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Abstract

Purpose: The main objective was to determine maternal satisfaction with intrapartum care in healthcare facilities in the Kericho County and specifically to determine the association between mothers' experience of intrapartum care and satisfaction with quality of nursing, analyze the influence of psychosocial aspects on satisfaction with intrapartum care and evaluate the relationship between hospital factors and maternal satisfaction on intrapartum care among women delivering in healthcare facilities in Kericho County

Materials and Methods: This was a cross sectional analytical research design and data was collected using mixed method approach. The study targeted women who delivered in the facilities used for study and 441 mothers were sampled. Data was analyzed using (SPSS) version 24. Descriptive statistics was used to describe the findings on socio-demographic characteristics and inferential statistics employed Chi square and logistic regression to determine maternal satisfaction with intrapartum care. Odds ratio was used to test the strength of association, and a p-value of ≤ 0.05 considered as statistically significant.

Findings: Several factors influence mothers' satisfaction with intrapartum care. Employment (OR: 3.0; 95% CI: 1.2 – 7.4; p = 0.02) delivery through instrument/Caesarian section were 2.6 more likely to have been satisfied with the care unlike those who delivered through SVD (OR: 2.6; 95% CI: 1.1 – 6.0; p = 0.03). On the other hand, mothers who got encouragement and reassurance by midwives and doctors (OR: 0.2; 95% CI: 0.1 – 0.8; p = 0.02) were more likely to be satisfied with care. Mothers who were shown their babies immediately after delivery to identify sex of the baby (OR: 3.2; 95% CI: 1.5 – 7.0; p = 0.002) were 3 times more satisfied than

their counterparts. Mothers who were asked for their opinion about unplanned procedure before it was performed (OR: 3.7; 95% CI: 1.1 – 12.6; p = 0.02) were four times more likely to be satisfied. In conclusion, determinants of intrapartum care satisfaction in public hospitals in the study area are: level of education, employment status and type of delivery, showing the baby to the mother immediately after delivery to identify sex, midwives and doctors asking clients their opinion about unplanned procedure before it is performed. Provision of linen and beds, provision of hot drinks and hot shower after delivery and provision of a locker are all associated with satisfaction.

Unique Contribution to Theory, Practice and Policy: Therefore, the hospitals should allow mothers to stay with their birth companions and health care providers should be taught on importance of good relation and good communication skills.
Keywords: *Kericho, Maternal satisfaction, intrapartum care*

1.0 INTRODUCTION

There is a growing consensus that patient service quality perceptions are critical for maintaining and monitoring the quality of healthcare. Women's satisfaction with maternity service is often associated with the quality of intrapartum care, as the nature of the support given during labour and childbirth is reflective of a positive birth experience (Abdel & Berggren, 2011)

Karkee and Pokharel,(2014) indicated that satisfaction with intrapartum care reduces maternal mortality as mothers who are provided with high quality service utilize skilled birth attendance. Positive maternal and neonatal outcomes and service utilization can be significantly improved by enhancing quality of facility deliveries and making them more acceptable (Srivastava, 2015). Evidence shows that satisfaction affects utilization of skilled birth delivery as women who are satisfied with health care delivery will give birth in the hospital and vice versa (Nyongesa et al., 2019).

In Kenya the MMR is at 362 per 100,000 live births in 2010 (Kenya Demographic and Health Survey, 2014). The KDHS report further reveals that the percentage of births assisted by a skilled birth attendant has increased in the last five years, from 44 percent in 2008-09 to 62 percent in 2014. This varies within counties; Nairobi recorded the highest number (89%) of skilled deliveries and North Eastern the least (29%) (KDHS, 2014). Despite introduction of free maternal care policy in June 2013with the aim of promoting skilled delivery utilization and reduction of pregnancy related mortality in the country, a number of maternal mortalities is still being reported (Mungai, 2015).Therefore, much has not been achieved because a lot of challenges have been identified and quality of services is the major gap, hence maternal satisfaction is a still a big issue that contributes to underutilization of skilled deliveries leading to maternal mortalities (KNBS and ICF International, 2015).

In Kericho county, maternal mortality rate is high (245 per 100000) live births despite the availability of free maternity services and Comprehensive Emergency Obstetric and Newborn Care (CEmONC). Satisfaction is a multidimensional construct involving quality of care, interpersonal manner, accessibility or convenience, consistency, finance, physical environment and availability of service or care which is the most frequently reported outcome measures for quality of care (Chirdan et al., 2013).

1.1 Problem Statement

Globally, there were 31 million (22%) home deliveries that were not attended by skilled birth attendance in 2016. Coverage of Hospital deliveries vary within regions; even within the regions, variations occur from country to country (WHO, 2015). It is however estimated that only 43% of women have access to skilled care during childbirth, and the rest are exposed to unskilled childbirth that could be have been contributed by unsatisfactory care given to mothers during labour and delivery (Adanu, 2010). A study in Senegal revealed that Women's dissatisfaction with their childbirth experience in health care institutions is another obstacle to their choice to give birth in facilities for subsequent pregnancies (Faye, 2011).

