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Satisfaction of Mothers in the Puerperium Period With the Quality of Inpatient Stay: A Cross-Sectional Study in Mogadishu Public Hospitals

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ABSTRACT

Aim: To evaluate the satisfaction of mothers in the puerperium with the quality of their inpatient stay and determine the associated factors.

Design: A cross-sectional descriptive hospital-based study.

Methods: The study was conducted from May to December 2022. We stratified major hospitals in the city based on location, bed capacity and service delivery and surveyed 611 inpatient mothers using a convenience sampling method. Pretested structured questionnaires adapted from similar literature were used. Respondents' characteristics were summarised descriptively. We used a *t*-test to examine the level of maternal satisfaction and multivariate logistic regression at a 5% ($p < 0.05$) significant level to determine the associated factors. We employed the STROBE checklist for manuscript reporting.

Results: Three-quarters (74.3%) of the mothers were satisfied with the quality of the inpatient stay. The item with the highest mean rating was 'hospital choice' ($M = 4.21$, $p = 0.002$), while 'attitudes of care providers' ($M = 3.92$, $p < 0.001$) remained the lowest, 5.00 being the maximum score. In multivariate analysis, marital status, educational level, monthly income, residence, frequency of visits and hospital ward were associated with decreased odds of satisfaction. On the contrary, fewer days in hospital (AOR: 1.58, 95% CI: 1.03–2.43) were associated with increased odds of maternal satisfaction.

Conclusion: Mothers were satisfied with their inpatient stay. Mothers with no formal education and living in rural areas experience the lowest satisfaction with the quality of their inpatient stay. Other predictors include monthly income, frequency of visits and hospital ward. Nurses need to place more emphasis on providing a holistic care to mothers who are not formally educated and come from long distances for care, thereby enhancing overall satisfaction with the care they receive.

Patient or Public Contribution: The patients give viewpoints about the quality of their inpatient stay in the hospitals.

Impact: Little is known about maternal satisfaction in Somalia. Mothers were satisfied with the quality of their inpatient stay. The findings will provide valuable insights for hospital authorities and medical staff on maintaining a woman-friendly care environment.

1 | Introduction

Reducing maternal mortalities is an essential global target. In 2020, nearly 287,000 mothers lost their lives worldwide due to preventable childbearing complications, translating to 800 deaths daily. The highest proportion of these deaths, at 94%, was reported from low- and middle-income countries. A wider improvement has been made over the past two decades, resulting in a decrease of about 34% in global maternal mortality, with sub-Saharan Africa (SSA) and Southern Asia occupying the highest proportion (87%) of global maternal mortalities (World Health 2023). Somalia is one of the SSA and has witnessed a drop in maternal deaths from 1097 to 621 per 100,000 live births within those two decades. Figures from the country's latest national survey in 2020 estimated that the maternal mortality ratio (MMR) was 692 deaths per 100,000 live births (Directorate of National Statistics 2020). Despite the improvements being made, the estimates are higher than the neighbouring countries of Kenya, Ethiopia, Uganda and Tanzania (Trends in maternal mortality 2000 to 2020: estimates by WHO 2023). The country also significantly exceeds the 2030 global target of lowering maternal mortality to less than 70 per 100,000 live births (Directorate of National Statistics 2020; Trends in maternal mortality 2000 to 2020: estimates by WHO 2023). The higher prevalence of maternal deaths in the region has been associated with the increased use of homebirths (Directorate of National Statistics 2020). In Somalia, only 32% of births were delivered with the assistance of skilled delivery, for example, nurses and midwives (Directorate of National Statistics 2020), which is significantly lower than neighbouring Kenya's 58% (Wairoto et al. 2020). A significant prevention strategy is the use of skilled attendance at birth. Maternal mortality can secondarily be prevented by ensuring maternal satisfaction with the delivery of care (World Health 2015). Hence, providing satisfactory quality care is essential for saving the lives of many mothers and their newborn babies from complications related to home birth.

Assessing maternal satisfaction is essential for several reasons. First, the delivery of quality services by hospitals is associated with higher maternal satisfaction (Argawu and Erana 2023; World Health 2019), likely future utilisation, and recommendation to other mothers for the services in times of need (Kidane et al. 2023; Shiferaw et al. 2022). Second, satisfied mothers are more willing to follow medical advice delivered by healthcare professionals (Silesh and Lemma 2021; Translating Research Into Action TRAction, 'Advancing Respectful Maternal Care and Addressing Disrespect, and Abuse During Facility-Based Childbirth' 2015). Third, mothers' perceptions are an integral part of monitoring the processes and services delivered by hospitals for future improvements (Debela et al. 2021). Suppose a mother is dissatisfied with the delivery of care. In that case, she may plan to give birth at home with traditional birth attendance, resulting in an increased risk of maternal mortality from sepsis and postpartum haemorrhage (Kidane et al. 2023). Maternal perceived quality of care is an important component in determining service utilisation (Shiferaw et al. 2022). Therefore, a better understanding of mothers' experiences with their inpatient stay is essential in driving improvement measures and increasing institutional-based deliveries.

