



DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

**UTILIZATION OF COMPANIONSHIP DURING LABOR AND DELIVERY
AND ASSOCIATED FACTORS AMONG WOMEN WHO GAVE BIRTH AT
TIKUR ANBESA SPECIALIZED HOSPITAL AND ZEWDITU MEMORIAL
SPECIALIZED HOSPITAL**

BY

WEGEN TOLA LETA (MD)

CELL PHONE: +251-910913736/+251-980642648

E.mail: wegen84@gmail.com

PRINCIPAL ADVISOR: ENDALKACHEW MEKONNEN ASSEFA (MD, MPH),

Assistant prof. of Ob/Gyn,

Urogynecology and female pelvic reconstructive surgery subspecialist,

AAU-CHS-school of medicine

Department of gynecology and obstetrics

Phone: +251913605674

Email. endmekon@gmail.com or endalkachew.mekonnen@aau.edu.et

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

**UTILIZATION OF COMPANIONSHIP DURING LABOR AND DELIVERY
AND ASSOCIATED FACTORS AMONG WOMEN WHO GAVE BIRTH AT
TIKUR ANBESA SPECIALIZED HOSPITAL AND ZEWDITU MEMORIAL
SPECIALIZED HOSPITAL**

BY

WEGEN TOLA LETA (MD)

CELL PHONE: +251-910913736/+251-980642648

E.mail: wegen84@gmail.com

PRINCIPAL ADVISOR: ENDALKACHEW MEKONNEN ASSEFA (MD, MPH),

Assistant prof. of Ob/Gyn,

Urogynecology and female pelvic reconstructive surgery subspecialist,

AAU-CHS-school of medicine

Department of gynecology and obstetrics

Phone: +251913605674

Email. endmekon@gmail.com or endalkachew.mekonnen@aau.edu.et

DATE JUL 2023

ACKNOWLEDGEMENT

I gratefully thank Addis Ababa University College of Health Science, Department of Obstetrics and Gynecology for giving me a chance to do the research proposal that will add huge value in my future career. My acknowledgement also goes to advisor Dr. Endalkachew for his support and constructive comments during the research preparation.

I would also like to thank my family and friends for their support to prepare this research

Table Contents

ACKNOWLEDGEMENT	i
Abbreviations and acronyms	iv
LISTS OF TABLES	v
LISTS OF FIGURE.....	vi
Abstract.....	vii
INTRODUCTION	1
1.1 Background	1
1.2 Statement of problem	2
1.3 Significance of the study.....	2
2. Review of literature	3
2.1. The concept of labor companionship.....	3
2.2. Utilization of labor companionship and associated factors.....	4
2.3. Conceptual framework.....	6
3. Objective.....	7
3.1. General Objective	7
3.2. Specific objective	7
4. Methods and Material.....	8
4.1. Study area.....	8
4.2. Study design & Period	9
4.3. Source and Study population.....	9
4.3.1Source of population	9
4.3.2. Study population	10
4.4. Sampling method and Sampling Procedures.....	10
4.4.1. Sample Size determination	10
4.4.2. Sampling Procedure	10
4.5. Eligibility Criteria.....	11
4.5.1. Inclusion criteria.....	11
4.5.2. Exclusion criteria	11
4.6. Study variable.....	11
4.6.1. Dependent variable.....	11
4.6.2. Independent variable	11
4.7. Operational definition	11

4.8. Data collection tools and technique	13
4.9. Data quality control	13
4.10. Data entry and analysis	13
4.11. Ethical consideration.....	14
5. Dissemination of result	14
6. Results	15
6.1. Socio-demographic characteristics of participant	15
6.2. Obstetrics characteristics of the participant	15
6.3. Labor companionship related characteristics of participant	18
6.4. Factor associated with utilization of labor companionship.....	25
7. Discussions	30
8. Strength and Limitation of study	33
9. Recommendation.....	34
10. CONCLUSION	34
11. Reference	35
12. Annexes	38
Annex 1 information sheet and consent form	38
Annex 2 Questionnaire	40

Abbreviations and acronyms

ANC	Antenatal care
AOR	Adjusted Odd Ratio
CI	confidence interval
CS	Cesarean section
EDHS	Ethiopian Demographic and Health Survey
EMDHS	Ethiopian Mini Demographic and Health Survey
FMOH	Federal Ministry Of Health
OBGYN	Obstetrics & Gynecology
OR	Odd Ratio
P	Probability Value
SVD	Spontaneous vertex delivery
TASH	Tikur Anbessa Specialized Hospital
WHO	World Health Organization
ZMH	Zewditu Memorial Hospital

LISTS OF TABLES

Table 1 Socio-demographic characteristics of the study participants of ZMH and TASH , 2023(combined)	16
Table 2 Socio-demographic characteristics of the study participants of ZMH and TASH , 2023	17
Table 3 Obstetrics and health related characteristics of study participant ZMH and TASH, 2023 (combined)	19
Table 4 Obstetrics and health related characteristics of study participant ZMH and TASH, 2023	20
Table 5 .Labor companionship related characteristics of study participant of ZMH and TASH, 2023(combined)	21
Table 6 .Labor companionship related characteristics of study participant of ZMH and TASH, 2023	22
Table 7 Bivariate and multivariable analysis of factors associated with utilization of companion during delivery, TASH and ZMH, 2023(Combined)	27
Table 8 Bivariate and multivariable analysis of factors associated with utilization of companion during delivery, ZMH, 2023	28
Table 9 Bivariate and multivariable analysis of factors associated with utilization of companion during delivery, TASH, 2023.....	29

LISTS OF FIGURE

Figure 1 conceptual framework for utilization of labor companionship	6
Figure 2 knowledge related to benefits of labor companionship at TASH & ZMH	23
Figure 3 percentage for underutilization of companionship at TASH.....	24
Figure 4 percentage for underutilization of companionship at ZMH	24

Abstract

Introduction: Labor companionship refers to support provided to a woman during labor and childbirth. It is a key component of providing respectful maternity care, despite its benefit, there is few study about the status of birth companionship. The study aimed to assess labor companion and its associated factors Tikur anbesa specialized hospital, and Zewditu MemorialSpecialized Hospital

Methods: A health facility-based cross-sectional study design carried from April to May 2023 In at Tikur AnbessaSpecialize Hospital (TASH) and Zewditu Memorial Specialized Hospital (ZMH) data entered and analyzed with Epi-data version 4.60 and SPSS version 25.0. Bivariable regression done and variables with p-value ≤ 0.25 analyzed with multivariable logistic regression. Variables with p-value ≤ 0.05 significantly associated with labor companionship. Hosmer–Lemeshow goodness of fit checked and all multi-collinearity of variables with variance inflation factors (VIF) up to 10 tolerated

Result: A total of 400 participants were involved in the study with a 100 % response rate. The combined overall prevalence of utilization of companionship during labor among women who gave birth at TASH and ZMH is 52.2 %, 95% CI [47.2, 57.2]. And the prevalence of utilization of companionship after delivery is 95.0 %, 95% CI [92.4, 96.9]. The individual institution prevalence of utilization of companionship during labor among women who gave birth at TASH and ZMH is 15.5 %, 95% CI [10.8, 21.3]. And 89 %, 95% CI [83.8, 93.0] respectively. Prevalence of utilization of companionship after delivery among women who gave birth at TASH and ZMH is 93.5 %, 95% CI [89.1, 96.5]. And 96.5%, 95% CI [92.9, 98.6] respectively

By the combined analysis, **occupation** (AOR 2.930 (1.269,6.768), **Average monthly household income** (AOR 0.469(0.221,0.995) , **obstetric complication during the current pregnancy** (AOR 0.577(0.346,0.961) , **patient previous awareness about companionship** (AOR 1.744(1.011,3.008), **comfortability of the facility to have companionship** (AOR 6.232(3.520,11.034), **participant desire to have companionship** (AOR 5.416(1.360,21.571) were significantly associated with labor companion utilization

At TASH, having **comfortability of facility** (AOR 2.225 (0.911, 5.437) were significantly associated with labor companion utilization.

At ZMH, **Obstetric complication in the current pregnancy** (AOR 0.305 (0.102, 0.913) were significantly associated with labor companion utilization

Keywords: labor companions

INTRODUCTION

1.1 Background

Labor companionship refers to support provided to a woman during labor and childbirth. It may be provided by a partner, family member, friend, doula, or healthcare professional (1). Some form of support provided by birth companions include, emotional support, informational support, comfort measures, advocacy, and instrumental support (2–4)

companionship during labor and childbirth may increase spontaneous vaginal birth and reduce caesarean section , instrumental vaginal birth , the length of labor , Use of pain relief and reduces negative ratings of childbirth experience (5) .A number of WHO guidelines recommend continuous companionship during labor and childbirth. (6–8). The ministry of health of Ethiopia, updated its management protocol on selected obstetrics topic for hospital on December 2020 It is clearly stated that to Ask the woman whom she would like to be present. Facilitate the presence of only those she chooses to be present (9)

At the global level, evidence suggests an increasing trend in the utilization of institutional delivery services in sub-Saharan Africa in Ethiopia (10) the percentage of live births delivered by a skilled provider increased from 6% in the 2005 EDHS, to 11% in the 2011 EDHS, to 28% in the 2016 EDHS, and up to 50% in the 2019 EMDHS. A similar trend was observed for the percentage of live births that occurred in a health facility, which increased from 5% in 2005 to 48% in the 2019 EMDHS (11) As a result, facility based births are increasing globally. With this increase, the emphasis is shifting to improving the quality of care at facilities

The World Health Organization (WHO) defines quality of care as provision of technically competent care and enhancement of women's experience of care by informative and comprehensible communications, care delivered with respect for women's dignity, choices and their autonomy in decision-making, and the availability of social, emotional and practical support (12)

Labor companionship one of the standards for improving the quality of maternal and newborn care in health facilities, is a key component of providing respectful maternity care and has been recommended most recently as part of WHO recommendations on intrapartum care for positive childbirth experience (13)

Absence of companion during labor and disrespect and abuse during childbirth are some of the factors that contribute to the underutilization of facility delivery (14–17)

Respectful Maternity Care Charter defined seven rights of childbearing women, one of these right is respect for choices and preferences, including the right to companionship of choice whenever possible (18)

1.2 Statement of problem:

Women's experiences during childbirth are a powerful determinant of use of maternal healthcare services, one of the most salient differences between home birth and facility birth was the perceived lack of supportive attendance at birth in a facility. Women commonly referred to their families as providing supportive and comforting care, and receiving physical, social, and emotional support from their family during delivery was vitally important for the parturient woman. (19)

One qualitative research study done in city of Cape Town in South Africa, on 33 low-income women aged 18–42 years who had recently given birth to an infant in the public maternity sector The lack of a continuous labor companion contributed to feelings of isolation and disconnection and often led to increased anxiety and fear. (20)

Facility policies limiting the involvement of companions during birth induced anxiety in many women. (19) policy-makers are often reluctant to implement this intervention in clinical practice in spite of the supporting evidence, which has been available for many years, even though the intervention is routinely applied in private facilities.