The Kenya Demographic and Health Survey (KDHS) report further shows that over the past five years, the proportion of skilled birth deliveries has increased, from 44% in 2008-09 to 62% in 2014. A study done by MoH (2014) to assess implementation of free maternity services program showed that the proportion of women who are satisfied with the staffing and quality of care has greatly reduced (9%). There was also inadequate documentation which is a key factor in assessing quality of care.

Assessment of trend of utilization of skilled delivery service in Kericho County revealed that in 2017 only 44% (15,585 births) deliveries occurred in the hospital (DHIS, 2017). In 2018 there was improvement to 58 % (21,095deliveries) which is far below the 90%, international target despite the various interventions in place (KDHS, 2014). The factors contributing to underutilization of the services are not yet studied. This study therefore seeks to determine maternal satisfaction with intrapartum care in healthcare facilities in Kericho County.

2.0 LITERATURE AND THEORITICAL REVIEW

2.1Theoretical Framework

The conceptual framework in this study therefore is based on determinants and components theory of Ware *et al.,* (1983). The framework has three dimensions/components each with essential elements which are inclusive to broaden the perspective of the patient's satisfaction construct. The conceptual framework brings out variables in the study and sets out their relationships (Kothari, 1990).

2.2 Empirical Review

Factors affecting maternal satisfaction with intrapartum care

Evidence from past researches indicate that any strategy aimed at improving the quality of labor and services during childbirth requires a comprehensive approach to the quality of all quality of care domains. Successful implementation of perinatal care services requires a model of care that should prioritize evidence-based practice acceptable to all women (Tuncalp, 2015).Good quality intrapartum care is vital to reduce unintended adverse consequences of labor and delivery, and optimizing the health of women and their newborns (WHO, 2017). Different studies have shown that Socio-demographic and Obstetrics characteristics influence satisfaction during intrapartum care. This was in contrary with results from a study conducted by Amdemichael et al. (2014) that showed women of 20 to 34 years of age (85.2%) were more satisfied compared to (14.8%) participants of 35-49 years of age.

A study conducted on Women's satisfaction with childbirth and the role of pain and pain relief indicate personal expectations, the amount of caregiver support, the quality of the relationship between the caregiver and the patient, and participation in decision-making are key factors to pain management (Hodnet, 2012). The literature review provides conflicting and limited information about factors related to labor and delivery satisfaction. Given the importance of childbirth satisfaction, no research has been conducted in kericho county related to the satisfaction of care during intrapartum care.

3.0 METHODOLOGY

Study Design: This study adopted a cross sectional, hospital based survey design.

Study Area: The study was conducted in kericho county health facilities. There are around 758,339 inhabitants in the county (2009 census). The county is bordered by the county of Uasin Gishu in the North West, the County of Baringo in the north, The County of Nandi in the North East, the County of Nakuru in the east and The County of Bomet in the south. Nyamira and Homa Bay Counties border the southwest, with Kisumu County bordering the west. The county occupies a total area of 2479 Km^2 and has 6 sub-counties, 30 wards, 85 locations and 209 sub locations. Kericho County has 210 Health Facilities which are categorized into 13 Faith Based Organizations, 146 public hospitals, 5 Non-Governmental Organization and 46 private facilities.

Study Population: The study population comprised women who delivered in Kericho Referral Hospital, Sigowet, Kapkatet and Londiani sub-county hospitals in Kericho County during the time of research.

Inclusion Criteria: Women who delivered in Kericho Referral Hospital, Sigowet, Londiani and Kapkatet Sub –County hospitals participated in the study.
Exclusion Criteria: Women who delivered through elective caesarean section.
Sample determination: The sample size determination was done using Fisher's method (Fisher, et al,. 1991). The final sample size was 441 respondents which took into account 10% loading population which took care of possible refusals.

Sampling Procedure: Simple random sampling was used to select the four hospitals to represent the entire county and Systematic sampling method was used to select mothers who delivered in the study areas.
Data collection: The researcher conducted training of research assistance. Structured interviewer administered questionnaire was used to collect quantitative data and four groups of FGD with eight members each was used to collect qualitative data from the mothers.
Data Analysis: For quantitative data, the data from the questionnaires was cleaned coded, entered and analyzed using SPSS version 24. Descriptive and inferential statistics was used for data analysis. Qualitative information collected through FGD was analyzed through content analysis using emerging themes and issues highlighted to generate a detailed report. Qualitative data was transcribed, summarized and thematically analyzed according to the specific objectives.

4.0 FINDINGS AND DISCUSSIONS

4.1 Association between socio-demographic characteristics of women and satisfaction with intrapartum care

Satisfaction with intrapartum care was considered where respondent strongly agreed or agreed that they would recommend this facility for delivery care to their family or friends. Table 1 present socio-demographic characteristic of the respondents from referral and sub-county hospitals, the outcome being level of satisfaction. There were 237 (53.7%) women who were satisfied with intrapartum care while 204 (46.3%) were not.