A satisfactory childbirth experience has been found to be positively associated with improvements in maternal-child health and maternal skills, resulting in the mother feeling a greater sense of accomplishment and higher self-esteem (Kidane et al. 2023). Conversely, negative childbirth experiences have been related to a higher level of distraught and can have a negative effect on mothers' mental well-being, which can result in postpartum depression and other types of stress disorders (Atiya 2016; Tack et al. 2015). Knowing mothers' satisfaction and their future birth plans can offer better insights for healthcare practitioners and managers on how services can be improved. This can promote maternal institutional deliveries and contribute to the reduction of MMR in the country.

2 | Background

Maternal satisfaction is frequently defined based on patient satisfaction theories. However, it is a multidimensional notion that can be characterised as a favourable evaluation of several aspects of health care, especially when the mother's expectations are met (Wolka et al. 2020). Maternal satisfaction is a significant predictor of healthcare uptake, and it influences mothers' expectations of health facilities (Eziawdres et al. 2021). Maternal satisfaction is not a pre-existing concept that can be measured but rather a phenomenon based on individual judgement that multiple factors can influence (Debela et al. 2021; Silesh and Lemma 2021). It is used to identify whether the services provided meet the mother's expectations for the care (Argawu and Erana 2023; Shiferaw et al. 2022; Silesh and Lemma 2021). Studies on maternal satisfaction have been known to enlighten a lot about the quality and effectiveness of healthcare services, while maternal satisfaction was highly associated with increased institutional deliveries (Tuncalp et al. 2015). The concept has been studied extensively around the globe. In SSA, studies have witnessed higher levels of maternal satisfaction, including in Nigeria (97.1%) (Ajayi 2019), Mozambique (92.5%) (Mocumbi et al. 2019) and several other studies in neighbouring Ethiopia (80%) and (83.9%), respectively (Gejea et al. 2020; Kidane et al. 2023).

Sociodemographic factors, including monthly income, educational level, maternal age, residence place and occupation, have been reported to influence maternal satisfaction levels (Ayalew et al. 2021; Birhanu et al. 2020; Kebede et al. 2020). Studies have underlined different findings on maternal marital status. For instance, a study in Mozambique has found a positive association between maternal marital status and satisfaction during hospital-based births (Mocumbi et al. 2019). A similar study in Saudi Arabia reported higher satisfaction for divorced patients (Alharbi et al. 2023). Similarly, studies have reported a controversial finding on the association between mothers' educational status and their satisfaction level. A study from Nepal has shown higher levels of satisfaction among mothers having college degrees or above (Mehata et al. 2017), while a study in Ethiopia found that mothers without formal education were less satisfied with delivery services (Eziawdres et al. 2021). The study also reported that higher family income was a predictor of higher maternal satisfaction. However, findings in contrast to the study in Ethiopia have been reported in Turkey, where higher incomes were found to

have a significant reduction in maternal satisfaction during hospital delivery (Özkan et al. 2020). This might reflect mothers' expectations and understanding of the availability and quality of care they have been given in hospitals. Mothers' residence has also been associated with their satisfaction level during care. The mother's residence was a significant predictor of maternal satisfaction with the quality of inpatient stay. Gashaye et al. (2019) reported that mothers in rural areas have lower levels of satisfaction than urban inhabitants. However, Silesh and Lemma (2021) have found higher satisfaction among rural residences than their urban counterparts.

In Somalia, maternal satisfaction with the quality of inpatient stays is still not adequately addressed. Mothers have poor confidence in public healthcare treatment, and little is known about their experience. Despite the existing literature, to the best of our knowledge, no studies have yet assessed maternal satisfaction with the quality of inpatient stays and the associated sociodemographic factors in public hospitals in Mogadishu, the capital. Therefore, this study aimed to evaluate maternal satisfaction with the quality of inpatient stays and determine the associated factors in public hospitals in Mogadishu, Somalia. This finding will contribute to addressing the existing literature gap, highlighting the importance of providing and maintaining 'women-friendly' services and ensuring the implementation of quality monitoring programmes within hospitals.

3 | Methods

3.1 | Design

A quantitative cross-sectional, descriptive hospital-based design was used to assess the satisfaction of mothers in the puerperium period with the quality of inpatient stay.

3.2 | Study Setting

The study was conducted in two prominent public hospitals in Mogadishu City, Somalia. The two hospitals were considered the most used medical facilities in the city, with a total bed capacity of about 800 beds. Two hospitals, one general and one specialised for maternal and child health, provided a vast array of maternity care to 500 inpatient mothers daily. Those hospitals with operating theatres and intensive care units (ICUs) equipped to manage medical complications such as postpartum haemorrhage and neonatal asphyxia were selected based on their location, bed capacity, population usage and the level of health services delivered. Both hospitals have staff with a variety of medical specialties, such as obstetricians, gynaecologists, general practitioners, nurses, midwives and lab technicians who are essential to provide the necessary care, including antepartum, intrapartum, postpartum and surgical procedures, for example, caesarean section for mothers who were unable to give birth vaginally. Likewise, those hospitals provide services not only to city residents but also to mothers from all regions of South and Central Somalia. In the study hospitals, puerperium mothers were admitted to five different wards based on their delivery mode and any complications experienced by either the mother or newborn. Mothers who underwent caesarean section due to

inability to give birth to their baby vaginally were treated as surgical cases and admitted to the surgical ward for postoperative care. In contrast, mothers with medical conditions (non-surgical puerperium mothers) such as pre-eclampsia/eclampsia or sepsis were admitted to the medical ward for specialised medical care. Furthermore, mothers with uncomplicated vaginal deliveries whose newborns required specialised care such as babies born with low birthweight, hypoglycaemia or need for close monitoring were transferred to the paediatric ward with their newborns. Finally, mothers without delivery complications were monitored and received routine postnatal care in the maternity and gynaecology wards. The distribution ensured that all women in their puerperium period received suitable care according to both maternal and newborn circumstances while also providing a thorough framework for assessing maternal satisfaction across various inpatient care settings.

