – Confidence Interval

COR – Crud Odds Ratio

EBP – Evidence based practice

GMH – Gandhi Memorial Hospital

MSc – Masters of Science

OR – Odds Ratio

SPHMMC – St. Paul's Hospital Millennium Medical College

SPSH – St. Peter Specialized Hospital

WHO –World Health Organization

ZMH – Zewditu Memorial Hospital

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ABSTRACT

Background: The World Health Organization stated that 'child birth is a normal process and in normal birth, there should be scientific based reason to interfere with' and encouraged practices that are ostensibly supported by evidences. But, the reality experienced by women and babies in a multitude of settings is far from this, and access to essential interventions is not universal. However, only limited study was conducted in Ethiopia to assess this problem.

Objective: The aim of this study is to assess magnitude of evidence-based intra-partum practice and its associated factors among obstetric care providers in selected public hospital of Addis Ababa city, Addis Ababa, Ethiopia 2020.

Methods: A facility-based, cross-sectional study design was conducted in Addis Ababa city selected public hospitals. A simple random sampling technique was used to select 398 study participants after the sampling procedure is undertaken. The data was collected using structured and pre-tested self-administered questionnaire; and structured and pre-tested observational checklist from March 17 to April 16/2020. Bivariate and multivariable logistic regression were done to identify factors associated with evidence-based intra-partum practice using odds ratio at 95% C.I and P-value < 0.05 was considered statistically significant. SPSS version 25 was used for data analysis.

Result: From the total of 398 study participants 386 responded for the question with a response rate of (97%).The overall magnitude of evidence-based intrapartum care was 51% with 95% CI. There is a significant association between evidence-based intrapartum practice and knowledge of the care provider [AOR=2.81; 95% CI (1.79, 4.37)], having of training [AOR=1.73; 95% CI (1.12-2.67)], salary [AOR=2.41; 95% CI (1.20-4.84)] and educational level [AOR=4.09; 95% CI (1.45-11.55)] at p-value < 0.05.

Conclusion and recommendation: The current evidence-based practice of intrapartum care among obstetric care providers in Addis Ababa public hospitals was 51%. Educational level, knowledge, attitude, salary and training were factors statistically associated with evidence based intrapartum practice. Avail updated intrapartum care guidelines, providing continuous training; be helpful for maximizing evidence-based intrapartum care.

Keywords: Evidence-based intrapartum care, knowledge, attitude and obstetric care providers.

1. INTRODUCTION

1.1 Background

Evidence Based Practice (EBP) is a problem-solving approach in which the best available evidence is used by integrating research evidence, clinical expertise, and patient values and preferences in order to improve health outcomes (1). Intra-partum care refers to the period from the commencement of true labour throughout the first, second, third and the fourth stage of labour, which last from one to two hours after delivery of placenta (2).

Additionally, evidence-based intra-partum practice is an effective approach to improve the quality of obstetric care. There is a global concern that no evidence-based interventions and practices in labour and birth remain as standard practices (3). The world health organization has already emphasized that the ineffective and harmful clinical practice should be replaced with evidence based clinical ones (3). Unluckily, in many developing countries, some useless or harmful interventions are used as routine care during labor and delivery, whereas beneficial practices are not implemented for a lot of labouring mothers (4).

Professional maternity care during pregnancy, childbirth and the immediate postpartum is outlined as an effective intervention in attaining significant improvement in both maternal and child health outcomes. Unfortunately professional care is beyond the reach of many women particularly in developing countries (5). Quality of care provided to women during the intra-partum period is poor even if available. Poor quality of care is a consequence of inadequate skills of attendants, lack of equipment, drugs, supplies, non-existence of blood transfusion services, ineffective referral systems and, application of practices that are scientifically ineffective (6). The growing demand for health care, constrained resources, and evidence of variations in clinical practice during intrapartum have increased governments' interest in measuring and improving quality of institutional delivery care services in many countries including Ethiopia (7).

Studies have shown that a significant proportion of healthy pregnant women experience at least one clinical intervention during labour and birth, such as labour induction, augmentation, caesarean section, operative vaginal birth or episiotomy (8). Furthermore, women in normal labour remain to be subjected to ineffective and potentially harmful routine intrapartum interventions, such as perineal shaving, enemas, routine intravenous fluids, antispasmodics and antibiotics for uncomplicated vaginal births (9).

It is not always an easy process to encourage healthcare providers to change their routine interventions in line with evidence-based practice. Professional behavior change is a multifaceted process and the barriers to change may vary in different clinical environments, groups of health care providers or clinical practices (11, 12). Previous evidence-based related studies reveal some factor to adopting evidence-based practice (EBP) including the lack of time and resources, and conflicts between healthcare professionals and physical environment. It is necessary to understand and determine healthcare providers' behavior to develop change effective strategies (11).

Over the last two decades, pregnant women have been encouraged to give childbirth in health care facilities to safeguard access to skilled health care professionals and timely referral should the need for additional care arise in case of obstetric complications. But, accessing labour and delivery care in health care facilities may not guarantee evidence based or good quality of care. Non-beneficial or harmful intra-partum care is prevalent in many facility settings globally, particularly for underprivileged populations, and this not only violates their human rights but is also a significant barrier to accessing intra-partum care services. Furthermore, the predominant model of labour and delivery care in many parts of the world, which enables the health care provider to control the birthing process, may expose apparently healthy pregnant women to preventable unnecessary medical interventions that interfere with the physiological process of childbirth (12).

1.2 Statement of the problem

Worldwide, approximately 140 million births occur every year. The majority of these are spontaneous vaginal delivery among pregnant women without recognized risk factors for complications, either for themselves or their babies, at the onset of labour. However, in conditions where complications arise during labour and delivery, the risk of serious morbidity and mortality increases for both the woman and newborn (13). Over a third of maternal deaths and a considerable proportion of pregnancy-related life-threatening circumstances are attributed to complications that arise during labour, childbirth or the immediate postpartum period, often as result of hemorrhage, obstructed labour or sepsis (14). Most global maternal and newborn deaths are avoidable with quality health care provision. It suggests that such an intra-partum-care package can bring maternal mortality below 200 per 100 000 live births (15).

An intra-partum related 1.2 million neonatal deaths each year could be prevented through an effective and low-cost intra-partum care linked with training on evidence based essential obstetric care, both are relevant to the improvement of practice in maternal and neonatal morbidity and mortality. To counteract maternal and newborn death; therefore, intra-partum-care is the likely tactic given principally based on timely and competent care which demanded on advance by women (16). Of the 136 million women who give birth each year, nearly 20 million experience short or long-term pregnancy-related complication after birth which could also be linked to the routine practices during labour and delivery. These include; sepsis, bleeding, uterine rupture and fistulae to mention a few (13).

In Africa, a study done in Ghana revealed that only 17% of 416 births in health institutions met criteria for good clinical practice and in other studies in Nigeria and Côte d'Ivoire, technical quality was also revealed to be low in health institutions (17). In Ethiopia percentage of deliveries attended by skilled health personnel has increased form 16.8%in 2010 to 28% in 2016(18). However, the quality of care were not supported by the available evidence a study conducted in Amhara regional state the result shows only 38.2% the care provider were provide care based on the available evidence(19). Although unnecessary labour interventions

are generally more common in middle- and high-income settings, the routine use of ineffective and potentially harmful labour practices are also widespread in resource-limited settings, with the subsequent misallocation of scarce resources and a further spreading of the equity gap. On the other hand, failure to employ effective labour interventions when needed is also a recognized contributor to health inequities and poor quality of care during childbirth (20).

Delivery assisted by skilled provider is in fact the most important factor in reducing maternal mortality (18). In 2015, the United Nations General Assembly adopted the more ambitious sustainable development goals (SDGs), which include targets for ending preventable neonatal deaths and drastically reducing global MMR to less than 70 per 100,000 live births (21). In line with this global objective, the Government of Ethiopia committed to significantly reduce MMR (Maternal Mortality Rate) to 199 per 100,000 live births and neonatal mortality (NMR) rate to 10 per 1000 live births by 2020 (22). Meeting these ambitious global and national goals for maternal and newborn health requires improving the quality of maternal and newborn care through evidence-based practice.

Having practiced as a midwife and currently being a midwifery lecturer, the researcher observed that some of the midwives are still using routine intra-partum care interventions not supported by evidence based practices (23). Such interventions are more likely to cause harm to women during childbirth, such as; routine episiotomy, routine uterine exploration, routine fluid infusion for laboring mother and also the use of fundal pressure to shorten the second stage of labour (23). Generally, unsafe intra-partum care practices continue to occur despite the availability of best practice initiatives. Therefore, this study aimed to assess magnitude of evidence-based labor and delivery practice and associated factors among obstetric care providers in selected public hospitals of Addis Ababa city.

1.3 Significance of the Study

Nowadays the world is striving to decrease the maternal and neonatal death which is most significant indicators for development of nation. In the reduction of maternal and neonatal death evidence based intra-partum practice plays a great role in halting the mortality and morbidity related with labour and delivery (24).

- The result of this study will benefit health care facilities and health care professional for delivering specific women and child heath related interventions. In addition, it enables the obstetric care provider to build up their ability on assessing problems and strengthens team sprit & friendship among group members and government sectors on solving problems.
- The findings of this study may benefit the policy makers to develop appropriate policies/guidelines, plans and intervention programs for the appropriate application of evidence based intra-partum practice.
- The finding of this study will also help to influence the higher educational institutions to revise nursing/midwifery curriculum in order to give emphasis on safe and effective intra-partum practice.
- Lastly, the findings of this study could serve as a reference and guide for other researchers who want to study about on evidence based intra-partum practice and contributing factors.