In my clinical activities in different hospitals, I observed that labor companionship, is not universally implemented, most of the time utilized by hospital staffs and their relatives. Its implementation in the labor and delivery process also vary in different institutions and not supported by standard manual.

Utilization companionship during labor and delivery understudied in the study area. Therefore, this study is aimed to assess the utilization of companionship during childbirth and associated factors among women who give birth at Tikur anbesa specialized hospital, and Zewditu Memorial Specialized Hospital

1.3 Significance of the study

Assessment of utilization of companionship during labor and delivery and associated factors will be important to guide hospital administrator public health planners, implementers, and other concerned bodies in planning and designing appropriate intervention strategies to fulfill future gaps.

The study also contribute to the ongoing research efforts on utilization of labor companionship and may serve as an input for further research in the wider range at a country level.

2. Review of literature

2.1. The concept of labor companionship

Labor companionship is a human interactive process that provides tangible continuous social support or assistance during the child birth process to help women cope with the stress of labor with a person chosen by a woman (13,19,21)

Labor companions give support in several ways. They can bridge communication gaps between health workers and women by providing information about childbirth, and facilitating clear and respectful labor and childbirth communication. A labor companion can articulate the woman's wishes to health workers and others, and may act as an advocate, speaking up on her behalf (13). Labor companions provide practical help, too, including to facilitate non pharmacological pain relief, encourage women to move around, and offer massage or hand-holding (13).. Labor companions also give emotional support, using praise and reassurance to help women feel in control; they offer a continuous physical presence (22). Another important aspect of the role is the potential prevention of mistreatment. As an advocate for the woman, a labor companion can witness and safeguard against mistreatment or neglect. (13,22,23)

Evidence showed that Women with continuous support were more likely to have a spontaneous vaginal birth and less likely to report negative ratings of or feelings about their childbirth and to use any intrapartum analgesia. . In addition, they were less likely to have a cesarean or instrumental vaginal birth , regional analgesia or a baby with a low five-minute Apgar (24)

Health providers also found companions very helpful because they assisted with their workload, alerted the provider about changes in the woman's status, and provided emotional support to the woman.(25)

African countries in WHO region, around 53 % of countries national policy/guideline recommend the presence of a companion of choice during labor and birth. (26)

Based on scientific evidence, the World Health Organization recommends that the parturient should be accompanied by people she trusts and with whom she feels at ease, possibly her partner,a friend, a doula, a nurse or midwife. (26)

2.2. Utilization of labor companionship and associated factors

A study conducted at DebreMarkos town public health institutions, which is an institution-based cross-sectional study and involve 548 participants, revealed that the magnitude of labor companionship found to be 14.6% (11.7–17.5). Women who had complicated pregnancy (adjusted odds ratio [AOR]=5.53; 95% CI: 3.09–9.92), women's desire for a labor companion (AOR=3.63; 95% CI: 1.51–8.69), being primipara (AOR=3.49; 95% CI: 1.93–6.35), labor followed by female skilled birth attendant (AOR=0.37;95% CI: 0.17–0.82), and women's perceived busyness of skilled birth attendant (AOR=0.13;95% CI: 0.07–0.23) were significantly associated with labor companionship (27)

Health facility-based cross-sectional study design done at ArbaMinch town public health facilities, southern Ethiopia from October to November 2019. From 418 study participants. The finding of the study showed that only 13.8% of mothers utilize companionship during delivery. Variables such as having a desire to have companionship during delivery in the health facilities (AOR = 5.17, CI 95% 2.63, 10.16), having complication during the labor and delivery (AOR =3.48, CI 95 %, 1.81, 6.70), and being primipara (AOR = 2.05, CI 95% 1.09, 3.87) were the independent factors associated with companionship utilization.(28)

One cross-sectional study St. Paul's Hospital and Millennium Medical College and its Catchment Centers in Addis Ababa, Ethiopia to determine the perception of health care providers and postpartum mothers on the involvement of birth companions during child birth ,from a total of 393 postpartum women showed majority of the post-partum women (98.7%) were not allowed to have companions during labor, although The great proportion of health care providers involved in the study (90 %) have positive attitude towards involvement of birth companions but majority 82.4 % didn't allow labor companions. (39)

In facility-based cross-sectional study conducted in Harar hospitals, eastern Ethiopia and Facility based survey conducted in Tigray found utilization of labor companion was 20.9 % and 40% respectively (29,30)

In one, study done in Kenya, quantitative and qualitative data from 3 sources: surveys with 877 women, 8 focus group discussions with 58 women, and in-depth interviews with 49 maternity providers in the County. Eligible women were 15 to 49 years old and delivered in the 9 weeks preceding the study. About 88% of women accompanied by someone from their social network to the health facility during their childbirth, with 29% accompanied by a male partner. Sixty-seven percent allowed continuous support during labor, but only 29% allowed continuous support during delivery. Eighteen percent did not desire companionship during labor and 63% did not desire it during delivery. Literate, wealthy, and employed women, as well as women who delivered in health centers and did not experience birth complications, were more likely to be

allowed continuous support during labor. (32)

A retrospective, descriptive study done in Rio de Janeiro perception of women/mothers was developed using documentary analysis of the database of 42 postpartum mother. The result showed that, during obstetric admission, 38 (90.5%) women escorted when they arrived at the health institutions. However, despite this fact, 24 (57.1%) women had a companion during labor, and 16 (38.1%) had a companion at the time of delivery, and a smaller number of women, in the puerperal period ($n = 13$; 31%), indicating that the presence of companies tended to be less common during admission.(31)

A cross-sectional observational study in six public hospitals in Nepal from July 2017 to August 2018. : A total of 63,077 women participated in the study with 19% of them having a companion during labor. Women aged 19-24 years had 65% higher odds of having a companion during labor compared with women aged 35 years and older (aOR 1.65 [95% CI, 1.40-1.94]). Women who were from an advantaged ethnic group (Chhetri/ Brahmin) had fourfold higher odds of having a companion than women from a disadvantaged group (aOR 3.84; [95% CI, 3.24-4.52]). Women who had companions during labor had fewer unnecessary cesarean births than those who had no companions (5.2% vs 6.8%, $P < .001$). (4)

2.3. Conceptual framework

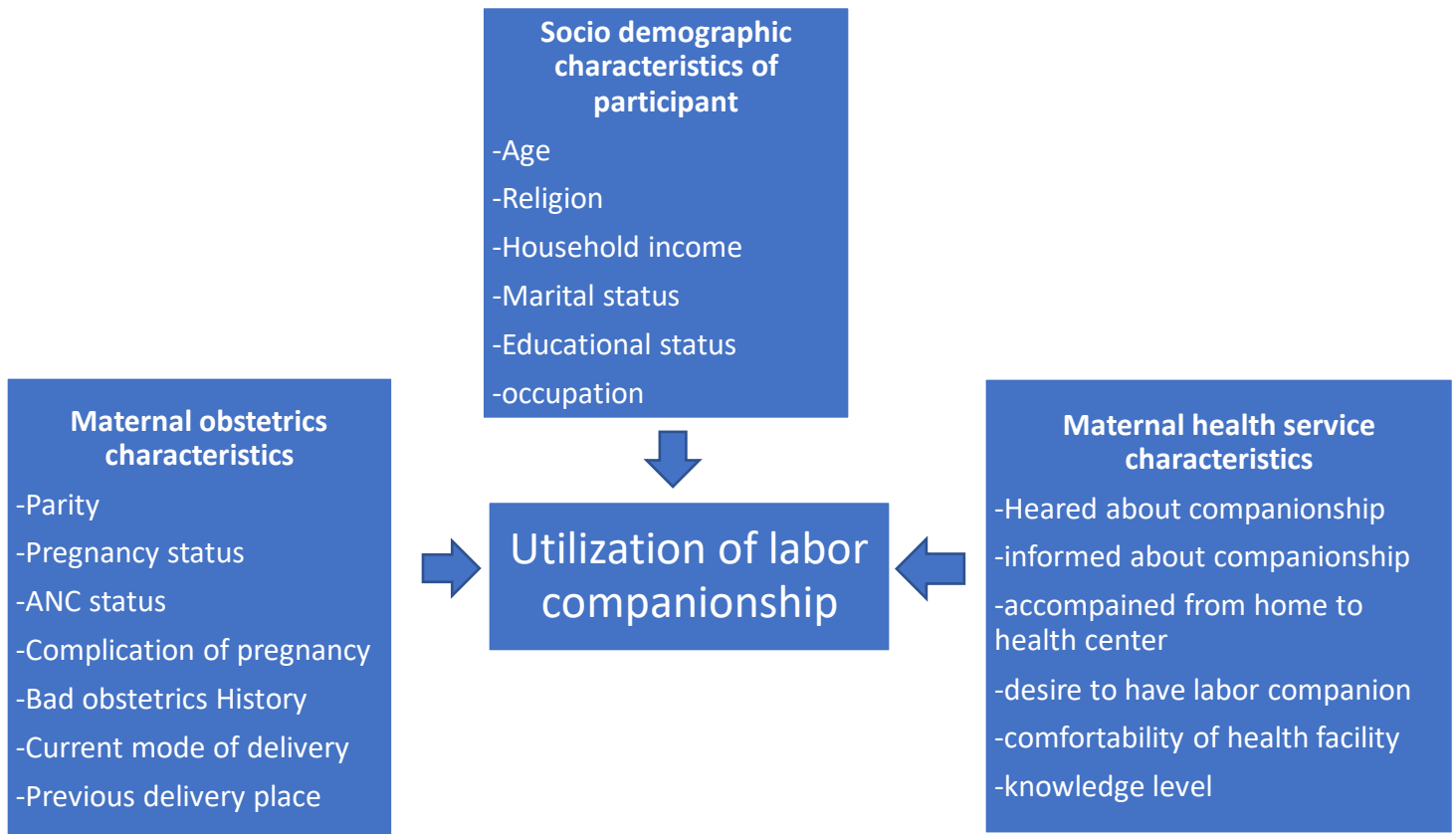


Figure 1 conceptual framework for utilization of labor companionship

3. Objective

3.1. General Objective

To assess utilization of labor companionship during labor, post-partum period, and associated factor among women who gave birth at Tikur Anbesa specialized hospital and Zewditu Memorial Specialized Hospital

3.2. Specific objective

- To assess utilization of labor companionship during labor and post-partum period, among women who gave birth at Tikur Anbesa specialized hospital and Zewditu Memorial Specialized Hospital
- To assess the associated factors among women who gave birth at Tikur Anbesa specialized hospital and Zewditu Memorial Specialized Hospital

4. Methods and Material

4.1. Study area

The study conducted at Tikur Anbessa Specialize Hospital and Zewditu Memorial Specialized Hospital (ZMH) In Addis Ababa, the capital city of Ethiopia.