3.3 | Study Instruments

The questionnaire comprised two parts: Part 1, which included the mother's sociodemographic characteristics and some hospital factors (e.g., frequency of hospital visits, days in hospital and ward), and Part 2, which contained items measuring hospital performance. The sociodemographic characteristics, age, marital status, educational level, occupation, monthly income and residence were included. To assess mothers' perceived level of hospital satisfaction, we distributed structured questionnaires adapted from similar literature (Kleefstra et al. 2010, 2012, 2015; Liu et al. 2016). We specifically asked mothers about their feedback on four dimensions: (i) quality of care (with five items: reception, admission, short waiting time, physical environment and treatment outcomes); (ii) convenience of care (with five items: treatment availability, prescription rationality, laboratory results, information within care providers and explanatory information for the patient); (iii) ethics of care (with three items: free treatment without bribes, ensuring patient privacy and attitudes of care providers); and lastly (iv) mothers' loyalty to the hospital (with three items: hospital choice, future hospital revisits and recommend the hospital to others) (e.g., other mothers or family members).

The instrument was composed of 16 specific items under four main dimensions. Mother's satisfaction ratings were measured using a 5-point Likert scale ranging from 1 (very unsatisfied) to 5 (very satisfied), indicating the highest score of 5 in each item. To establish the overall mean score, we added up the item scores and divided them by the total number of items in each dimension. Regarding the judgement of the higher and lower satisfaction mean scores across items, we categorised the mean scores into three levels: poor (<2.5), moderate (2.6–3.75) and good (>3.75). Consequently, we interpreted mothers having a mean satisfaction score below (2.5) as poorly satisfied, mothers having a mean score between (2.6–3.75) as moderately satisfied and mothers having a mean score above (3.75) as good or well-satisfied with the quality of inpatient stay. 5 has been the highest mean score of each item. The judgement was made in reference to a previous similar study (Abbasi-Moghaddam et al. 2019). Additionally, the instrument included questions to collect mothers' sociodemographic characteristics. Finally, mothers were asked a single question to rate their overall satisfaction with the

quality of their inpatient stay (How well would you rate your overall inpatient stay? ranging from 0 dissatisfied to 10 fully satisfied). Their responses were dichotomised as (satisfied) for mothers who rated above 5 and (dissatisfied) for mothers who rated below 5, accordingly. This binary response was used as an outcome to predict further the associated factors affecting maternal satisfaction during the puerperium period using binary logistic regression.

3.4 | The Reliability of the Instrument

The original instrument was developed in the English language. However, due to the application into a new context, the instrument was translated into Somali (the national language) and back-translated into English while ensuring the conceptual equivalence of the dimensions, related items and the language consistency between the two translations. To ensure the instrument's validity and appropriateness, the translation team comprised linguists proficient in both languages, a medical doctor and two senior certified nurses. The team members carefully reviewed and provided feedback on the meaning, sufficiency of content and scope of the scale. The scale expressions of each dimension and item were assessed separately and in combination, forming a pool of 16 specific items under four main dimensions. Following this, we conducted a pilot test with 60 mothers to assess the clarity of the questionnaire and its applicability to the local setting and culture. The sample used for the pilot study was not included in the final analysis. Based on the pilot test results, slight modifications were made to the questionnaire before its final use to enhance the comprehensibility of specific scales. The scale of the questionnaire uses a 5-point Likert scale ranging from 1 (very unsatisfied) to 5 (very satisfied). Cronbach's alpha was used for internal consistency testing, yielding a Cronbach's alpha of 0.81, which was higher. The variance inflation factor (VIF) was used to assess multicollinearity in the regression analysis. The highest VIF we observed was 2.3, while the lowest was 1, therefore indicating no serious multicollinearity in the data. Finally, students who had not yet begun their clinical rotations were selected from the first-year medical classes to administer the surveys by reading them to the mothers, and their answers were recorded on printed paper.

3.5 | Data Collection

In this particular context, we considered the survey method, which stands out as the optimal approach, ensuring an expansive reach to mothers and maximising the potential for a heightened response rate (Liu et al. 2016). Inpatient postpartum mothers were targeted as the accessible population. The inclusion criteria were puerperium women who gave birth at a hospital in the last 6 weeks and were hospitalised for various reasons, mothers aged 18 years or older, mothers who fully utilised hospital services for at least a period of 24 h or more, who provided written informed consent, and mothers who were fully oriented and not seriously ill to communicate and completed the survey questions. To ensure a proportional representation of study participants, a stratified random sampling technique was applied to select the two hospitals, and then 611 mothers were chosen through convenience sampling and surveyed. We stratified

major hospitals in the city based on their location, bed capacity, population usage and service delivery; we then selected four main hospitals and submitted our application to the administrative staff to access their hospitals and interview patients. Due to the limited human resources, particularly data collectors, and the reluctance of two hospital administrators to give permits to take part in our study, we got approval letters only from two hospitals and surveyed their patients. We distributed 650 printed surveys in total and received back 611 fully answered questionnaires, making a response rate of 94%. We trained two groups of first-year medical students who were not doing clinical rotations in either of the hospitals to assist with the data collection, which took place from May to December 2022. Data were collected through survey-based questionnaires. The survey collectors fully explained to each mother the information required to fill out the surveys and cleared their understanding of the study's purpose. The surveys were read to the mothers by trained professionals, and their answers were recorded. Each group of data collectors was assigned to a specific hospital with one supervisor, and the data were cleaned and checked by the first author before the final analysis.

