



COLLEGE OF MEDICINE AND HEALTH SCIENCES
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DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

FACTORS ASSOCIATED WITH LABOR COMPANIONSHIP IN RWANDA

A Mixed method study

Dissertation submitted in partial fulfillment of the requirements for the award of the degree of master of medicine in obstetrics and gynecology of the University of Rwanda.

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Declaration

I hereby declare that this thesis results from my work and has not been submitted for any other degree at the University of Rwanda or any other institution.

Also, I declare that I used the most updated version of anti-plagiarism checker software to check for plagiarism.

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Dedication

This research paper is dedicated to my family and friends who have supported and encouraged me with their most whole and trustworthy attention to accomplish my work with fruitful achievements.

My beloved siblings who never stop giving of themselves countless and all the people in my life who touch my heart, I dedicate this research to all of them.

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The researcher would like to thank first and foremost the Lord God Almighty for His never-ending grace. My obstetrics and gynecology department teachers who gave me the knowledge and advice to finish this project successfully, and my parents, siblings, and friends are always there for me. This project would not be successful or possible without their support.

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ABSTRACT

Background:

Labor companionship is recommended by the World Health Organization (WHO) and was proved beneficial for childbirth experience and outcomes. Little is known about this practice in Rwanda. This study aimed at assessing the perspectives and experiences of women towards labor companionship and possible associated factors.

Methods:

A prospective mixed-method study was used to recruit 406 mothers in post-partum at three public hospitals in Kigali with a high volume of deliveries using a simple random sampling method; data were collected in 4 months.

Results:

Survey questionnaires were completed with a response rate of 100%, 406 out of 406. Ninety-nine percent of mothers expressed that companionship increases happiness, while 88.4% reported it to reduce loneliness. Eighty percent said they help reduce fear, 37% expressed that their companions can help them prevent abuse from healthcare providers, and 33% agreed that companions could help reduce labor pain.

All the participants perceive well companionship

Keywords:

labor, companionship, delivery, women

List of abbreviations

WHO; world health organization

CHUK; university teaching hospital of Kigali

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INTRODUCTION

1.1 Background

Labor companionship is the support provided to a woman(en) during labor and or childbirth where a companion maybe a partner, friend, relative, doula, or healthcare worker (1,2). Respectful maternal care promotion is one of the significant components to improving the quality of maternal care with the current WHO recommendation where all women should have access to a companion during labor (3).

Labor companionship is a dynamic process necessary along labor and childbirth to improve labor and childbirth outcomes (4). Labor companionship plays a vital role in the process of birth where it helps to bridge the communication gap between women and healthcare providers, encouragement to women to remain mobile and cooperative during labor and childbirth, emotional support, and non-pharmacological pain relief (1). Birth companions are considered guardians to women during labor and delivery with improved birth outcomes, and they provide advice, physical, spiritual and emotional support (5).

Labor companions provide women the information, practical and emotional support, and help women to have a good birth experience (1). In Tanzania, factors associated with labor and birth companionship research revealed that only 12% of the recruited women reported having a birth companion. In comparison, 10% of providers allowed a birth companion to be present (6). An Ethiopian study found that 13.8% of women had a companion during childbirth. Furthermore, Labor companionship was associated with having a desire for companionship, complications during labor and delivery, and being primipara (8). A study in Kenya found that 67% of the mothers were allowed continuous support during labor while 29% were allowed continuous support during delivery (9).

A recent Cochrane systematic review by Bohren et al. concluded that continuous support during childbirth improves the health and wellbeing of women and babies (2). Another systematic review from Cochrane by Bohren et al. also found that labor companionship leads to good outcomes for both women and babies through 4 different ways: information support, advocacy, practical support, and emotional support (1). Delivering at a health facility, which sometimes limits the traditional support and companion from other mothers from the community, made the continuous

support for women during labor and childbirth an exception rather than a norm (2). Some public health emergencies like pandemics reduced labor companionship significantly by limiting the companions to avoid spreading the disease (4). A multi-country survey done in Africa showed that women with companionship during labor and childbirth are less likely to have mistreatment or any other form of abuse, and women without a companion experienced non-consented medical procedures (10). A review done in four developing countries found that 92% of women did not have a chance to have a companion during labor and childbirth (11). Women may not prefer to have their partners as companions during labor and childbirth because they do not want to share their pain (12).

A critical review by Tamar et al. on factors affecting the implementation of companionship found that cultural aspects, allocation of and organization of care within health facilities are barriers to the successful implementation of companionship during labor and childbirth (13). Some mothers lack companionship from their caretakers due to limited knowledge and experience about labor companionship (5).

The study done in Rwanda found that it is not common for a companion to be present during labor and childbirth; only one among the participants (0.02%) had a labor companion during labor and childbirth (7).

There are no accessible studies on the factors associated with companionship during labor and childbirth among women attending health facilities in Rwanda. This study aims to evaluate the factors related to labor companionship, the experience, and perspectives of women towards labor companionship among women delivering in Rwandan health facilities.

1.1 Problem statement

Different studies done worldwide showed that companionship during labor and childbirth improves birth outcomes and women's experience in childbirth. Even though labor companionship was associated with improved outcomes of labor and childbirth, the factors limiting its successful implementation in different areas are unclear (2).

With the Rwandan tradition, women delivered at home with companionship from other ladies of the neighborhood. With the current improved health care services, women are encouraged to deliver at a health facility with a skilled birth attendant. It could be a reason for not getting a companion when presenting at a health facility during labor and childbirth. When present, they may not be allowed to continue giving their support during labor and or delivery.

Thus, a study on identifying the factors associated with companionship during labor and childbirth and women's perspectives towards labor companionship is necessary. Results may help to improve future strategies and policies around companionship during labor and childbirth.

This study will help identify factors associated with companionship during labor and childbirth and highlight women's perspectives on labor companionship. Results will help improve future strategies and policies around companionship during labor and childbirth, promoting respectful maternity and improving the childbearing experience.

1.1 Research question

What are the perspectives and experiences of women towards labor companionship and the factors associated with companionship at the University Teaching Hospital of Kigali (CHUK), Muhima, and Kacyiru hospital?

1.2 Research objectives

1.2.1 General objective

- To assess the factors associated with labor companionship, experience, and perspectives of women towards labor companionship among women delivering at CHUK, Muhima, and Kacyiru hospital

1.1.2 Specific objectives

- To estimate labor companionship utilization (prevalence) among women laboring at University Teaching Hospital of Kigali (CHUK), Muhima, and Kacyiru Hospital.
- To describe the experience and perspectives of women towards companionship during labor and childbirth.
- To assess the factors associated with labor companionship among women laboring at CHUK, Muhima, and Kacyiru Hospital.

1.1.3 Significance of the study

There is scarce data on factors associated with companionship during labor and childbirth, women's experience, and perspectives towards companionship in Rwanda. This study will help to know the factors associated with companionship during labor and childbirth at the University Teaching Hospital of Kigali (CHUK), Muhima hospital, and Kacyiru Hospital. The study will help track the challenges that affect companionship during labor and childbirth and propose possible solutions.

I METHODOLOGY

3.1. Study setting

This study was carried out from the gynecology and obstetrics department of the University Teaching Hospital of Kigali, Muhima, and Kacyiru hospitals. The three hospitals are among the seven public hospitals in the capital city of Kigali and were selected due to their high patients' attendance rate.

3.2. Study design

This study is a mixed quantitative and qualitative design. The study prospectively assessed the factors associated with labor and childbirth companionship and mothers' perspectives towards labor companionship through quantitative and qualitative study methods. The quantitative part was a cross-sectional type. The qualitative part used phenomenology theory and an interpretive approach, among other research paradigms, to evaluate women's perceptions of labor companionship for six months from March 2021 to the end of August 2021.

3.3. Study population

The participants of this study were women who presented for labor and childbirth in the department of gynecology and obstetrics at the University Teaching Hospital of Kigali, Muhima, and Kacyiru hospital.