2. LITERATURE REVIEW

2.1 Magnitude of evidence based intra-partum practice

Yearly, more than 300 000 laboring mother die from preventable causes related to pregnancy and childbirth, and 99% of them are from low and middle-income countries (25). In fact a new-born child's prospect of survival, good health and well-being is closely linked to their mother's survival, health and well-being (26). A cross-sectional study from Sweden reveals a 22.7% proportion of using evidence in intra-partum care (27), while a study done in Iran revealed that 78% of women had received care concordant with evidence in Iranian social security hospital (28). Another study in Colombia revealed that rates for the ineffective intrapartum practices of enema use, perineal/ pubic shaving, and routine intravenous infusion during labour were around 75%. On the other hand, episiotomy rates for primipara and multipara were 70 and 22%, respectively. Rates for the beneficial practices of active management of the third stage of labour and allowing women's choice of position during the first stage of labour were around 45% (10).

A study done in California reported that 74.4% of women had received an evidence based intrapartum care (29), while Argentinian practiced Active Management of First Stage of Labor was 93.5% (4). Another study done in India also reveal that 48% facilities were providing routine augmentation of labor and 57% were providing routine episiotomy to primi-gravidas. Likewise, the proportion of facilities applying fundal pressure decreased from 48% to 14% and those using vaginal packing after delivery reduced from 48% to 18% during the intervention period. Overall, the frequency of almost all incorrect practices reduced in facilities, except for dorsal delivery position which is 93% (30). On the other hand, the beneficial and correct practices, the monitoring of foetal heart sounds (FHS) during labour increased from 9% to 48% facilities.

Similarly, 57% facilities were using intramuscular (IM) oxytocin during 3rd stage of labour at baseline, this increased to 90%, while initiation of breastfeeding within one hour after birth increased from 25% to 48% facilities (30). The magnitude were varied in middle and low-

income countries; for instance, a multicenter study done in tertiary hospitals in Arab found that 60% in Egypt, 82% in Lebanon, and 73% in Syria, allows freed of movement during labor (31). Another study in India revealed that Oxytocin 10 IU IM was given in 80% of cases. But this was documented in the doctors' notes in 50% of the cases only. The nurses' notes were also checked. The timing of uterotonic administration was not documented. IV infusion of oxytocin was given in 100% of cases. The dose varied 10-20 IU. In 20% of cases methyl ergometrine was used. Placental delivery by controlled cord traction was not documented. There was no documentation on fundal massage after delivery (32).

In addition, a systemic review from Cochrane group indicated that use of WHO (World Health organization) partograph has decreased rate of cesarean section, instrumental delivery, oxytocin requirement (33). A cross sectional study in India revealed that, the skill evaluation score was 88.1% of infection prevention practices to 74.3% for postnatal care. Staff nurse and lady health visitors performed similarly on the plot and interpretation of partograph 85.7% to 92.9%. Scores were lower 70.6% and 66.9%, respectively, for determining fetal lie and presentation (34). Furthermore the study reveals; take correct steps for delivering the fetus, third performs active management of third stage of labour (AMTSL) correctly, fourth checks of vaginal bleeding were 85%, 82.9% and 94.3% respectively (34). Another study in northeastern Brazil revealed that the rate of perineal tear could be decreased with perineal support, indeed, warm compresses on the perineum is associated with a decreased occurrence of perineal trauma (35).

In Ethiopia a facility based cross sectional study done in Amhara regional state the result shows the overall magnitude of evidence based intra-partum care among obstetric care providers was 38.20% (95% CI=32.9%, 47%). Active management of third stage of labor was done in about 93.20%, while episiotomy accounts 60.4%. The majority 77.3% of obstetric care providers were using partograph during first stage of labor (19). On the hand, the finding identifies that the vast majority 167 (80.70%) were using text book either in addition or without an internet. Among the total 207 participants, 92 (44.40%), 51 (24.60%) and 38 (18.4%) were confirming that they have been using health related journals, colleagues and conferences as source of health information respectively (19).

2.2 Magnitude of non-beneficial intra-partum practices

A cross sectional study done in Kenya revealed that the prevalence of various categories of mistreatment varied with type and stages of birth. During admission, verbal abuse was recorded in 18% of the observations, while lack of privacy was observed in 67% of interactions; and 59% observed a lack of informed consent (36). In addition, during delivery only 9.3% and 5.4% of client-provider interactions observed verbal and physical abuse, respectively, by the provider; however, lack of privacy and unhygienic practices were quite prevalent during delivery and in the immediate postpartum period (78% and 75%; and 88% and 68%, respectively). Lack of informed consent was particularly high (95%) in the immediate postpartum period (36). An interventional study done in India found that routine enema, pubic shaving, vaginal packing, routine suction of all newborn and fundal pressure were performed in 18%, 23%, 48%, 75% and 48% respectively (30).

A systemic review from the Cochrane database signifies that vigorous fundal pressure has no role in improving maternal and neonatal morbidity and birth outcome rather predispose for a potential risks uterine rupture, anal sphincter damage (37).

2.3 Factors associated with evidence based intra-partum practice

2.3.1 Socio-demographic factors

A study done in Cali Colombia signifies that intra-partum care was jointly provided by obstetricians and GPs were significantly more likely to conduct all the selected ineffective practices than those in which intra-partum care was jointly provided by midwives and GPs. Remarkably, compared with mothers who were attended jointly by midwives and GPs, mothers who were attended jointly by obstetricians and GPs were almost four times more likely to receive intravenous infusions during labour and two times more likely to receive an episiotomy. When data were analyzed from hospitals in which intra-partum care was jointly provided by midwives and general practitioners GPs, it was found that general practitioners

(GPs) were more likely than midwives to perform an episiotomy in both primipara (adjusted OR 4.12, 95% CI 2.19–7.93) and multipara (adjusted OR 2.45, 95% CI 1.07–6.80) (10).

Another study conducted in Korean hospitals showed that age, educational level, years in nursing, job position and educational level were significantly associated with EBP scores ($F = 10.98$, $P < 0.001$) (38). A cross sectional studies in India show skill birth attendants were correct on 75.4% of the test questions. By topic, the results ranged from 77.9% correct for the management of normal pregnancy and childbirth to 70.2% correct for intra-partum care. By cadre, staff nurses were correct on 86.3% of questions overall, auxiliary nurse midwife 78.9%, and lady health visitors 78.8%. Regarding to the skill evaluation score, the result shows 88.1% of infection prevention practices to 74.3% for postnatal care. Staff nurse and ladies health visitor performed similarly on the plot and interpretation of partograph 85.7% to 92.9%. Scores were lower 70.6% and 66.9%, respectively, for determining fetal lie and presentation (34).

Another study in Kenya reveals the age and years of experience are also associated with higher rates of quality intra-partum care. Finally, almost all the provinces has lower rates of quality labour and delivery care than Central province through the three phases, except for Nairobi, which has higher rates in the quality of `intra-partum care' (IRR = 1.07; 95% CI, 1.01±1.14) and `newborn and immediate postpartum care' (IRR = 1.25; 95% CI, 1.01±1.53) (39).

2.3.2 Organizational related factors

A systemic review from Cochrane database indicated that skilled birth attendants reported that they were not always given sufficient training during their education or after they had begun clinical work. Also, insufficient staffing of health facilities could increase the workloads of skilled birth attendants, it makes difficult to provide supervision and result in mothers being offered poorer care. In addition, skilled birth attendants (SBAs) did not always believe that their salaries and benefits reflected their tasks and responsibilities and the personal risks they undertook. Together with poor living style and working conditions, these issues were seen to

increase stress and to negatively affect quality of care. Some SBAs also felt that managers lacked capacity and skills, and felt unsupported when their workplace concerns were not addressed (40).

A cross sectional study done in South East of Iran revealed that More than half of the participants agreed that 56% and 57% of factors that associated with implementation of evidence based intra-partum practice are related to organizational and individual aspects, respectively. Participants identified that factors associated with at organizational level included the lack of human resources (78.3%), lack of internet access at work (72.2%), and heavy workload (70.0%) (41).

A cross sectional study done in Cameroon revealed that factors whose point and interval estimates showed crude associations with awareness or practice, without attaining statistical significance, included health workers' age, years of work experience, access to a library or internet and journal use. Factors not associated with evidence-based awareness were gender, public health training, hospital location and self-reported status as a faculty or preceptor (42).

A facility-based study in Kenya shows facilities with good infrastructure, as measured by piped water are more likely to have better quality during `initial assessment and examination' and `intra-partum care'. And the presence of maternal and neonatal clinical guideline is associated with higher quality during initial assessment and examination (IRR = 1.16; 95% CI, 1.01±1.34), and newborn and immediate postpartum care (IRR = 1.26; 95% CI, 1.05±1.52) at $p < 0.05$. Across provider characteristics, the availability of OB/GYN for night duty has a positive impact on quality across all three phases of care (39).

2.3.3 Individual related factors

A descriptive survey done in Iceland identifies that Lack of search skills, lack of skills to critique or synthesize the literature, not enough internet, lack of library access, difficulty accessing research materials, lack of access to computer, difficulty understanding research articles, lack of knowledge about research, lack of value for research in practice and lack of

computer skills were the most factors that associated with evidence based practice (43). In addition age, work experience, educational level, years since most recent nursing degree, and select variables related to EBP also associate with the implementation of evidence based practice (43).

Another study done in the Eastern US has showed that there was a relatively high attitude of participants but lower knowledge was reported and over all, knowledge, skill, believes, having EBP mentorship, using reviews and guidelines were found to be significant in EBP and belief in the value of EBP for patient care was already high among the participants who self-selected to attend the program. Providing a supplementary course in a clinical setting is useful in improving clinicians' attitudes to and perceptions of knowledge and skills related to EBP (44). Analytical cross-sectional study conducted in South East of Iran indicated that the most important individual related factors associated with the implementation of EBP are lack of time to read literature (83.7%), lack of ability to work with computer (68.8%), and insufficient proficiency in English language (62.0%) (41). As an input for quality intra-partum practice, therefore, this study assesses the magnitude and factors associated with evidence-based practice in selected public hospitals of Addis Ababa city.