3.6 | Data Analysis

The participants' characteristics were summarised in numbers and percentages (%). We calculated the mean and the standard deviation for the continuous variables using a *t*-test to examine the level of maternal satisfaction with the quality of inpatient stay. To assess the associated factors, first, we analysed the unadjusted association between the outcome (overall satisfaction) and predictor variables; then, we further assessed the strength and the adjusted association using binary logistic regression. The mother's overall satisfaction with the quality of inpatient stay was a dichotomised outcome. Therefore, we found that binary logistic regression is more appropriate to examine the outcome and the associated predictor variables. The findings were presented based on adjusted odds ratios (AORs) with a *p* value less than 0.05 at a 95% confidence interval (CI), indicating a significant level. The categorical variables mostly had more than two subcategories. The largest category was taken as the reference level to compare the other categories and observe the magnitude of significance. Statistical Package for Social Science (SPSS) version 21 was used for data cleaning and analyses. Finally, we followed the checklist of 'Strengthening the Reporting of Observational Studies in Epidemiology (STROBE)' (von Elm et al. 2007), which provides appropriate guidance for preparing and reporting cross-sectional studies to prepare our final manuscript.

3.7 | Ethics Considerations

The study received ethics approval from the institutional review committee (IRC) of both hospitals (IRC reference No: BH/30621/4/21). The targeted participants were briefed, informed of their confidentiality and refusal rights and allowed to participate only after they had signed a written informed consent form with their names written or thumbprints placed. All study methods were performed in accordance with the relevant guidelines and in compliance with the Helsinki Declaration.

TABLE 1 | The sociodemographic characteristics of mothers admitted to the studied hospitals ($n=611$).

Variables	Categories	Numbers	Percentages
Age (years)	18–24	165	27.0
	25–34	309	50.6
	35–44	83	13.6
	≥ 45	54	8.8
Marital status	Married	505	82.6
	Divorced	60	9.8
	Widowed	46	7.5
Educational level	No formal education	329	53.8
	Primary school	119	19.5
	Secondary school	91	14.9
	Higher education	72	11.8
Occupation	Self-employed	230	37.6
	Governmental employee	103	16.9
	Student	67	11.0
	Jobless	85	13.9
Monthly income	Others	126	20.6
	<\$300	290	47.5
	\$300–500	203	33.2
	$\geq \$500$	118	19.3
Residence	Urban	523	85.6
	Rural	88	14.4
Frequency of visit to hospital	First visit	323	52.9
	Second visit	123	20.1
	Third visit	92	15.1
	More than	73	11.9
Days in hospital	> 3 days	293	48.0
	3 days	143	23.4
	≤ 2 days	175	28.6
Ward	Maternity	245	40.1
	Gynaecology	179	29.3
	Paediatrics	81	13.3
	Medical	59	9.7
	Surgical	47	7.7

4 | Results

4.1 | Sociodemographic Characteristics of Participants

The study cohort comprised a total of 611 inpatient puerperium mothers from the two public hospitals, with a response rate of 94% (Table 1). Half of the mothers (50.6%) were between the ages of

25 and 34 years; the majority of mothers (82.6%) were married. Regarding their educational level, over half of them (53.8%) had no formal education, while 290 (47.5%) had a lower income of less than \$300 monthly (Table 1). Five hundred and twenty-three (85.6%) of the mothers were urban residents; of the mothers (52.9%) were on their first-time visit to the hospital, while close to half (48.0%) remained inpatient for more than 3 days. Sociodemographic characteristics of the mothers are presented in Table 1.

TABLE 2 | The distribution of maternal satisfaction with the quality of inpatient stay in both hospitals ($n=611$).

Dimensions	Items	Mean	SD	Min	Max
Quality of care delivered	Reception	3.97	0.84	1	5
	Admission	4.09	0.76	1	5
	Short waiting time	4.08	0.72	1	5
	Physical environment	4.10	0.72	1	5
	Treatment outcome	4.10	0.73	1	5
Convenience of care	Treatment availability	4.06	0.76	1	5
	Prescription rationality	4.10	0.70	1	5
	Laboratory results	4.09	0.72	1	5
	Information within staffs	4.01	0.79	1	5
Ethics of care	Information for the patient	4.05	0.84	1	5
	Free treatments without bribes	4.08	0.71	1	5
	Ensuring patient privacy	4.13	0.69	1	5
Mothers' loyalty to hospital	Attitudes of care provider	3.92	0.66	1	5
	Hospital choice	4.21	0.62	1	5
	Future hospital re-visits	4.08	0.68	1	5
	Hospital recommends to others	3.93	0.79	1	5

4.2 | Satisfaction Level by Items Among Mothers Utilising the Hospital Services

Table 2 shows the mean distribution of each item's score used to measure the satisfaction of the mothers in both hospitals. We found the item with the highest mean was the 'hospital choice', with a mean of ($M=4.21$, $p=0.002$), indicating the mothers were satisfied with their selection of hospital. The item with the lowest mean was observed to be 'attitudes of care providers' ($M=3.92$, $p<0.001$), with a maximum score of 5.00 (Table 2). According to the rating scale of the mean satisfaction in our study, with all the items above a mean score of greater than 3.75 with a maximum of 5.00, mothers were satisfied with the healthcare and other services they received from both hospitals; see Table 2.