3.4. Inclusion criteria

All women who presented for labor and childbirth in the gynecology and obstetrics department within 48 hours post-delivery, aged above 18 years who consented to participate in the study, were recruited.

3.5. Exclusion criteria

Women who presented for labor with confirmed Covid-19 on pregnancy due to restrictive measures and those who were sick (critically ill) were excluded from the study

3.6. Study procedure

Women in post-partum wards meeting eligibility criteria were approached and explained the study; those who agreed to participate consented and enrolled in the study. Data collectors immediately started conducting an interview using an interview guide and recording device to collect qualitative data. After qualitative data, quantitative data were collected using a pre-designed questionnaire. All study documents, including interview notes, recordings, and completed questionnaires, were collected and kept in a designed locked cabinet within maternity before analysis for confidentiality and safety.

Non-eligible women and those who were unable to consent continued to get the usual care without any change. Quantitative data were entered in the epidata and later transferred to STATA for analysis. Interview notes were transcribed and translated for analysis.

Independent variables: Demographic characteristics including age, economic category, marital status, religion, level of education, educational, programmed/non-programmed delivery, parity and gravidity, profession (medical vs. non-medical)/ occupation,

Dependent variable: Presence of a companion during labor and or delivery

3.7. Sampling method and sample size

In the quantitative part, the sample size was calculated using the formula used to estimate a proportion from the population, and the sample size was calculated as follows:

$$n = Z^2 \frac{p(1-p)}{e^2}$$

n= the minimum sample size required.

Z²= the standard average value is corresponding to a 95% confidence interval equaling to 1.96.

p= the estimated proportion or prevalence of women presenting for childbirth with a companion estimated at 50% as there is no previously known proportion.

e= level of precision set at 5%.

Thus,

$$n = 3.84 \frac{0.5(1-0.5)}{0.0025} = 384$$

The study used consecutive sampling, but the minimum required sample from our population was 384 participants, but the study recruited 406 participants.

In the qualitative part, interviews were conducted until saturation. The study used purposive sampling in the qualitative aspect, and interviews from participants were conducted, then saturation was reached after 40 discussions.

3.8. Data collection

Quantitative data were collected using a pre-tested investigator's recording format, questionnaire, and the necessary information was gathered.

Qualitative data were collected through semi-structured and personal interviews using an interview guide, and the interviews were conducted face-to-face.

3.9. Data analysis

For the quantitative part, collected data were entered into Epidata version 3.1 for database creation and then exported to Stata version 13 for analysis. Descriptive data are presented as follows: categorical data are presented using frequencies and percentages in tables. Continuous data are summarized by mean and median values depending on their distribution, and chi-square test and logistic regression were used to predict factors associated with "having a companion" during labor. Statistical significance for associations will be taken at the level $p < 0.05$.

For qualitative data, thematic analysis was used; interviewees' information and opinions were transcribed in Kinyarwanda, and transcripts were translated into English. A codebook was developed to facilitate the interpretation of responses provided by participants. The coding and analysis of the data were done using "Atlas.ti" software version 7.1.4.

3.9.Ethical considerations

The study protocol was reviewed and approved by the Institutional Review Board of College of Medicine and Health Sciences, University of Rwanda, and the Ethical committees of the study sites. The principal investigator assured the confidentiality and anonymity of the study participants, where participants assigned the unique code numbers. Any information was de-identified before data entry, and no individual respondents' information will be presented. Before

the data collection began, each participant in the study was read the consent form and was allowed to decide whether they would like to participate in the study.

CHAPTER IV: RESULTS

4.1. Quantitative findings

Socio-demographic and professional characteristics

The median age was 28 years and ranging from 18 to 46 years. Fifty-four percent of the babies born from the previous pregnancies were males, and most of the women (87.44%) recruited were married. Sixty-two percent of the participants attended at least secondary school. Ninety-three percent of recruited participants were Christians, and 65.52% of the participants were unemployed. Regarding economic status, 51.72% of the participants were in category 2 of ubudehe, and 42.12% were in category 3. Seventy-seven percent of the participants live with their partners.

Table 1: Demographic characteristics of study participants

Characteristics	Frequency	%
Age		
Mean age (min-max)	28 (18-46)	
Gender of a baby from the previous pregnancy		
Male	220	54.19
Female	183	45.07
Marital status		
Married	355	87.44
Single	34	8.37
Divorced	13	3.2
Cohabitant	4	0.99
Participants per site		
CHUK	69	17
Kacyiru hospital	199	49.01
Muhima hospital	138	33.99
Education		
No formal education	27	6.65
Attended primary school	126	31.03

Attended secondary school	183	45.07
Attended university	70	17.24
Religion		
Catholic	166	40.89
Protestant	213	52.46
Muslim	17	4.19
None	10	2.46
Employment status		
Employed	140	34.48
Unemployed	266	65.52
Socioeconomic status		
Ubudehe 1	25	6.16
Ubudehe 2	210	51.72
Ubudehe 3	171	42.12

Ubudehe 1=poorest social-economic status and 4 is the richest.

Seventy-four percent of pregnancies were planned at conception, and 19.7% of participants had complications during the current pregnancy, and 25.12% of them had complications during labor and delivery from the previous pregnancies. Fifty-one percent of the delivery providers were midwives or nurses, and 60.34% of them were males. Only 35.71% of the participants completed at least four antenatal care visits, and 57.14% of the participants have been asked consent for the vaginal exam.

Table 2: Clinical characteristics of the study participants

Characteristics	Frequency	%
Pregnancy planned or not		
Planned	301	74.14
Unplanned	105	25.86
Complications during labor and delivery on last pregnancy		
Yes	102	25.12
No	304	74.88
Provider on the last delivery		
Midwife/nurse	209	51.48
Medical doctor	197	48.52
Sex of provider on the last delivery		
Male	245	60.34
Female	161	39.66
Antenatal care visits during the last pregnancy		
None	9	2.22
<4	252	62.07

4 and more	145	35.71
Consented for Vaginal examination		
Yes	232	57.14
No	174	42.86

Companionship rate at presentation to hospital, labor, and delivery

Ninety-six percent of the participants were accompanied by someone at the health facility when presenting for labor and delivery, and 82.86% of the companions were females. Almost 30% of them were mothers of showing women, other 30% were their sisters/sibling, 16.88% were partners, 16.88% were friends, and 6% were their mothers in law. The majority of women (89.0%) needed their companions all the time during labor and delivery.

Forty-three percent of the companions were allowed to stay during labor, and only 15% of the companions were allowed to remain and provide care to women during delivery.

Table 3: Companionship rate at presentation to hospital, labor, and delivery

Characteristics	Frequency	%
Companion when presenting to the health facility for delivery		
Yes	391	96.31
No	15	3.69
Gender of companion		
Female	324	82.86
Male	67	17.14
Relationship with companion		
Mother	117	29.92
Sibling	117	29.92
Partner	66	16.88
Friend	66	16.88
Mother in law	25	6.39
When was the companion needed the most		
During labor	17	4.35
During delivery	26	6.65
All the time	348	89.00
Companion allowed to stay during labor		

Yes	169	43.22
No	222	56.78
Companion allowed to stay during delivery		
Yes	61	15.60
No	330	84.40

The majority of women (96.43%) of 140 declined their companions stay during labor and delivery in fear of embarrassment, while 3.57% of them feared abuse by providers. Apart from two participants, the remaining participants desired to have companions on the subsequent pregnancies, and 40.39% of them desired their mothers to be the companions on the subsequent pregnancy, and 21.43% preferred their sisters.

Ninety-nine percent of the mothers expressed that companion helps them to increase the happiness, 88.4% stated that they help in reducing loneliness, 80% said that they help them in reducing fear, 37% expressed that their companions can help them in preventing the abuse from healthcare providers and 33% agreed that companions could help in reducing labor pain.