A statistically significant higher proportion of respondents with none or primary education in referral hospital were satisfied with care in contrast to their counterparts who visited sub-county hospitals (OR: 2.6; 95% CI: 1.3 – 5.1; p = 0.004). Likewise, the proportion of participants who were employed who sought care in referral hospitals and were satisfied with the services was higher than their colleagues from sub-county hospitals (OR: 3.0; 95% CI: 1.2 – 7.4; p = 0.02).Respondents who received care from referral hospital and had complications during pregnancy were seven times more likely to have been satisfied with intrapartum care in contrast to participants who were seen in sub-county facilities (OR: 7.1; 95% CI: 2.4 – 20.5; p = 0.0002),. A significantly higher proportion of women who expected the current pregnancy (OR: 1.8; 95% CI: 1.1 – 2.8; p = 0.02) and those who delivered through SVD (OR: 1.7; 95% CI: 1.1 – 2.5; p = 0.02) from referral hospital were equally satisfied with the care.

Table 1: Association between socio-demographic characteristics of women and satisfaction with intrapartum care.

Confounders	Explanatory Variable (type of facility)	Total (n)	Satisfied (%)	Not satisfied (%)	OR	95% CI	P value
None or primary education	Referral	60	70.0	30.0	2.6	1.3 – 5.1	**0.004**
	Sub-county	110	47.3	52.7			
Employed/Casuals	Referral	33	60.6	39.4	3.0	1.2 – 7.4	**0.02**
	Sub-county	50	34.0	66.0			
With complications during pregnancy	Referral	31	74.2	25.8	7.1	2.4 – 20.5	**0.0002**
	Sub-county	38	29.0	71.0			
Expected this pregnancy	Referral	123	62.6	37.4	1.8	1.1 – 2.8	**0.02**
	Sub-county	162	48.8	51.2			
Labour duration ≥ 12 hours	Referral	52	67.3	32.7	2.0	1.0 – 4.1	**0.06**
	Sub-county	83	50.6	49.4			
Type of delivery: SVD	Referral	164	60.4	39.6	1.7	1.1 – 2.5	**0.02**
	Sub-county	207	47.8	52.2			
Type of delivery: Instrument/Caesarian section	Referral	29	44.8	55.2	0.5	0.2 – 1.2	0.1
	Sub-county	41	63.4	36.6			

4.2 Relationship between mothers' experience of labour and delivery and satisfaction with intrapartum care

There was a significant difference in satisfaction among women who agreed that labour and birth went as had been expected (OR: 9.7; 95% CI: 2.5 – 37.7; p = 0.0002), felt strong (OR: 5.9; 95%

CI: 1.8 – 19.0; p = 0.002), did not feel scared (OR: 16.8; 95% CI: 6.1 – 46.2; p < 0.0001), felt capable (OR: 4.0; 95% CI: 1.3 – 11.7; p = 0.02), was not tired (OR: 19.6; 95% CI: 6.1 – 61.7; < 0.0001) or felt happy (OR: 7.3; 95% CI: 2.2 – 24.6; p = 0.001) during labour. Those who received intrapartum care from referral hospital were more likely to have expressed higher level satisfaction than their counterparts from sub-county hospitals with the differences being statistically significant.

Participant who agreed that they had many positive memories from childbirth (OR: 5.0; 95% CI: 1.3 – 18.1; p = 0.01), some of their memories from childbirth did not make them feel depressed (OR: 12.7; 95% CI: 3.8 – 42.0; p = 0.0001) and who received care from referral hospital were significantly more likely to have been satisfied with the services than those who got care from sub-county health facilities. However, the difference between the proportion of participants who agreed that they could have a say whether they could be up and about or lie (OR: 3.8; 95% CI: 0.9 – 16.5; p = 0.06) and who visited referral hospital and their counterparts was marginally statistically significant. A significant proportion of respondents who disagreed that they felt they could have a say in deciding their birthing position (OR: 1.5; 95% CI: 1.0 – 2.1; p = 0.05) and those who disagreed that they felt they could have a say in the choice of pain relief (OR: 1.6; 95% CI: 1.1 – 2.3; p = 0.02) and who received intrapartum care in referral hospital were nearly two times more likely to have been satisfied with the care than those who delivered in sub-county hospitals.

Table 2: Relationship between mothers' experience of labour and satisfaction with intrapartum care

Confounders	Explanatory Variable (type of facility)	Total (n)	Satisfied (%)	Not satisfied (%)	OR	95% CI	P value
Labour and birth went as I had expected: **Agreed**	Referral	59	94.9	5.1	9.7	2.5 – 37.7	**0.0002**
	Sub-County	35	65.7	34.3			
	Sub-County	213	47.9	52.1			
I felt strong during labour and birth: **Agreed**	Referral	76	93.4	6.6	5.9	1.8 – 19.0	**0.002**
	Sub-County	34	70.6	29.4			
I felt strong during labour and birth: **Disagreed**	Referral	117	35.0	65.0	0.6	0.4 – 1.0	**0.03**
	Sub-County	214	47.2	52.8			
I did not feel scared during labour and birth: **Agreed**	Referral	64	90.6	9.4	16.8	6.1 – 46.2	< **0.0001**
	Sub-County	52	36.5	63.5			
I did not feel scared during labour and birth: **Disagreed**	Referral	129	41.9	58.1	0.6	0.4 – 1.0	**0.03**
	Sub-County	196	54.1	45.9			
I felt capable during labour and birth:	Referral	84	91.7	8.3	4.0	1.3 – 11.7	**0.02**
	Sub-County	34	73.5	26.5			

