

Perceived Quality of Perinatal Care in Public and Private Secondary Health Facilities in Ibadan, Nigeria: A Comparative Cross-Sectional Study

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Abstract

Background

Maternal and perinatal deaths remain unacceptably high in Nigeria, and increasing the number of women who deliver in health facilities has not, on its own, produced a proportionate reduction in mortality. The quality of care once a woman reaches a facility is increasingly recognised as the missing piece, yet most Nigerian studies have examined structure or outcome in isolation rather than the full pathway from provider availability through to how women experience their care. This study was conducted to compare the perceived quality of perinatal care between public and private secondary health facilities in Ibadan, using the Donabedian structure-process-outcome framework.

Methods

This facility-based comparative cross-sectional study included 500 postpartum women (250 public, 250 private), 500 healthcare providers and 28 facility heads across secondary health facilities in Ibadan metropolis. Data were collected using interviewer-administered questionnaires and a structured facility checklist covering the structure, process and outcome domains. Binary logistic regression identified independent correlates of good experience of care, with significance set at $p < 0.05$.

Results

Women's mean age was 29.9 ± 5.4 years. Providers were perceived as readily available by 54.2% of women and as highly competent by 33.4%; 77.4% of providers were well motivated. Good client-provider interaction was reported by only 4.7% of women during labour and 6.4% postpartum. Women in public facilities reported significantly better overall experience of care than those in private facilities (64.4% versus 50.4%, $p = 0.002$), while satisfaction was uniformly high in both (88.0% vs 90.8%; $p = 0.309$). Provider availability (AOR 2.16, 95% CI 1.36–3.43), provider competence (AOR 3.79, 95% CI 2.22–6.46), public ownership (AOR 1.70, 95% CI 1.08–2.69) and postpartum client-provider interaction (AOR 0.28, 95% CI 0.09–0.89) were predictors of good experience of care.

Conclusions

Women in public secondary facilities reported more favourable perinatal care experiences than those in private facilities, even though satisfaction was similarly high across both sectors. Client-provider interaction was poor throughout, regardless of ownership. Efforts to improve maternity care quality should combine strengthened provider availability and competence with deliberate attention to respectful communication, emotional support and postpartum counselling, and include routine measurement of women's experience alongside conventional satisfaction indicators.

Background

Preventable maternal and perinatal deaths remain concentrated in low- and middle-income countries, and Nigeria continues to account for a disproportionate share of this global burden [1–3]. This has not changed with the steady rise in the number of women who now deliver under the care of a skilled birth attendant. Much of the earlier public health response focused on getting women into facilities for delivery, on the assumption that facility birth is inherently safer. That assumption has proved only partly correct, as rising rates of institutional delivery have not uniformly translated into better maternal and newborn outcomes. This has prompted a change in attention from whether women reach a facility to what happens once they arrive [1, 2].

The World Health Organization's Quality of Care framework for maternal and newborn health captures this change by describing two interlinked components of quality: the provision of evidence-based clinical care, and the experience women have while receiving it [4]. The experiential dimension covers dignity, respect, effective communication, emotional support, privacy, and genuine involvement in decisions about one's own care [4], domains that matter most precisely when women are at their most vulnerable, during labour and in the hours immediately following birth.

Donabedian's structure-process-outcome model offers a practical lens for examining these domains empirically. Structure refers to the resources and organisational capacity available for care, which includes staffing (competence, motivation), infrastructure, and equipment. Process describes what happens during an episode of care, which includes client-provider interaction. Outcome captures the result, whether clinical (e.g., complications, survival) or patient-reported (e.g., satisfaction, experience) [5]. Applying all three domains together, rather than any one in isolation, allows a more complete picture of where quality gaps originate.

Evidence from across low- and middle-income countries has frequently documented the same set of shortfalls: inadequate staffing, poor communication, breaches of privacy, and disrespectful treatment, persisting even as facility delivery rates rise [6–9]. Nigeria is no exception. Women receiving antenatal care in Anambra State described poor interpersonal communication and inadequate privacy from the providers meant to be caring for them [10], and a qualitative study of childbirth in Abuja documented verbal abuse, procedures carried out without consent, and women left alone during labour [11]. These types of findings matter beyond the individual encounter, because a woman who is mistreated once is a woman less likely to trust the health system with her next pregnancy, and more likely to choose an unskilled attendant or her own home instead [12].

Nigeria's mixed health system means that public and private secondary facilities operate side by side, often serving overlapping catchment populations but with different resource profiles. Private facilities are commonly assumed to offer a more personalised, responsive experience, while public facilities are typically better resourced for specialist care, referral and emergency obstetric response [13–15]. Yet the evidence directly comparing the two sectors is thin and uneven: most Nigerian studies have examined

antenatal care rather than the intrapartum and immediate postpartum periods or have relied on satisfaction alone rather than on a framework that also captures structure and process [10, 12, 14].

This gap was addressed by comparing perceived quality of perinatal care between public and private secondary health facilities in Ibadan using the Donabedian framework specifically, provider availability, motivation and competence as structural indicators; client-provider interaction during labour and the immediate postpartum period as a process indicator; and women's overall experience, clinical experience and satisfaction as outcome indicators. Identifying where the two sectors converge and diverge is intended to point to quality-improvement priorities that are realistic for each setting.

Methods

Study design and setting

A facility-based comparative cross-sectional study design was used, including a quantitative survey questionnaire to elicit the required information from selected participants. The study was conducted in Ibadan metropolis, the capital of Oyo State in south-western Nigeria, spanning its five urban local government areas (Ibadan North, Ibadan North-East, Ibadan North-West, Ibadan South-East and Ibadan South-West). A mix of public and private facilities across primary, secondary and tertiary tiers serves the metropolis. Secondary facilities in this setting receive referrals from primary care and provide antenatal, intrapartum, and immediate postpartum services, including management of selected high-risk pregnancies and obstetric emergencies, through multidisciplinary teams of obstetricians, medical officers, nurses, midwives, and community health workers.