Table 4: Companionship associated factors

Characteristics	Frequency	%
Reason for not preferring to have a companion		
Embarrassment	135	96.43
Fear of gossip and abuse	5	3.57
The desire of having a companion on subsequent pregnancy		
Yes	404	99.51
No	2	0.49
Whom do you prefer as a companion on next delivery		
Mother	164	40.39
Sister/sister in law	87	21.43
Partner	73	17.98
Friend/neighbor	64	15.76
Mother in law	18	4.43
Importance of having a companion		
Increases happiness	360	88.89
Reduces feeling lonely	358	88.40
Reduces fear	324	80.00

Prevents abuses by a healthcare provider	150	37.04
Reduces labor pain	134	33.09
Reduces needs for c/s	85	20.99
Improve the survival of the newborn	76	18.77
Reduce duration of labor	34	8.4

Distribution of selected birth companionship variables during labor by participants' characteristics

Companions of women who were currently married were two times more likely to be allowed to stay during labor (OR=2.09; 95% CI: 1.06-4.11; P=0.032). Companions of women who attended university were 29 times more likely to stay during labor than women with no formal education (OR=29.52; 95% CI: 6.32-137.78; P<0.001). Companions of women with secondary school were eight times more likely to remain during labor than those of women with no formal education (OR=8.30; 95% CI: 1.89-36.38; P=0.005). And companions of women who attended primary school were five times more likely to stay during labor than women with no formal education (p=0.027).

Companions of unemployed women were 2.5 times more likely to be allowed to stay during labor than those of employed women (OR: 2.53; 95% CI: 1.67-3.83, P<0.001). Fifty-seven percent of the women whose companions were not allowed to stay during labor were examined without consent compared to 23% of those whose companions were allowed to remain (p<0.001).

Companions of mothers who had complications during labor and delivery on previous pregnancy were three times more likely to be allowed to stay during labor than those of women who did not have complications (OR: 2.96; 95% CI: 1.82-4.80; P<0.001). Companions of women delivered by midwives/nurses were less likely to be allowed to stay than those of women delivered by medical doctors (OR: 0.63; 95% CI: 0.42-0.94; P=0.027). Companions of women whom male providers delivered were 1.45 times more likely to stay during labor than women delivered by female providers (OR=1.45; 95% CI: 0.96-2.2; p=0.074).

Companions of women in category 3 of ubudehe were 3.1 times more likely to stay than those of women in category 1 (OR=3.1; 95% CI: 1.14-8.37; p=0.026).

Table 5: Bivariate distribution of selected birth companionship variables by participants' characteristics during labor

Characteristics	Companion stayed during labor		OR (95% CI)	P value
	Yes	No		
Age				
<21 years	10 (40.00%)	15 (60.00%)		
21-35 years	132 (57.14%)	176 (57.14%)	1.12 (0.48-2.58)	0.781
36-48 years	27 (46.55%)	31 (53.45%)	1.30 (0.50-3.38)	0.582
Marital status				
Currently married	156 (45.22%)	189 (54.78%)	2.09 (1.06-4.11)	0.032
Not married	13 (28.26%)	33 (71.74%)		
Education				
No formal education	2 (8.33%)	22 (91.67%)		
Attended primary school	39 (33.02%)	79 (66.95%)	5.4 (1.21-24.27)	0.027
Attended secondary school	77 (43.02%)	102 (56.98%)	8.30 (1.89-36.38)	0.005
Attended university	51 (72.86%)	19 (27.14%)	29.52 (6.32-137.78)	<0.001
Religion				
Catholic	65 (40.12%)	97 (59.88%)		
Protestant	90 (44.33%)	113 (55.67%)	1.18 (0.78-1.80)	0.419
Muslim	11 (64.71%)	6 (35.29%)	2.73 (0.96-7.76)	0.059
None	3 (33.33%)	6 (66.67%)	0.74 (0.18-3.09)	0.686
Employed status				
Employed	58 (42.34%)	79 (57.66%)		
Unemployed	111 (43.70%)	143 (56.30%)	2.53 (1.67-3.83)	<0.001
Occupation/profession				
Farmer	77 (98.72%)	1 (1.28%)		
Healthcare worker	7 (87.50%)	1 (12.50%)	4.57 (1.01-20.52)	0.047
Other office work	34 (80.95%)	8 (19.05%)	4.57 (1.97-10.55)	<0.001
Business	78 (76.47%)	24 (23.53%)	2.82 (1.40-5.71)	0.004
None	134 (83.23%)	27 (16.77%)	5.94 (3.08-11.46)	<0.001
Status of pregnancy at conception				
Planned	139 (47.60%)	153 (52.40%)	2.08 (1.28-3.39)	0.003
Unplanned	30 (30.30%)	69 (69.70%)		
Complications during last pregnancy				
Yes	37 (49.33%)	38 (50.67%)	1.35 (0.81-2.24)	0.236
No	132 (41.77%)	184 (58.23%)		
Complications during labor and delivery of last pregnancy				
Yes	59 (63.44%)	34 (36.56%)	2.96 (1.82-4.80)	<0.001
No	110 (36.91%)	188 (63.09%)		

Delivery provider				
Midwife/nurse	76 (37.81%)	125 (62.19%)	0.63 (0.42-0.94)	0.027
Medical doctor	93 (48.95%)	97 (51.05%)		
Sex of delivery provider				
Male	111 (46.84%)	126 (53.16%)	1.45 (0.96-2.20)	0.074
Female	58 (37.66%)	96 (62.34%)		
Antenatal care visits number				
None	3 (37.50%)	5 (62.50%)	REF	
<4	89 (37.08%)	151 (62.92%)	0.98 (0.22-4.20)	0.981
4 and more	77 (53.85%)	66 (46.15%)	1.94 (0.44-8.44)	0.375
Economic category				
Category 1	6 (28.57%)	15 (71.43%)	REF	
Category 2	70 (34.65%)	132 (65.35%)	1.32 (0.49-3.56)	0.577
Category 3	93 (55.36%)	75 (44.64%)	3.1 (1.14-8.37)	0.026

Distribution of selected birth companionship variables during delivery by participants' characteristics

Companions of unemployed women were 1.16 times more likely to stay during delivery than those of employed women (OR: 1.16; 95% CI: 0.66-2.01, $p < 0.594$). The companions of mothers who planned the pregnancy at conception were 2.5 times more likely to be allowed to provide care than those of women who did not intend for the pregnancy (OR=2.52; 95% CI: 1.15-5.51; $p = 0.02$)

Companions of a mother who had complications during labor and delivery on last pregnancy were two times more likely to be allowed to stay during delivery than those of women who did not have complications (OR: 2.05; 95% CI: 1.14-3.69; $p < 0.016$). Companions of women delivered by male providers were 0.49 times less likely to stay during delivery than those of women delivered by female providers (OR=0.49; 95% CI: 0.28-0.85; $p = 0.011$).

Companions of women who did at least four antenatal care visits were 3.7 times more likely to stay during labor and delivery than those who did less than four visits (OR=3.71; OR=2.09-6.58; $p < 0.001$). There was no statistically significant difference for the companions to stay during delivery across economic categories, delivery provider profession, and employment status.