Agreed							
I felt capable during labour and birth: **Disagreed**	Referral	109	32.1	67.9	0.5	0.3 – 0.9	**0.01**
	Sub-County	214	46.7	53.3			
I was not tired during labour and birth: **Agreed**	Referral	54	88.9	11.1	19.6	6.1 – 61.7	< **0.0001**
	Sub-County	31	29.0	71.0			
I felt happy during labour and birth: **Agreed**	Referral	74	93.2	6.8	7.3	2.2 – 24.6	**0.001**
	Sub-County	26	65.4	34.6			
I felt happy during labour and birth: **Disagreed**	Referral	119	36.1	63.9	0.6	0.4 – 0.9	**0.03**
	Sub-County	222	48.6	51.4			
I have many positive memories from childbirth: **Agreed**	Referral	51	94.1	5.9	5.0	1.3 – 18.1	**0.01**
	Sub-County	60	76.7	23.3			
Some of my memories from childbirth do not make me feel depressed: **Agreed**	Referral	50	92.0	8.0	12.7	3.8 – 42.0	< **0.0001**
	Sub-County	40	47.5	52.5			
I felt I could have a say whether I could be up and about or lie down: **Agreed**	Referral	29	89.7	10.3	3.8	0.9 – 16.5	**0.06**
	Sub-County	26	69.2	30.8			
I felt I could have a say in deciding my birthing position: **Disagreed**	Referral	190	57.9	42.1	1.5	1.0 – 2.1	**0.05**
	Sub-County	225	48.4	51.6			
I felt I could have a say in the choice of pain relief: **Disagreed**	Referral	192	57.8	42.2	1.6	1.1 – 2.3	**0.02**
	Sub-County	230	46.5	53.5			

4.3 Relationship between mothers' experience of health care providers and satisfaction with intrapartum care

Table 3 presents relationship between mothers' experience of health care providers and satisfaction with intrapartum care. The respondents who agreed that 'my healthcare providers devoted enough time to me' (OR: 4.5; 95% CI: 1.5 – 13.3; p = 0.004), 'my healthcare providers kept me informed about what was happening during labour and birth' (OR: 5.1; 95% CI: 1.3 – 19.3; p = 0.01), 'my healthcare providers understood my needs' (OR: 6.0; 95% CI: 1.6 – 22.3; p = 0.003) and "I felt very well cared for by my healthcare providers' (OR: 4.4; 95% CI: 1.3 –

14.6; p = 0.01) who received care from the referral hospital compared to those who delivered in sub-county hospitals.

Table 3: Relationship between mothers' experience of health care providers and satisfaction with intrapartum care

Confounders	Explanatory Variable (type of facility)	Total (n)	Satisfied (%)	Not satisfied (%)	OR	95% CI	P value
My healthcare providers devoted enough time to me: **Agreed**	Referral	84	94.1	5.9	4.5	1.5 - 13.3	**0.004**
	Sub-County	59	78.0	22.0			
My healthcare providers devoted enough time to me: **Disagreed**	Referral	109	30.3	69.7	0.6	0.4 – 1.0	**0.05**
	Sub-County	189	41.8	58.2			
My healthcare providers devoted enough time to my partner: **Disagreed**	Referral	111	29.7	70.3	0.6	0.4 – 1.0	**0.04**
	Sub-County	200	41.5	58.5			
My healthcare providers kept me informed about what was happening during labour and birth: **Agreed**	Referral	82	96.3	3.7	5.1	1.3 – 19.3	**0.01**
	Sub-County	62	83.9	16.1			
My healthcare providers kept me informed about what was happening during labour and birth: **Disagreed**	Referral	111	29.7	70.3	0.7	0.4 – 1.1	0.1
	Sub-County	186	39.2	60.8			
My healthcare providers understood my needs: **Agreed**	Referral	81	96.3	3.7	6.0	1.6 – 22.3	**0.003**
	Sub-County	64	81.3	18.7			
My healthcare providers understood my needs: **Disagreed**	Referral	112	30.4	69.6	0.7	0.4 – 1.1	0.1
	Sub-County	184	39.7	60.3			
I felt very well cared for by my healthcare providers: **Agreed**	Referral	81	95.1	4.9	4.4	1.3 – 14.6	**0.01**
	Sub-County	59	81.4	18.6			
I felt very well cared	Referral	112	31.2	68.8	0.7	0.4 –	0.1

for by my healthcare providers: **Disagreed**	Sub-County	189	40.7	59.3	1.1

4.4 Relationship between mothers' experience of skills of health care providers on pain relief and satisfaction with intrapartum care