Study population and eligibility

Three groups of participants were recruited. Women aged 15–49 years who had delivered a live birth or stillbirth within the preceding 24 hours in a selected facility, and who had received their labour care there, were eligible after providing written informed consent; women who were critically ill, unable to participate because of impaired mental capacity, or who had been referred out immediately after delivery were excluded. Healthcare providers directly involved in maternal and newborn care and in post for at least six months in the maternity unit were eligible; those in post less than six months or absent throughout the study period were excluded. Heads of maternity units, or their designated representatives, were recruited to provide facility-level information on staffing, infrastructure and organisational practice.

Sample size and sampling

The minimum sample size was estimated using the formula for comparing two independent proportions [16], drawing on prevalence estimates from earlier studies of maternal healthcare quality [17, 18]. After

allowing for a 10% non-response rate, the target was 500 women (250 per sector). An equal number of healthcare providers (250 per sector) was recruited alongside, and all 28 eligible facility heads across the selected sites participated in the structural assessment.

A one-stage cluster sampling approach was used, with individual secondary health facilities serving as clusters. Facilities providing maternity services in the five urban LGAs were first stratified by ownership; within each stratum, facilities were selected by simple random sampling proportional to the number of registered facilities, accounting for differences in average delivery volume between public and private sites, which were 34–40 births and 8–25 births in public and private facilities, respectively. Six public and twenty-six private facilities were selected on this basis. Within each selected facility, eligible postpartum women and healthcare providers were recruited consecutively until the allocated quota was reached; facility heads were purposively approached, given their unique knowledge of the organisational structure.

Description of Variables

The primary outcome was women's overall experience of perinatal care, dichotomised as good or poor according to a pre-specified scoring threshold. Explanatory variables followed the Donabedian structure, and included: structural indicators (provider availability, provider motivation, perceived provider competence, facility organisation); process indicators (client-provider interaction which includes communication, respect, privacy, emotional support, responsiveness and involvement in decisions during labour, delivery and the immediate postpartum period); and outcome indicators (overall experience, clinical experience, satisfaction). Sociodemographic, socioeconomic and obstetric characteristics were treated as potential confounders throughout.

Data collection instruments

Three instruments were used: an interviewer-administered questionnaire for postpartum women (sociodemographic and obstetric profile, perceived provider availability and competence, client-provider interaction, clinical experience, overall experience, satisfaction); an interviewer-administered questionnaire for healthcare providers (demographic and professional profile, motivation, self-reported competence); and a structured facility checklist completed with facility heads (infrastructure, staffing, essential equipment, organisation). All three were developed from the literature and adapted from established maternal quality-of-care constructs, including the WHO framework and the Donabedian model. (Figs. 1 and 2).

Specifically, the three instruments were assembled by adapting and combining items from several previously published, validated tools, as well as items generated from the literature. The women's questionnaire drew on the Patient Satisfaction Questionnaire [43] and the Quality from Patients' Perspective questionnaire [44]. In the provider questionnaire, competence items were adapted from a

WHO-endorsed provider competence assessment tool validated in Latin America and the Caribbean [45, 46], and motivation items from the scale developed by Mbindyo et al. [47], which was itself adapted from Bennett, Franco, Kanfer and Stubblebine [48] and later revalidated in Zambia [49]. The facility checklist was adapted from an assessment of primary health facility service readiness in Nigeria based on WHO service delivery indicators [50]. As assembled and combined for this study, the composite instruments have not been published elsewhere; English-language versions of all three, as administered in the field, are provided in full in Additional file 1.

Data Collection Procedure

Research assistants with prior survey experience were trained in research ethics, interview technique, questionnaire administration, confidentiality and quality assurance before fieldwork began.

Content validity was reviewed by specialists in Community Medicine, Obstetrics and Gynaecology, Health Policy and Management, and Medical Statistics, whose feedback informed revisions to ambiguous items and question order. The instruments were then pretested in facilities outside the study area with comparable service profiles, with minor changes made for clarity and cultural fit. Internal consistency was assessed separately for the healthcare provider availability, healthcare provider motivation, and women's experience-of-perinatal-care domains using Cronbach's alpha. The respective Cronbach's alpha coefficients were [$\alpha = 0.72$], [$\alpha = 0.76$], and [$\alpha = 0.77$], indicating acceptable internal consistency. A coefficient ≥ 0.70 was considered acceptable.

Data collection ran from 2 May to 31 July 2019. Eligible women were identified on the postnatal ward and interviewed privately before discharge; providers completed their questionnaire during work breaks to avoid interrupting clinical duties; and facility assessments combined direct observation with record review where necessary. Field supervisors checked completed instruments daily for completeness and internal consistency ahead of data entry.

Data management and statistical analysis

Data were entered into IBM SPSS Statistics for Windows, version 22.0 (IBM Corp., Armonk, NY, USA), with range and consistency checks run against the original questionnaires to identify implausible or missing values. Continuous variables were tested for normality and summarised as mean (SD) or median (IQR) as appropriate; categorical variables were summarised as frequencies and percentages.

Household socioeconomic position was estimated using a wealth index derived from principal component analysis of household assets and living conditions. The first component was used to generate wealth scores, which were categorised into quintiles.

Group comparisons used Pearson's chi-square test (or Fisher's exact test where expected cell counts fell below five) for categorical variables, and the independent-samples t-test or Mann-Whitney U test for continuous variables depending on distribution. Binary logistic regression identified independent

correlates of good experience of care; variables significant at $p < 0.05$ on bivariate analysis, together with variables judged clinically relevant from prior evidence, were entered into multivariable models fitted separately for the public, private and pooled samples. Associations are reported as odds ratios (OR) or adjusted odds ratios (AOR) with 95% confidence intervals; two-sided $p < 0.05$ was considered significant throughout.

Data were checked for completeness, consistency and range errors before analysis. Questionnaire items were coded numerically, with responses to the five-point Likert-scale questions ranging from 1 (not at all) to 5 (a very large extent). Negatively worded items were reverse-coded before the computation of composite scores, such that higher scores consistently represented more favourable perceptions or outcomes.

Availability, motivation, and competence of health care providers, and client-provider interactions, were coded, scored, and rated as observed below.