The Tikur Anbessa Specialized Hospital (TASH) is the teaching hospital of the College. TASH is the largest specialized hospital in Ethiopia, with over 700 beds, and serves as a training center for undergraduate and postgraduate medical students, dentists, nurses, midwives, pharmacists, medical laboratory technologists, radiology technologists, and others who shoulder the health problems of the community and the country at large.

The hospital offers a comprehensive range of antenatal, delivery and postnatal services. The Labor and Delivery Unit has six beds in two rooms for laboring mothers, as well as four delivery couches in four separate rooms. Additionally, the hospital offers elective and emergent cesarean delivery on two operating rooms for 24 hours. It also has a corner for basic newborn resuscitation. Furthermore, the hospital has two wards for Antepartum Management and Postpartum Management. The service conducted by a maternal fetal medicine Specialist and a General Obgyn Specialist, as well as Resident, Interns, Midwives and Nurses. The hospital also serves as a referral center for high-risk patients with medical and obstetric complications. The total number of annual delivery was 4381 (Tir 2013-Tahisas 2014)

Zewditu memorial specialized Hospital is a hospital in central Addis Ababa, Ethiopia. It was built, owned and operated by the Seventh-day Adventist Church, but was nationalized during the Derg regime in about 1976. The hospital named after Empress Zewditu, the cousin and predecessor on the throne of Emperor Haile Selassie. Today the Zewditu Hospital operated by the Ministry of Health.

The hospital offers a comprehensive range of antenatal, delivery and postnatal services. The Labor and Delivery Unit has eight beds in four rooms for laboring mothers, as well as four delivery couches in two separate rooms.

The beds in the laboring unit separated by curtain for privacy. Additionally, the hospital offers elective and emergent cesarean delivery on two operating rooms for 24 hours. It also has a corner for basic newborn resuscitation and led by nurses with special training on neonatal resuscitation. Furthermore, the hospital has two-separated ward for Antepartum Management and Postpartum Management. The service is conducted by a General Obgyn Specialist, as well as Resident, Interns, Midwives and Nurses. The hospital also serves as a referral center for high-risk patients with medical and obstetric complications

The total number of annual delivery is around 4582 (Tir 2013-Tahisas 2014)

4.2. Study design & Period

A health facility-based cross-sectional study design carried out In at Tikur Anbessa Specialize Hospital and Zewditu Memorial Specialized Hospital conducted from JAN 1 to 30, 2023 GC

4.3. Source and Study population

4.3.1Source of population

All women who gave birth in at Tikur Anbessa Specialized Hospital and Zewditu Memorial Specialized Hospital during the study period

4.3.2. Study population

All women who gave birth in at Tikur Anbessa Specialized Hospital and Zewditu Memorial Specialized Hospital during the study period

4.4. Sampling method and Sampling Procedures

4.4.1. Sample Size determination

The sample size for the objective determined using single population proportion formula.

$$n = \frac{(Z\alpha/2)^2 p (1-p)}{d_2}$$

With the following assumptions:

n = the required sample size

p = prevalence of practice utilization of labor companion from previous study done at Arbaminch which was 13.8 (28)

α = the level of confidence taken to be 95% ($Z\alpha/2=1.96$); and

d= the margin of error taken to be 5% [0.05].

The calculated sample size is 183, adding 10% non-respondent rate, the total sample size was 200.

4.4.2. Sampling Procedure

Two hospital (Tikur Anbessa Specialize Hospital and Zewditu Memorial Specialized Hospital) included in the study. Considering comparative annual delivery and for the strength of the study I took 200-study participant from each two hospital. Individual study participant at each hospital selected by systematic random sampling during the data collection period until the required sample size at each hospital will obtained. The sampling interval k calculated by dividing the source population to the total sample size and this interval used in the two-hospital health to select study participant. Therefore, the first women from each health institutionselected by lottery method. Then every other woman from each health institution interviewed. If the next women is not eligible for the study, the next eligible women selected

4.5. Eligibility Criteria

4.5.1. Inclusion criteria

All women who gave birth in at Tikur Anbessa Specialized Hospital and Zewditu Memorial Specialized Hospital during the study period

4.5.2. Exclusion criteria

Those women who are seriously ill, unable to communicate and those admitted to ward for elective CS, antepartum obstetric management & abortion management during the data collection period excluded from the study

4.6. Study variable

4.6.1. Dependent variable

- utilization of labor companionship

4.6.2. Independent variable

- Sociodemographic Characteristics
- maternal Obstetric Characteristics
- maternal Health Service

4.7. Operational definition

Labor companionship

Support provided to laboring women at all moments of the labor, and postpartum period provided by a partner, family member, or social network

Utilization of companionship.

Having a supporting person of laboring women to provide support and stay with her during labor and Postpartum period for all or most of the time in the health facilities

Knowledge about companionship- refers to women awareness of benefits of labor companionship. It is measured by calculating mean score the ten question and categorized as Good knowledge (if participant scored greater than the mean) and Poor knowledge (if participant scored less than the mean) (32)

4.8. Data collection tools and technique

The data collected using interviewer-administered structured questionnaire designed by reviewing earlier similar studies. The pretest was done on 5% of mothers receiving care in a health center that was not included in the study before the actual study period. After pre-testing the questionnaire, Cronbach's Alpha calculated by using SPSS window version 25.0 to test internal consistency (reliability) of the item, and Cronbach's Alpha greater than 0.7 was considered as reliable. Two degrees (BSc) level data collectors and medical interns recruited. During data collection, regular supervision done by the supervisor.

4.9. Data quality control

Orientation given for study participants and the collected data reviewed and checked for completeness by investigators. The supervisors made close follow-up and assistance during the process of data collection.

4.10. Data entry and analysis

The collected checked manually for completion and any incomplete or misfiled questions, cleaned and stored for consistency, entered into EpiData version 4.4. (EpiData Association, Odense, Denmark), and then exported to SPSS version 25.0 (IBM Corp., Armonk, NY, USA) for analysis. Descriptive statistics calculated and presented using tables and figures. Hosmer–Lemeshow goodness of fit checked and all multi-collinearity of variables with variance inflation factors (VIF) up to 10 tolerated.

Multivariable logistic regression analysis performed to adjust for possible confounding variables.

Variables that were significant in the bivariate logistic regression ($p < 0.25$ or 95% confidence intervals (CIs)) entered into the multiple regression analysis. The $p < 0.05$ or 95% confidence intervals (CIs) not including 1.0 considered to indicate statistical significance.

4.11. Ethical consideration

Prior to data collection, an official written letter from AAU OBGYN department given to the responsible unit, hospital administration office.

The study participant informed about the objective of the study and verbal consent taken with the right not to take part in the study. Honesty, confidentiality, privacy of the study participant maintained.

The questioner collected at the time of discharge of the study participant.

Data collector had not any involvement and relation in management of the study participant.

5. Dissemination of result

The result of this study submitted, and presented to Addis Ababa University, College of health Science, department of OBGYN, FMOH and other stakeholders.

6. Results

6.1. Socio-demographic characteristics of participant

Four-hundred women, from the two hospital participated in the study with a 100 % response rate. The median age of the study participants at ZMH and TASH was 27 years. (SD± 4.071 and 4.656 years respectively). More than a half the study participant at both hospital were between the age group of 25–34 years.

Among the study participant, 61.0 % of ZMH women at and 50.5 % of women at TASH were a follower of orthodox Christian. More than 90% of participants in the study of both hospital were married. The majority of participant at ZMH (42.5 %) and TASH (69.5 %) were housewives. About 35 % participant at ZMH receive primary education. In addition, about 40% participant at TASH receive secondary education. In general the maority of participant receive primary education. (36.3 %) followed by secondary education

In general a third of participant in the study units get a monthly household income in the range of 3200 to 5200, (30.8 %)

6.2. Obstetrics characteristics of the participant

These study found that ,majoity of study participant (41.8 %)were multiparous. About 39.0 % of study participant at ZMH were nulliparous. 48. 5% of study participant at TASH were multiparous. Majority of the participant's pregnancies in both hospitals were planned, wanted and supported. 99.0 % study participant at both unit get ANC follow up

The result of the study indicated that approximately 11.0 % of participant at ZMH and 7.5 % at TASH had Bad obstetric history.

Around a third of mothers who took part in the study at both hospitals (35.0% in the ZMH study and 37.0% in the TASH study) had obstetric complication during their pregnancy. About 5.0 % of TASH and 9.0 % of ZMH study participant had medical complication at the time of study. The majority of patient in both hospital had spontaneous onset of labor and delivered vaginally. Nearly third of study participant (30.5% of ZMH and 33.5% of TASH) delivered by cesarean section. Nearly all of study participant in the study delivered at health institution in their previous childbirth.