The maternal satisfaction with the quality of inpatient stay was evaluated broadly based on four dimensions in the model; see Figure 1. The majority of mothers (86%) were satisfied with the quality of care they received from the hospitals. Similarly, higher satisfaction ratings were found on the mother's loyalty to the hospital (84.1%). However, lower satisfaction levels were observed in areas of ethics of care (77.4%) and convenience of care (72%) when compared to other dimensions (Figure 1).

4.3 | Factors Associated With Maternal Satisfaction in the Hospitals

We used binary logistic regression analysis to assess mothers' sociodemographic characteristics of age, marital status, educational level, occupation, monthly income, residence and three hospital factors, for example, frequency of visits, days in hospital and hospital wards (Table 3). We found that educational level,

monthly income, residence, frequency of visit, days in hospital and hospital ward were significantly associated with maternal satisfaction in bivariate analysis; see Table 3. In multivariate analysis, mothers who were divorced (AOR: 0.72, 95% CI: 0.60–0.86), mothers with no formal education (AOR: 0.42, 95% CI: 0.22–0.81), mothers with monthly income of $\ge\$500$ (AOR: 0.50, 95% CI: 0.27–0.91), mothers from rural areas (AOR: 0.48, 95% CI: 0.29–0.79), mothers with more than three visits (AOR: 0.49, 95% CI: 0.26–0.92) and mothers admitted in the gynaecological ward (AOR: 0.59, 95% CI: 0.37–0.95) were less likely to be satisfied with the quality of inpatient stay (Table 3). In contrast, mothers who remained inpatient in the hospital for less than or equal to 2 days were 1.58 (AOR: 1.58, 95% CI: 1.03–2.43) times more satisfied with the quality of inpatient stay (Table 3).

5 | Discussion

This is a hospital-based cross-sectional study aimed at evaluating puerperium maternal satisfaction with the quality of inpatient stay and identifying the associated factors in public hospitals in Mogadishu, Somalia. Maternal satisfaction with delivery services is considered a key strategy for reducing maternal mortality rates (MMR) in developing countries (Gashaye et al. 2019). The assessment is also significant for clinicians, particularly nurses, for their future clinical and theoretical education and enhanced training, as nurses are the primary caregivers (Malekzadeh et al. 2018). Maternal satisfaction is a key indicator of service performance and changes needed for improvement measures. In our study, we found that overall maternal satisfaction with the quality of inpatient stay was 74.3%. Marital status, educational level, monthly income, residence, frequency of visits, days in hospital and ward were factors that influenced maternal satisfaction with inpatient stays.

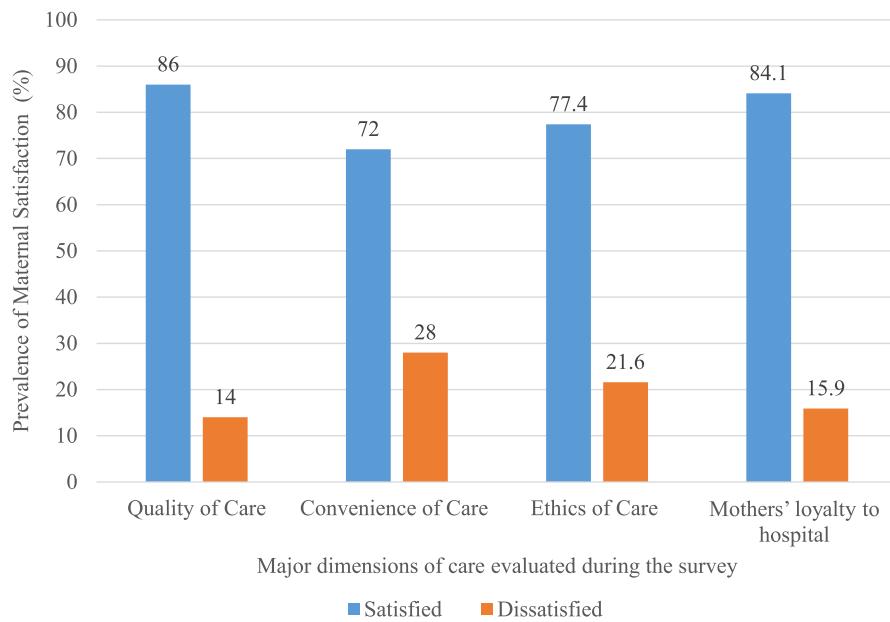


FIGURE 1 | Maternal satisfaction with the quality of inpatient stay by dimensions among mothers admitted in the studied public hospitals in Mogadishu, Somalia ($n = 611$).