Availability of health care providers

Perceived availability of health care providers (HCPs) was assessed using four items covering immediate attention on arrival, waiting time before receiving care, availability of a midwife during labour and childbirth, and the consistent availability of HCPs. Each item was scored from 1 to 5, giving a total possible score of 4–20. After reverse coding of negatively worded items, the summed score was used to derive an overall availability measure. Based on the 75th percentile of the observed score distribution, a score of ≥ 18 was classified as readily available, whereas a score < 18 was classified as not readily available. For item-level analysis, a score ≥ 4 was classified as readily available, and a score < 4 as not readily available. Actual availability of HCPs was assessed separately using facility staff assignment records, which documented the number and cadre of staff scheduled across morning, afternoon, and night shifts over 24 hours. Staff availability was summarised using the median and interquartile range (IQR).

Motivation of health care providers: Motivation was assessed using 17 items on a five-point Likert scale, with a possible total score ranging from 17 to 85. Negatively worded items were reverse-coded before calculating the total score. Based on the 75th percentile, a total score of ≥ 64 was classified as good work motivation, while a score < 64 was classified as poor motivation. The motivation scale comprised six domains: general motivation (two items), burnout (two items), job satisfaction (two items), organisational commitment (four items), conscientiousness (four items), and timeliness and attendance (two items). Domain scores were calculated as the mean of the constituent items, with higher scores indicating more favourable outcomes. Domain-level results were presented as means and standard deviations (SDs).

Competence of health care providers

Perceived competence was assessed using 11 five-point Likert-scale items, with possible scores ranging from 11 to 55. After reverse coding where applicable, the items were summed to generate an overall perceived competence score. Based on the 75th percentile, a score of ≥ 42 was classified as good perceived competence and a score < 42 as poor perceived competence. Mean scores and SDs were also calculated for the overall scale and relevant subscales. In addition, objective self-reported competence in basic emergency obstetric and newborn care was assessed using 11 dichotomous (yes/no) items. Frequencies and proportions were calculated for each competency item.

Client-provider interaction

Client-provider interaction was assessed separately during the intrapartum and immediate postpartum periods. Intrapartum interaction was measured using 14 five-point Likert-scale items, with total scores ranging from 14 to 70. Based on the 75th percentile, a score ≥ 53 was classified as good client-provider interaction, and a score < 53 as poor interaction. Immediate postpartum interaction was assessed using 16 five-point Likert-scale items, with total scores ranging from 16 to 80. A score ≥ 60 was classified as a good interaction, and a score < 60 as poor interaction. Negatively worded items were reverse-coded before calculating the composite scores. Mean scores and SDs were calculated for the overall intrapartum and immediate postpartum interaction scales and, where applicable, their respective subscales.

Ethical considerations

The study protocol received ethical approval from the Oyo State Ministry of Health Ethical Review Committee (reference AD13/479/626) and subsequent approval from the National Postgraduate Medical College of Nigeria before the start of fieldwork. Administrative permission was separately obtained from each participating facility. All participants gave written informed consent after the study's purpose, procedures, and minimal anticipated risks and benefits were explained; participation was voluntary, and participants were told they could decline or withdraw at any point without affecting the care or employment they received. Confidentiality was preserved through unique identification codes rather than names; completed instruments were kept securely, and electronic datasets were password-protected with access limited to the research team.

Results

Study participants

A total of 560 postpartum women were approached, 520 consented, and 500 completed the interview (response rate 96.2%), evenly split between public ($n = 250$) and private ($n = 250$) facilities. Additionally, 500 healthcare providers (250 per sector) participated in the quantitative interview, and all 28 eligible facility heads participated in the structural assessment.

Sociodemographic characteristics of women

Women's mean age was 29.9 ± 5.4 years, with no difference by facility type (30.1 ± 5.4 public vs 29.8 ± 5.5 private; $p = 0.666$). Most were aged 25–34 years (59.8%), ever married (94.6%), Yoruba (87.4%) and Christian (55.0%), and these characteristics did not vary by facility type. Facility differed on socioeconomic profile: tertiary education (67.2% vs 45.2%; $p < 0.001$) and employment (87.2% vs 80.0%; $p = 0.030$) were both more common among women attending public facilities, while women attending private facilities were more likely to report a monthly income of ₦30,000 or more (58.0% vs 45.0%; $p = 0.001$); wealth quintile distribution also differed significantly by facility type ($p = 0.002$) (Table 1).

Table 1
Sociodemographic and socioeconomic characteristics of women by facility ownership

Characteristic	Public n (%)	Private n (%)	Total n (%)	P value
Age group, years				
10–24	43 (17.2)	39 (15.6)	82 (16.4)	0.603
25–34	144 (57.6)	155 (62.0)	299 (59.8)	
≥ 35	63 (25.2)	56 (22.4)	119 (23.8)	
Age, mean (SD)	30.07 (5.39)	29.75 (5.47)	29.91 (5.43)	0.666
Marital status				
Never married	17 (6.8)	10 (4.0)	27 (5.4)	0.166
Ever married	233 (93.2)	240 (96.0)	473 (94.6)	
Ethnic group				
Yoruba	221 (88.4)	216 (86.4)	437 (87.4)	0.770
Igbo	18 (7.2)	20 (8.0)	38 (7.6)	
Other	11 (4.4)	14 (5.6)	25 (5.0)	
Religion				
Christian	146 (58.4)	129 (51.6)	275 (55.0)	0.126
Islam	104 (41.6)	121 (48.4)	225 (45.0)	
Education				
Secondary	82 (32.8)	137 (54.5)	219 (43.8)	< 0.001
Tertiary	168 (67.2)	113 (45.2)	281 (56.2)	
Employment status				
Employed	218 (87.2)	200 (80.0)	418 (83.6)	0.030
Unemployed	32 (12.8)	50 (20.0)	82 (16.4)	
Monthly income (₦), among women reporting income (public n = 218; private n = 200)				
< 18,000	75 (34.4)	36 (18.0)	111 (26.6)	0.001
18,000–29,999	45 (20.6)	48 (24.0)	93 (22.2)	
≥ 30,000	98 (45.0)	116 (58.0)	214 (51.2)	
Note. N = 250 per facility group; N = 500 overall. Values are n (%) unless otherwise indicated. P values are from bivariate comparisons (Pearson’s chi-square unless otherwise stated).				