Table 1 Socio-demographic characteristics of the study participants of ZMH and TASH , 2023(combined)

ZMH and TASH N=400			
Variables	categories	Frequency (%)	p-value
Age group	15-24	120 (30.0)	0.558
	25-34	255(63.7)	
	35-49	25(6.3)	
Religion	orthodox	223(55.8)	0.001
	Muslim	131(32.8)	
	Other [◇]	46(11.5)	
Marital status	Married	373 (93.3)	0.662
	Other [♠]	27(6.8)	
Occupation	house wife	224(56.0)	0.000
	government employee	66(16.5)	
	Other [♣]	110 (27.5)	
Educational Status	no formal education	36(9.0)	0.002
	primary education	145(36.3)	
	secondary education	138(34.5)	
	college and above	81(20.3)	
Average monthly household income	<3200	96(24.0)	0.012
	3200- 5200	123(30.8)	
	5200-7800	93(23.3)	
	>7800	88(22.0)	

◇ protestant ,catholic, Jehovah's witnesses , ♠ Single , divorced, widowed, ♣ Private, NGO

Table 2 Socio-demographic characteristics of the study participants of ZMH and TASH , 2023

Variables	categories	ZMH N=200		TASH N=200	
		Frequency (%)	p-value	Frequency (%)	p-value
Age group	15-24	59 (29.5%)	0.505	61 (30.5%)	0.818
	25-34	132 (66.0%)		123 (61.5%)	
	35-49	9 (4.5%)		16 (8.0%)	
Religion	orthodox	122 (61.0%)	0.243	101 (50.5%)	0.223
	Muslim	44 (22.0%)		87 (43.5%)	
	Other [◇]	34 (17.0%)		12 (6.0%)	
Marital status	Married	184 (92%)	0.386	189 (94.5%)	0.761
	Other [♠]	16 (8.0%)		11 (5.50%)	
Occupation	house wife	85 (42.5%)	0.447	139 (69.5%)	0.012
	government employee	46 (23%)		20 (10.0%)	
	Other [♠]	69 (34.5 %)		41 (20.5%)	
Educational Status	no formal education	18 (9.0 %)	0.427	18 (9.0%)	0.036
	primary education	70 (35%)		75 (37.5%)	
	secondary education	58 (29.0%)		80 (40.0%)	
	college and above	54 (27.0%)		27 (13.5%)	
Average monthly household income	<3200	39 (19.5%)	0.262	57 (28.5 %)	0.365
	3200- 5200	57 (26.5%)		66 (33.0 %)	
	5200-7800	40 (22.0%)		53 (26.5 %)	
	>7800	64 (32.0 %)		24 (12.0 %)	

◇ protestant ,catholic, Jehovah's witnesses , ♠ Single , divorced, widowed, ♠ Private, NGO

6.3. Labor companionship related characteristics of participant

About 80.5% of TASH participant and 40.0 % of ZMH heard about labor companionship. More than half of TASH participant (61.5 %) and 28.0 % of ZMH participant received information about labor companionship from the health service provider

The majority of study participant from both study area (94 % of TASH and 96.5 % ZMH) accompanied by a partner or family member while they traveled from their residence to the health facility at the time of labor onset

According to the study, the prevalence of utilization of companionship during labor among the participant at ZMH and TASH was 89.0 % and 15.5% respectively. The study also found that the prevalence of utilization of companionship after delivery among the participant at ZMH and TASH was 96.5 % and 93.5% respectively

The majority of study participants at ZMH expressed a positive opinion of the facility, with 93.0 % finding it to be comfortable to be accompanied and almost all (99.0 %) expressing a desire to experience labor companionship during a future pregnancy.

On the other hand, 42.0 % of study participant at TASH thought that the facility is comfortable to be accompanied and 85.0 % of them have the desire to have companion ship in the future pregnancy. The study also revealed that 4.5% ZMH and 22.5 % of TASH participant had good knowledge related to benefit of labor companionship.

In addition the most frequent answer given by the study participant at both hospital regarding the benefit of labor companionship is that it reduce worry, fear and loneliness.

The most frequent cause of in adequate companionship utilization at ZMH had been provider denial,(*Figure 4*) ,while the most common cause of insufficient companionship utilization at TASH had been institution denial (*Figure 3*)

Table 3 Obstetrics and health related characteristics of study participant ZMH and TASH, 2023 (combined)

variables	Category	ZMH & TASH N=400	
		Frequency (%)	p-value
Parity	Nulliparous	138(34.5)	0.035
	Prim parous	95(23.8)	
	Multiparous	167(41.8)	
Pregnancy status	Un-Wanted	12(3)	0.916
	Wanted	388(97.0)	
	Un-Planned	82(20.5)	0.423
	Planned	318(79.5)	
	Un-Supported	11(2.8)	0.684
	Supported	389(97.3)	
Bad obstetric history ^Δ	No	364(91.0)	0.872
	Yes	36(9.0)	
Obstetric complication during the current pregnancy ^{\$}	No	256(64.0)	0.199
	Yes	144(36.0)	
Medical complication during the current pregnancy [¥]	No	372(93.0)	0.312
	Yes	28(7.0)	
ANC follow up ^Φ	No	4(1.0)	0.952
	Yes	396(99.0)	
Type of labor during the current pregnancy	Spontaneous	300(75)	0.564
	Induced	100(25)	
current mode of delivery	Vaginal	247(61.8)	0.012
	Cesarean section	128(32.0)	
	Instrumental	25(6.3)	
Place of last delivery	Home	3(1.1)	0.491
	Health institution	259(98.8)	

Δ any of the following 2 or more spontaneous abortion, still birth, early neonatal death, intrauterine growth restricted baby, baby with congenital anomaly

\$ Preterm labor, Premature rupture of membrane, Pregnancy induced hypertension, Multiple gestation, Intrauterine growth restriction, Red cell alloimmunization, Amniotic fluid disorder, antepartum and post-partum bleeding

¥ heart disease, respiratory disease, renal disease, diabetes mellitus, thyroid disease, hematologic complication, other

Φ having at least one contact in the antenatal period at any health institution

Table 4 Obstetrics and health related characteristics of study participant ZMH and TASH, 2023

variables	Category	ZMH N=200		TASH N=200	
		Frequency (%)	p-value	Frequency (%)	p-value
Parity	Nulliparous	78 (39.0)	0.391	60 (30.0)	0.184
	Prim parous	52 (26.0)		43(21.5)	
	Multiparous	70 (35.0)		97(48.5)	
Pregnancy status	Un-Wanted	9 (4.5)	0.028	3(1.5)	0.463
	Wanted	191 (95.5)		197(98.5)	
	Un-Planned	37 (18.5)	0.420	45(22.5)	0.407
	Planned	163 (81.5)		155(77.5)	
	Un-Supported	7 (3.5)	0.170	4(2.0)	0.396
	Supported	193 (96.5)		196(98.0)	
Bad obstetric history ^Δ	No	179 (89.0)	0.293	185(92.5)	0.851
	Yes	21 (11.0)		15(7.5)	
Obstetric complication during the current pregnancy ^{\$}	No	130 (65.0)	0.036	126(63.0)	0.967
	Yes	70 (35.0)		74(37.0)	
Medical complication during the current pregnancy [¥]	No	182 (91.0)	0.378	190(95.0)	0.173
	Yes	18 (9.0)		10(5.0)	
ANC follow up ^Φ	No	2 (1.0)	0.096	2(1.0)	0.164
	Yes	198 (99.0)		198(99.0)	
Type of labor during the current pregnancy	Spontaneous	156 (78.0)	0.231	144(72.0)	0.860
	Induced	44 (22.0)		56(28.0)	
current mode of delivery	Vaginal	116 (58.0)	0.683	131(65.5)	0.408
	Cesarean section	61 (30.5)		67(33.5)	
	Instrumental	23 (11.5)		2(1.0)	
Place of last delivery	Home	2 (1.6)	0.580	1(0.7)	0.709
	Health institution	120(98.4)		144(99.3)	

^Δ any of the following 2 or more spontaneous abortion, still birth, early neonatal death, intrauterine growth restricted baby, baby with congenital anomaly

^{\$} Preterm labor, Premature rupture of membrane, Pregnancy induced hypertension, Multiple gestation, Intrauterine growth restriction, Red cell alloimmunization, Amniotic fluid disorder, antepartum and post-partum bleeding

[¥] heart disease, respiratory disease, renal disease, diabetes mellitus, thyroid disease, hematologic complication, other

^Φ having at least one contact in the antenatal period at any health institution

Table 5 .Labor companionship related characteristics of study participant of ZMH and TASH, 2023(combined)

		ZMH & TASH (combined),	
variable		Count (%)	p-value
Have you heard about labor companionship	No	160(40.0)	0.000
	Yes	240(60.0)	
Did the provider inform you about companion	No	221(55.3)	0.000
	Yes	179(44.8)	
Did someone accompanied you from home to the health facility	No	19(4.8)	0.401
	Yes	381(95.3)	
Did you have someone you wanted to stay with you during labor	No	126(31.5)	
	Yes	274(68.5)	
How long did was his/her stay	All of the time	85(21.3)	
	Most of the time	124(31.0)	
	A few times	65(16.3)	
Did you have someone you wanted to stay with you during delivery	No	342(85.5)	
	Yes	58(14.5)	
How long did was his/her stay	All of the time	5(1.3)	
	Most of the time	11(2.8)	
	A few time	42(10.5)	
Did you have someone you wanted to stay with you after delivery	No	7(1.8)	
	Yes	393(98.3)	
How long did was his/her stay	All of the times	266(66.5)	
	Most of the time	114(28.5)	
	A few time	13(3.3)	
Utilization of companionship	No	191(47.8)	
	Yes	209(52.3)	
Is the facility comfortable to be accompanied	No	130(32.5)	0.000
	Yes	270(67.5)	
Do you have any desire to have companionship during labor and delivery in the future	No	32(8.0)	0.000
	Yes	368(92.0)	
Level of knowledge related to benefits labor companionship‡	Poor	336(84.0)	0.176
	Good	64(16.0)	

‡ poor, scored ≤ 3 Good, scored ≥ 4

Table 6 .Labor companionship related characteristics of study participant of ZMH and TASH, 2023

variable		ZMH		TASH	
		Count (%)	p-value	Count (%)	p-value
Have you heard about labor companionship	No	39 (19.5)	0.356	120 (60.0)	0.686
	Yes	161 (80.5)		80 (40.0)	
Did the provider inform you about companion	No	77 (38.5)	0.431	144 (72.0)	0.134
	Yes	123 (61.5)		56 (28.0)	
Did someone accompanied you from home to the health facility	No	7 (3.5)	0.170	12 (6.0)	0.317
	Yes	193 (96.5)		188 (94.0)	
Did you have someone you wanted to stay with you during labor	No	9 (4.5)		117 (58.5)	
	Yes	191 (95.5)		83 (41.5)	
How long did was his/her stay	All of the time	76 (39.8)		9 (10.8)	
	Most of the time	102 (53.4)		22 (26.5)	
	A few times	13 (6.8)		52 (62.7)	
Did you have someone you wanted to stay with you during delivery	No	160 (80.0)		182 (91.0)	
	Yes	40 (20.0)		18 (9.0)	
How long did was his/her stay	All of the time	3 (7.5)		2 (11.1)	
	Most of the time	9 (22.5)		2 (11.1)	
	A few time	28 (70.0)		14 (77.8)	
Did you have someone you wanted to stay with you after delivery	No	2 (1.0)		5 (2.5)	
	Yes	198 (99.0)		195 (97.5)	
How long did was his/her stay	All of the times	146 (73.7)		120 (60.0)	
	Most of the time	47 (23.7)		67 (33.5)	
	A few time	5 (2.5)		8 (4.0)	
Utilization of companionship	No	24 (12.0)		169 (84.5)	
	Yes	176 (88.0)		31 (15.5)	
Is the facility comfortable to be accompanied	No	14 (7.0)	0.562	116 (58.0)	0.030
	Yes	186 (93.0)		84 (42.0)	
Do you have any desire to have companionship during labor and delivery in the future	No	2 (1.0)	0.096	30 (15.0)	0.166
	Yes	198 (99.0)		170 (85.0)	
Level of knowledge related to labor companionship	Poor	181 (95.5)	0.342	155 (77.5)	0.123
	Good	19 (4.5)		45 (22.5)	