The overall maternal satisfaction with the quality of inpatient stay in our study was in line with the studies undertaken in Ethiopia (76.6%) (Shiferaw et al. 2022) and in Ghana (72.3%) (Fuseini et al. 2022). However, our findings were lower than that in Mozambique (92.5%) (Mocumbi et al. 2019) but higher than in Bangladesh (63.2%) (Adhikary et al. 2018). This could be because previously conducted studies were institutionally based, like the design used in our research. The higher satisfaction finding could be explained by providing free healthcare services and the successful birth outcomes for most of the mothers (Ajayi 2019). However, 25% of mothers still reported dissatisfaction with the quality of inpatient stays. Enhancing maternal satisfaction with the quality of inpatient stay can increase mothers' willingness to use and recommend the same facility to family members or friends for future deliveries and childcare services, such as vaccinations. This could contribute to the improvement of maternal and child health outcomes.

Maternal satisfaction is a subjective and complex concept with multiple predictors. Our study found that divorced mothers were less likely to be satisfied with the quality of their inpatient stay than mothers who were married. Our findings were similar to a study conducted in Southern Mozambique (Mocumbi et al. 2019) but controversial with a study in Saudi Arabia (Alharbi et al. 2023), which found that divorced and widowed mothers were more likely to be satisfied with nursing care than married or single mothers. However, inconsistent with the Saudi study, studies in Turkey (Karaca and Durna 2019) and Ethiopia (Kasa and Gedamu 2019) resulted in higher satisfaction among married patients, while Alhowaymel et al. (2022) reported no association between patient satisfaction and marital status. A possible explanation for these variations could be the difference on an individual level; divorced mothers may differ from married mothers during care, and the higher sample size and the inclusion criteria of only mother participants in our study could be another

reason for the lower satisfaction of divorced mothers. Mothers with no formal education were less likely to be satisfied with the quality of inpatient stay than those mothers who achieved primary-level education. This finding was consistent with a study in Ethiopia (Eziawdres et al. 2021) but in contrast with Demis et al. (2020) and Mehata et al. (2017), which reported higher satisfaction with service delivery among informally educated mothers. Mothers with low levels of education may have a poorer understanding of the services and information provided by medical professionals, which may decrease their satisfaction level. Mothers' income and educational level were associated with the type of quality of care they received, which could be a predictor of their satisfaction levels (Esan et al. 2022). Maternal understanding of the services provided and their expectations regarding the availability and quality of care may also contribute to these variations in satisfaction. This could also be related to the disparities in socioeconomic characteristics among the mothers studied.

Higher income levels of $\geq \$500$ were associated with lower odds of satisfaction with the quality of inpatient stay than mothers with a lower monthly income of $< \$300$. This finding was supported by a study conducted in Turkey (Özkan et al. 2020), which shows that a higher income level was a significant predictor for reduced satisfaction among mothers during care. However, our finding was inconsistent with that of Eziawdres et al. (2021) and Karaca and Durna (2019), who reported higher satisfaction among mothers with higher family income levels, while (Wolka et al. 2020) have found no associations between maternal satisfaction with the delivery care and household income. Higher income patients might engage in the improvement of their medical problems and have higher quality care demands, and therefore, they are prone to be more dissatisfied if their expectations are not met. While lower income patients tend to have poorer health, receive less care and visits, and struggle to schedule appointments. Other

TABLE 3 | Bivariate and multivariate analysis of factors associated with satisfaction among mothers admitted in the studied hospitals ($n=611$).

Variables	Prevalence of maternal satisfaction		COR (95% CI)	AOR (95% CI)
	Satisfied	Dissatisfied		
Age (years)				
18–24	117 (19.1)	48 (7.9)	1.00	1.00
25–34	238 (39.0)	71 (11.6)	1.67 (0.97–2.90)	0.94 (0.60–1.47)
35–44	62 (10.1)	21 (3.4)	1.61 (0.97–2.67)	0.68 (0.37–1.29)
≥45	37 (6.1)	17 (2.8)	1.22 (0.63–2.35)	0.65 (0.36–1.16)
Marital status				
Married	364 (59.6)	141 (23.1)	1.00	1.00
Divorced	45 (7.4)	15 (2.5)	0.76 (0.49–1.15)	0.72 (0.60–0.86)***
Widowed	45 (7.4)	1 (0.2)	1.52 (0.53–4.33)	1.78 (0.56–5.66)
Educational level				
Primary school	147 (24.1)	83 (13.6)	1.00	1.00
Secondary school	57 (9.3)	10 (1.6)	0.77 (0.47–1.26)	0.68 (0.42–1.09)
Higher education	61 (10.0)	24 (3.9)	0.44 (0.24–0.81)**	0.72 (0.43–1.22)
No formal education	85 (13.9)	18 (2.9)	0.78 (0.50–1.23)	0.42 (0.22–0.81)***
Occupation				
Self-employed	147 (24.1)	83 (13.6)	1.00	1.00
Governmental employee	85 (13.9)	18 (2.9)	0.70 (0.27–1.76)	1.24 (0.38–3.98)
Student	57 (9.3)	10 (1.6)	1.18 (0.64–2.16)	1.31 (0.18–9.51)
Jobless	61 (10.0)	24 (3.9)	1.16 (0.22–6.11)	1.32 (0.45–3.83)
Others	104 (17.0)	22 (3.6)	0.88 (0.47–1.62)	1.42 (0.51–3.93)
Monthly income				
<\$300	228 (37.3)	62 (10.1)	1.00	1.00
\$300–500	155 (25.4)	48 (7.9)	1.57 (0.57–4.31)	1.93 (0.66–5.57)
≥\$500	71 (11.6)	47 (7.7)	0.53 (0.30–0.92)*	0.50 (0.27–0.91)*
Residence				
Urban	396 (64.8)	127 (20.8)	1.00	1.00
Rural	58 (9.5)	30 (4.9)	0.55 (0.34–0.87)**	0.48 (0.29–0.79)**
Frequency of Visit				
First visit	241 (39.4)	82 (13.4)	1.00	1.00
Second visit	96 (15.7)	27 (4.4)	0.61 (0.39–0.95)*	0.66 (0.41–1.08)
Third visit	75 (12.3)	17 (2.8)	0.76 (0.46–1.24)	0.92 (0.54–1.57)
More than	42 (6.9)	31 (5.1)	0.62 (0.34–1.11)	0.49 (0.26–0.92)*
Days in hospital				
3 days	196 (32.1)	97 (15.9)	1.00	1.00
≤2 days	143 (23.4)	32 (5.2)	0.78 (0.47–1.28)	1.58 (1.03–2.43)*
3 days	115 (18.8)	28 (4.6)	0.59 (0.39–0.89)*	0.68 (0.44–1.07)
Ward				