Table 4 presents the relationship between mothers' experience of skills of health care providers on pain relief and satisfaction with intrapartum care. There was a significant relationship between respondents impression of the team's medical skills and being secured (OR: 5.8; 95% CI: 1.8 – 18.9; p = 0.001), 'I felt that I handled the situation well' (OR: 3.1; 95% CI: 1.1 – 8.8; p = 0.03) and 'I was taught how to breath in deeply during severe pain and to rest when pain resolve' (OR: 3.8; 95% CI: 1.3 – 10.9; p = 0.009) and who visited referral hospital were more likely to have been satisfied with care unlike their colleagues who were cared for in sub-county hospitals. Those who disagreed that they received drugs for pain relief after delivery of the baby (OR: 1.6; 95% CI: 1.1 – 2.4; p = 0.02) or did not agree that they received back massage to relieve labour pains (OR: 1.4; 95% CI: 1.0 – 2.1; p = 0.06) who attended referral hospital were more likely to have expressed higher level of satisfaction than women who received care from sub-county health hospitals. The significance of the relationship of the latter group was however marginally statistically significant.

Mothers who disagreed that 'I felt that I handled the situation well' (OR: 0.6; 95% CI: 0.3 – 0.9; p = 0.02) or "I was taught how to breath in deeply during severe pain and to rest when pain resolve" (OR: 0.6; 95% CI: 0.3 – 0.9; p = 0.04) who attended referral hospital were 40% less likely to have been satisfied with the services than those who got care from sub-county hospitals.

Table 4: Relationship between mothers' experience of skills of health care providers on pain relief and satisfaction with intrapartum care

Confounders	Explanatory Variable (type of facility)	Total (n)	Satisfied (%)	Not satisfied (%)	OR	95% CI	p value
My impression of the team's medical skills made me feel secure: **Agreed**	Referral	81	95.1	4.9	5.8	1.8 – 18.9	0.001
	Sub-County	60	76.7	23.3			
My impression of the team's medical skills made me feel secure: **Disagreed**	Referral	112	31.2	68.8	0.6	0.4 – 1.0	0.06
	Sub-County	188	42.0	58.0			
I felt that I handled the situation well: **Agreed**	Referral	85	90.6	9.4	3.1	1.1 – 8.8	0.03
	Sub-County	37	75.7	24.3			
I felt that I handled the situation well: **Disagreed**	Referral	108	32.4	67.6	0.6	0.3 – 0.9	0.02
	Sub-County	211	46.0	54.0			

I was taught how to breath in deeply during severe pain and to rest when pain resolve: **Agreed**	Referral	84	92.9	7.1	3.8	1.3 – 10.9	0.009
	Sub-County	53	77.4	22.6			
I was taught how to breath in deeply during severe pain and to rest when pain resolve: **Disagreed**	Referral	109	31.2	68.8	0.6	0.4 – 1.0	0.04
	Sub-County	195	43.1	56.9			
I received adequate back massage: **Agreed**	Referral	4	50.0	50.0	0.4	0.04 – 3.90	0.6
	Sub-County	14	71.4	28.6			
I received adequate back massage: **Disagreed**	Referral	189	58.2	41.8	1.4	1.0 – 2.1	0.06
	Sub-County	234	49.1	50.9			
I received drugs for pain relief after delivery of the baby: **Disagreed**	Referral	190	57.9	42.1	1.6	1.1 – 2.4	0.02
	Sub-County	208	46.2	53.8			
The music played was relaxing and helped reduce the intensity of pain I experienced: **Disagreed**	Referral	190	57.9	42.1	1.4	0.9 – 2.0	0.09
	Sub-County	244	49.6	50.4			

4.5 Relationship between mothers' psychological aspects of the birth environment and satisfaction with intrapartum care: relationship with caregivers

Table 5 presents bivariate analysis results on mothers' psychological aspects of birth environment with respect to caregivers and satisfaction with intrapartum care. Participants who received friendly care and support were satisfied OR: 4.6; 95% CI: 1.8 – 11.8; p = 0.0006), got support from the staff during the birth process (OR: 4.8; 95% CI: 1.7 – 13.4; p = 0.002) and those who confirmed that midwife was present as much as I wanted during labour and delivery (OR: 3.1; 95% CI: 1.1 – 9.1; p = 0.03) who were attended to in referral hospital were more than three-fold more likely to been satisfied with intrapartum care in comparison to women who were seen in sub-county hospitals.

Table 5: Relationship between mothers' psychological aspects of the birth environment and satisfaction with intrapartum care: relationship with caregivers

Confounders	Explanatory Variable (type of facility)	Total (n)	Satisfied (%)	Not satisfied (%)	OR	95% CI	p value
When you arrived at the hospital, staff were friendly and welcoming: **Agreed**	Referral	96	93.7	6.3	4.6	1.8 – 11.8	0.0006
	Sub-County	106	76.4	23.6			
When you arrived at	Referral	97	22.7	77.3	0.6	0.4 –	0.2