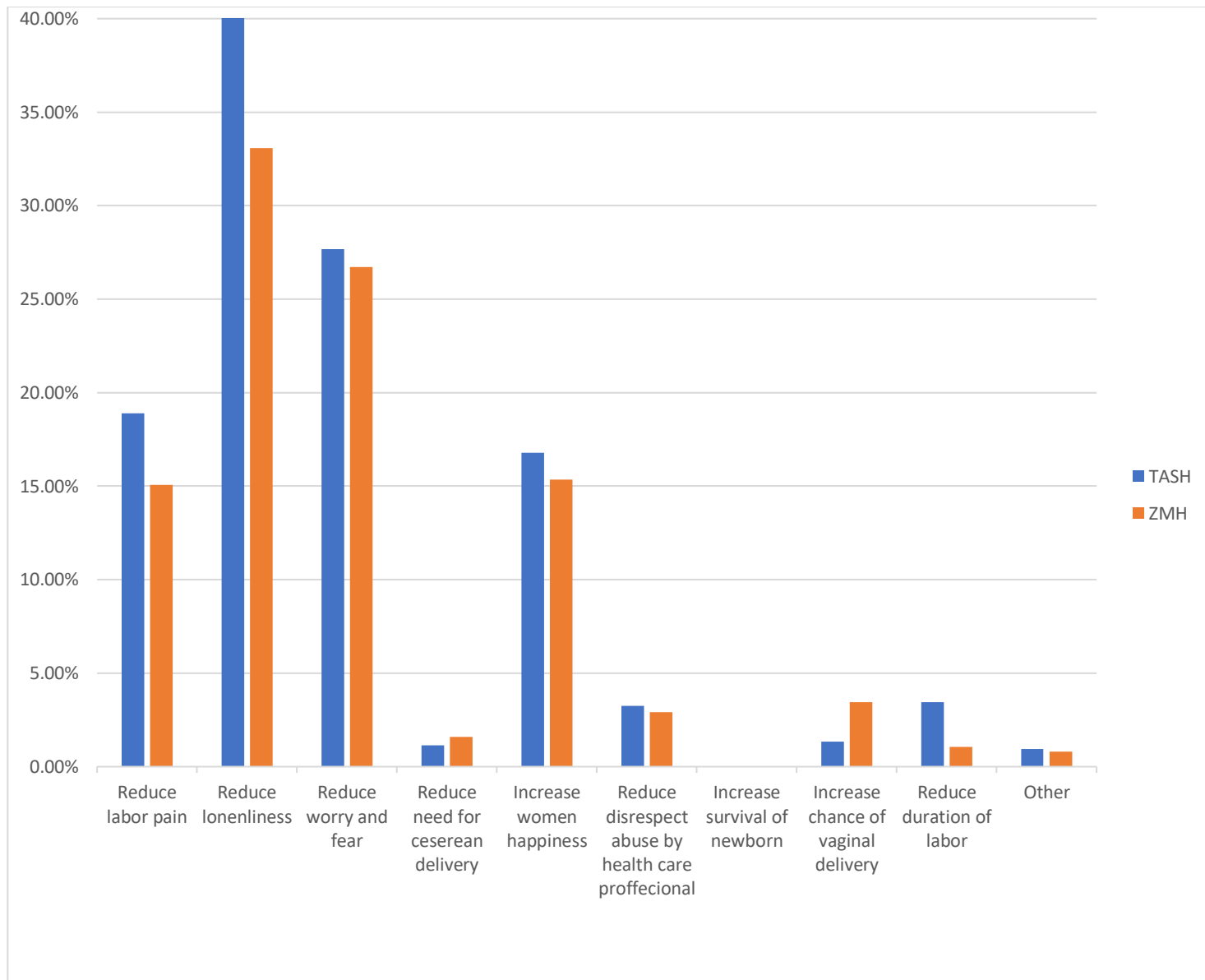


Figure 2 knowledge related to benefits of labor companionship at TASH & ZMH

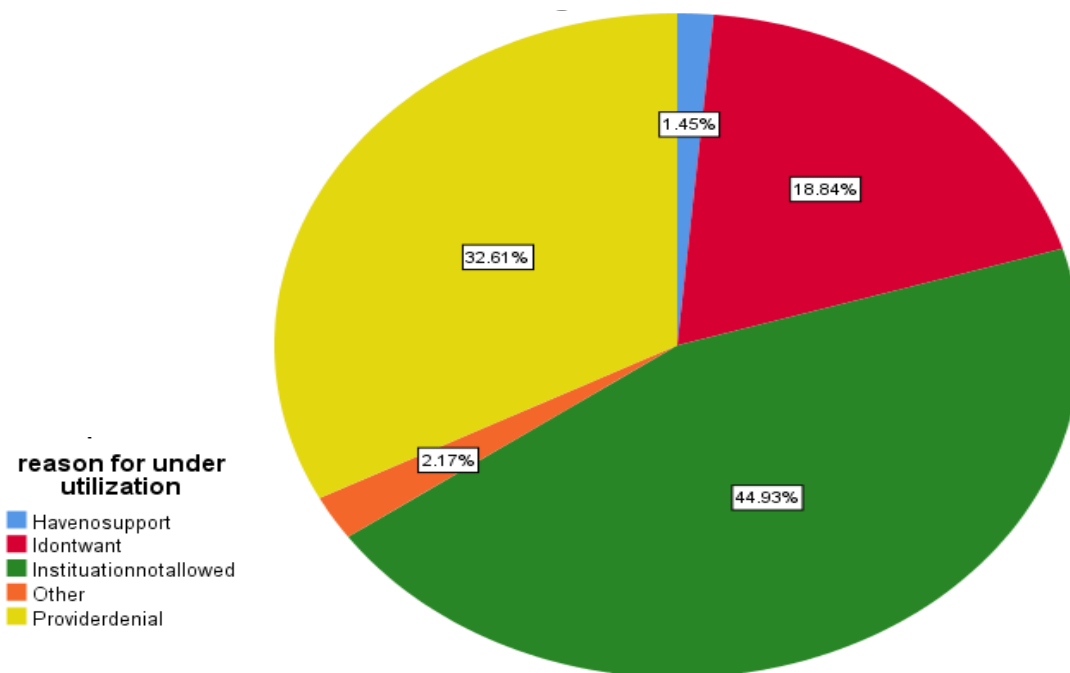


Figure 3 percentage for underutilization of companionship at TASH

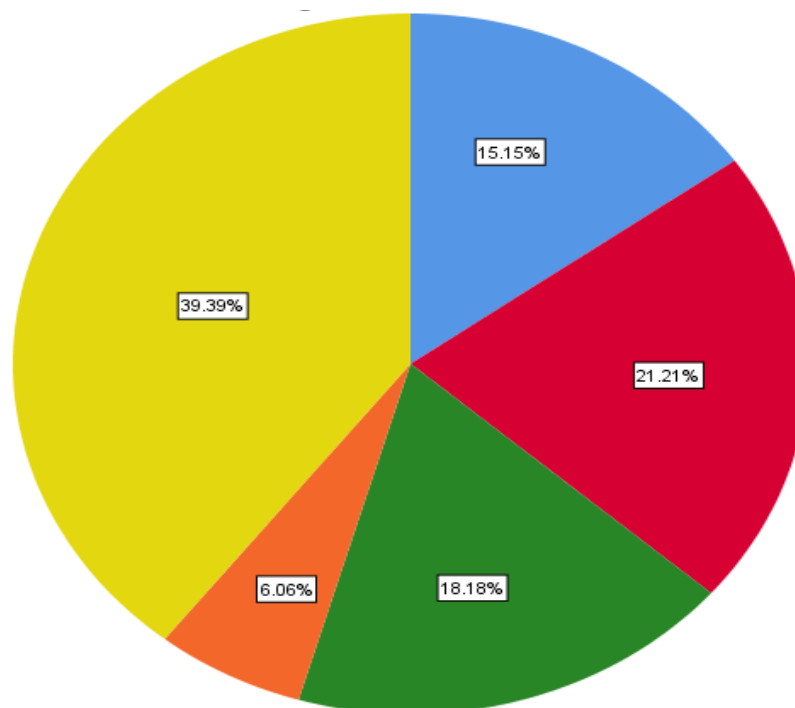


Figure 4 percentage for underutilization of companionship at ZMH

6.4. Factor associated with utilization of labor companionship

In order to determine the factor associated with the utilization of labor companionship a Bi-variable and multivariable analyses logistic regression conducted.

In general the combined result of the two study unit revealed that variable like Religion, occupation, Education, average monthly income, obstetrics performance, Mode of delivery, obstetrics complication during current pregnancy, Provider inform about companionship, facility comfortability for companionship, Desire to have companionship, Knowledge level about benefit of companionship had an association with utilization of labor companion.

After controlling confounding on multivariable logistic regression variables occupation, Average monthly income, obstetrics complication during current pregnancy, participant previous awareness about companionship is the facility comfortable for companionship, Desire to have companionship were significantly associated with labor companion utilization.

Those participant who were government employee utilize companionship three times than housewife (AOR 2.930 (1.269, 6.768)) Participant with average monthly household income of 5250-7800 ETB, 53 % less likely to utilize companionship from participant whose income were less than 3200 ETB. (AOR 0.469 (0.221, 0.995)).