(Continues)

TABLE 3 | (Continued)

Variables	Prevalence of maternal satisfaction		COR (95% CI)	AOR (95% CI)
	Satisfied	Dissatisfied		
Maternity	190 (31.1)	55 (9.0)	1.00	1.00
Medical	56 (9.2)	3 (0.5)	1.56 (1.02–2.40)*	0.83 (0.52–1.30)
Surgical	35 (5.7)	12 (2.0)	1.02 (0.64–1.61)	0.66 (0.44–1.00)
Gynaecology	109 (17.8)	70 (11.5)	0.65 (0.43–0.97)**	0.59 (0.37–0.95)*
Paediatrics	64 (10.5)	17 (2.8)	0.63 (0.41–0.98)*	0.67 (0.43–1.03)

Note: Bold values indicate statistical significance at $p < 0.05$.

Abbreviations: 1.00, Reference; AOR, Adjusted Odd Ratio; CI, Confidence interval; COR, Crude Odd Ratio.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

possibilities could be providers' commitment to providing equitable, mother-friendly services to each mother, as well as the availability of comprehensive services at public hospitals (Eziawdres et al. 2021). Frequency of visits was a significant predictor of maternal satisfaction with inpatient stay; mothers who performed more than three visits were less likely to be satisfied with their inpatient stay than those with first visit. Our findings were parallel with a study conducted in Wolaita zone, Ethiopia (Kelemu Abebe and Natnael Atnafu 2020); however, the findings were unparalleled with the Istanbul study, which revealed more satisfaction among patients admitted more than five times rather than those hospitalised twice (Karaca and Durna 2019). Additionally, an integrative review by Goodrich and Lazenby (2023) reported that frequent visits of more than two have been associated with lower patient satisfaction levels. This difference might be explained by the fact that mothers on their first visit may be prone to receive care more instantly, depending on their medical condition. Moreover, care providers, particularly nurses, are busy clinicians and may prioritise providing detailed counselling and examination during first visits compared to returnees, which could be another plausible reason for the poor satisfaction among mothers with more visits.

Additionally, this study found that residence had a statistically significant effect on maternal satisfaction. The odds of maternal satisfaction with the quality of the inpatient stay were lower among mothers residing in rural areas than those living in urban areas. Gashaye et al. (2019) revealed that mothers residing in rural areas had lower satisfaction levels than their urban counterparts, which is in line with our findings. However, our finding contrasts with a study on maternal satisfaction with intrapartum care in North Shoa Zone, Ethiopia, which reported higher satisfaction among rural mothers than urban mothers (Silesh and Lemma 2021). Mothers from rural areas face different socioeconomic and cultural circumstances, which may require them to travel long distances to reach the hospital and wait for several hours to receive care (Bekele et al. 2022). This is less likely for mothers living in urban areas or those closer to the facilities. Proximity and convenient facility locations have a significant impact on maternal satisfaction, enabling mothers to receive faster care, regardless of the severity of their medical condition (Amporfol et al. 2021). Furthermore, rural mothers have relatively lower levels of education, are unfriendly with the

hospital environment and are unable to understand most of the explanations related to their medical situations. These situations may lead to poor communication and unfamiliarity with clinicians during care, resulting in dissatisfaction with the inpatient stay (Gashaye et al. 2019; Lotfi et al. 2019).