Table 6 : Distribution of selected birth companionship variables during delivery by participants' characteristics

Characteristics	Companion stayed during delivery		OR (95% CI)	P value
	No	Yes		
Age				
<21 years	24 (96.00%)	1 (4.00%)	Ref	
21-35 years	255 (82.79%)	53 (17.21%)	4.98 (0.66-37.68)	0.119
36-48 years	51 (87.93%)	7 (12.07%)	3.29 (0.38-28.30)	0.277
Marital status				
Currently married	288 (83.48%)	57 (16.52%)	2.07 (0.71-6.02)	0.178
Not married	42 (91.30%)	4 (8.70%)	Ref	
Education				
No formal education	24 (100%)	0 (0.00%)		
Attended primary school	109 (91.60%)	10 (8.40%)	Ref	
Attended secondary school	146 (82.02%)	32 (17.98%)	2.38 (1.12-5.06)	0.023
Attended university	51 (72.86%)	19 (27.14%)	4.06 (1.76-9.35)	0.001
Employed status				
Employed	196 (85.22%)	34 (14.78%)	Ref	
Unemployed	134 (84.40%)	27 (16.77%)	1.16 (0.66-2.01)	0.594
Occupation/profession				
Farmer	77 (98.72%)	1 (1.28%)	Ref	
Healthcare worker	7 (87.50%)	1 (12.50%)	11 (0.61-195.52)	0.102
Other office work	34 (80.95%)	8 (19.05%)	18.2 (2.17-150.58)	0.007
Business	78 (76.47%)	24 (23.53%)	23.6 (3.12-179.49)	0.002
None	134 (83.23%)	27 (16.77%)	15.2 (2.06-116.43)	0.008
Status of pregnancy at conception				
Planned	239 (81.85%)	53 (18.15%)	2.52 (1.15-5.51)	0.02
Unplanned	91 (91.92%)	8 (8.08%)	Ref	
Complications during last pregnancy				
Yes	61 (81.33%)	14 (18.67%)	1.31 (0.68-2.53)	0.417
No	269 (85.13%)	47 (14.87%)	Ref	
Complications during labor and delivery on last pregnancy				
Yes	71 (76.34%)	22 (23.66%)	2.05 (1.14-3.69)	0.016
No	259 (86.91%)	39 (13.09%)	Ref	
Delivery provider				
Midwife/nurse	164 (81.59%)	37 (18.41%)	1.56 (0.89-2.72)	0.118
Medical doctor	166 (87.37%)	24 (12.63%)	Ref	
Sex of delivery provider				
Male	209 (88.19%)	28 (11.81%)	0.49 (0.28-0.85)	0.011
Female	121 (78.57%)	33 (21.43%)	Ref	
Antenatal care visits number				

None	8 (100%)	0 (0.00%)		
<4	218 (90.83%)	22 (9.17%)	Ref	
4 and more	104 (72.73%)	39 (27.27%)	3.71 (2.09-6.58)	<0.001
Economic category				
Category 1	20 (95.24%)	1 (4.76%)	Ref	
Category 2	173 (86.07%)	28 (13.93%)	3.23 (0.41-25.086)	0.261
Category 3	137 (81.07%)	32 (18.93%)	4.67 (0.60-36.10)	0.14

4.2. Qualitative results

Participants from the quantitative part were interviewed through semi-structured and face-to-face interviews, and 40 interviews were conducted before achieving saturation.

Participants' perceptions on labor and delivery companionship

All the participants perceive well companionship during labor and delivery as they describe it as necessary due to various kinds of help provided by the companions to these women in physical and moral perspectives.

"I feel like it is a good thing because when you are alone after delivery, nurses can find and call you companion to bring the baby's clothes and yours" [Participant 4].

".....it is crucial, having a companion is so important because you might reach the hospital in pain and she can help you to buy drugs, do the paperwork, to update your insurance information. They help you to be at ease and not put your life in danger as you are in labor and you have pain". [Participant 27]

"To be accompanied at the hospital for childbirth is good because you may need something that you are unable to do in difficult time like maybe wanting juice, fruits.... you can get everything if you have someone to help you- it is good" [Participant 12].

"...for me, I think it is something exceptional because when you come alone to deliver your baby at the hospital, you might lose your mind and need someone to help you with anything

like some porridge or foods, a companion is critical" [Participant 22].

"...and for me, I think that a companion helps you to behave properly, sometimes you can sit or roll on the ground, and this can affect you, so she shows you how to behave"
[Participant 33]

Participants described the reasons for having a companion during labor and delivery: supporting women during their hard times, taking care of babies after birth, comforting women during labor and delivery, providing food and medications, psychological support, and settling hospital administrative issues.

"she helps me in a lot of things; she brings me drugs because even if doctors prescribe medicines, you are the one to find them, but because you are sick, your companion will do it for you, she also brings you all the required equipment like the baby's clothes, holding the baby, water for showering, foods and so many other things." [Participant 27]

"He/she helps what you are unable to do before or after childbirth we mostly have low energy it can be possible to tell your companion to bring you some medications, food if nobody else has brought it or to wash your clothes." [Participant 29]

"When you are not yet delivered, she/he talks to you, and it prevents you from being depressed -like they can decide a caesarian section for you- when you are alone, you might get afraid, but with a companion, he/she can strengthen and comfort you" **[Participant 38]**

"The first reason is that you can have a problem, so if you have a companion around can help and even call for a doctor's help when needed" [Participant 9]

Perceptions of women on having their partners as their companions during labor and delivery

When they were asked about having their male partners as their companions during labor and delivery, some of the participants expressed that it is even better to have their husbands/partners as their companions as they know them very well and know how to comfort them, and can be involved in complex decision making when necessary. Some participants also reported that they would feel supported and safe if their husbands are around caring for them during labor and delivery.

"It is so helpful after all, he is the source of all problems; you feel at ease when he is there with you because he could take care of any difficulty that might arise as he has the power to do so" [Participant 27]

"I think it is good because you feel so supported by him when he is present and feel safe"
[Participant 11]

Nevertheless, the majority mentioned that they are not as good as female companions because males cannot handle certain things and have other essential responsibilities for their families. They can always be available to accompany women for labor and delivery.

"He can do nothing better than this woman because she knows all things." [Participant 35]

"It is better to come when he is available, but there are things that you can tell the woman you cannot tell a man because men are careless. Some men are told things, and they pretend as they understood, but they do not care at all". [Participant 40]

"He is in charge of other family responsibilities, so for me, it is not necessary to be accompanied by him." [Participant 25]

"...it would be good if he could be there to accompany you, but it is not easy because he is working that is why you should find another companion, but still it would be great if he was there with you." [Participant 4]

"It cannot happen, I do not know if he can do it due to other responsibilities at home, it is not easy because you are only two and the kids at home, so he has to stay at home to take care of them, bring you all the required things and you come with the companion. For sure it would be wonderful, but you cannot both go! But also I do not think a man could be a good companion because he cannot do it all, some services require a female companion, not a male one, for example, bathing you; even when we reach home from the hospital my husband can only hold our baby when he is two weeks old because that is when a baby is big enough to be held, from that I do not think that my husband can hold or clean the baby after delivery, I do not think he can do that" [Participant 22]

One participant mentioned that the husband should be available and ready to accompany a woman for labor and delivery to take responsibility and start the parenting journey after the baby's birth.

"For me, I think it would be a good thing if they could all come because that is where parenting responsibility begins" [Participant 19]

Participants' feeling about being allowed to have a companion during labor and/or delivery

Women who were allowed to have companions during labor and delivery expressed their gratitude because they helped them through the journey and felt safe with them nearby.

"I was feeling safe because there is someone who might help me in any challenge I would face, I was not worried" [Participant 30]

".....I was delighted because I felt that it would not be easy for me if I were alone. You can come to the hospital and lack uterine contractions until they perform a caesarian section for you. It would not be easy." [Participant 33]

"...I felt safe because I had a companion, someone who can help me in any difficulty I could face; I could not make it if she were not there, it would not work at all." [Participant 27]

"I feel secure as all my assets are safe, for example, all the required materials are in this suitcase, and I left it to her when I entered the labor room; I do not take my phone. My luggage has full security as if I was there. I feel there is no problem at all." [Participant 22]

"I was so thrilled; my husband was also present during delivery- It was so amazing to see my husband comforting me." [Participant 17]

Participants who did not have companions during labor and delivery mentioned that women who present at the hospital for delivery without companions or those who do not have their companions during labor and delivery face many challenges that include not getting someone to help in their hard times (physical support), inability to take care of the baby, difficulties in getting someone to involve in decision making on their behalf,

"....like lacking someone to help her finding required documents to be treated, buying medications like if you deliver who can bring you baby's clothes in case, you do not have a companion?" [Participant 32]

"....yeah, there might be some, for example, she might be in the labor room, and they need some materials, it would not be easy to bring them sometimes you have to tell the nurses where they are so that they can go to find them, what I think it is not a good thing because you should have a companion to take care of that." [Participant 28]

"There are a lot; you do not have anyone to buy for you medicines because no nurse could do that for you or do the paperwork for you. It can also delay your treatment because if, for example, you have to buy a drug and you do not have anyone to send. It might complicate things, and it might even lead to fetal death because you did not get it on time; if she is not there with all those processes, you might even die because no nurses can receive you if you did not fulfill all the requirements." [Participant 27]

"..., I need someone to go paying hospital bills, bring some medications, my baby is in neonatology- we have to follow her up regularly, and I cannot do that due to the labor complications, so that is challenging to someone without a companion" [Participant 12]

Advice to the community about labor and delivery companionship and suggestions

The participants who provided interviews advised the community about getting someone to accompany them when presenting to the hospital for delivery and childbirth to have better outcomes for themselves and the newborns.