the hospital, staff were friendly and welcoming: **Disagreed**	Sub-County	142	31.0	69.0		1.2	
Midwives and doctors were encouraging and reassuring: **Agreed**	Referral	95	94.7	5.3	1.7	0.5 – 5.6	0.4
	Sub-County	81	91.4	8.6			
Midwives and doctors were encouraging and reassuring: **Disagreed**	Referral	98	22.4	77.6	0.6	0.4 – 1.2	0.2
	Sub-County	167	30.5	69.5			
Got support from the staff during the birth process: **Agreed**	Referral	94	94.7	5.3	4.8	1.7 – 13.4	0.002
	Sub-County	90	78.9	21.1			
Got support from the staff during the birth process: **Disagreed**	Referral	99	23.2	76.8	0.6	0.3 – 1.0	0.06
	Sub-County	158	34.2	65.8			
The midwife was present as much as I wanted during labour and delivery: **Agreed**	Referral	94	94.7	5.3	3.1	1.1 – 9.1	0.03
	Sub-County	88	85.2	14.8			
The midwife was present as much as I wanted during labour and delivery: **Disagreed**	Referral	99	23.2	76.8	0.7	0.4 – 1.2	0.2
	Sub-County	160	31.3	68.7			

4.6Relationship between mothers' psychological aspects of respect, information and communication and satisfaction with intrapartum care: respect, information and communication

Table 6 presents bivariate analysis results on mothers' psychological aspects of respect to information/communication and satisfaction with intrapartum care. Women who agreed that midwives and doctors were respectful towards me (OR: 4.7; 95% CI: 1.6 – 13.2; p = 0.002), they received useful information on results from examination and treatment (OR: 4.2; 95% CI: 1.5 – 11.4; p = 0.003), staff used understandable language (OR: 4.8; 95% CI: 1.9 – 12.4; p = 0.0005) or staff requested for permission before any procedure (OR: 3.7; 95% CI: 1.6 – 8.7; p = 0.002) were more likely to have been satisfied with the care than their colleagues who delivered in sub-county hospitals the difference being statistically significant.

Table 6: Relationship between mothers' psychological aspects of information and communication and satisfaction with intrapartum care

Confounders	Explanatory Variable (type of facility)	Total (n)	Satisfied (%)	Not satisfied (%)	OR	95% CI	p value
The midwives and	Referral	86	94.2	5.8	4.7	1.6 –	**0.002**

doctors were respectful towards me: **Agreed**	Sub-County	85	77.7	22.3		13.2	
I received useful information on results from examination and treatment: **Agreed**	Referral	86	93.0	7.0	4.2	1.5 – 11.4	**0.003**
	Sub-County	67	76.1	23.9			
I received useful information on results from examination and treatment: **Disagreed**	Referral	107	29.9	70.1	0.6	0.4 – 1.0	**0.06**
	Sub-County	181	40.9	59.1			
Staff used understandable language: **Agreed**	Referral	88	93.2	6.8	4.8	1.9 – 12.4	**0.0005**
	Sub-County	96	74.0	26.0			
Staff requested for permission before any procedure: **Agreed**	Referral	89	91.0	9.0	3.7	1.6 – 8.7	**0.002**
	Sub-County	90	73.3	26.7			

4.7 Relationship between hospital room environment and satisfaction with intrapartum care

Table 7 presents results on the association between hospital room environment and satisfaction with intrapartum care. Participants who delivered in referral hospital in spacious rooms and (OR: 4.1; 95% CI: 1.5 – 11.7; p = 0.005);and those who were given a locker to keep their personal effects (OR: 6.4; 95% CI: 2.1 – 19.0; p = 0.0003) were four times more likely to have been satisfied with the care unlike their counterparts who received care from sub-county hospitals. The mothers who received care in a well-lighted room were 2.6 times more likely to have been satisfied with the care as opposed to women who delivered in sub-county hospitals (OR: 2.6; 95% CI: 0.9 – 7.3; p = 0.06).

On the contrary, participants who disagreed that they were given locker to keep their personal effects and who delivered in referral hospital were 50% less likely to have been satisfied with the care (OR: 0.5; 95% CI: 0.3 – 0.8; p = 0.005).

Table 7: Relationship between hospital room environment and satisfaction with intrapartum care

Confounders	**Explanatory Variable (type of facility)**	**Total (n)**	**Satisfied (%)**	**Not satisfied (%)**	**OR**	**95% CI**	**p value**
The level of lighting as adequate: **Agreed**	Referral	84	92.9	7.1	2.6	0.9 – 7.3	**0.06**
	Sub-County	72	83.3	16.7			
The room was spacious and adequate for my needs: **Agreed**	Referral	82	92.7	7.3	4.1	1.5 – 11.7	**0.005**
	Sub-County	53	75.5	24.5			
The room was	Referral	111	32.4	67.6	0.6	0.4 –	**0.06**

spacious and adequate for my needs: **Disagreed**	Sub-County	195	43.6	56.4		1.0	
You were given a locker to keep your personal effects: **Agreed**	Referral	87	94.2	5.8	6.4	2.1 – 19.0	**0.0003**
	Sub-County	50	72.0	28.0			
You were given a locker to keep your personal effects: **Disagreed**	Referral	106	28.3	71.7	0.5	0.3 – 0.8	**0.005**
	Sub-County	198	44.9	55.1			