Shorter hospital stays were associated with increased maternal satisfaction with the quality of inpatient stays. In our study, maternal satisfaction was 1.58 times higher for mothers who stayed in the hospital for less than or equal to 2 days as compared to mothers who stayed for greater than or equal to 3 days. This finding was in line with a study in Makelle town (Marama et al. 2018), which highlighted a higher maternal satisfaction rate of 2.27 times among mothers who stayed in the hospital for fewer than 4 days compared to those who stayed for 4–7 days. However, in contrast to our findings, a study conducted in Saudi Arabia (Alharbi et al. 2023) revealed that longer hospital stays were associated with higher patient satisfaction. In particular, patients who had family members with them during hospital stays reported higher levels of satisfaction. While similar studies conducted in Saudi Arabia (Alhowaymel et al. 2022) and Oman (Albashayreh et al. 2019) have found no associations between patient satisfaction and duration of hospital stays, this could be explained by the fact that longer hospital stays might be associated with fatigue, whereas those with shorter stays were more satisfied with the treatments provided. More extended hospital stays or waiting times for care may be due to insufficient skilled providers or negligence, which negatively affects the continuum of care and results in poor satisfaction levels (Shiferaw et al. 2022). Therefore, increased interaction between nurses and patients, as well as family support, was essential for maintaining higher satisfaction and improving recovery among inpatients with longer hospital stays (Prvu et al. 2020). Since our surveyed hospitals were referral centres, most of the mothers might already be tired of the long referral process, which may result in their poor satisfaction level.

Finally, we observed the ward mothers admitted were associated with their satisfaction level during their inpatient stay. Mothers admitted to the gynaecological ward were less likely to be satisfied with the quality of their inpatient stay than mothers in the maternity ward. This finding was supported by a study conducted at Pawie General Hospital in West Ethiopia,

which underlined a lower satisfaction level among patients admitted to the gynaecology ward than among patients admitted to the surgical ward (Aga et al. 2021). However, inconsistent with our findings, studies conducted in Turkey and Bosnia (Haller et al. 2021; Karaca and Durna 2019) have reported higher satisfaction among mothers admitted to obstetrics and gynaecology. A possible justification for these variations could be differences among patient expectations. Mothers admitted to the medical and gynaecology wards might have more severe medical conditions than maternity inpatients and are often subjected to stressful and anxious situations. This might increase their demand for more holistic care from the professional staff. If they do not meet, that might influence their perception and feedback, resulting in low levels of satisfaction. The way the care was delivered, the medical diagnosis, and the patient's sociodemographic characteristics can also contribute to their lower satisfaction.

Furthermore, our research indicated that most postpartum women were satisfied with the quality of their inpatient stay. If clients' expectations are fully realised, they are more likely to seek health care for their future births, potentially resulting in a considerable reduction in maternal health and mortality complications resulting from home births. This study could be helpful for hospital administrators to establish strategic measures and interventions to improve maternal satisfaction during inpatient stays.

5.1 | Limitations

Although anonymity was maintained, social desirability bias may still have existed with some mothers, who might have hesitated to express negative thoughts, which could be a reason for their higher satisfaction. The viewpoints of free maternal healthcare users may involve different concerns about quality in contrast to those using charged services. Furthermore, convenience sampling and the fact that the study was site-specific can result in the limited generalisability of the findings.

6 | Conclusions

Maternal satisfaction with the quality of inpatient stays significantly affects health-seeking behaviour and service utilisation. This study found that puerperium mothers were satisfied with the quality of inpatient stays. Marital status, educational level, monthly income, residence, frequency of visits, days in hospital and hospital ward were identified as predictors associated with maternal satisfaction. Thus, it is necessary to improve satisfaction indicators and associated factors. Higher satisfaction may not necessarily indicate no need for improvements. Therefore, healthcare providers, stakeholders and policymakers concerned need to take necessary interventions aimed at scaling up maternal satisfaction. We believe our findings could support the authorities in maintaining a 'women-friendly' environment and encourage them to continue to supervise the delivery services to ensure compassionate and respectful care. Finally, higher maternal satisfaction may drop in time, indicating a stagnation of quality improvement measures. Hence, to propose new policies and

reforms that improve quality care, we recommend monitoring maternal satisfaction over time, as this is an indicator of standard care.

7 | Implications of the Findings

There are still three in 10 mothers who identified their dissatisfaction with the quality of inpatient stays. Thus, there is a need for the stakeholders in the healthcare sector to address scaling up maternal satisfaction to enhance the utilisation of healthcare services. Our results show that nurses should explain to their patients about necessary applications and procedures they intend to practice during care delivery, as well as provide essential information regarding illnesses and treatment measures. This can promote and maintain maternal satisfaction while also demonstrating the provision of high-quality and standardised nursing care. The study emphasises that nurses prioritise proper communication during patient reception, ensure patient privacy and provide care with respect and a better attitude. Nurses should implement concerted efforts favouring client-centred and personalised care. They should advocate for enough facilities and a welcoming physical environment to practice high-standard care. After that, mothers will have the willingness to continue to use services and recommend services to other mothers, which could eventually contribute to the reduction of maternal and child health complications associated with home births. Nurse managers can contribute to improving nursing care by gathering patient feedback and adjusting their approach to meet patients' expectations. Our findings imply that nurse training requirements and in-service programmes are crucial for enhancing maternal satisfaction, care planning and professional skills.

Author Contributions

S.H.I. conceived the subject, overall design, analysis and data interpretation. H.M.N. and I.A.O. were responsible for the recruitment of study participants and the supervision of data collection procedures. S.H.I. wrote the first draft of the manuscript, which all the authors revised and approved for submission.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data sets used and analysed during this study are available from the corresponding author upon reasonable request.

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