"They must find ones because they cannot manage all things. It is necessary to find a companion because there is a time they can come to the hospital when it is not planed or when they do not have other choices; I do not know how people live in their society, but coming without a companion is not a good thing." [Participant 40]

"Every time they can know that it is vital to have a companion which might help us (pregnant women) because going alone might cause you many problems." [Participant 32]

"I would advise them to find a companion and to be accompanied by a mother depends on how good is your relationship, and you feel free in front of her." [Participant 35]

"My advice is that they should not go alone to the hospital because sometimes they might need some stuff, and you cannot leave your bed to find them, so they can call your companion to go and bring them." [Participant 28]

"The advice I can give is finding and bring a faithful companion because a woman in labor is in pain and much struggles and also the baby's stuff can be stolen, so my advice is to find a companion" [Participant 7]

Some participants suggested that healthcare providers should let companions be around the laboring or delivering women for continuous physical, moral and psychological support to have better pregnancy outcomes.

"about companionship, in addition, or a wish, when you have a companion with you at the hospital, they should let her be around the labor room because there might be some difficulties or they might need some materials, and there is none around to give them what they requested. They don't allow them to be around, and I think that is not favorable to us." [Participant 27]

"Additionally, maybe I can call it an advice or request; maybe hospitals should bring a new service of companionship so that if someone comes without one, they should be available to help." [Participant 21]

"Sometimes here at the hospital they don't allow the companion to reach you easily and you really need her, I want to ask health care providers if they could easily permit our companions to be nearby." [Participant 19]

CHAPTER V: DISCUSSION

The findings of this study indicate that 96% of the participants were accompanied by someone at the health facility when presenting for labor and/or delivery, and among these women who presented with their companions, only 43% of them were allowed to stay during labor, and 15% of the companions were allowed to stay and provide continuous care to women during delivery. Our finding was low compared to the study's conclusions done by Afurani et al., who found that 67% of the mothers were allowed to have continuous support during labor. In comparison, 29% were allowed continued support during delivery (9). Our finding might reflect that the recommendation from World Health Organization which states that all women must have access to a companion during labor (3), is not yet followed. We still have to change the cultural behaviors in the community and within healthcare providers. Our finding is almost the same as the findings from the study done in Ethiopia, where they found that only 13.8% of women had a companion during childbirth (8) and high compared to the findings from the study done in Tanzania on factors associated with labor and delivery companionship, where they found that only 12% of the recruited women reported having a birth companion (6) and the previously done study in Rwanda by Judith et al. (7). We cannot forget that the study was conducted during the period of the pandemic, which might have affected the rate of allowing companions during labor and delivery to enhance social distancing, as described in another study from previous researchers who stated some public health emergencies like pandemics were found to reduce labor companionship significantly by limiting the companions to be present in order to avoid the spread of the disease (4).

Women who had companions present during labor and delivery expressed that they were comfortable and felt safe when their companions were around during labor and delivery, providing practical, emotional support and advocacy, which led to good regency outcomes. Our findings were per the findings from the study done by a systematic review by Bohren et al., who concluded that continuous support during delivery improves the health and wellbeing of women and babies (2), and from another systematic review by Bohren et al., who also found that labor companionship leads to good outcomes for both women and neonates through 4 different ways of support which are information support, advocacy, practical support and emotional support (1).

Our findings showed that not having a companion during labor and delivery was associated with being examined without consent, and 37% of our participants agreed that having a companion during labor and childbirth can prevent them from the abuse and mistreatment by healthcare providers, which is in accordance to the results from a multi-country survey done in Africa which showed that women with companionship during labor and childbirth are less likely to have mistreatment or any other form of abuse and women without a companion experienced non-consented medical procedures (10).

The majority of the women expressed that it is better to have their partners as companions during labor and delivery to feel safe and share responsibilities. Still, some of them do not prefer to have their husbands as their companions during labor and delivery, secondary to the lack of expertise and preoccupations. A study done by Sapkota showed that women might not prefer to have their partners as companions during labor and childbirth because they do not want them to experience their pain (12).

Participants of this study, through their interviews, suggested that healthcare providers should allow companions to keep on providing continuous support during labor and delivery to have better pregnancy outcomes, and this should be a routine for all mothers who present for delivery and labor to be allowed for having their companions stay.

Our findings showed that companions of a mother who had complications during labor and delivery on previous pregnancy were three times more likely to be allowed to stay during labor than those of women who did not have complications (OR: 2.96; 95% CI: 1.82-4.80; $P < 0.001$) and this finding is per the conclusions of the study which found that labor companionship was associated with having a desire to have companionship, having complication during labor and delivery on previous pregnancy (8). The other positively associated factors with companions being allowed to stay and provide continuous support during labor and delivery were being currently married, high educational level, economic category, and being unemployed.

CHAPTER VI: CONCLUSION AND RECOMMENDATIONS

6.1. Conclusion

Most women who present at health facilities for labor and delivery with their companions do not continue to receive continuous support and care during labor and delivery. Being currently married, high education level, being unemployed, having complications on the previous pregnancy, and having a high economic category was positively associated with companions being allowed to stay and provide continuous support during labor and delivery. Education and other interventions are needed at the community level, health facility, healthcare personnel are necessary for promoting companionship during labor and childbirth to improve pregnancy outcomes in our Rwandan community.

6.2: Recommendations

To healthcare providers

To allow the companions of women presenting for labor and delivery to continue to provide continuous support during labor and delivery

To Health facilities

To elaborate the protocols for labor companionships within health facilities and continuous education to their staff on the importance of labor/delivery companionship.

To the community

Mothers should present to the hospitals with their companions during labor and delivery. They should know their rights about having companions during labor and delivery.

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ANNEXES

Annex 1: Informed consent form (English)

Title: "PERSPECTIVES AND EXPERIENCE OF WOMEN TOWARDS LABOR COMPANIONSHIP AND ITS ASSOCIATED FACTORS IN REFERRAL HOSPITALS OF KIGALI, RWANDA"

This informed consent is for patients who will be recruited for participating in the study, entitled **"Perspectives and experience of women towards labor companionship and its associated factors in referral hospitals of Kigali, Rwanda"**.

The principal investigator is Emmy Basonga, a student from Rwanda doing a Master of Medicine in obstetrics and gynecology.

Introduction

Emmy Basonga, a student from the University of Rwanda, doing a Master of Medicine in obstetrics and gynecology, is researching women's perspectives and experience towards labor companionship and its associated factors in referral hospitals **in Kigali Rwanda**. We are going to give you information and invite you to be part of this research. Before you decide, you can talk to anyone you feel comfortable with about the research. This consent form may contain words that you do not understand. Please ask me to stop as we go through the information, and I will take time to explain. If you have questions later, you can freely ask them.

Purpose of the research

The study aims to identify the factors associated with companionship during labor and childbirth among women presenting for labor and childbirth and their perspectives and experiences towards it.