4.8 Relationship between meals, privacy and equipment and satisfaction with intrapartum care

Table 8 presents results on the association between meals, privacy and equipment and satisfaction with intrapartum care. Results show that women who were admitted in referral hospital and who agreed that they were given adequate privacy during examination (OR: 4.2; 95% CI: 1.7 – 10.0; p = 0.0009), when they delivered their baby the curtains were closed (OR: 4.9; 95% CI: 1.9 – 12.8; p = 0.0005), during labour they felt like there were not a lot of people around (OR: 4.8; 95% CI: 1.9 – 12.1; p = 0.0005), drugs in the hospital are all available (OR: 4.5; 95% CI: 1.5 – 13.2; p = 0.004) or that equipment to be used were functional(OR: 3.2; 95% CI: 1.2 – 8.6; p = 0.01) were more than three times more likely to have expressed satisfaction with intrapartum care than participants who received care from sub-county hospitals. A statistically higher proportion of mothers who delivered in referral hospital and who disagreed that a hot drink was provided after birth were satisfied with intrapartum care compared to participants from sub-county hospitals (OR: 1.5; 95% CI: 1.0 – 2.2; p = 0.04).

On the contrary, a significantly smaller proportion of women who were admitted in referral hospital and who disagreed that drugs in the hospital are all available were 40% less likely to have been satisfied with the care unlike those who were in sub-county hospitals (OR: 0.6; 95% CI: 0.4 – 0.9; p = 0.02). Similarly, a marginally statistically significant smaller proportion of participants who sought care in referral hospital were satisfied with the intrapartum care (OR: 0.6; 95% CI: 0.4 – 1.0; p = 0.06).

Table 8: Relationship between meals, privacy and equipment and satisfaction with intrapartum care

Confounders	Explanatory Variable (type of facility)	Total (n)	Satisfied (%)	Not satisfied (%)	OR	95% CI	P value
A hot drink was provided after birth: **Disagreed**	Referral	189	57.7	42.3	1.5	1.0 – 2.2	**0.04**
	Sub-County	226	47.8	52.2			
Given adequate privacy	Referral	88	90.9	9.1	4.2	1.7 –	**0.0009**

during examination: **Agreed**	Sub-County	75	70.7	29.3		10.0	
Given adequate privacy during examination: **Disagreed**	Referral	105	30.5	69.5	0.6	0.4 – 1.0	**0.06**
	Sub-County	173	41.6	58.4			
When you delivered your baby the curtains were closed: **Agreed**	Referral	83	92.8	7.2	4.9	1.9 – 12.8	**0.0005**
	Sub-County	83	72.3	27.7			
During labour you felt like there were not a lot of people around: **Agreed**	Referral	66	84.9	15.1	4.8	1.9 – 12.1	**0.0005**
	Sub-County	39	53.9	46.1			
Drugs in the hospital are all available**: Agreed**	Referral	82	92.7	7.3	4.5	1.5 – 13.2	**0.004**
	Sub-County	42	73.8	26.2			
Drugs in the hospital are all available: **Disagreed**	Referral	111	32.4	67.6	0.6	0.4 – 0.9	**0.02**
	Sub-County	206	45.6	54.4			
Equipment to be used were functional: **Agreed**	Referral	85	91.8	8.2	3.2	1.2 – 8.6	**0.01**
	Sub-County	62	77.4	22.6			

4.9Determinants of women's satisfaction with intrapartum care

Logistic regression model was used to examine whether mothers' satisfaction with intrapartum care outcome varied according to the experience of labour and childbirth, among others. The models were adjusted for key socio-demographic variables, antenatal history, delivery, experience of labour and childbirth psychosocial aspects of birth environment and hospital factors. Logistic regression was used for multivariate modeling of nominal dependent variable (satisfied coded as 1, 0) and independent variables coded as 1, 0. Those variables with a p value of ≤ 0.2 in the bivariate analysis were entered into multivariate analysis to identify independent determinants of women's satisfaction with intrapartum care in public hospitals. We recoded negative values to positive values so as to conform to the rest of the positive statements.

Women who were unemployed were 60% less likely to be satisfied with intrapartum care compared with those who were employed (OR: 0.4; 95% CI: 0.2 – 1.0; p = 0.05). On the contrary, participants who delivered through instrument/Caesarian section were 2.6 more likely to have been satisfied with the care unlike those who delivered through SVD (OR: 2.6; 95% CI: 1.1 – 6.0; p = 0.03).

Where participants disagreed that midwives and doctors were encouraging and reassuring them (OR: 0.2; 95% CI: 0.1 – 0.8; p = 0.02) or where they disagreed that they were shown their baby immediately after birth to identify the sex of the baby (OR: 0.2; 95% CI: 0.1 – 0.6; p = 0.002) or cases where they disagreed that medical care providers asked my opinion about each un-planned procedure before it was performed (OR: 0.3; 95% CI: 0.04 – 0.89; p = 0.04), they were less likely to have been satisfied with the intrapartum care. The determinants of intrapartum care satisfaction in public hospitals in the study area are: employment, type of delivery, encouragement and reassurance by doctors and midwives, showing the baby to the mother

immediately after delivery to identify sex of the baby and medical care providers asking clients their opinion about unplanned procedure before it is performed.