Characteristic	Public n (%)	Private n (%)	Total n (%)	P value
Age group, years				
Wealth index				
Poorest	39 (15.6)	61 (24.4)	100 (20.0)	0.002
Second	46 (18.4)	56 (22.4)	102 (20.4)	
Middle	49 (19.6)	49 (19.6)	98 (19.6)	
Fourth	49 (19.6)	51 (20.4)	100 (20.0)	
Highest	67 (26.8)	33 (13.2)	100 (20.0)	
Note. N = 250 per facility group; N = 500 overall. Values are n (%) unless otherwise indicated. P values are from bivariate comparisons (Pearson’s chi-square unless otherwise stated).				

Obstetric characteristics

Obstetric profiles were largely comparable between facility types. Approximately three in five women had had two to four previous pregnancies, and 60.0% had two to four living children; history of spontaneous or induced abortion did not differ by facility type. All women had attended antenatal care during the index pregnancy, with 75.4% first attending in the second trimester and 15.6% in the first trimester. Most deliveries (84.0%) were at term, but preterm delivery was almost twice as common among women in public facilities (19.6% vs 10.4%; $p = 0.007$).

Healthcare provider characteristics

Of the 500 providers, 85.8% were women. Public-sector providers were on average older than their private-sector counterparts (41.4 ± 9.2 vs 33.0 ± 10.1 years; $p < 0.001$), more often married, more often originally from Oyo State, and more likely to hold tertiary or postgraduate qualifications (all $p < 0.001$). Public facilities employed relatively more nurses and midwives, while private facilities relied more heavily on Community Health Extension Workers and auxiliary nursing staff. Providers in public facilities had, on average, longer professional experience and longer tenure at their current facility (both $p < 0.001$); having a clearly defined job description was more often reported by providers in the private sector ($p = 0.016$) (Table 2).

Table 2

Sociodemographic and occupational characteristics of healthcare providers by facility ownership

Characteristic	Public N=250 n (%)	Private N = 250 n (%)	Total N = 500 n (%)	P value
Sociodemographic characteristics				
Sex				
Male	33 (13.2)	38 (15.2)	71 (14.2)	0.522
Female	217 (86.8)	212 (84.8)	429 (85.8)	
Age group, years				
15–24	2 (0.8)	43 (17.2)	45 (9.0)	< 0.001
25–34	63 (25.2)	119 (47.6)	182 (36.4)	
35–44	97 (38.8)	59 (23.6)	156 (31.2)	
45–54	65 (26.0)	14 (5.6)	79 (15.8)	
≥ 55	23 (9.2)	15 (6.0)	38 (7.6)	
Mean age, years (SD)	41.35 (9.2)	33.0 (10.1)	37.2 (10.5)	< 0.001
Marital status				
Never married	24 (9.6)	84 (33.6)	108 (21.6)	< 0.001
Ever married	226 (90.4)	166 (66.4)	392 (78.4)	
Ethnic group				
Yoruba	237 (94.8)	214 (85.6)	451 (90.2)	0.002
Igbo	9 (3.6)	23 (9.2)	32 (6.4)	
Other	4 (1.6)	13 (5.2)	17 (3.4)	
Religion				
Christian	203 (81.2)	211 (84.4)	414 (82.8)	0.343
Islam	47 (18.8)	39 (15.6)	86 (17.2)	
State of origin				
Note. Values are n (%) unless otherwise indicated. P values are from Pearson's chi-square test for categorical variables and the independent-samples t-test for mean age. †Other includes auxiliary nurses and Community Health Officers. Statistical significance was set at p < 0.05.				

Characteristic	Public N=250 n (%)	Private N = 250 n (%)	Total N = 500 n (%)	P value
Sociodemographic characteristics				
Sex				
Oyo	190 (76.0)	106 (42.4)	296 (59.2)	< 0.001
Other states	60 (24.0)	144 (57.6)	204 (40.8)	
Highest educational qualification				
Secondary	0 (0.0)	48 (19.2)	48 (9.6)	< 0.001
Tertiary	197 (78.8)	155 (62.0)	352 (70.4)	
Postgraduate	53 (21.2)	47 (18.8)	100 (20.0)	
Family type				
Monogamous	238 (95.2)	228 (91.2)	466 (93.2)	0.076
Polygamous	12 (4.8)	22 (8.8)	34 (6.8)	
Occupational characteristics				
Professional cadre				
Doctor	52 (20.8)	51 (20.4)	103 (20.6)	0.001
Nurse/Midwife	196 (78.4)	158 (63.2)	354 (70.8)	
Community Health Extension Worker	2 (0.8)	16 (6.4)	18 (3.6)	
Othert†	0 (0.0)	25 (10.0)	25 (5.0)	
Years of professional experience				
< 5	33 (13.2)	92 (36.8)	125 (25.0)	0.001
≥ 5	217 (86.8)	158 (63.2)	375 (75.0)	
Duration of work in current facility, years				
< 5	132 (52.8)	178 (71.2)	310 (62.0)	0.001
≥ 5	118 (47.2)	72 (28.8)	190 (38.0)	
Note. Values are n (%) unless otherwise indicated. P values are from Pearson's chi-square test for categorical variables and the independent-samples t-test for mean age. †Other includes auxiliary nurses and Community Health Officers. Statistical significance was set at p < 0.05.				

Characteristic	Public N=250 n (%)	Private N = 250 n (%)	Total N = 500 n (%)	P value
Sociodemographic characteristics				
Sex				
Clearly defined job description				
Yes	209 (83.6)	227 (90.8)	436 (87.2)	0.016
No	41 (16.4)	23 (9.2)	64 (12.8)	
Note. Values are n (%) unless otherwise indicated. P values are from Pearson's chi-square test for categorical variables and the independent-samples t-test for mean age. †Other includes auxiliary nurses and Community Health Officers. Statistical significance was set at p < 0.05.				

Structural quality

Provider availability. Just over half of women (54.2%) perceived providers as readily available, with no significant differences across sectors. Most women described providers as reachable when needed, responsive to requests, and present during labour, routine hours and emergencies alike. Although public facilities generally had larger staff complements per shift and more consistent access to medical officers and specialist obstetricians, this structural advantage did not translate into a measurable difference in how available women perceived providers to be (Table 3).