I am requesting you to be a part of this research because the information you provide will improve reproductive health services to women at this facility. Do not hesitate to request elucidations if any information is unclear.

Perspectives and experience of women towards labor companionship and its associated factors in referral hospitals of Kigali, Rwanda

The researcher is interested in knowing the factors associated with companionship during labor and childbirth among women presenting for labor and childbirth and their perspectives and experiences towards it.

Are questions about?

Questions are addressed to women presented for labor and childbirth at CHUK, Muhima, and Kacyiru hospital. Those questions are related to the demographic information of the respondent him/herself, presence of a companion, and there are open questions about their experiences and perspectives towards labor companionship. The duration required to respond to the planned questions is less than 10 minutes.

Whom do I want to ask?

I want to talk to patients who presented for labor and childbirth in the department of obstetrics and gynecology. It is voluntary participation; there is no push and no law. If you do not want to participate, you do not owe explanations to anyone.

When you agree to participate:

- ✓ You sign and write your names to prove that you have accepted voluntary participation in this study.

If there are questions that you do not feel comfortable answering, you are free to skip them.

Right to refuse or withdraw

You are free to withdraw your participation at any time

Incentives

There are no incentives for your time; your participation is voluntary.

Confidentiality

Your personal information will not be shared with anybody other than the research team.

Dissemination of results

The results and findings from this study will be shared at the institutional level to the study sites. The publication will be made for use by other public health practitioners, and the abstract will be submitted for presentation at conferences. Copies of the study findings will also be submitted. The findings will be presented to the University of Rwanda, College of Medicine and Health Sciences, School of Medicine and Pharmacy.

Who is conducting this research?

This research is led by a University of Rwanda student doing his Master of Medicine in obstetrics and gynecology.

Whom to Contact

If you want more information about the project, you can contact the researcher on the following contacts:

Basonga Emmy: **Phone number: + (250) 788223593 or at email: emmybason@gmail.com or**

Chairperson of IRB-CMHS, Dr. Stephan Jansen on phone number + (250) 788563311

Certificate of consent

1. I prove that I have been clarified this research, "**Perspectives and experience of women towards labor companionship and its associated factors in public hospitals of Kigali, Rwanda.**" I was given time to ask questions, and they are well answered.
2. I understand that participating in this research is voluntary, and I am free to quit any time without providing any reasons or explanations.
3. I voluntarily agree to take part in **Perspectives and experience of women towards labor companionship and its associated factors in public hospitals of Kigali, Rwanda.**

Participant

Names: Signature Date:...../...../2021

Researcher

Names: Signature Date:...../...../2021

Annex 2: Consent form Kinyarwanda version

4.1. KWEMERA KUGIRA URUHARE MU BUSHAKASHATSI

Umutwe w'Ubushakashatsi: "Imyumvire n'ubunararibonyeby 'ababyeyi ku guherekezwa mu kubyara ndetse n'ibyagena guherekezwa kumubyeyi mugihe ncyo kubyara bibaho mu bitaro bya kaminuza bya Kigali, Muhima no mubitaro bya Kacyiru"

Uwemerewe kugira uruhare muri ubu bushakashatsi bwitwa "*Imyumvire n'ubunararibonyeby 'ababyeyi ku guherekezwa mu kubyara ndetse n'ibyagena guherekezwa kumubyeyi mugihe ncyo kubyara bibaho mu bitaro bya kaminuza bya Kigali, Muhima no mubitaro bya Kacyiru*", ni umugore waje kwa muganga aje kubyarira mu bitaro bya kaminuza bya Kigali, ibya Muhima cg mu bitaro bya Kacyiru.

Ese ubu bushakashatsi buri gukorwa nande?

Ubu bushakashatsi buri gukorwa n'umunyeshuri wo muri kaminuza y'u Rwanda wiga ikiciro cya gatatu mu buvuzi bw'abagore, ishami ry'ubuvuzi, witwa Basonga Emmy.

Icyiciro cyambere: Ubusobanuro rusange.

Intangiriro

Basonga Emmy, umunyeshuri mu mu cyiciro cya gatatu cya kaminuza, muri kamunzu nkuruy'u Rwanda ishami ry' ubuvuzi bw'indwara z'abagore, wifuza gukora ubushakashatsi ku *“Imyumvire n'ubunararibonyeby 'ababyeyi ku guherekezwa mu kubyara ndetse n'ibyagena guherekezwa kumubyeyi mugihe ncyo kubyara bibaho mu bitaro bya kaminuza bya Kigali, Muhima no mubitaro bya Kacyiru”*. Muri rusange, tugiye kubaha amakuru no kubashishikariza kudufasha muri ubu bushakashatsi. Mbere yo kwemera kugira uruhare muri ububushakashatsi, ningombwa ko umuntu abanza gusobanukirwa impamvu buri gukorwa kandi akamenya imitererey'ibibazo asabwa gusubiza. Niba hari ikidasobanutse cyangwa se hakaba hari ikintu ushaka gusobanukirwa kurushaho, ntushidikanye kutubaza.

Impamvu z'ubu bushakashatsi

Mu Rwanda ntashusho rusange dufite igaragaza uburyo abagore/ababyeyi baherekezwa Mugihe bagiye kubyara ndetse n'icyaba cyatuma bibaho cyangwa ntibibeho ndetse n'imyumvire y'ababyeyi ku guherekezwa bagiye kubyara.

Ubu bushakashatsi buzakorera mu bitaro bya Kaminuza bya Kigali, Muhima ndetse n'ibitaro bya Kacyiru. Turagusaba kuba umwe mubazafasha muri ubu bushakashatsi. Mbere yo kwemerakuba umwe mu bazitabira gufasha muri ubu bushakashatsi, ni ngombwa gusobanukirwa impamvu nyamukuru yubu bushakashatsi, no kumenya ubwoko bw'ibibazo bizabazwa. Hagize icyo udasobanukiwe neza, ntiwitinye kubaza kugirango usobanukirwe.

Ese hazabazwa ibibazo bijyanye n'iki?

Ibibazo bibazwa umubyeyi wabyariye mu bitaro bya Kaminuza bya Kigali, Muhima cyangwa mu bitaro bya Kacyiru. Turabaza ibibazo bitandukanye bijyanye n'imibereho rusange. Ikiganiro kirafata muni y'iminota icumi.

Ese ni nde twifuza kuganira na we?

Turifuza kuvugana n'umubyeyi wabyariye mu bitaro bya Kaminuza bya Kigali, Muhima cyangwa mu bitaro bya Kacyiru. Kuba umwe mu bafasha muri ubu bushakashatsi ni ubushake, nta gahato,

nta nitegeko ryaguhana wanze gufasha muri ubu bushakashatsi. Mugihe utemeye kwitabira, nta bisobanuro uzabazwa.

Mugihe wiyemeje kwitabira ubu bushakashatsi:

- Urasabwa gusinya/kwandika amazina bigaragaza ko wasobanuriwe ukemera kugira uruhari mubushakashatsi.
- Niba hari ibibazo ubajijwe ukumva bikubangamiye, ntago ari ngombwa ko ubisubiza.
- Nuburenganzira bwawe guhagarika ikiganiro igihe ushakiye.
- Nta gahimbazamusyi ubona nyuma yo gusubiza ibi bazo bibazwa, kubizubiza ni ubukorana bushake.

Amazina yawe n’andi makuru akuranga ntago azasangirwa nuwo ariwe wese utari mu itsinda ry’abashakashatsi tutabigusabiye uruhushya.

Ibizava muri ubu bushakashatsi bigamije kunoza : uburyo bwo gutanga serivisi zitangwa kwa muganga. Nta nyungu bwitwe cyangwa zakakanya ziteganyirijwe kubagira uruhare muri ubu bushakashatsi.