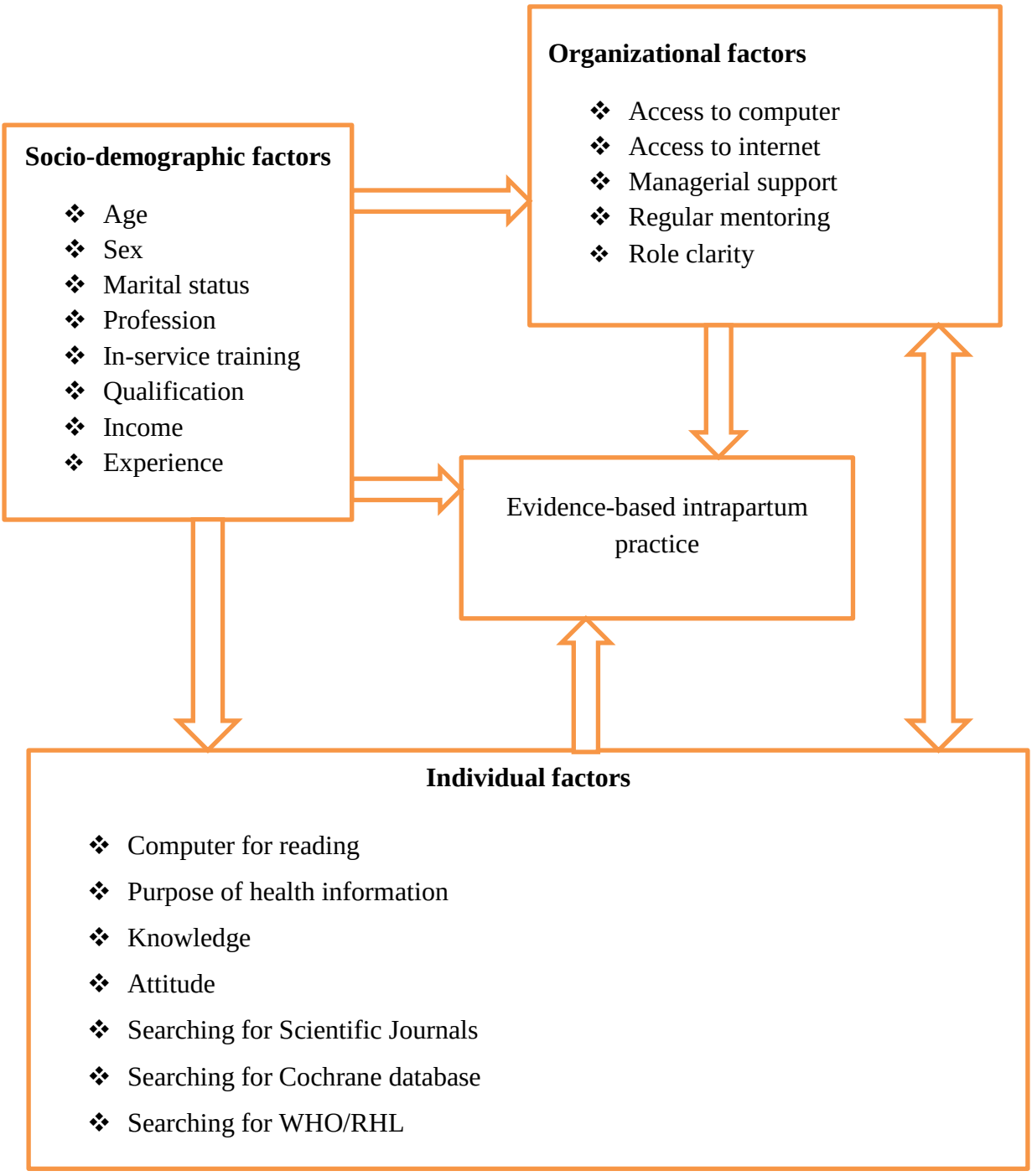


Figure 1: Conceptual framework showing interrelated factors associated with evidence based intra-partum practice, in selected public hospital of Addis Ababa, Ethiopia, 2020 (19).

2.4 Research Question and Hypothesis

2.4.1 Research Question

1. What is the proportion of evidence based intra-partum practice in selected public hospitals of Addis Ababa city?
2. What are the factors associated with evidence based intra-partum practice?

2.4.2 Hypothesis

- Obstetric care provider's profession is directly related with evidence based intra-partum practice.
- Obstetric care provider's knowledge, attitude and experience are directly related with evidence based intra-partum practice.
- High level of education qualification of the care provider is expected to have relatively high rate of evidence based intra-partum practice.
- Increased availability of internet, computer for reading, Cochrane database, WHO Reproductive Health Library, journals and documentation services generally increases the likelihood of evidence based intra-partum practice.

3. OBJECTIVES

3.1 General objective

❖ To assess magnitude of evidence based intra-partum practice and its associated factors among obstetric care providers in selected public hospital of Addis Ababa city, Addis Ababa, Ethiopia, 2020.

3.2 Specific objectives

- ✓ To determine the magnitude of evidence based intra-partum practice among obstetric care providers in selected public hospital of Addis Ababa city, Addis Ababa, Ethiopia, 2020.
- ✓ To identify factors associated with evidence based intra-partum practice among obstetric care providers in selected public hospital of Addis Ababa city, Addis Ababa, Ethiopia, 2020.

4. METHODS AND MATERIALS

4.1 Study area and period

Addis Ababa is the capital city of Ethiopia, which holds 13 government hospitals (5 federals, 6 under Addis Ababa health bureau, 1 owned by the police force and 1 owned by armed force) distributed throughout 10 sub-cities. The hospitals were selected based on lottery method. Hence, Tikur Anbessa Specialized Hospital, St. Paul's Hospital Millennium Medical College, Zewditu Memorial, St. Peter specialized hospital, and Gandhi Memorial Hospitals were selected for the current study. Tikur Anbessa Hospital is the largest referral and teaching hospital in Ethiopia and is operated under the ministry of education of Ethiopia and currently it has 375 obstetric care providers.

St. Paul's Hospital is the largest referral and teaching hospital among those operated under the federal ministry of health and the hospital has 410 obstetric care providers. St. Peter specialized Hospital is also another referral hospital which is administered under the federal ministry of health and the total number of obstetric care providers of the hospital were 295. However, the Gandhi Memorial and Zewditu Memorial Hospitals are among the six governmental referral and teaching hospitals that are managed under the Addis Ababa Administrative Health Office and their obstetric care providers were 270 and 250 respectively. The study was conducted in selected public hospitals of Addis Ababa, Ethiopia from March 17 to April 16/2020.

4.2 Study design

A facility-based cross-sectional study design was conducted.

4.3 Population

4.3.1 Source population

All obstetrics care providers in Addis Ababa public hospitals.

4.3.2 Study population

All obstetric care providers in Addis Ababa selected public hospitals.

4.3.3 Study participants

Those randomly selected obstetrics care providers who were available during the data collection period in those selected public hospitals.

4.4 Inclusion and Exclusion criteria

4.4.1 Inclusion criteria

All volunteer obstetrics care providers who have a minimum of diploma qualifications in health care profession, and had provided obstetric care over the last 6 months in those selected public hospitals of Addis Ababa. Obstetric care provider includes midwives, nurses, health officers and physicians.

4.4.2 Exclusion criteria

All obstetric care providers who were on annual leave, maternal leave and seriously ill at the time of the study.

4.5 Sample size determination

The sample size required for this study was calculated based on a single population proportions formula. The estimated proportion of evidence based intra-partum practice among obstetrics care provider is 38.2% from similar study done in Amhara regional referral hospitals (19), the margin of error 5%, confidence interval 95%. The required sample size (n) was calculated as follows:

$$n = \frac{z\left(\frac{a}{2}\right)^2 \times p(1-p)}{d^2}$$

Where:

n- Is minimum sample size

$Z_{a/2}$- Is the desired level of confidence interval 95% (1.96)

d- Is margin of error assumed to be 5%.

P- Is anticipated proportion of evidence based intra-partum practice (38.2%)

$$n = \frac{(1.96)^2 \times 0.38(1-0.38)}{(0.05)^2} = 362$$

With the above inputs the minimum sample size required for this study is 362. By taking 10% for non- response rate the final sample size is 398.

4.6 Sampling Procedure

There are thirteen public hospitals that provide labour and delivery service in the study area; of them five namely; Tikur Anbesa, St. Paul, Zewditu, Gandhi and St. Peter hospitals were selected randomly using lottery method from the total list. Then to select 398 obstetric care provider from the total five selected public hospitals, all selected hospitals were listed down with their respective obstetric care provider number, and then the number of the care providers in each hospital were proportionally allocated to sample size; then the sampling frame was prepared for each hospital by having lists of the obstetric care provider from the hospital

nursing directors and the human resource management and finally the study participants of each hospital were selected by using simple random sampling technique.