Provider motivation. More than three-quarters of providers in both sectors scored as well motivated, with no overall sector difference. Scores for general motivation, burnout, job satisfaction, conscientiousness and timeliness were also similar across sectors. The one exception was organisational commitment, which was higher among private-sector providers (16.4 ± 2.6 vs 15.0 ± 2.9 ; $p < 0.001$) (Table 3).

Provider competence. Only one in three women (33.4%) rated providers as highly competent, again with no significant sector difference. Women's judgements of competence rested on technical skill, the ability to recognise complications, and routine conduct of labour and delivery care. Public facilities with an older, more experienced workforce did not translate into higher perceived competence, suggesting that women's judgements of competence depended on cues beyond provider seniority alone (Table 3).

Table 3

Structural quality of perinatal care: provider availability, motivation and perceived competence

Indicator	Public	Private	Total	P value
Provider availability				
Not readily available	118 (47.2)	111 (44.4)	229 (45.8)	0.530
Readily available	132 (52.8)	139 (55.6)	271 (54.2)	
Availability domains, readily available (≥ 4)				
Received on arrival	188 (75.2)	160 (64.0)	348 (69.6)	0.006
Short waiting time	225 (90.0)	238 (95.2)	463 (92.6)	0.026
Midwife present as desired	102 (40.8)	136 (54.4)	238 (47.6)	0.002
Provider always available	15 (6.0)	19 (7.6)	34 (6.8)	0.477
Provider motivation				
Poor motivation (< 64)	62 (24.8)	51 (20.4)	113 (22.6)	0.240
Good motivation (≥ 64)	188 (75.2)	199 (79.6)	387 (77.4)	
Motivation domains, mean (SD)				
General motivation	7.0 (1.9)	7.0 (1.9)	7.0 (1.9)	0.981
Burnout	7.2 (2.0)	7.5 (1.9)	7.4 (2.0)	0.186
Job satisfaction	12.5 (1.9)	12.6 (1.9)	12.6 (1.9)	0.433
Organisational commitment	15.0 (2.9)	16.4 (2.6)	15.7 (2.8)	< 0.001
Conscientiousness	17.7 (1.9)	17.5 (2.0)	17.6 (2.0)	0.249
Timeliness	8.3 (1.4)	8.2 (1.4)	8.3 (1.4)	0.294
Perceived provider competence				
Poor competence	164 (65.6)	169 (67.6)	333 (66.6)	0.635
Good competence	86 (34.4)	81 (32.4)	167 (33.4)	
Note. Availability and competence are presented as n (%); motivation-domain scores are mean (SD). N = 250 per facility group; N = 500 overall.				

Process quality

Client-provider interaction during labour. Among 492 women with complete data, only 23 (4.7%) reported good client-provider interaction during labour; the remaining 469 (95.3%) reported poor interaction. Good interaction was more common in public facilities (6.4% vs 2.9%), though the difference was not significant ($p = 0.063$). Women in public facilities were more often told about cervical dilatation

and labour progress. They scored several individual communication items more favourably, even though emotional support from midwives was similar across sectors (Table 4).

Client-provider interaction in the immediate postpartum period. Only 6.4% of women reported good client-provider interaction during this period. Good interaction was higher in public facilities 20 (8.0%) than in private facilities 12 (4.8%), though not statistically significant ($p = 0.144$). The pattern of sector differences was mixed rather than uniformly favouring one side: public facilities performed better on some elements of routine maternal assessment and health education, while private facilities performed better on postpartum clinical examination, early mother–baby contact, education on cord and newborn skin care, and asking women directly about problems since delivery. Counselling on maternal nutrition, infant feeding, personal hygiene, postnatal exercise and the six-week postnatal visit was consistently weak in both sectors.

Table 4
Client-provider interaction during labour and the immediate postpartum period

Indicator	Public	Private	Total	P value
Overall intrapartum interaction				
Poor interaction	233 (93.6)	236 (97.1)	469 (95.3)	0.063
Good interaction	16 (6.4)	7 (2.9)	23 (4.7)	
Intrapartum interaction score, mean (SD)	40.4 (8.8)	35.4 (8.5)	37.9 (9.0)	< 0.001
Selected intrapartum communication domains, mean (SD)				
Midwife support	3.6 (0.7)	3.5 (0.6)	3.5 (0.7)	0.362
Told of cervical dilatation	3.1 (1.0)	2.6 (1.1)	2.9 (1.1)	< 0.001
Information about labour progress	3.2 (1.0)	2.5 (1.0)	2.9 (1.0)	< 0.001
Communicated with provider	3.2 (1.0)	2.4 (1.1)	2.8 (1.1)	< 0.001
Partner involved during labour	2.2 (1.1)	2.2 (1.3)	2.2 (1.2)	0.741
Knew provider responsible	2.4 (1.2)	2.6 (1.1)	2.5 (1.1)	0.032
Amount of time given	3.2 (1.1)	3.3 (0.9)	3.3 (1.0)	0.927
Midwife always listened	3.3 (1.0)	2.9 (0.9)	3.1 (1.0)	< 0.001
Provider explained treatment	3.0 (1.1)	2.7 (1.2)	2.9 (1.1)	0.004
Provider involved woman in decisions	3.0 (1.0)	2.5 (1.0)	2.8 (1.0)	< 0.001
Provider understood concerns	3.0 (1.2)	2.3 (1.2)	2.6 (1.3)	< 0.001
Immediate postpartum interaction				
Poor interaction	230 (92.0)	238 (95.2)	468 (93.6)	0.144
Good interaction	20 (8.0)	12 (4.8)	32 (6.4)	
Postpartum interaction score, mean (SD)	37.3 (13.0)	35.7 (12.5)	36.5 (12.7)	0.177
Note. Intrapartum overall interaction analysis included 492 women with complete data (public n = 249; private n = 243). Immediate postpartum interaction was assessed among N = 500.				

Outcome measures

Overall experience of care. A good overall experience was reported by 287 women (57.4%), significantly more often in public than private facilities (64.4% vs 50.4%; $p = 0.002$) (Table 5).