Nkuko twabibabwiye hejuru, ubu bushakashatsi buharariwe n’umunyeshuri wo mu kicyiro cya gatatu cya kaminuza, muri Kaminuza nkuru y’u Rwanda. Niba wifuza ibindi ibisobanuro kubirebana n’ubu bushakashatsi wabaza uwitwa:

Basonga Emmy: telefoni: + (250) 788223593 cyangwa kuri email: emmybason@gmail.com cyangwa

Uhagarariye IRB-CMHS, Dr Stephan Jansen kuri telefoni + (250) 788563311

Icyciro cya 2: Urupapuro rw’ibyemeranyijweho

Uwabigizemo uruhare

1. Ndemeza ko nasomye ko nabwiwe neza amakuru ari ku rupapuro rw’ umubushakashatsi ku ” *Imyumvire n’ubunararibonyeby ‘ababyeyi ku guherekezwa mu kubyara ndetse n’ibyagena guherekezwa kumubyeyi mugihe ncyo kubyara bibaho mu bitaro bya kaminuza bya Kigali, Muhima no mubitaro bya Kacyiru*, kandi nasobanukiwe neza ibigendanye nabwo. Nahawe akanya ko kubaza ibibazo kandi byose byasubijwe neza.

2. Nsobanukiwe yuko kugira uruhare muri ubu bushakashatsi ari ubushake kandi ko nshobora kuvamo igihe icyo ari cyo cyose nta mpamvu nimwe ntanze kandi ntibingireho ingaruka.

3. Nemeye kugira uruhare mu mushinga w'ubushakashatsi ku *Imyumvire n'ubunararibonyeby 'ababyeyi ku guherekezwa mu kubyara ndetse n'ibyagena guherekezwa kumubyeyi mugihe ncyo kubyara bibaho mu bitaro bya kaminuza bya Kigali, Muhima na Kacyiru.*

Ubazwa

Izina ry'ubazwa:umukono: Italiki:.../.../.....

Ukora ubushakashatsi

Izina ry'umukozi ubyakiriye:umukono : Italiki:.../.../.....

Annex 3: Data collection forms (english version)

4.5.1 Quantitative data collection form

1. Demographic information

Study ID
Age in yearsyears
Obstetric history (parity and gestation)	G.....P.....
Previous pregnancy outcome	Delivered a live baby 1 Stillbirth 2 Abortion 3
Gender of the baby from the previous pregnancy	Male 1 Female 2
How many children	Males..... Female.....
Marital status	Married 1 Single 2 Divorced 3 Cohabitant 4
Recruitment site	CHUK 1 Kacyiru Hospital 2 Muhima Hospital 3
Education	No formal education 1 Attended Primary school 2 Attended Secondary school 3 Attended University 4

Religion	Catholic 1 Protestant 2 Muslim 3 None 4 Other.....
Employment status	Employed 1 Unemployed 2
Occupation/Profession	Farmer 1 Healthcare worker 2 Other office work employment 3 Business 4 Other (to specify)..... None 5
Socio-economic status	Ubudehe I 1 Ubudehe II 2 Ubudehe III 3 Ubudehe IV 4
Who do you live with (during this week)	a. Live alone b. Housemaid c. Male partner d. My child/ren e. My parent (s) f. My sibling g. My parent-in-law h. Roommate i. Friend

2. Questions regarding delivery and labor companionship

Sport activities	Yes 1 No 2
Status of the pregnancy at conception	Planned 1 Unplanned 2
If sport activity, which intensity	Normal daily activities 1 Light sport activities 2 Moderate sport activities 3 Professional/heavy sport 4
Complications during pregnancy	
If sports activity how many times per week	a) Yes Once a week 1 b) No Twice a week 2 3 times a week and above 3
Did you have complications during labor and delivery in a previous pregnancy?	a) Yes b) No
Who was the delivery provider in your last	Farming 1 Midwife 2 Medical Doctor 3 Other to specify 4
How long per session:	Less than 30 min 1 30-60 min 2 60 min and above 3

What is the sex of the delivery provider during your previous delivery	Yes 1 No 2
The number of antenatal care visits during the last pregnancy?	a) None b) <4 c) 4 and more
When did you initiate breastfeeding from the time of childbirth	a) Immediately b) Within 30 minutes c) Within 30min-2hours d) Delayed >2h
Have you been asked vaginal consent for vaginal examination when you were in labor?	Yes 1 No 2
Were you accompanied by someone to the health facility when presenting for delivery?	Yes 1 No 2
If yes, the gender of the companion	Male 1 Female 2
If yes, type of companion (relationship)	Mother 1 Mother-in-law 2 Partner 3 Friend 4 Sibling 5 Other
When did you need your companion most?	During labor 1 During delivery 2 Post-delivery 3 All the time 4 Not at all 5
Was the companion allowed to stay and provide continuous support during labor?	Yes 1 No 2
Was the companion allowed to stay and provide continuous support during delivery/childbirth?	Yes 1 No 2
Did you desire that your companion stays during labor and/or childbirth?	Yes 1 No 2
If No, what was the reason for not preferring to have a companion?	Embarrassment 1 Fear of gossip and abuse 2 Other reason

If you have another baby, do you wish to have a companion during labor and childbirth?	Yes 1 No 2
If yes, who will you prefer as a companion?	Mother 1 Mother-in-law 2 Partner 3 Friend/Neighbor 4 Sister/sister-in-law 5 Healthcare provider 6 Other
What do you think are the benefits of having a companion during labor and childbirth? (choose all that can apply)	a) Reduces labor pain b) Reduces fear c) Reduces feeling lonely d) Reduces the need for C/S e) Increases the happiness f) Prevents abuse by a healthcare provider g) Improves the survival of the newborn h) Reduces labor duration

4.5.2. Qualitative data collection tool (Interview guide).

Respondent ID:

Date of the interview:

Name(s) of the interviewer:

Mode of interview: 1. Face to face 2. Phone

Section A: Specific questions on labor companionship

Question 1: How did you perceive the companionship during labor and delivery?

Question 2: What do you think a companion can help you during labor and childbirth?

Question 3: Why can you wish to have someone as a companion during labor and childbirth?

Question 4: How were you feeling about being or not being allowed to have a companion during labor and childbirth?

Question 5: What do you think about having your partner as a companion during labor and childbirth?

Question 6: Are there any specific challenges mothers might face with having a companion during labor and childbirth?

Question 7: What can you advise the community and specifically pregnant mothers about having a companion during labor and childbirth?

Section B: Exiting the interview

- 1) Is there any information you would like to share with me that was not covered in this interview?
- 2) Thank you very much for taking your precious time to discuss this with us.

Annex 4: Data collection form (kinyarwanda version)

2. Imyirondoro rusange

Nimero y' uwitabira ubushakashatsi
Imyaka
Imbyaro n'inda wasamye	G.....P.....
Uko inda iherutse yarangiye	Nabyaye umwana muzima 1 Nabyaye umwana upfuye 2 Inda yavuyemo 3
Igitsina cy'umwana uheruka	Gabo 1 Gore 2
Ufite abana bangahe (imibare)	Abahungu..... Abakobwa.....
Irangamimerere	Arubatse 1 Ingaragu 2 Baratandukanye 3 Ababana batarasezeranye 4
Ibitaro	CHUK 1 Kacyiru 2 Muhima 3
Amashuri	Ntayo 1

	Amashuri abanza 2 Amashuri yisumbuye 3 Kaminuza 4
Idini	Gatorika 1 Umukristo (Utari gatorika) 2 Umuyisilamu 3 Ntadini 4 Irindi dini.....
Akazi akora	Ufite akazi 1 Nta kazi afite 2
Umwuga	Umuhinzi 1 Umukozi wo mubuzima 2 Akandi kazi ko mubiro 3 Kwikorera (businessi) 4 Undi mwuga (wandike.....) Ntawo 5
Icyiciro cy'ubukungu	Ubudehe I 1 Ubudehe II 2 Ubudehe III 3 Ubudehe IV 4
Muri iki cyumweru ubana nane murugo?	j. Njyenyine k. Umukozi wo murugo l. Umugabo m. Abana n. Ababyeyi banjye o. Abavandimwe banjye p. Data/mabukwe q. Umunu tubana mucyumba r. Inshuti