Table 9: Multivariate logistic regression model: determinants of women's satisfaction with intrapartum care

Independent variables	OR	95% CI		P value
		Minimum	Maximum	
Employed/Casuals vs Unemployed	0.4	0.2	1.0	**0.05**
Labour duration of < 12 hours vs Labour duration ≥ 12 hours	0.5	0.2	1.1	0.1
Type of delivery: SVD vs Instrument/Caesarian section	2.6	1.1	6.0	**0.03**
I did not feel scared during labour and birth: **Disagree vs Agree**	3.1	0.9	10.7	0.1
Some of my memories from childbirth do not make me feel depressed: **Disagree vs Agree**	3.0	0.6	15.9	0.2
My healthcare providers devoted enough time to me: **Disagree vs Agree**	3.7	0.5	26.5	0.2
My healthcare providers understood my needs: **Disagree vs Agree**	0.3	0.1	1.8	0.2
I was taught how to breath in deeply during severe pain and to rest when pain resolve: **Disagree vs Agree**	2.6	0.5	12.6	0.2
When you arrived at the hospital, staff were friendly and welcoming: **Disagree vs Agree**	0.5	0.1	1.5	0.2
Midwives and doctors were encouraging and reassuring: **Disagree vs Agree**	0.2	0.1	0.8	**0.02**
Staff used understandable language: **Disagree vs Agree**	0.4	0.1	1.8	0.2
Staff requested for permission before any procedure: **Disagree vs Agree**	3.3	0.8	14.1	0.1
You were shown your baby immediately after birth to identify the sex of the baby: **Disagree vs Agree**	0.2	0.1	0.6	**0.002**
Medical care providers asked my opinion about each un-planned procedure before it was performed: **Disagree vs Agree**	0.29	0.04	0.89	**0.04**
Able to move around during labour: **Disagree vs Agree**	2.3	0.6	9.4	0.2
The level of lighting as adequate: **Disagree vs Agree**	0.3	0.1	1.5	0.2
The toilet/bathroom was clean and easy to access: **Disagree vs Agree**	2.5	0.6	10.4	0.2

Adequate food was provided: **Disagree vs Agree**	0.3	0.1	1.1	0.07
Referral vs Sub-county hospitals	1.0	0.5	1.9	0.9

5.0 DISCUSSION

The level of satisfaction with intrapartum care in this study was found to be 53.7%. This rate was very low compared to previous studies done. Determinants of women's satisfaction with intrapartum care are varied. Studies in different contexts have identified different predictors of women's satisfaction with intrapartum care asmaternal level of education, age, parity, complications during delivery and hospital factors among others. In one study (Avorti *et al.*, 2011 time and attention to healthcare users are the strongest predictors of return to health institutions. Another study (Amdemichael *et al.*, 2014), regarding participants' educational status, less educated mothers have higher satisfaction with intrapartum care than the educated women (Amdemichael *et al.*, 2014). Similar to the current study, women who were employed were 60% less likely to be satisfied with intrapartum care provided in referral hospital compared with those who were unemployed. Mothers who delivered vaginally are more satisfied with soothing, respecting privacy, and meeting expectation sub-scales compared with mothers who had caesarean section (Dencker et al., 2010). On the contrary, in our study, participants who had vaginal assisted delivery/Caesarian section delivery and were attended to in referral hospital were 2.6 more likely to have been satisfied with the care unlike those who delivered through SVD. This is similar to the results from a study conducted by Bloomquest *et al.*, (2011).

On the other hand, giving information about the birth process, involving the women in the decision making process and the support of the midwife would increase satisfaction of intrapartum care (Terefe *et al.*, 2019). One of the multi-dimensional experiences of childbirth is personal support, meeting the expectations of midwife care and participating in the informing and decision-making process (Dencker *et al.*, 2010). In a study conducted in Kisii county, Kenya, results showed that 97.8% respondents agreed that showing of baby after delivery to identify sex was associated with satisfaction during intrapartum care (Nyaberi, 2012). On the contrary, in our study, where participants disagreed that midwives and doctors were encouraging and reassuring them or where they disagreed that they were shown their baby immediately after birth to identify the sex of the baby or cases where they disagreed that medical care providers asked my opinion about each un-planned procedure before it was performed, they were less likely to have been satisfied with the intrapartum care.

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

Maternal employment, type of delivery, encouragement and reassurance by midwives and doctors, showing the baby to the mother immediately after delivery to identify sex of the baby, medical care providers asking clients their opinion about unplanned procedure before it is performed, positive memories, having a say in deciding a birthing position, having a choice of pain relief, health care workers devoting enough time to the woman in labour and understanding their needs, provision of clean linen and bed, provision of hot drink after delivery, provision of

hot shower after delivery and provision of a locker for personal effect are determinants of satisfaction during intrapartum care in public hospitals in the study area

6.2 Recommendation

The study recommends that the hospitals allow mothers to stay with their birth companions during the whole period of intrapartum care as a strategy to help women cope with pain during the intrapartum period and have them decide on a birthing position for their own comfort. Also, health care providers should be taught on importance of good relation and equip with good communication skills towards mothers during intrapartum care to help mothers be comfortable while in hospital and their needs be understood to improve satisfaction during intrapartum care.

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