The total sample size (398) was allocated proportionally for the five public hospitals based on the number of obstetric care providers of each hospital.

$$nj = \frac{nxNj}{N}$$

Where;

nj= is the sample size of the jth hospital

Nj= is population size of the jth hospital

n= n1+ n2+n3 is the total sample size (398)

N=N1+N2+N3 are total population size of hospitals (1600)

Tikur Anbesa Specialized hospital = 398*375/1600 = 93

St. Paul's medical millennium college = 398*410/1600 = 102

Gandhi Memorial Hospital = 398*270/1600 = 67

Zewditu Memorial Hospital = 398*250/1600 = 62

St. Peter Specialized Hospital = 398*295/1600 = 74

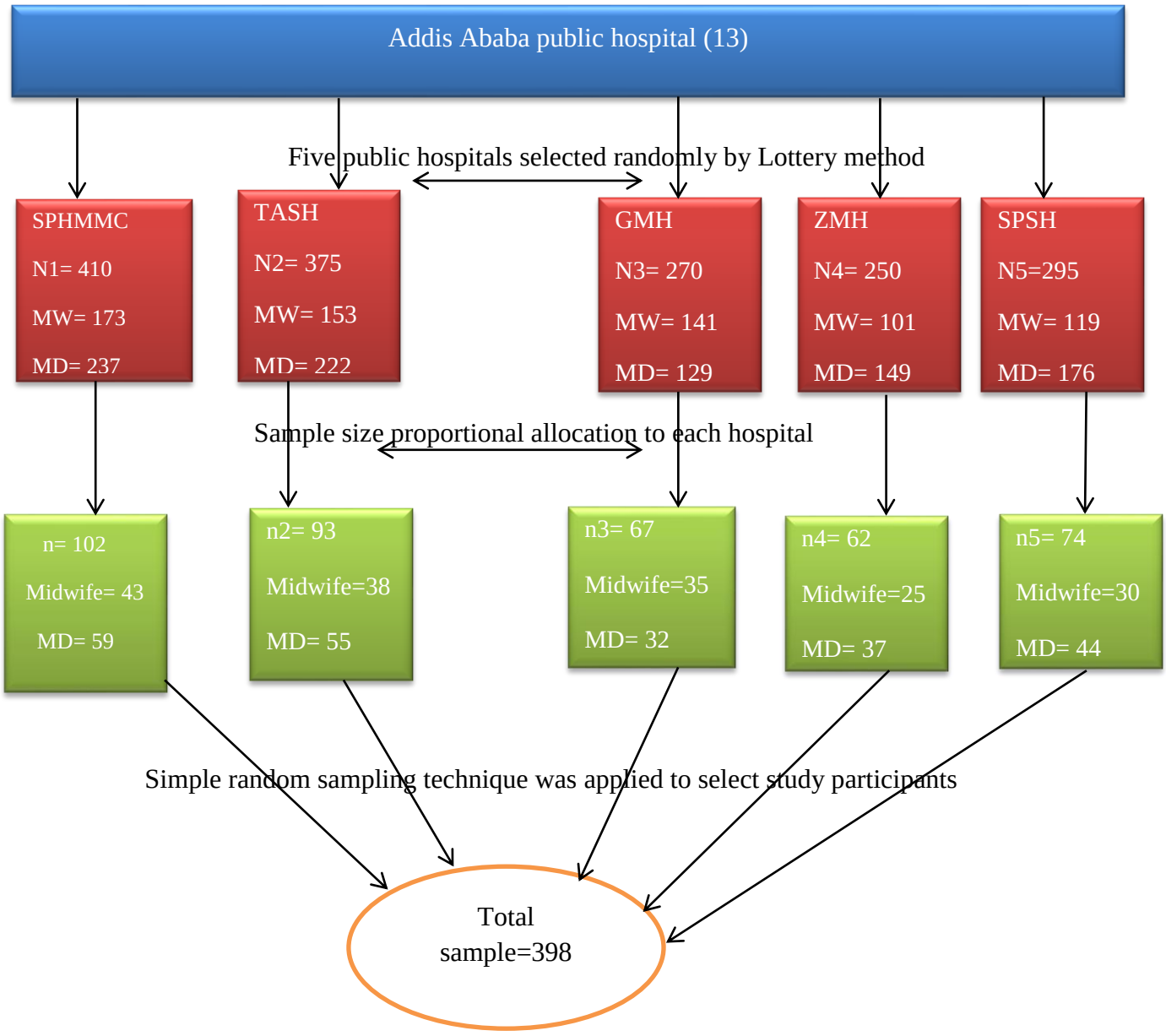


Figure 2: Schematic representation of sampling procedure in Addis Ababa selected public hospitals, 2020.

NB: **SPHMMC**- St. Paul's hospital millennium medical college, **TASH**- Tikur Anbesa Specialized Hospital, **GMH**- Gandhi memorial hospital, **ZMH**- Zewditu memorial hospital and **SPSH**- St. Peter specialized hospital. MD: Medical Doctor, MW: Midwife.

4.7 Study variables

4.7.1 Dependent variable

- ❖ Evidence-based intra-partum practice.

4.7.2 Independent variable

- ❖ Socio-demographic variable: - Age, sex, profession, qualification, income, marital status, in crevice training, experience.
- ❖ Organizational variable: - access to computer & internet, managerial motivation, and interactive EBP skill building workshops, cooperation, regular mentoring, role clarity.
- ❖ Individual variable:
  - ✓ Searching for journals, Cochrane database, WHO Reproductive Health Library
  - ✓ Use of Scientific journals, textbooks, colleagues, and conference for health information source; source of health information.
  - ✓ Participating on conference, training, seminar, and case-study over the last 12months.
  - ✓ Usage of health information for patient condition improvement, clinical research, and teaching purpose
  - ✓ Obstetric care provider's knowledge and attitude

4.8 Operational definition of variables

Evidence based intra-partum practice: obstetric care providers who scored greater than or equal to the mean value of practice related questions of intra-partum practice (19).
Obstetric care: is the care and treatment of women in childbirth and during the period before and after delivery.

Obstetric care providers: for this study includes: Midwives, Residents and General practitioner.

Adequate knowledge: - obstetric care provides who scored greater than or equal to the mean value of knowledge related questions of intra-partum practice (19).

Favorable attitude: Obstetric care provides who scored greater than or equal to the mean value of attitude related questions of intra-partum practice (19).

Profession: means the obstetric care providers field of study. It includes; Midwife, Nurse, HO and medical doctors.

Educational level: is the obstetric care provider's educational qualification. It includes; Diploma, BSc, MSc, residents and specialist.

Income: is the care provider's monthly salary.

4.9 Data collection Instrument

Data was collected using a pretested and structured self-administered questionnaire and observational checklist that is adopted from a questionnaire developed by a previous study (19). In addition, the tool is adapted from WHO recommendations on intra-partum care for a positive childbirth experience. The self-administered questionnaire contains 54 questions arranged into five parts; socio-demographic, organizational related evidence, knowledge, attitude, and utilization of evidence based intra-partum care or practice related questions was used to gather the required information. The observational checklist also contains twelve items

and the questions were designed to elicit a „yes“ or „no“ response. The main issue addressed was magnitude of evidence based intra-partum practice among obstetric care providers.

4.10. Data collection process

Data was collected from March 17 to April 16; prior to the data collection date, 10 data collectors (5 diploma and 5 BSc midwives) were recruited on the basis of being familiar with the same task before and well recognize the study area. The self-administered questionnaire was collected with the help of five trained diploma midwife data collectors and two BSc Midwife supervisors. In addition the observational data was collected using the observational checklist by the trained five BSc midwife data collectors. The instrument was distributed among the study population, after guarantying their willingness to take part in the study, and then it was collected by the data collectors after completion. Non-participatory observation technique was used to observe obstetric care provider during intra-partum period to assess evidence-based intrapartum care. The data collectors stayed in the delivery room without interfering with the care being provided to mothers and newborns.

4.11. Pretest

The self-administered questionnaire and observational checklist were tested with pretest by taking 5% of the sample size two weeks prior to main data collection time at Yekatit 12 hospital, which is not included in the study. Correction on the instrument, clarity and ambiguity of words was made accordingly after the pretest was conducted. The pretest also used to see how much time it takes to administer the entire questionnaire.

4.12. Data Quality Assurance

In order to assure the quality of data, the following measures were undertaken. Ten percent of the data was verified by the principal investigator during the initial stage of data collection and appropriate instruction was given to the data collectors and supervisors and also to ensure the data quality the data collectors and supervisors were appropriately trained for one day. At the

institutions data collectors were daily supervised by the supervisors and reported to principal investigator in daily base. Good interaction between respondents and data collectors was maintained, filed questionnaires were checked daily for completeness and errors were corrected.

4.13. Data processing and analysis

The collected data was checked for its completeness then it was coded and entered into Epi Data version 4.2 and exported to SPSS Version 25 statistical software package for cleaning and analysis. To explain the study population in relation to relevant variables, descriptive statistics such as frequencies and percentages were calculated. In addition, the cross-tabulation was computed using dependent and independent variables. To see the relative effect of independent variable on the dependent variable, bivariate and multivariate logistic regression analysis was carried out.

Those Variables in bivariate analysis whose p value less than 0.25 ($p<0.25$) was included in multivariable logistic regression not to miss associated factors. Then multiple logistic regression analysis was performed for those factors that showed a statistically significant association in bivariate analysis and investigate independent predictors by controlling for possible confounders. The adjusted odds ratio was used to interpret the strength of association at 95% CI. A statistical test of association was considered significant at a p-value of <0.05. Finally the result was presented in the form of text description, tables and graphs.

4.14. Ethical consideration

Ethical issue was considered in all stages of the research process, some of the most important are the following; Ethical clearance and approval was obtained from the ethical committee of Department of Nursing and Midwifery, College of Health Science, Addis-Ababa University. Then, letter from the Research Ethics Committee was submitted to respective hospitals. Then a letter of permission was secured from administrative bodies of the area to communicate with relevant bodies at the hospital. After explaining the objectives of the study in detail, informed

written consent was taken from all study participants. All the participants reassured of the anonymity, and as personal identifiers were not used. Then, after obtaining informed consent from every participant, the data collectors continued the job by giving due respect to the norms, values, beliefs, of the study participant, and ensured the confidentiality of the data. The observational study was conducted after the administrators of the hospitals give their consent to do so.