Clinical experience and maternal outcomes. Vaginal delivery was more common in public facilities (65.6% vs 54.4%), while emergency caesarean section was more than twice as frequent in private facilities (26.4% vs 12.8%; $p = 0.001$). Maternal complications during or after childbirth were reported more often by women in public facilities (33.2% vs 14.4%; $p < 0.001$). Live births accounted for 98.0% of pregnancies and stillbirths for 2.0%; multiple pregnancy accounted for 4.0% of births. Spouses were more often permitted to be present during labour in public facilities (12.4% vs 4.8%; $p = 0.002$).

Newborn outcomes. Individual neonatal complications and neonatal intensive care admissions did not differ significantly by sector, but the overall proportion of newborns experiencing at least one complication was higher in private facilities (6.0% vs 2.0%; $p = 0.022$).

Client satisfaction. Overall satisfaction was high in both sectors: 88.0% in the public sector and 90.8% in the private sector, with no significant difference ($p = 0.309$). Domain-specific patterns diverged more clearly: women in public facilities were more likely to say they would return to the same hospital, would recommend it to others, were satisfied with nursing care, and rated their overall experience favourably; women in private facilities reported greater satisfaction with doctors and with the physical environment. Satisfaction with emotional support and with medical care overall did not differ significantly by sector (Table 5).

Table 5
Women's experience, clinical outcomes and satisfaction with perinatal care

Indicator	Public	Private	Total	P value
Overall experience of care				
Poor experience	89 (35.6)	124 (49.6)	213 (42.6)	0.002
Good experience	161 (64.4)	126 (50.4)	287 (57.4)	
Women's clinical experience				
Vaginal delivery	164 (65.6)	136 (54.4)	300 (60.0)	0.001
Assisted delivery	24 (9.6)	16 (6.4)	40 (8.0)	
Elective caesarean section	30 (12.0)	32 (12.8)	62 (12.4)	
Emergency caesarean section	32 (12.8)	66 (26.4)	98 (19.6)	
Complication during/after delivery: yes	83 (33.2)	36 (14.4)	119 (23.8)	< 0.001
Live birth	248 (99.2)	242 (96.8)	490 (98.0)	0.106
Stillbirth	2 (0.8)	8 (3.2)	10 (2.0)	
Singleton	241 (96.4)	239 (95.6)	480 (96.0)	0.648
Multiple birth	9 (3.6)	11 (4.4)	20 (4.0)	
Spouse allowed during delivery: yes	31 (12.4)	12 (4.8)	43 (8.6)	0.002
Newborn experience				
At least one neonatal complication: yes	5 (2.0)	15 (6.0)	20 (4.0)	0.022
Neonatal intensive care admission: yes	2 (0.8)	7 (2.8)	9 (1.8)	0.093
Overall satisfaction				
Satisfied	220 (88.0)	227 (90.8)	447 (89.4)	0.309
Not satisfied	30 (12.0)	23 (9.2)	53 (10.6)	
Satisfaction domains, mean (SD)				
Return to this hospital	3.4 (0.9)	3.2 (0.9)	3.3 (0.9)	0.043
Recommend this hospital	3.5 (0.9)	3.2 (0.9)	3.3 (0.9)	< 0.001
Satisfied with nurses	3.5 (0.8)	3.2 (0.8)	3.3 (0.8)	0.002
Satisfied with doctors	3.4 (0.9)	3.6 (0.6)	3.3 (0.8)	0.002
Note. N = 250 per facility group; N = 500 overall unless otherwise indicated. For pregnancy outcome, Fisher's exact test was used.				

Indicator	Public	Private	Total	P value
Overall experience of care				
Satisfied with hospital environment	3.2 (0.9)	3.4 (0.6)	3.3 (0.8)	0.007
Satisfied with emotional care	3.4 (0.8)	3.3 (0.7)	3.4 (0.8)	0.176
Satisfied with medical care	3.5 (0.8)	3.6 (0.6)	3.5 (0.7)	0.074
Note. N = 250 per facility group; N = 500 overall unless otherwise indicated. For pregnancy outcome, Fisher's exact test was used.				

Predictors of good experience of care

In the pooled multivariable model, four factors were independently associated with good experience of care: perceived provider availability (AOR 2.16, 95% CI 1.36–3.43; $p = 0.001$), perceived provider competence (AOR 3.79, 95% CI 2.22–6.46; $p < 0.001$), public facility ownership (AOR 1.70, 95% CI 1.08–2.69; $p = 0.023$), and immediate postpartum client–provider interaction (AOR 0.28, 95% CI 0.09–0.89; $p = 0.030$) (Table 6).

Table 6

Multivariable logistic regression: predictors of good experience of perinatal care (pooled model)

Predictor	AOR	95% CI	P value
Monthly income (₦)			
< 18,000	1.45	0.83–2.51	0.189
18,000–29,999	0.94	0.54–1.62	0.814
≥ 30,000	1.00	Reference	–
Marital status			
Never married	1.74	0.60–5.03	0.306
Ever married	1.00	Reference	–
Employment status			
Employed	0.64	0.33–1.24	0.187
Unemployed	1.00	Reference	–
Time of delivery			
Day	1.33	0.85–2.09	0.213
Night	1.00	Reference	–
Day of delivery			
Weekday	1.52	0.91–2.53	0.105
Saturday/Sunday	1.00	Reference	–
Foetal number			
Multiple fetus	3.33	0.99–11.12	0.051
Singleton	1.00	Reference	–
Referral from another facility			
Yes	0.81	0.39–1.68	0.576
No	1.00	Reference	–
Provider availability			
Readily available	2.16	1.36–3.43	0.001
Not readily available	1.00	Reference	–
Perceived provider competence			
Note. Model adjusted for all variables listed. AOR: adjusted odds ratio; CI: confidence interval.			

Predictor	AOR	95% CI	P value
Monthly income (₦)			
Good competence	3.79	2.22–6.46	< 0.001
Poor competence	1.00	Reference	–
Immediate postpartum client–provider interaction			
Good interaction	0.28	0.09–0.89	0.030
Poor interaction	1.00	Reference	–
Facility ownership			
Public	1.70	1.08–2.69	0.023
Private	1.00	Reference	–
Note. Model adjusted for all variables listed. AOR: adjusted odds ratio; CI: confidence interval.			