Participant with obstetric complication in the current pregnancy were 43 % less likely to utilize companionship from there counterpart (AOR 0.577 (0.346, 0.961)). the study also revealed that participant who heard about companionship were more likely to utilize companionship (AOR 1.744 (1.011, 3.008)) and those who considered the facility being comfortable for companionship utilize companionship six times more than there counterpart. (AOR 6.232 (3.520, 11.034)). participant who had a desire to have companionship utilize companionship five times more than there counterpart, (AOR 5.416 (1.360, 21.571)).

In study conducted at TASH, variables like occupation, educational status, obstetric performance, information delivered by the provider about companionship, comfortability of facility to get companion, Knowledge level regarding the benefit of companionship had an association with utilization of labor companion.

After controlling confounding on multivariable logistic regression variables comfortability of facility to get companion were significantly associated with labor companion utilization.

Those participants who find the facility to be comfortable to be accompanied utilize labor companionship two times as often as counterparts do. **(AOR 2.680 (1.085, 6.620))**

On the other hand, In study conducted at ZMH, variables like Age, Occupation, obstetric performance, Obstetric complication in the current pregnancy, Desire to have companionship, informed participant by the provider about companionship had an association with utilization of labor companion. After controlling confounding on multivariable logistic regression Obstetric complication in the current pregnancy were significantly associated with labor companion utilization

The study also revealed that participant who had obstetric complication during pregnancy , 64 % times less likely to utilize labor companionship than who did not have **(AOR 0.368 (0.148 ,0.919))**

Table 7 Bivariate and multivariable analysis of factors associated with utilization of companion during delivery, TASH and ZMH, 2023(Combined)

Variable		Utilization of companionship		odd Ratio with 95% CI	
		No	Yes	COR	AOR
Religion	Orthodox	101	122	1	1
	Muslim	79	52	0.545 (0.352,0.845)*	0.689 (0.395,1.201)
	other	14	32	1.892(0.958,3.739)*	1.230(0.539,2.808)
occupation	housewife	132	92	1	1
	Government employee	18	48	3.826(2.092,6.997)*	2.930 (1.269,6.768)**
	Other*	44	66	2.152(1.352,3.427)*	1.211 (0.677,2.164)
Average monthly household income	< 3200	50	46	1	1
	3200-5250	58	65	1.218(0.714,2.079)	1.168(0.607,2.249)
	5250-7800	55	38	0.751(0.422,1.335)	0.469(0.221,0.995)**
	>7800	31	57	1.999(1.105,3.616)*	1.147(0.538,2.447)
Educational status	No formal education	20	16	1	1
	Primary	73	72	1.233 (0.592,2.567)	1.075(0.439,2.632)
	Secondary	77	61	0.990(0.473,2.072)	0.825(0.335,2.032)
	College & above	24	57	2.969(1.318,6.688)*	1.248(0.442,3.523)
Obstetric performance	Nulliparous	55	83	1	1
	prim parous	48	47	0.649(0.383,1.099)*	0.536(0.277,1.036)
	Multiparous	91	76	0.553(0.350,0.874)*	0.779(0.434,1.399)
Current Mode of delivery	vaginal	126	121	1	1
	cesarean	63	65	1.074 (0.701,1.647)	1.021(0.607,1.719)
	Instrument assisted	5	20	4.165(1.515,11.450)*	2.473(0.766,7.977)
obstetric complication during the current pregnancy	No	118	138	1	1
	Yes	76	68	0.765(0.508,1.152)*	0.577(0.346,0.961)**
Have you heard about companionship	No	107	53	1	1
	Yes	87	153	3.550(2.329, 5.412)*	1.744(1.011,3.008)**
Provider inform you about companionship	No	130	91	1	1
	Yes	64	115	2.567(1.710,3.854)*	1.634(0.960,2.4783)
Is the facility comfortable to have companion	No	105	25	1	1
	Yes	89	181	8.542 (5.157,14.148)*	6.232(3.520,11.034)**
Any desire to have companionship during labor and delivery£	No	29	3	1	1
	Yes	165	203	11.893(3.560,39.735)*	5.416(1.360,21.571)**
Knowledge level	Poor	158	178	1	1
	Good	36	28	0.690(0.403,1.183)	0.573(0.299,1.099)

notes: , * P≤0.25 , **P≤0.05; 1; reference category. Abbreviations: AOR, adjusted odd ratio; COR, crude odd ratio; CI, confidence interval.

£ fisher exact test done to assess for association

Table 8 Bivariate and multivariable analysis of factors associated with utilization of companion during delivery, ZMH, 2023

Variable		Utilization of companionship		odd Ratio with 95% CI	
		No	Yes	COR	AOR
Age				1.082 (0.966,1.211)*	1.106(0.963,1.272)
occupation	housewife	8	77	1	1
	Government employee	5	41	0.852 (0.262,2.772)	0.620 (0.176,2.182)
	Other ^a	11	58	0.548 (0.207,1.449)*	0.506 (0.181,1.419)
Obstetric performance	Nulliparous	8	70	1	1
	prim parous	9	43	0.546 (0.195,1.522)*	0.460(0.156,1.354)
	Multiparous	7	63	1.028 (0.352,2.998)	0.522 (0.143,1.907)
History of obstetric complication during the current pregnancy	No	10	120	1	1
	Yes	12	58	0.403 (0.164, 0.987)*	0.368 (0.148 ,0.919)**
Provider inform you about companionship	No	11	66	1	1
	Yes	11	112	1.697 (0.697,4.130)*	1.601 (0.639,4.008)

notes: , * P≤0.25 , **P≤0.05; 1; reference category. Abbreviations: AOR, adjusted odd ratio; COR, crude odd ratio; CI, confidence interval.

Table 9 Bivariate and multivariable analysis of factors associated with utilization of companion during delivery, TASH, 2023

Variable		Utilization of companionship		odd Ratio with 95% CI	
		No	Yes	COR	AOR
Occupation	House-wife	122	17	1	1
	Government employee	14	6	4.451 (1.537,12895)*	3.569 0.872 , 14.617)
	other [♣]	33	8	2.004 (0.783,5.130)*	1.931 (0.689 , 5.408
Educational Status	no formal education	16	2	1	1
	Primary education	67	8	0.955 (0.185,4.937)*	0.632 (0.110,3.629)
	secondary education	68	12	1.275 (0.257,6.328)*	0.812 (0.146,4.506)
	college and above	18	9	4.000 (0.750,21.326)*	1.371 (0.182,10.353)
Parity	Nulliparous	46	14	1	1
	Prim parous	39	4	0.371 (0.112,1.229)*	0.435 (0.121,1.560)
	Multiparous	84	13	0.560 (0.240,1.306)*	0.790 (0.298,2.096)
Provider inform you about companion	No	117	27	1	1
	Yes	51	5	0.467 (0.169,1.287)*	0.334 (0.109,1.027)
Is the facility comfortable to be accompanied	No	102	14	1	1
	Yes	66	18	2.364 (1.070,5223)*	2.680 (1.085,6.620)**
Knowledge Level	Poor	131	21	1	1
	Good	37	11	1.929 (0.828,4.4491)*	1.713 (0.640,4.583)

Notes:, * P≤0.25 , **P≤0.05; 1; reference category. Abbreviations: AOR, adjusted odd ratio; COR, crude odd ratio; CI, confidence interval.♣ Private, NGO

7. Discussions

The combined overall prevalence of utilization of companionship during labor among women who gave birth at TASH and ZMH is 52.2 %, 95% CI [47.2, 57.2]. And the prevalence of utilization of companionship after delivery is 95.0 %, 95% CI [92.4, 96.9].

The individual institution prevalence of utilization of companionship during labor among women who gave birth at TASH and ZMH is 15.5 %, 95% CI [10.8, 21.3]. And 89 %, 95% CI [83.8, 93.0] respectively. Prevalence of utilization of companionship after delivery among women who gave birth at TASH and ZMH is 93.5 %, 95% CI [89.1, 96.5]. And 96.5%, 95% CI [92.9, 98.6] respectively.

From the combined data factors like occupation, Average monthly income, obstetrics complication during current pregnancy, participant previous awareness about companionship, comfortable facility for companionship, Desire to have companionship were significantly associated with labor companion utilization.

In our study Participant with average monthly household income of 5250-7800 ETB , 53 % less likely to utilize companionship from participant whose income were less than 3200 ETB. (AOR 0.469(0.221, 0.995). these finding is different from the research done at Kenya where participant with middle income utilize companionship (AOR 1.73 (1.04 2.90)). (33) the possible explanation might be the difference in classification of the monthly household income and in our most of participant with these category of income from TASH where utilization of companionship is significantly low from ZMH study unit.

Those participant who were government employee utilize companionship three times more than housewife (AOR **2.930 (1.269,6.768)**), the possible explanation might be these participant might be educated aware of companionship from media and have access to other platform and asked for the service during child birth

The study found that participant who had a desire to have companionship utilize companionship five times more than their counterpart, (AOR 5.416(1.360,21.571). the finding is similar with study done at Debre Markos (AOR=3.63; 95% CI: 1.51–8.69) (27), Arbaminch (AOR = 5.17 (2.63, 10.16). (28), Kenya (AOR = 1.42 (1.01, 2.00) (33)

In addition Participant with obstetric complication in the current pregnancy were 43 % less likely to utilize companionship from their counterpart (AOR 0.577(0.346,0.961). these finding supported by a study in Kenya showed that women who had experienced complications at labor are 66% less likely to have companionship while

giving birth in the health facilities. (AOR 0.34 (0.19 0.60) (33). In contrast these finding were different from Debreworkos and Arbaminch study where women with obstetric complication had 5.5 and 3.5 higher odd of utilization of labor companionship respectively ((AOR = 5.53 (3.086, 9.917) and (AOR = 3.48, CI 95%, 1.81, 6.70)) (27) (28)

Reason for This difference might be women obstetric complication need strict follow up by health care provider alone; the might had an impact of continuous companion support.

The individual prevalence of utilization of labor companionship among women who gave birth at TASH and ZMH is 15.5 % and 88 % respectively.

The prevalence of TASH (15.5 %) ,is broadly consistent with studies conducted at Arbaminch, south, Ethiopia (13.8%),Debreworkos town, north Ethiopia (14.6 %) , base line evaluation study in south Africa (14.5%), Nigeria (13.1%) and retrospective record review based in south Brazil (16.7%),

In contrast to these studies, the prevalence of labor companion utilization of this study (15.5%) is lower than findings from the study of ZMH (89 %) conducted at the same time, Brazil (42.1%), the UAE (59.3%), Nepal (19%), South Africa (24.2%), Tanzania (44.7%), Kenya (67%).