4.15. Dissemination plan

First, the study findings will be presented to the community of Addis Ababa University School of Nursing and Midwifery. Then, it will be disseminated to Addis Ababa University College of health sciences library and those hospitals included in the study. Finally, efforts will be made to publish in a reputable national and international journal for dissemination worldwide and also be presented in different conferences.

5. RESULT

5.1 Socio-Demographic Characteristics of Study Population

A total of 386 obstetric care providers were participated in this study, with 97% response rate. The socio-demographic profile of the study population showed that more than half 214 (55.4%) of respondents were male. On the other hand, 206 (53.4%) of respondents were single. Mean age of the respondents was 28.26 (SD± 3.73) years with a minimum and maximum age of 22 and 52 respectively. Regarding profession of the study participant more than half of the respondents were medical doctors 215(55.7%) followed by BSc midwives 149(38.6%). Concerning the education level of the study participants 175(45.3%) were residents followed by BSc midwives which accounts 149(38.6%). Out of the total respondents 289 (74.9%) of them had monthly salary ≥ 4792 Ethiopian birr (Table 1).

Table 1:- **Socio-demographic characteristics of obstetric care providers in selected public hospitals of Addis Ababa, Ethiopia March 17 to April 16, 2020 (n = 398).**

Variable		Frequency	Percent
Sex	Male	214	55.4
	Female	172	44.6
Age	20-24	42	10.9
	25-29	238	61.7
	30-34	80	20.7
	≥35	26	6.7
Salary	<4000	51	13.2
	4000-4791	46	11.9
	≥4792	289	74.9
Profession	Medical doctor	215	55.7
	Midwife	171	44.3
Educational level	Resident	175	45.3
	MSc	12	3.1
	GP	40	10.4
	BSc	149	38.6
	Diploma	10	2.6
Year of experience	<5	223	57.8
	≥5	163	42.2
Marital status	Single	206	53.4
	Married	155	40.2
	Widowed	2	0.5
	Divorced	23	6.0
In service training	Yes	220	57.0
	No	166	43.0

5.2 Magnitude of evidence based intrapartum practice.

The magnitude of evidence-based intrapartum practice for the current study was assessed using 18 items of intrapartum practiced related questions and the mean score of the respondent was 12.77 (SD± 3.77). The overall magnitude of evidence-based intrapartum practice was 51% (figure 3). Majority of the respondents 303(78.5%), 311(80.6%), 288(74.6) and 285 (73.8%) had good recommended intrapartum practice of providing oral fluid and food, regular fetal well-being assessment, liberal use of episiotomy and digital vaginal examination every four hours respectively. On the other hand, from the non-recommended intrapartum care the most commonly experienced were; fundal pressure (39.3%), routine clinical amniotomy (58.8%) and routine IV fluid infusion (63%) (Figure 4)

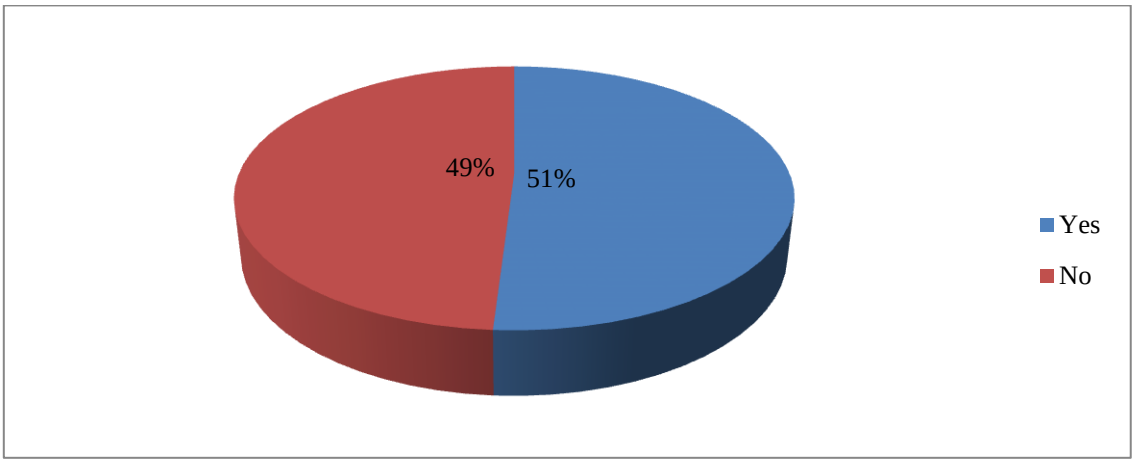


Figure 3:- Overall magnitude of evidence-based intrapartum practice among obstetric care providers in selected public hospitals of Addis Ababa, Ethiopia, 2020 (n = 398).

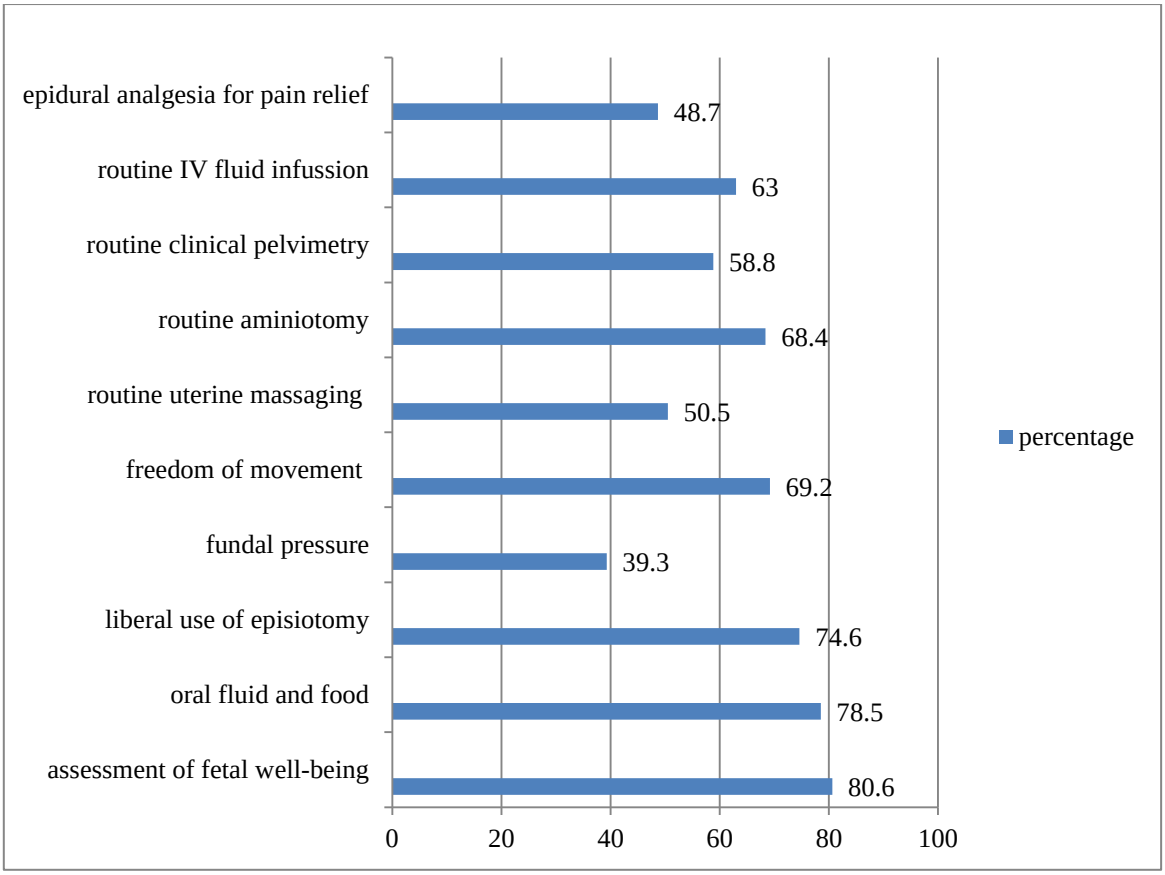


Figure 4:- **Distribution of recommended and non-recommended intrapartum practice among obstetric care providers in selected public hospitals, Addis Ababa, Ethiopia, 2020 (n = 398).**

NB: assessment of fetal well-being, allowing oral fluid and food, epidural analgesia for pain relief and freedom of movements are recommended intrapartum practice.

5.3. Level of knowledge and attitude of obstetric care providers based on their educational level.

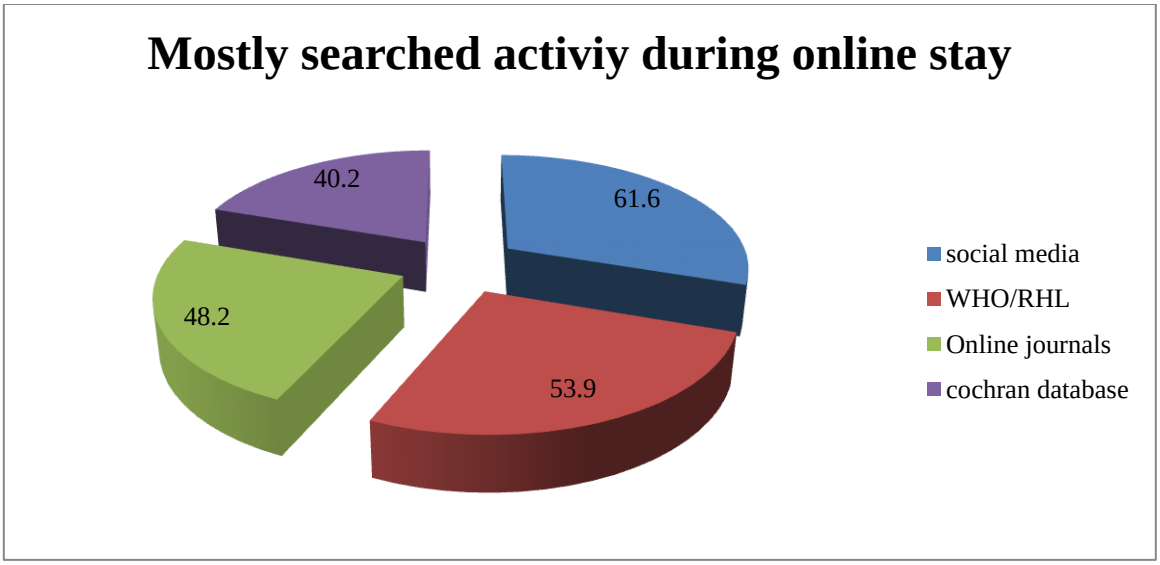
The level of knowledge and attitude of the study participant was assessed using 30 and 8 items of knowledge and attitude related questions respectively. The level of good knowledge and good attitude of the study participants was 222(57.5%) and 249(64.5%) respectively. The mean score of knowledge of obstetric care providers was 18.9 (SD± 6.7) with a minimum and maximum response of 166 and 354 respectively. Regarding the attitude of the care provider the mean score was 30.4 (SD± 4.6). Majority of the respondents 145(82.8%) who had good knowledge were residents followed by General Practitioner which accounts 30(75%). (Table 2)