Discussion

The findings from this study present a mixed picture of the quality of perinatal care across health sectors in Ibadan. Perceived provider availability and competence were generally comparable between public and private facilities, and provider motivation was generally good in both. Client–provider interaction, by contrast, was poor everywhere it was measured. Women’s overall experience of care was significantly better in public facilities, yet satisfaction was high and statistically indistinguishable in both sectors. That contrast, in our view, is the most significant finding of the study; it indicates satisfaction alone is not a reliable proxy for the quality of what actually happens to a woman during labour and birth.

Structural quality

Just over half of women believed providers were adequately available, with no significant differences across sectors, even though public facilities had more experienced providers and greater access to specialist obstetricians. A similar proportion was reported among women attending a public hospital in Arsi, Ethiopia [19]. In contrast, availability was consistently rated poor in both public and private facilities in a Tanzanian study, where a shortage of providers left staff with less time for each woman [20]. The WHO’s standard for maternal and newborn care quality treats adequate, skilled staffing as an input-level requirement for good care rather than as a guarantee of it [21]; findings from this study are consistent with that distinction. Public facilities in this study had visibly larger and more experienced workforces, including greater availability of nurses, midwives and specialist personnel. However, that structural advantage did not translate into higher perceived availability among the women themselves, which is consistent with a Kenyan study in which private facilities’ staffing advantage on paper did not consistently improve women’s ratings of access to care [22].

Provider motivation showed a similar pattern across both sectors, with one remarkable exception: organisational commitment was higher among private-sector staff. A similar pattern was found in a qualitative study comparing public- and private-sector specialists in South Africa, with private-sector clinicians reporting greater satisfaction with management responsiveness, resource availability, and recognition; public-sector clinicians reported higher motivation from patient volume, teaching opportunities, and a sense of public service [23]. Similarly high motivation was reported among health workers in Ghana [24] and Zambia [25], although substantially lower motivation, driven by poor working conditions, was found among public-sector providers in another part of Ethiopia [26]. A closer day-to-day supervision, more direct performance accountability, or stronger institutional incentives in smaller private organisations could explain the difference we observed, though the cross-sectional design cannot rule out any of these explanations. This finding is not evidence that private employment itself produces more committed staff, as workload, remuneration, supervisory style, and career development opportunities all play a role.

Perceived competence was low across the sectors: only a third of women rated providers as highly competent. A similarly low, and in that case more markedly public-sector, rating of competence has been reported from Kenya [22], in contrast to more favourable perceptions recorded in Ibadan [27] and Lagos [28], where private-facility staff were rated more highly by patients, and in Ghana, where an objective vignette-based assessment nonetheless found gaps in providers' management of obstetric emergencies regardless of sector [29]. Most women cannot evaluate technical skill; they infer competence from a provider's manner, confidence, responsiveness, and visible handling of complications rather than qualifications or years of service. This is supported by findings from a mixed-methods study at a Ghanaian tertiary hospital, where communication competence was a stronger predictor of patient satisfaction than technical skill, and technical competence alone showed no significant independent association with satisfaction once communication was accounted for [30]. That could explain why the more experienced public-sector workforce in our study did not translate into higher perceived competence: the similarity may reflect similar communication styles rather than equivalent underlying clinical skill.

Client–provider interaction and respectful care

The most concerning result in this study is how rarely women reported good interaction with providers, fewer than one in twenty during labour, and fewer than one in fifteen in the immediate postpartum period. This was not a sector-specific problem; it appeared across facilities, showing that the interpersonal dimension of care is far behind its structural components, even though staffing and infrastructure were adequate. A study using direct observation alongside women's own reports in public health facilities in this same metropolis similarly found that respectful maternity care during childbirth was inconsistently delivered, with observed practice often falling short of what providers and policy documents described as the standard of care [31]. Comparably poor intrapartum interaction has been documented at a national referral hospital in Uganda [32] and among women delivering in public hospitals in Asmara, Eritrea, where, as in this study, poor interaction was linked to heavy workload and

limited time per client [33]. Despite the findings above on availability and competence, this pattern suggests a gap in interpersonal quality even in facilities that are, by most structural measures, adequately staffed.

This pattern is similar to prior evidence from Nigeria and other low- and middle-income settings, which has repeatedly documented gaps in respectful care, communication and shared decision-making during childbirth [6–9]. Public facilities did somewhat better on specific communication items: telling women about cervical dilatation and labour progress, for instance, but this did not lift overall interaction scores meaningfully, which points to a broader conclusion echoed elsewhere in the Nigerian literature [10–12]: showing that piecemeal improvements in information-sharing are not sufficient on their own. Respectful care is a composite of dignity, privacy, emotional support, responsiveness and genuine involvement in decisions, and progress on one element does not substitute for the others.

Postpartum counselling was poor across both sectors as well; a similar finding was also reported among women delivering in public teaching hospitals in Mekele, Ethiopia, where adherence to immediate postpartum care guidance was similarly weak [34]. WHO's quality standards explicitly identify structured counselling on breastfeeding, newborn care, danger signs and follow-up as a core component of the immediate postnatal period, not an optional extra [21], and the low scores we observed for nutrition, infant feeding, hygiene, postnatal exercise and attendance at the six-week visit suggest this component is largely being missed in both sectors. Standardising discharge counselling, incorporating supportive supervision, and routinely tracking women's reported experiences could all help close this gap.

Experience versus satisfaction

The significantly better experience reported by women in public facilities, alongside no significant difference in satisfaction, is not the contradiction it might first appear to be. A similar finding has been observed in Ibadan, where satisfaction with perinatal care remained high across facility types even when specific aspects of care were rated poorly [27]. The same disconnect between high satisfaction and modest experience scores has been seen in a study from Chhattisgarh, India, which reported satisfaction with their delivery care despite describing real gaps in communication and privacy during that same care [35], and women's overall ratings of facility-based childbirth in a Tanzanian study were considerably higher than their reports of specific interpersonal and respectful-care indicators from the same encounters [36]. Satisfaction is shaped by expectation, by what a woman has been led to anticipate, and by the simple fact of having received care at all, whereas experience asks about what specifically happened to her [37]. Where expectations of the health system are modest to begin with, satisfaction can remain high even when communication and emotional support fall short, a pattern also observed among women receiving intrapartum care in Uttar Pradesh [38] and among women interviewed about childbirth in Sindh, Pakistan [39]. In practice, this means a facility's satisfaction figures can look reassuring while concealing the very deficiencies this study was designed to detect.