2. Ibibazo byerekeye kubyara no guherekezwa kwa muganga Mugihe cyo kubyara

Sport activities	Yes 1 No 2
Uburyo bwo gutwita If sport activity, which intensity	Ryari ari guwe 1 Normal daily activities 1 Light sport activities 2 Moderate sport activities 3 Professional/heavy sport 4
Ingaruka mu gihe cyo gutwita	
If sports activity how many times per week	c) Yego Once a week 1 d) Oya Twice a week 2 3 times a week and above 3
If normal daily activities, which one	Farming 1 Office work 2 Heavy loading 3 Other to specify 4
How long per session:	Less than 30 min 1

Ese hari ingaruka wagize igihe wari uri kubyara inda iheruka?	c) Yego d) Oya
Ni nde wagufashije kubyara inda iheruka?	Umubyaza/Umuforomo 1 Umuganga 2
Igitsina cy' umuntu wagufashije kubyara inda iheruka	Umugabo 1 Umugore 2
Inshuro wapimishije inda iheruka?	d) Nta na rimwe e) Minsi y'inshuro 4 f) Hejuru y'inshuro 4
Watangiye kwonsa umwana ryari ugereranije n'igihe yavukiye?	e) Akokanya f) Mu minota 30 g) Hagati y'iminota 30 n'amasaha 2 h) Hejuru y'amasaha 2
Waba warasabwe burenganzira bwo gusuzumwa igihe wari kunda ubushize?	Yego 1 Oya 2
Igihe warugiye kubyarira ku bitaro waba waraherejwe n'umuntu?	Yego 1 Oya 2
Niba ari yego, igitsina cy'uwaguherekeje	Umugabo 1 Umugore 2
Niba ari yego, isano ufutanye n'umuherekeza	Mama 1 Mabukwe 2 Umugabo 3 Inshuti 4 Umuvandimwe 5 Undi
Ese umurwaza wawe yaba yaremerewe kuguma iruhande rwawe agufasha Mugihe wari kubise/kunda?	Yego 1 Oya 2
Ese umurwaza wawe yaba yaremerewe kuguma iruhande rwawe agufasha mugihe wariuri kubyara?	Yego 1 Oya 2
Wigeze wifuza ko umurwaza wawe yakuba iruhande Mugihe wari kubise cyangwa ubyara?	Yego 1 Oya 2
Niba ari oya, ni iyihe mpamvu utifuje ko umurwaza wawe yakuguma hafi?	Isoni/ipfunwe 1 Ubwoba bwo guhohoterwa 2 Indi mpamvu

Uramutse ushatse kugira undi mwana, ese wakwifuza kugira umuntu uguherekereza kwa muganga ugiye kubyara	Yego 1 Oya 2
Niba ari yego, ninde wahitamo nk'umuherekereza	Mama 1 Mabukwe 2 Umugabo 3 Inshuti/umuturanyi 4 Umuvandimwe 5 Umuganga 6 Undi
Ni ibihe byiza byo kugira umuherekereza igihe umubyeyi agiye kubyara? (hitamo ibiribyo byose)	i) Bigabanya uburibwe j) Bigabanya ubwoba k) Bigabanya irungu l) Bigabanya ukwifuza kubyara ubazwe m) Byongera ibyishimo n) Birinda kuba wahutazwa n'umuganga o) Byongera kubaho k'umwana p) Bigabanya igihe umara kunda

Qualitative data collection tool (Kinyarwanda version).

Ikiranga uwitabiriye ubushakashatsi (ID):

Itariki:

Izina ry'ubaza:

Icyiciro cya mbere: Ibibazo bijyanye no guherekereza kwa muganga mugihe cyo kubyara

Igice cya A: Specific questions on labor companionship

Ikibazo cya 1: Ese kubwawe wumva gute ibijyanye no guherekereza kwa muganga k'umugore ugiye kubyara?

Ikibazo cya 2: Ese wumva umuntu waguherereje kwa muganga ugiye kubyara yagufasha iki?

Ikibazo cya 3: Ni iyihe mpamvu yatuma wifuza kugira umuntu uguherekereza cg ukuba hafi Mugihe cyo kubyara?

Ikibazo cya 4: Wumvaga umeze ute kuba warufite cyangwa utarufite umuherekereza Mugihe cyo kubyara?

Ikibazo cya 5: Ese ubibona gute kuba uwo mwashakanye yaguherekeza ugiye kwa muganga kubyara?

Ikibazo cya 6: Haba hari ingorane zihariye abagore baba bahura nazo kukuba badafite umuherekeza mgihe cyo kubyara?

Ikibazo cya 7: Ni iyihe nama wagira abaturage by'umwihariko abagore batwite kubijyanye no kugira umuherekeza Mugihe cyo kubyara?

Igice cya B: Gusoza ikiganiro

- 3) Hari andi makuru yingenzi waba wifuza kudusangiza kuri iyi ngingo twaganiriyeho muri iki kiganiro tugiranye twaba tutavuzeho?
- 4) Ndagushimiye cyane kubw'umwanya wawe waduhaye ngo tuganire.

Annex 5: CMHS IRB approval



CMHS INSTITUTIONAL REVIEW BOARD (IRB)

Kigali, 1st /March /2021

Dr Basonga Emmy
School of Medicine and Pharmacy, CMHS, UR

Approval Notice: No 067/CMHS IRB/2021

Your Project Title "*Perspectives and Experience of Women towards Labor Companionship and Its Associated Factors in Public Hospitals of Kigali, Rwanda*" has been evaluated by CMHS Institutional Review Board.

Name of Members	Institute	Involved in the decision		
		Yes	No (Reason)	
			Absent	Withdrawn from the proceeding
Prof Kato J. Njunwa	UR-CMHS	X		
Dr Stefan Jansen	UR-CMHS	X		
Dr Brenda Asimwo-Kateera	UR-CMHS	X		
Prof Ntaganira Joseph	UR-CMHS	X		
Dr Tumusiime K. David	UR-CMHS	X		
Dr Kayonga N. Egide	UR-CMHS	X		
Mr Kanyoni Maurice	UR-CMHS		X	
Prof Munyanshongore Cyprien	UR-CMHS	X		
Mrs Ruzindana Landrine	Kicukiro district		X	
Dr Gishoma Darius	UR-CMHS	X		
Dr Donatilla Mukamana	UR-CMHS	X		
Prof Kyamanywa Patrick	UR-CMHS		X	
Prof Condo Umutesi Jeannine	UR-CMHS		X	
Dr Nyirazinyoye Laetitia	UR-CMHS	X		
Dr Nkeramihigo Emmanuel	UR-CMHS		X	
Sr Maliboli Marie Josee	CHUK	X		
Dr Mudenge Charles	Centre Psycho-Social	X		

After reviewing your protocol during the IRB meeting of where quorum was met and revisions made on the advice of the CMHS IRB submitted on 22nd January 2021, **Approval has been granted to your study.**

Please note that approval of the protocol and consent form is valid for **12 months.**

You are responsible for fulfilling the following requirements:

1. Changes, amendments, and addenda to the protocol or consent form must be submitted to the committee for review and approval, prior to activation of the changes.
2. Only approved consent forms are to be used in the enrolment of participants.
3. All consent forms signed by subjects should be retained on file. The IRB may conduct audits of all study records, and consent documentation may be part of such audits.
4. A continuing review application must be submitted to the IRB in a timely fashion and before expiry of this approval
5. Failure to submit a continuing review application will result in termination of the study
6. Notify the IRB committee once the study is finished

Sincerely,



The 1st March 2021

Application date: 1st March 2022

Dr Stefan Jansen
Ag. Chairperson Institutional Review Board,
College of Medicine and Health Sciences, UR

Cc:

- Principal College of Medicine and Health Sciences, UR
- University Director of Research and Postgraduate Studies, UR