Although the socio-demographic and obstetric characteristics of the study participant in the two unit are comparable, The possible explanation for the difference in the result of the two hospital included in the study is the active engagement of the ZMH hospital in meeting these particular need including renovation the labor and delivery unit, to make it suitable for companionship and create awareness for the health provider to implement the service. On the other hand ,once the patient is admitted to the labor and delivery unit, her companion is not allowed to visit and accompany her due to privacy issue ,since three laboring mother admitted in one room.

The inconsistency of our study from the Brazilian national survey might be due to the difference between the countries' health system policies. Companionship is a key maternal health indicator in Brazil and is included in the Brazilian national demographic health survey as a key maternal health indicator and the implementation of a labor companion for all women was included in their national law. Although it is clearly state in the current national guideline, its implementation is poor. In addition, In the Brazilian study all postnatal women were included from both private and public health facilities; including baby-friendly hospitals might contribute the difference (34)

The possible explanation for lowering of our study compared to a study conducted at UAE might be sampling technique, study design, setting, socio-cultural difference and socio-economic difference, that they include only

women with post vaginal uncomplicated deliveries with good birth outcome up to 2 months post-delivery by non-random sampling technique. (35)

The inconsistency between studies in Nepal might be the sociodemographic characteristics of the study population, inclusion criterion of population, study setting and measurement tool of outcome variable. In our study, women who came for abortion service excluded. Our tool for outcome measurement contains three variables, and those participant who get companionship for at least most and/or all of the time during labor and postnatal period for at least most and/or all of the time considered as they utilize companionship. In Nepal, the study finding affected mainly with women. Sociodemographic characteristics. They also include women who delivered after 22 weeks of gestation and measure utilization with single yes or no question. (4)

Coverage of labor companion utilization in our study is lower than a study carried out in Tanzania. The possible explanation might be the difference in the study population and sociocultural differences. our study, participants were from hospital, whereas they interview more than 50% of respondents from a health-center.(36)

Our prevalence study finding is lower than a study conducted in Kenya (67%). The possible justification might be the study populations; they include participants from private facilities, whereas in our study the participants are only from governmental hospital. (33)

From our study at TASH, The study also revealed that, participant who considered that the facility is comfortable for companionship had two fold higher odds of having companionship during labor compared with the counterpart. **(AOR 2.680 (1.085, 6.620)).** These finding is supported by Brazilian study done to analyze the implementation of accompaniment during hospital admission, labor, delivery and postpartum, in the Brazilian public, mixed and private sectors. The services which allowed women to have companions throughout the hospital stay, which had minimal accommodation facilities (such as chairs for all companions), who provided minimal privacy for women during their stay, those accredited “Baby-Friendly Hospitals” associated with having more with companionship (13.8 vs 46.2%) p value < 0.001.(34)

On the other hand, from the study conducted at ZMH, history of obstetric complication in the current pregnancy were significantly associated with utilization of labor companionship.

Study participant with obstetric complication during current pregnancy found to utilize companionship 70 % less likely than counterpart do. (AOR 0.305 (0.102, 0.913)). These last finding is opposite from the study done at Debre markos (AOR5.53 (3.086, 9.917)) and Arbamich ((AOR = 3.48, CI 95 %, 1.81, 6.70)) where participant with obstetric complication utilize companionship five and three times respectively from there counterpart. (27,28)

The possible explanation might be mothers with obstetrics complication had frequent monitoring and obstetric intervention by the respective caregiver that had a negative effect on utilization of continuous care

The most frequent cause of inadequate companionship utilization at ZMH had been provider denial. This finding supported qualitative study done at St Paul's Hospital Millennium Medical College (SPHMMC) and its selected catchment health centers found. The finding from these study showed that great proportion of health care providers involved in the study (90 %) have positive attitude towards involvement of birth companions but majority 82.4 % didn't allow birth companions. (38)

The most common cause of insufficient companionship utilization at TASH had been institution denial. these finding is supports by one qualitative research study done in UAE found that The most important barriers identified in humanized birth care were the institutional rules and strategies that restricted the presence of a birth companion. (37)

8. Strength and Limitation of study

There are few studies in our country that assess labor companionship and associated factor as a primary objective most of studies carried for assessment respectful maternal care provision in which companionship is one of its component. And our study is primary assess labor companionship

This study carried on in referral hospital where high-risk mother managed. Most of previous study carried in a set up where low risk mother are managed

The other strength of these study is, it tried to assess utilization of companionship at different phase of child birth(labor ,delivery and post-partum) it also assessed not only the mere presences of companion but also the duration of his/her stay

the first limitation of these study is its done only in two referral hospital ,it might be better if it involve health center that manage low risk mother and private setup ,to get the real picture

The second limitation of these study is, it doesn't cover about the opinion of the health service provider regarding labor companionship in addition it didn't assess the activity of the companion during his/her stay

9. Recommendation

It is of paramount importance and evidence-based low cost intervention , that the hospital and various stakeholders involved in the maternal care have responsibility to ensure the delivery of the service by revamping the labor and delivery unit, developing policy and standard operating procedure on allowing birth companion in labor as well as raising awareness of the health service provider. It is also important to involve the women and her family in the whole process.

Concerned stakeholder should put their effort on health promotion that aim to create awareness about companionship. Mothers with obstetric complication need to be assessed for the desire of companionship and provide the service

Further study in this topic with same and different methodology (Qualitative) involving private sector needed to evaluate the real picture companionship

10. CONCLUSION

Even though different study and WHO recommend the utilization of labor companions for all women, prevalence of labor companion utilization in this study was low. In addition, there is a huge difference in the two-study area. In general occupation, mother who was aware of companionship, Average monthly income, participant previous awareness about companionship, comfortable facility for companionship, Desire to have companionship are predictors which increase the utilization of a labor companion. In contrast, obstetrics complication during pregnancy negatively affect labor companion utilization

11. Reference

1. Bruggemann OM, Parpinelli MA, Osis MJD, Cecatti JG, Neto ASC. Support to woman by a companion of her choice during childbirth: A randomized controlled trial. *Reprod Health*. 2007;4.
2. Berkman LF, Glass T, Brissette I, Seeman TE. From social integration to health: Durkheim in the new millennium p [Internet]. Available from: www.elsevier.com/locate/socscimed
3. Companion of choice during labour and childbirth for improved quality of care.
4. Ashish KC, Axelin A, Litorp H, Tinkari BS, Sunny AK, Gurung R. Coverage, associated factors, and impact of companionship during labor: A large-scale observational study in six hospitals in Nepal. *Birth*. 2020 Mar 1;47(1):80–8.
5. Bohren MA, Berger BO, Munthe-Kaas H, Tunçalp Ö. Perceptions and experiences of labour companionship: A qualitative evidence synthesis. Vol. 2019, *Cochrane Database of Systematic Reviews*. John Wiley and Sons Ltd; 2019.
6. Lazzerini M, Valente EP, Covi B, Semenzato C, Ciuch M. Use of WHO standards to improve quality of maternal and newborn hospital care: a study collecting both mothers' and staff perspective in a tertiary care hospital in Italy. *BMJ Open Qual*. 2019 Feb 13;8(1):e000525. doi: 10.1136/bmjoq-2018-000525. PMID: 30997420; PMCID: PMC6440608.
7. WHO Recommendations for Augmentation of Labour. Geneva: World Health Organization; 2014. 3, Results. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK258883/>
8. WHO recommendations on health promotion interventions for maternal and newborn health. 2015.
9. Obstetrics Management Protocol for Health Centers. MOH, Ethiopia.2010
10. Doctor HV, Radovich E, Benova L. Time trends in facility-based and private-sector childbirth care: Analysis of Demographic and Health Surveys from 25 sub-Saharan African countries from 2000 to 2016. *J Glob Health*. 2019 Dec 1;9(2).
11. Ethiopian Public Health Institute (EPHI) [Ethiopia] and ICF. 2021. Ethiopia Mini Demographic and Health Survey 2019: Final Report. Rockville, Maryland, USA: EPHI and ICF.
12. World Health Organization, World Health Organization. Reproductive Health and Research. WHO recommendations : optimizing health worker roles to improve access to key maternal and newborn health interventions through task shifting. 87 p.
13. Van Roosmalen J, Van Den Akker T. Continuous and caring support right now. Vol. 123, *BJOG: An International Journal of Obstetrics and Gynaecology*. Blackwell Publishing Ltd; 2016. p. 675.
14. Asefa A, Bekele D. Status of respectful and non-abusive care during facility-based childbirth in a hospital and health centers in Addis Ababa, Ethiopia. *Reprod Health*. 2015 Apr 16;12(1).
15. Dewana Z, Fikadu T, Mariam AG, Abdulahi M. Client perspective assessment of women's satisfaction towards labour and delivery care service in public health facilities at Arba Minch town and the surrounding district, Gamo Gofa zone, south Ethiopia. *Reprod Health*. 2016 Feb 11;13(1).