Table 2:- Obstetric care providers level of knowledge and attitude in Addis Ababa selected public Hospitals, Addis Ababa Ethiopia, 2020 (n = 398)

Educational level	Level of knowledge		Level of attitude	
	Good N (%)	Poor	Good N (%)	Poor
Resident	145 (82.8%)	30 (17.2%)	152 (86.8%)	23 (13.2%)
MSc	7 (58.3%)	5 (41.7%)	8 (66.7%)	4 (33.3%)
GP	30(75%)	10 (25%)	26(65%)	14 (35%)
BSc	76 (51%)	73 (49%)	84 (56.4%)	65(55.6%)
Diploma	4 (40%)	6 (60%)	5 (50%)	5 (50%)

5.4. Other organizational and individual related factors

From the total study participants 236(61.14%) of the care provider had computer access at their work place. Among those who had access to computer at their work unit more than half 168(43.18%) and 143(36.76%) were using computer for documentation and scientific reading respectively. On the other hand 313(81.1%) of the study participant had internet access at their work place. Among those who had internet access at their work place majority 193(61.6%) use internet for social media and the remaining 53.9, 48.2 percent of the study participants were use internet access for WHO/RHL and online journals searching respectively (figure 5).



***Multiple choices**

Figure 5:- Distribution of study participants by their mostly searched online activities in Addis Ababa selected public hospitals Addis Ababa, Ethiopia, 2020

5.5. Factors associated with evidence-based intrapartum care

Binary logistic regression was done to identify factors associated with evidence based intrapartm practice. Obstetric care providers work experience, knowledge and attitude, profession of the care provider, educational level, salary, availability of computer for reading and training had an association with evidence-based intrapartum practice in bivariate logistic regression analysis.

All variables that have an association with the outcome variables in binary logistic regression analyses were included in the multivariate logistic regression analysis models. In multivariable logistic regression analysis factors that were significantly associated with evidence-based intrapartum practice were knowledge, attitude, salary, training and educational level at P-value of <0.05 (Table 3). Respondent with good knowledge of intrapartum care were 2.8 times more likely to have good evidence-based intrapartum practice [AOR=2.81; 95% CI (1.79-4.37)]. Similarly, obstetric care providers who had favorable or good attitude were 1.8 times more likely to perform intrapartum care based on the available evidence than those who had poor attitude [AOR=1.80; 95% CI (1.14-2.86)]. Additionally, obstetric care providers with monthly salary of < 4000 Ethiopian birr were 2.41 times more likely provided evidence-based intrapartum practice than those who had monthly salary of ≥ 4791 Ethiopian birr [AOR= 2.41; 95% CI (1.20-4.84)]. Finally, those respondents who had educational qualification of resident were 4 times more likely had good evidence-based intrapartum practice than diploma midwives [AOR= 4.09 95% CI (1.45-11.55)] (table 3).

Table 3:- Bivariate and multivariate logistic regression analysis of factors associated with evidence-based intrapartum practice in selected public hospitals, Addis Ababa, Ethiopia, 2020, (n = 398).

Variable		Evidence-based intra-partum care		COR	AOR
		No	Yes		
Knowledge	Good knowledge	56	141	3.36(2.19-5.12)	**2.81(1.79-4.37)*** **
level	Poor knowledge	108	81	1	1
Attitude	Good attitude	53	144	2.17(1.42-3.33)	**1.80(1.14-2. **86)**
level	Poor attitude	84	105	1	1
Training	Yes	98	122	1.51(1.07-2.26)	**1.73(1.12-2. *67)**
	No	91	75	1	1
Computer	Yes	104	134	1.74(1.15-2.63)	1.42(0.90-2.23)
access	No	85	63	1	1
Profession	Midwife	100	71	0.57(0.36-0.91)	1.54(0.94-2.51)
	Medical doctors	89	126	1	1
Educational	Resident	61	114	6.61(2.54-17.19)	**4.09(1.45-11. *55)**
level	BSc	85	64	2.62(1.01-6.82)	0.43(0.16-1.18)
	GP	18	12	1.42(1.81- 2.51)	0.71(0.39-1.29)
	MSc	5	7	4.33(1.29-14.51)	0.28(0.08-0.98)
	Diploma	8	2	1	1
Experience	<5	96	127	1.76(1.17-2.64)	0.72(0.46-1.12)
	>/=5	93	70	1	1
Salary	<4000	37	14	0.29(0.15-0.57)	**2.41(1.20-4. **84)**
	4000-4791	25	21	0.66(0.35-1.23)	0.99(0.51-1.96)
	>4791	127	162	1	1

NB: variables having a P value ≤0.25 in bivariate analysis included in the multivariable analysis.

*Statistically significant at p-value <0.05

** Significant at p-value < 0.01 *** Significant at p-value <0.001

5.6 Observational data result

To triangulate the result of self-administered questionnaire, observational data were collected by directly observing the obstetric care providers while they provide intra-partum care service. A total of 102 delivery were observed during the study period and more than half of the delivery 52(51%) were conducted by midwives. The result showed that only 37(36.3%) of the care provider use parthograph to follow the progress of labour on the other hand 39(38.2%) of the study participant use fundal pressure during second stage of labour. Regarding Routine IV fluid infusion for laboring mother majority 61.8% provide routine IV fluid for every laboring mother (table 4).

Table 4:- **Through direct observation the level of evidence-based intrapartum practice in s4lected public hospitals, Addis Ababa, Ethiopia, 2020 (n= 102)**

Variable	Response	Frequency	Percentage %
Routine episiotomy	Yes	49	48
	No	53	52
Fundal pressure	Yes	39	38.2
	No	63	61.8
Routine uterine exploration	Yes	80	78.6
	No	22	21.4
Routine IV fluid infusion for laboring mother	Yes	63	61.8
	No	39	38.2
Routine suctioning of newborn	Yes	74	72.5
	No	28	27.5
Routine artificial rupture of membrane (ARM)	Yes	42	41.2
	No	60	58.8
Freedom of movement during normal AFOL	Yes	73	71.6
	No	29	29.4
Parthograph utilization	Yes	37	36.3
	No	65	63.7
Fetal heart beat assessed every 30 minutes	Yes	35	34.3
	No	67	65.7
AMTSL used appropriately	Yes	89	87.3
	No	13	12.7
Episiotomy done under local anesthesia	Yes	80	78.4
	No	22	21.6
Vaginal examination done every four hours	Yes	33	32.4
	No	69	67.6

NB: AFSOL; Active First Stage of Labour, AMTSL; Active Management of Third Stage of Labour.

6. DISCUSSION

One of the strategies to safeguard laboring mother's safety and improve the quality of intra-partum care is the proper application of the best available evidence in to practice. However, despite the emphasis on promoting evidence-based or effective care without the unnecessary use of technologies and drugs, intervention rates in childbirth are rising rapidly. The finding of this study showed that the overall magnitude of evidence-based intrapartum practice among obstetric care providers was still low in Addis Ababa public hospitals, which was 51%. (24).

The proportion of evidence-based intrapartum practice in this study is relatively consistent with studies conducted in India tertiary hospital (48%); this may be due to similarity in the study setting, nature of study participants and study design. On the other hand, the result of this finding was higher than those studies conducted in Sweden (22.7%) and a cross sectional study conducted in Amhara regional state (38.2%) (19). This difference might be due to a difference in the number of hospitals and number of researched clinical departments, in which some of the above studies were conducted in a single hospital and the other reason might be due to difference in the study population, data collection tool and procedure might have a role. In addition, this discrepancy might be due to the small sample size of the pervious study and it may be also due to study period difference.

The finding of this study is lower than study conducted in California (74.4%)(29), Iran social security hospital (78%)(28), a multicenter study done in tertiary hospitals in Arab 60% in Egypt, 82% in Lebanon, and 73% in Syria(31). This difference might be due to a difference in cross cultural, limited number of staffs serving in the hospital, providers characteristics, additional duties other than patient care, having every relative aside each laboring mother would disturb the ward and privacy breach might be a concern for the deference. Additionally, it also implies that study area, data collection tool and study participants might have role in the difference for the current study. Furthermore, some of the above studies were conducted in developed countries, in which the service is given under advanced technology, high quality of health care institutions, and due to difference in case over load.

Obstetric care providers knowledge and attitude in this study was found to be strongly associated with evidence based intrapartum practice, where obstetric care providers who had good knowledge were near to 3 times more likely to adhere to evidence based intrapartum practice than those who had poor knowledge, this implies that obstetric care provider who have favorable knowledge provides evidence-based intrapartum care. Similarly, obstetric care provider who had favorable attitude nearly two times more likely stick to evidence-based intrapartum practice than those who had poor attitude (AOR 1.80, 95% CI =1.14-2.86). This finding is consistent with a study conducted in the eastern United States of America (44). The reason might be due to the fact that, those who had adequate knowledge and favorable attitude would have an increased eagerness to put their knowledge into practice.