16. Tesfaye R, Worku A, Godana W, Lindtjorn B. Client Satisfaction with Delivery Care Service and Associated Factors in the Public Health Facilities of Gamo Gofa Zone, Southwest Ethiopia: In a Resource Limited Setting. *Obstet Gynecol Int.* 2016;2016.
17. Bhutta ZA, Salam RA, Lassi ZS, Austin A, Langer A. Approaches to improve Quality of Care (QoC) for women and newborns: Conclusions, evidence gaps and research priorities. Vol. 11, *Reproductive Health*. BioMed Central Ltd.; 2014.
18. The White Ribbon Alliance for Safe Motherhood. Respectful maternity care: The universal rights of childbearing women. White Ribb Alliance Safe Mother [Internet]. 2011;1–6. Available from: http://whiteribbonalliance.org/wp-content/uploads/2013/10/Final_RMC_Charter.pdf
19. Bohren MA, Hofmeyr GJ, Sakala C, Fukuzawa RK, Cuthbert A. Continuous support for women during childbirth. Vol. 2017, *Cochrane Database of Systematic Reviews*. John Wiley and Sons Ltd; 2017.
20. Chadwick RJ, Cooper D, Harries J. Narratives of distress about birth in South African public maternity settings: A qualitative study. *Midwifery* [Internet]. 2014;30(7):862–8. Available from: <http://dx.doi.org/10.1016/j.midw.2013.12.014>
21. World Health Organization. WHO recommendations. Intrapartum care for a positive childbirth experience. 200 p.
22. Kassa ZY, Tsegaye B, Abeje A. Disrespect and abuse of women during the process of childbirth at health facilities in sub-Saharan Africa: A systematic review and meta-analysis. *BMC Int Health Hum Rights*. 2020 Sep 7;20(1).
23. Gebremichael MW, Worku A, Medhanyie AA, Edin K, Berhane Y. Women suffer more from disrespectful and abusive care than from the labour pain itself: A qualitative study from Women's perspective. Vol. 18, *BMC Pregnancy and Childbirth*. BioMed Central Ltd.; 2018.
24. Wang M, Song Q, Xu J, Hu Z, Gong Y, Lee AC, et al. Continuous support during labour in childbirth : a Cross-Sectional study in a university teaching hospital in Shanghai , China. 2018;0:1–8.
25. Chaote P, Mwakatundu N, Dominico S, Mputa A, Mbanza A, Metta M, et al. Birth companionship in a government health system: a pilot study in Kigoma, Tanzania. *BMC Pregnancy Childbirth*. 2021;21(1):1–17.
26. Tunçalp, Were WM, Maclennan C, Oladapo OT, Gülmezoglu AM, Bahl R, et al. Quality of care for pregnant women and newborns - The WHO vision. *BJOG An Int J Obstet Gynaecol*. 2015 Jul 1;122(8):1045–9.
27. Asratie MH, Assfaw HM, Abuhay M. Labor companionship in labor and delivery at debremarkos town public health facilities: Magnitude and associated factors. *Int J Womens Health*. 2021;13:815–27.
28. Getahun KB, Ukke GG, Alemu BW. Utilization of companionship during delivery and associated factors among women who gave birth at Arba Minch town public health facilities, southern Ethiopia. *PLoS One*. 2020 Oct 1;15(10 October).
29. Wang et al. *BMC Pregnancy and Childbirth* (2018) 18:480 <https://doi.org/10.1186/s12884-018-2119-0>
30. Bante A, Teji K, Seyoum B, Mersha A. Respectful maternity care and associated factors among women who delivered at Harar hospitals, eastern Ethiopia: A cross-sectional study. *BMC Pregnancy Childbirth*. 2020;20(1):1–9.
31. Pereira Rodrigues D, Amorim Malheiros Dulfe P, Valério Machado de Lima D, Herdy Alves V, Gonçalves Barcellos J, de Oliveira Cherem E. PRESENCE OF A COMPANION OF THE WOMAN'S CHOICE IN THE PROCESS OF PARTURITION: REPERCUSSIONS ON OBSTETRIC CARE* PRESENÇA DO ACOMPANHANTE DE LIVRE ESCOLHA NO PROCESSO PARTURITIVO: REPERCUSSÕES NA ASSISTÊNCIA OBSTÉTRICA [Internet]. Available from: <http://revistas.ufpr.br/cogitare/>
32. Tefera, Z., Assefaw, M., Gashaw, W., Ayalew, S., Birrie, E., W/Selassie, M., & Wogie, G. (1999). Pregnant Women's Knowledge and Desire Towards Labor Companionship and its Associated Factors at Public Hospitals in

- South Wollo Zone, Northeast Ethiopia. *Journal of Midwifery and Reproductive Health*, 10(3), 3393-3404. doi: 10.22038/jmrh.2022.63740.1849
33. Afulani P, Kusi C, Kirumbi L, Walker D. Companionship during facility-based childbirth: Results from a mixed-methods study with recently delivered women and providers in Kenya. *BMC Pregnancy Childbirth*. 2018 May 10;18(1).
 34. Bittencourt, S.D., Domingues, R.M.S.M., Reis, L.G. *et al.* Adequacy of public maternal care services in Brazil. *Reprod Health* **13** (Suppl 3), 120 (2016). <https://doi.org/10.1186/s12978-016-0229-6>
 35. Kabakian-Khasholian T, El-Nemer A, Bashour H. Perceptions about labor companionship at public teaching hospitals in three Arab countries. *Int J Gynecol Obstet*. 2015 Jun 1;129(3):223–6.
 36. Dynes MM, Twentyman E, Kelly L, Maro G, Msuya AA, Dominico S, et al. Patient and provider determinants for receipt of three dimensions of respectful maternity care in Kigoma Region, Tanzania-April-July, 2016 Prof. Suellen Miller. *Reprod Health*. 2018;15(1):1–24.
 37. Hausman BL. Risky business: Framing childbirth in hospital settings. *J Med Humanit*. 2005;26(1):23–38.
 38. Getinet T, Bekele D. Birth Companions , Health workers perspective : Mixed Method Study in St . Paul ’ s Hospital and Millennium Medical College and its Catchment Centers in Addis Ababa , Ethiopia. *Res Squares*. 2019;1–15.
 - 39 . <https://repo.spirhr.org/xmlui/handle/123456789/34>

12. Annexes

Annex 1 information sheet and consent form

Dear Sir/Madam;

Hello, my name is _____. I am working as a data collector for the study being conducted in this hospital by Dr. Wegen tola who is studying for specialty of Obstetrics and Gynecology at Addis Ababa University, College of Health Sciences. I kindly request you to give me your attention to explain about the study and about you being selected as the study participant.

The Study Title: utilization of labor companionship during labor and delivery and associated factor among women who gave birth at Tikur Anbesa specialized hospital and Zewditu Memorial Specialized Hospital

Importance and Purpose of the Study: The findings of this study will have a paramount importance for knowing utilization of labor companionship and associated factor during labor and delivery. Moreover, the aim of this study is to write a research paper as a partial requirement for the fulfillment of a specialty program of obstetrics and gynecology for the principal investigator.

Procedure and Duration: I will be interviewing you using questionnaire, there are around 34 questions to answer. I will not take more than 20 minutes of your time. In addition, I might use your medical chart for completeness of information for some of the question

Confidentiality: The data you will provide us will be confidential. There will be no information that will identify you. The findings of the study will be general for the study population and will not reflect anything particular of individual person. The questionnaire will be coded to exclude showing names. No reference will be made in oral or written reports that could link participants to the research.

Participant - "All of my questions and concerns about this study have been addressed. I choose, voluntarily, to participate in this research project

Name of Enumerator _____ Signature _____ Interview Date _____

Questionnaire Code _____

Name of the supervisor _____ Signature _____ Checking Date _____

Contact of Investigator Cell

Phone: +251-910913736/+251-980642648

E.mail: wegen84@gmail.com

Annex 2 Questionnaire

Part –I: Sociodemographic characteristics of respondents			
S.N	Questioner	Response	Skip
101	Age	-----years	
102	Religion	1. Orthodox 4. Catholic	
		2. Muslim 5. Other	
		3. Protestant	
103	Marital Status	1. Married	
		2. Single	
		3. Divorced	
		4. Widowed	
104	Occupation	1. Housewife 4. Private 2. Government employee 5 other 3. NGO	
105	Educational status	1. No formal education 2. Primary education 3. Secondary education 4. College and above 5. Other	
106	Average monthly house hold income		

Part –II: Obstetrics characteristics and health service related factor			
S.N	Questioner	Response	Skip
201	Obstetrics performance	parity____abortion__	
202	Is the current pregnancy wanted	1. Yes 2. No	
203	Is the current pregnancy planned?		

204	Is the current pregnancy supported?	1. Yes 2. No	
205	Did you have previous history of unfavorable fetal outcome (multiple answer is possible)	1. 2 or more spontaneous abortion 2. still birth 3. early neonatal death 4. intrauterine growth restricted baby 5. baby with congenital anomaly)	
206	What was the type of labor during the current pregnancy	1. spontaneous labor 2. induced labor	
207	What is the current mode of delivery?	1. Vaginal 2. Cs 3. Instrumental delivery	
208	Did you have history of obstetric complication during the current pregnancy	1. Yes 2. No	If no skip to question 210
209	If the answer is 'yes' for question number 208,list the complications(multiple answer iis possible)	1. Preterm labor 2. Premature rupture ofmembrane 3. Pregnancy induced hypertension 4. Multiple gestation 5. Intrauterine growth restriction 6. Red cell alloimmunization 7. Amniotic fluid disorder 8. Antepartum hemorrhage 9. Post-partum hemorrhage	
210	Did you have history of medical complication during the current pregnancy	1. Yes 2. No	If no skip to question 212
211	If the answer is 'yes' for question number 210,list the complications(multiple answer is possible)	1. heart disease 2. respiratory disease 3. renal disease 4. diabetes mellitus 5. thyroid disease 6. hematologic complication 7. other.....	

212	Where was place of last delivery?	1. Home 2. Health institution	
213	Did you have ANC follow up during the current pregnancy?	1. Yes 2. No	

Part –III: question related to labor companionship			
301	Have you heard about labor companionship	1. Yes 2. No	If no skip to question 303
302	If the answer is ‘yes’ for question number 301, where did you hear from (multiple answer is possible)	1. Family 2. Friends 3. Media 4. Other	
303	Did the provider inform you about companion?	1. Yes 2. No	
304	Did someone accompany you from home to the health facility?	1. Yes 2. No	
305	What is your Relationship to the person who accompanied you to the facility?	1. partner 2. mother 3. father 4. sister 5. brother 6. neighbor 7. other	
306	Did you have someone you wanted to stay with you during labor	1. Yes 2. No	If no skip to question 308
307	If the answer is ‘yes’ for question 306 how long did was his/her stay	1. all of the time 2. most of the time 3. a few times	
308	Did you to have someone you wanted to stay with you during delivery	1. Yes 2. No	If no skip to question 310
309	If the answer is ‘yes’ for question 308 how long did was his/her stay	1. all of the time 2. most of the time 3. a few times	
310	Did you have someone you wanted to stay with you after delivery	1. Yes 2. No	If no skip to question 312

311	If the answer is ‘ yes’ for question 310 how long did was his/her stay	1. all of the time 2. most of the time 3. a few times	
312	what are the benefits you get by having companion during labor and delivery ?(multiple answer is possible)	1. Reduce labor pain 2. Reduce loneliness 3. Reduce worry and fear 4. Reduce need for cesarean delivery 5. Increase women happiness 6. Reduce disrespect & abuse by health care professional 7. Increase survival of new born 8. Increase chance of vaginal delivery 9. Reduce duration of labor 10. Other.....	
313	If your answer for 304,306,308 or 310 is “no” what was the reason not to utilize companionship during delivery?	1. I don’t want 2. Provider denial 3. Institution not allowed 4. Have no support 5. Other	
314	Is the facility comfortable to be accompanied	1. Yes 2. No	
315	Do you have any desire to have companionship during labor and delivery in the future pregnancy	1. Yes 2. No	