Furthermore, it could also be due to numerous factors which contribute for increased performance. For instance, a trend which brings about change a theory in to practice like presence of role model and well-experienced care provider, patient situation, evidence-based training, workshops, and online journal clubs. In addition, it also implies that acquiring adequate knowledge is a key for evidence based intrapartum practice.

In addition, educational qualification of the study participant had significant association with evidence-based intrapartum practice which accounts nearly four times more likely abide by resident than others (AOR = 4.09, 95%CI = 1.45-11.55). This finding does not agree with studies in Italy, Sweden (24). The inconsistency may be due to socio cultural difference and commitments of health care provider. On the other hand the current study's result is in line with a cross-sectional study done in Cali Colombia and the reason might be due to similarity on the study population and study setting.

Variation in terms of time duration might have contributed since as time advances change in practice is also likely to happen. In fact, obstetric care providers having had on job training might have better motive for practice because of the insight they had updated intrapartum related health information from the training. In addition, since referral hospitals are training sites for updated intrapartm related care trainees, obstetric care providers might have initiation to put new evidence in to practice.

According to these finding rates for the beneficial practices of active management of the third stage of labour and allowing women movement during the first stage of labour were around 87.3% and 71.6% respectively. On the other hand, the finding of this study identifies the rate of parthograph utilization; fetal well-being assessment and digital vaginal examination were 36.3%, 34.3 and 32.4 respectively. This finding is different from the study which was conducted in India and Ethiopia the rate for parthograph utilization was 85.7% and 77.3% respectively (19, 34). This inconsistency might be due to policy of health care and implemented programs difference and the other reason might be the current study was conducted higher referral hospitals in which most of the mother needs advanced care.

Regarding the non-beneficial or potentially harmful intrapartum practice the rate of this research finding identifies 38.2% of the study participants perform fundal pressure during second stage of laboure, 48% of the study participant perform routine episiotomy and 78.6% of the study participant perform routine uterine exploration after third stage of labour. The current study finding is not in agreement with an interventional study done in India (37). The possible explanation for this difference might be due to variation in the number and type of hospitals and in addition it may be due to data collection tool, hence the finding of this study is through direct observation of the care provider.

The finding of this study revealed that study participants who had computer for reading at their work place was statistically associated with evidence based intrapartum practice. This signifies that Obstetric care providers who had used intrapartum related health information for updating their knowledge might have awareness how to put research findings in to clinical practice, their daily reading habit helps them to have motivation to put new evidence in to practice. In addition, clinicians were more attached with patients who increase their likely to use evidence in to practice, probably due to a motive to enhance patient care. Furthermore, obstetric care providers who are more attached with searching online journals, Cochran database and WHO reproductive health library may increase their probability to use evidence in to practice, probably due to a motive to enhance patient care. This was reflected in this study, while relatively more likely trained obstetric care providers were using evidence into practice than those who didn’t take training.

7. STRENGTH AND LIMITATION OF THE STUDY

7.1. Strength of the study

- ✓ To our knowledge, this study is the second of its kind in Ethiopia to document the magnitude and factors of evidence-based intrapartum practice using the updated WHO intrapartum care protocol.
- ✓ The use of mixed data collection tool (observational checklist and self-administered questionnaire) in the current study (data triangulation).

7.2. Limitation of the study

- ✓ The limitation of this study was the cross-sectional nature of the study design does not confirm definitive cause and effect relationship between the variables.
- ✓ Social-desirability bias
- ✓ Study was that the study was carried out only in public health facilities. Hence, it does not represent the proportion of evidence-based intrapartum care that occurs in private health facilities and governmental health center.

8. CONCLUSIONS

The finding of this study revealed that the magnitude of evidence-based intrapartum practice among obstetric care providers in public hospitals of Addis Ababa was still low. Active management of third stage of labour, assessment of fetal well-being and episiotomy under local anesthesia were intrapartum care which is effetely performed based on the available evidence whereas fundal pressure and routine uterine massaging were not performed effectively. Study participants knowledge and attitude, educational level, training and salary were significantly associated with evidence based intrapartum practice.

9. RECOMMENDATION

Based on the finding of this study nearly half of the study participants made intrapartum care without the best available evidence. So, the following recommendations are forwarded by the principal investigator:

- **To policy makers and Ministry of health (MOH):**
- Policy makers need to design and implement evidence-based interventions to optimize the intrapartum management laboring mother which could help to reduce the occurrence of maternal death during labour and delivery.
- In collaboration with hospital managers develop updated guideline for intrapartum practice.
- **To Hospital managers:**
- To avail updated intrapartum guideline and distribute to all oby/gyn departments.
- To Provide training for obstetric care provider on effective intrapartum care
- **To obstetric care provider:**
- To improve their labour and delivery care practice through training and read recent evidence.
- **To future researchers:**
- Further qualitative and quantitative studies are recommended to identify factors that contribute magnitude of evidence-based intrapartum care in both governmental and private health facilities.

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11. ANNEXES

Annex I: Information sheet and Consent form

Here, I the undersigned, at Addis Ababa university, college of Health Science, school of Nursing and Midwifery; will be conducting a research at selected public Hospitals of Addis Ababa, Ethiopia, 2020. Before getting your permission for participation, I will give you all the necessary information regarding the study. Thus, the information will be detailed as;

Purpose of the study: This study is aimed to assess magnitude of evidence based labor and delivery practice among obstetric care providers in selected public Hospitals of Addis Ababa, Ethiopia, 2020.

Risk: The study will be carried out by asking your permission with already prepared and structured questionnaire. There will be no physical or psychological harm during the procedure. Besides, you have full right to stop any time you wish and you won't be obliged to give any information which you don't want to answer.

Benefits: For being involved in this study, there is no payment you will be granted with and no special privilege is also given to you. Perhaps, participating and giving information for the questions being asked plays a pivotal role in the effort made to improve labor and delivery care so that maternal mortality can be reduced.

Confidentiality: Any information you give will be kept confidential and won't be accessible to any third party. Your name won't be mentioned anywhere. The information you give is only used for research purpose only and will be burnt at the end.

Consent: You participation in this study will totally be on the basis of your willingness. You can stop anywhere you wish to stop participation, even from the very beginning. No one will force you to give information you don't want to give.

Finally, I duly acknowledge your participation and either response.

Name sing date

Principal investigator: Assefa Mitiku, _____, _____.

Contact address: Cell phone: +251922827385 E-mail- asefamitiku@gmail.com

Greetings!!!

Consent form

Hello! My name is _____. Here, at Addis Ababa University, college of Health Science, department of Nursing and Midwifery; I will be undertaking research aimed to assess proportion of evidence based labor and delivery practice and associated factors among obstetric care providers in selected public Hospitals of Addis Ababa, Ethiopia, 2020. As part of this survey, relevant information on socio-demographic, Health information needs, knowledge, and attitude about evidence based labor and delivery, and clinical practice change will be obtained. Therefore, you are kindly requested to participate in this study and provide the information required. Your participation in this study is completely on voluntary bases and you have a right to refuse, to take part or to stop the giving information at any time. For your participation in the study, no payment will be granted or has no any special privilege to you. Besides, you're not obligated to answer any question which you do not wish to answer. If you fill discomfort to respond to any of the questions, please feel free to drop it any time you wish to do so. I assure you that your name will not be mentioned in anywhere. Filling the questionnaire will take about 30 minutes. The information that you give me will be kept confidential and won't be accessible to a third party; only be used for the research purpose and burnt at the end of the survey.

Could I have your permission to continue?

1. Yes 2. No. Stop and thank the respondent.

Witness: Signature_____ Date _____

Data collector: Name_____

Signature _____ Date_____

Annex II: Training Manual and guideline for data collectors

Topic; evidence based intra-partum practice and associated factors among obstetric care providers in selected public hospitals of Addis Ababa.

Introductions; this training manual helps the research team to be familiar with words and sentences used in the questionnaire ,in adopting with data collection techniques, how to perform interviewing, and help to get experience for correctly recording of the response of study subjects. It also helps on how to perform supervision and how to control data quality.

Objectives of the research; to assess the magnitude of evidence based intra-partum practice and associated factors among obstetric care in selected public hospitals of Addis Ababa.

Purpose the training

To familiarize the data collectors & supervisors with unfamiliar words and sentences used in questionnaire.

To adopt data collectors & supervisors with techniques to be followed in data collection supervision procedures

To enable data collectors & supervisors in resolving problems in case of inconveniences

Methods of training; Discussion of data collection tool, Mock interview and pretesting

Responsibility of research team members

Principal investigators – control the overall activities of the study

Supervisors: –

- Monitor for constancy and completeness of data at the spot of data collection
- Monitor for availability of necessary supplies for the Data collection
- Handle and manage non-respondents and incomplete responses
- monitor for the correctness of data collations at the spot in the filed

Data collectors: handle necessary supplies to perform the study

Perform the Data collection and enumerate correctly

Handle and manage any inconveniences properly

Check for completeness of questionnaire at the site

Description on interviewing skills

The principal investigator clears the ethical issue of Addis Ababa public hospitals administration staff by receiving Supportive latter from AAUMF centralized school of nursing, and deliver the name of the data collector and supervisor: then after the data collector & supervisor

Gaining access to the establishment

Greeting

Introducing yourself and from where you come and the purpose of coming.

Read consent form and describe it for the respondent and approach friendly, and ask there valentines to respond for the question (do not pressured very much that do not want respond, but describe the objective of the study and confidentiality)

Process on self-administered questioner:

- ✓ Give clear instruction to the respondent
- ✓ Probe for un clarities
- ✓ Manage non respondents and reluctant respondents
- ✓ Answer if any questions from the respondents
- ✓ Check the respondent wither he fulfill the inclusion criteria or not.
- ✓ Check completeness and thank the respondents

Annex III: problems prioritizing criteria table

Problem/ Topic	CRITREA							
	R	**A**	**F**	**P**	**APPL**	**U**	**E**	**T**
1	**5**	**4**	**5**	**3**	**3**	**3**	**4**	**28**
2	**5**	**5**	**3**	**3**	**5**	**5**	**5**	**31**
3	**5**	**3**	**5**	**3**	**5**	**3**	**5**	**29**

PPC – Problem prioritizing criteria.

R- Relevance

A- Avoid duplication

F- Feasibility

P- Political acceptance

APPLI – Applicability

U – Urgency

E – Ethical acceptance

T – Total.

1. Cultural malpractice and associated factors during perinatal period among women of child bearing age in Debre tabor town, north central Ethiopia, 2020
2. Evidence based intra-partum practice and associated factors among obstetric care providers in selected public hospitals of Addis Ababa, Ethiopia 2020.
3. Level of knowledge about neonatal danger signs and its associated factors among postnatal mothers attending at St. Paul's hospital millennium medical college Addis Ababa Ethiopia, 2020.

Annex IV: Questionnaire

Part I: Socio-Demographic Information

Please complete this form if you were providing obstetric services over the last 6 months. Please answer all questions with circling the number in front of the alternatives and/or write additional comments as required.

101. Age _____in years

102. Sex: 1. Female 2. Male

103. Monthly income (salary): _____

104. Profession: 1. Medical doctor 2. Midwife 3 Nurse 4. HO

105. Educational level: 1. Resident 2. GP 3. MSc 4. Bachelor Degree 4 Diploma

106. Year of experience: _____in years

107. Current position: 1. Head nurse 2. Staff midwifes 3 Management areas

4. Other (specify) _____

108. Marital status: 1. Single 2. Married 3 Widowed 4 Divorced

109. Do you take in-service training in intra-partum care? 1. Yes 2. No

Part II: Organization and individual related information

201. Do you have access to a computer at your workplace? 1. Yes 2. No

202. If you say yes to question number 201, for what purpose do you use the computer?

1. for scientific reading 2. For digital communication 3. For patient data documentation

203. Do you have access to internet at your work place? 1. Yes 2. No

204. If you say yes to question number 203, what do you search on the internet commonly?

1. Online journals 2. Social networks 3. Cochrane Database 4.WHO RHL

205. Do you have access to updated/standard intrapartum care guideline at your work place?

1. Yes 2. No

206. If yes for question no- 205, which patient care guideline is available at your work facility

1. WHO safe child birth checklist 2. BEmONC patient care manual 3. FMOH intrapartuc care protocol

207. What resources do you use to access health information?

1. Scientific journals 2. Text books 3. Colleagues 4.Conferences

208. What motivates you to seek health information at your work place? (You can choose more than one)

1. Managerial support
2. Scientific meetings
3. Skill building workshops
4. Cooperation among staff members
5. Role clarity
6. Patient's condition
7. Regular mentorship

209. In the past six month, have you participated in any of the following professional activities related to your area of work?

1. conference/congress 2. Training on evidence based practice 3. Seminar
4. Case presentation

Part III: Knowledge questions

301	Do you know evidence-based intra-partum care for a positive child birth experience?	Yes 1 No 2	If "No,, go to 303
302	If you answered yes, what do you understand by evidence- based care? (you can select more than one)	Yes No Patient preference and value based care 1 2 Expert's opinion and experience based 1 2 Using WHO updated guideline 1 2 Research findings based 1 2	
303	Giving care in accordance with the WHO guideline improves quality of intra-partum care?	Yes 1 No 2	
304	Do you know obstetrical cares that are beneficial and non-beneficial / potentially harmful during labour and delivery?	Yes 1 No 2	If 'No, go to 307
305	If yes for question number 304, which beneficial	Yes No Effective communication 1 2	

	practices improves labour and delivery outcome(Please encircle 1 as many as you think, and 2 if you think no effect)	Continuous maternal support 1 2 Allow any position other than supine 1 2 Mobility during normal labor 1 2 Routine use of partograph 1 2 Oral fluids and food 1 2	
306	If you say yes for question number 304, which non-beneficial interventions harm the labouring mother? (Please circle '1' for commonly practiced activity, '2' for Not')	Yes No Perineal shaving 1 2 Routine manual uterine exploration 1 2 Fundal pressure on 2nd stage of labour 1 2 Routine amniotomy 1 2 Routine IV fluid infusion 1 2 Vaginal examination less than 4hrs 1 2	
307	Do you know about effective intrapartum care that should be given throughout labour and birth?	Yes 1 No 2	
308	If yes for q.no. 307, which intrapartum care is commonly provided at your facility?(Please circle '1', for commonly provided care and 2 if not)	Yes No Respectful maternity care 1 2 Effective communication 1 2 Companionship during labour & birth 1 2 Continuity of care 1 2	
309	Do you know effective immediate care of the newborn?	Yes 1 No 2	
310	If you say yes for q.no. 309, which newborn care do you know?(Please circle '1', for effective care, and, '2' for ineffective care you think)	Yes No Routine nasal or oral suction 1 2 Skin to skin contact 1 2 Breast feeding immediately after birth 1 2 Vitamin k prophylaxis 1 2 Routine mouth and nose swipe 1 2	

Part IV: Attitude questions

401	Good communication and support to laboring mother facilitates progress of labor and improves birth outcome.	Strongly agree 5 Agree 4 Neutral 3 Disagree 2 Strongly disagree 1	
402	Ambulation and freedom of movement in labour are safe, more satisfying for women, and facilitate the progress of labour.	Strongly agree 5 Agree 4 Neutral 3 Disagree 2 Strongly disagree 1	

403	Fundal pressure used during the second stage of labour predispose for uterine rupture.	Strongly agree 5 Agree 4 Neutral 3 Disagree 2 Strongly disagree 1	
404	Intravenous infusions should be used for every laboring mother as a way of rehydration.	Strongly agree 1 Agree 2 Neutral 3 Disagree 4 Strongly disagree 5	
405	Continuous labor support should be the standard of care for all laboring women.	Strongly agree 5 Agree 4 Neutral 3 Disagree 2 Strongly disagree 1	
406	Frequent vaginal examination predispose to maternal and newborn infection.	Strongly agree 5 Agree 4 Neutral 3 Disagree 2 Strongly disagree 1	
407	Labor and delivery care given based on client preference improves clients service seeking.	Strongly agree 5 Agree 4 Neutral 3 Disagree 2 Strongly disagree 1	
408	There is no evidence to support routine episiotomy and aggressive perineal massage or retracting at birth.	Strongly agree 5 Agree 4 Neutral 3 Disagree 2 Strongly disagree 1	

Part V: Practice related questions

501	Do you practice routine clinical pelvimetry on admission for every laboring mother?	Yes 1 No 2	
502	Have you ever practiced perineal/pubic shaving during labor?	Yes 1 No 2	
503	Do you ever administer enema for reducing the use of labour augmentation?	Yes 1 No 2	
504	Have you provide regular assessment of fetal well-being on labour admission?	Yes 1 No 2	
505	Do you use routine cardiotopography(CTG) for assessment of fetal well-being for healthy pregnant women?	Yes 1 No 2	
506	Do you do digital vaginal examination at intervals of four hours	Yes 1 No 2	
507	Do you provide epidural analgesia for pain relief during labour depends on women's preference?	Yes 1 No 2	
508	Do you use other relaxation techniques for pain management?	Yes 1 No 2	
509	If you say yes for q.no. 508, what relaxation technique do you use?(you can encircle more than one)	Yes No Breathing 1 2 Music 1 2 Progressive muscle relaxation 1 2 Mindfulness 1 2	
510	Do you provide oral fluid and food for laboring mother?	Yes 1 No 2	
511	Do you encourage the adoption of mobility and upright position during labour?	Yes 1 No 2	
512	Do you perform routine vaginal cleansing with chlorhexidine during labour?	Yes 1 No 2	
513	Do you practice routine amniotomy alone for prevention of delay in labour?	Yes 1 No 2	
514	Do you administer routine intravenous fluid for preventing labour delay?	Yes 1 No 2	
515	Do you perform routine or liberal	Yes 1	

	use of episiotomy for women undergoing spontaneous vaginal birth?	No 2	
516	Have you ever practiced fundal pressure to facilitate childbirth?	Yes 1 No 2	
517	Do you perform routine uterine massage after birth for every mother?	Yes 1 No 2	
518	Do you perform routine nasal or oral suction in neonate born through clear amniotic fluid?	Yes 1 No 2	

This is the end of the questionnaire. Thank you very much for taking time to answer these questions. I appreciate your help. Time of end of the data collection: ___:___Hour Minute

Data collector's signature _____ Date _____

Observational checklist for evidence based intra-partum practice

Data collector name _____ signature _____Date_____

Supervisor name _____ signature _____ Date_____

Name of the hospital _____ Checklist code_____

Profession of the care provider _____

S. No	Observation item	Remark	Response	
			yes	No
1	Routine episiotomy?			
2	Fundal pressure?			
3	Routine uterine exploration?			
4	Routine IV fluid infusion?			
5	Freedom of movement during AFSL?			
6	Partograph utilization?			
7	Routine suctioning of the newborn?			
8	Fetal heart monitored based on evidence?	Every 30 minute		
9	AMTSL used appropriately?	Oxytocin10IU, CCT and uterine massaging		
10	Episiotomy done under local anesthesia?			
11	Vaginal examination based on evidence	Every 4 hrs.		
12	Routine artificial rupture of membrane			