This also complicates the assumption, common in casual conversation among patients and staff alike, that private ownership automatically means better maternity care. Private facilities in this study appeared to offer real advantages in physical environment and physician contact; public facilities offered greater staffing depth, specialist availability and referral capacity. Ownership alone appeared to be a poor predictor of quality. What was more important was what happened between a woman and the people caring for her, which is a process variable, not a structural one, and which neither sector had reliably solved.

Clinical and newborn outcomes

Women in public facilities recorded higher rates of preterm delivery and complications during or after childbirth, while emergency caesarean section was more common in private facilities. This could be because public secondary facilities in Ibadan serve as referral points and are therefore likely to receive a higher-risk case mix to begin with, and differences in caesarean section rates plausibly reflect clinical decision-making and patient characteristics as much as facility practice. National analyses of Nigerian caesarean section rates have also shown that private-sector delivery is independently associated with a substantially higher likelihood of caesarean birth, even after accounting for obstetric risk and socio-economic background, a pattern attributed in part to differences in clinical decision-making, resource availability, and financial incentives between sectors [40]. This is consistent with the elevated emergency caesarean rate we observed in private facilities and suggests that differences in mode of delivery between sectors reflect more than just case mix.

Newborn complications were uncommon in either sector, though at least one complication was somewhat more frequent among newborns in private facilities. Differences in referral pattern and case mix could explain this.

Predictors of good experience

Provider availability and perceived competence were the strongest independent predictors of good experience in the pooled analysis. This is because timely access to a provider reduces anxiety and allows earlier intervention when something goes wrong, and perceived competence strengthens a woman's confidence that she is in safe hands. This was consistent with the finding in a study of determinants of maternal satisfaction across low- and middle-income countries that identified both as recurring predictors of a positive birth experience [37]. Facility ownership was independently associated with experience even after adjustment (AOR 1.70, favouring public facilities), which suggests organisational context shapes how women experience their care beyond what individual patient characteristics can explain, a pattern reported among women using public facilities in Ghana, where women described specific structural and interpersonal features of care that shaped their overall judgement [41].

The regression result for immediate postpartum client–provider interaction merits closer comment, because the direction runs counter to what the bivariate pattern in our data would predict: women

reporting good postpartum interaction had markedly lower adjusted odds of reporting a good overall experience (AOR 0.28) than women reporting poor interaction. This should be interpreted with caution as a likely instance of statistical suppression, a variable that behaves one way on its own but flips sign once other correlated predictors (notably provider availability and competence, which are conceptually close to postpartum interaction) are held constant in the same model. A different finding was reported in a Ghanaian hospital study: interpersonal relationship quality showed a significant negative coefficient in a multivariable model despite being positively valued in parallel qualitative interviews, a pattern the authors also attributed to overlap with a closely related communication variable in the same model [30]. This kind of reversal is a recognised feature of multivariable models with correlated predictors, and it underscores why adjusted associations for closely related constructs should be interpreted as a set rather than read off individually. Formal testing for multicollinearity among the process and structural indicators, and replication in an independent sample, would help clarify this particular association.

A further limitation of this result is that, because women were sampled within facilities rather than entirely independently, the standard errors from a conventional logistic regression may understate the true uncertainty around these estimates. Our sample size calculation accounted for facility-level clustering through a design effect, but the regression models themselves were not fitted with cluster-robust standard errors or a multilevel structure, so the confidence intervals reported here should be regarded as a lower bound on the true uncertainty, particularly for the postpartum-interaction estimate.

Implications for practice

For facility managers and frontline health providers, the most important point from this study is that structural investment and interpersonal quality need to be pursued together, not sequentially. Staffing levels and provider competence remain necessary, but on their own they appear insufficient to guarantee a good experience of care. Concretely, this points toward supportive supervision that includes direct observation of client–provider interaction rather than staffing counts alone; in-service communication-skills training focused on explaining procedures, inviting questions, and involving women in decisions during labour; and standardised, checklist-driven discharge counselling covering infant feeding, newborn care, maternal self-care and the six-week postnatal visit, none of which require major capital investment to implement. Since satisfaction and experience diverged so clearly in our findings, facility-level quality monitoring should not rely on satisfaction surveys alone; but routine, brief experience-of-care measurement embedded in existing exit interviews or postnatal contacts, which would give managers an earlier and more sensitive signal of where interpersonal care is breaking down.

Implications for policy and health systems

At a system level, our findings suggest that regulatory and quality-assurance frameworks in Nigeria should hold public and private secondary facilities to a common standard for the experiential domain of care, since ownership was independently associated with experience even after adjustment. WHO's standards for improving the quality of maternal and newborn care provide a ready-made framework for this: they define measurable indicators not only for evidence-based clinical practice but for effective

communication, respect and dignity, and emotional support, and could be adapted as a shared audit tool across both sectors in this setting [18]. Achieving this within a health system where public and private facilities differ substantially in resourcing and staffing will likely require differentiated implementation strategies addressing the mix of complicated referrals and preterm deliveries absorbed by public facilities in the one case and clarifying the clinical and financial factors underlying elevated emergency caesarean rates in private facilities in the other [23] rather than a single uniform intervention. This is consistent with broader calls for high-quality health systems in the Sustainable Development Goals era to treat the experience of care as a first-order target for accountability, not an afterthought to clinical coverage [6].

Public and private facilities each have something to learn from the other within this shared framework. Public facilities might prioritise the physical environment and day-to-day comfort of patients, areas where private facilities in this sample performed better; private facilities, meanwhile, might strengthen continuity of nursing and midwifery support and formal systems for respectful communication, areas of relative public-sector strength. Professional regulatory bodies and facility licensing processes could reasonably incorporate periodic, standardised assessment of client–provider interaction, in addition to structural indicators such as staffing ratios and equipment, as a condition of continued accreditation.

Implications for future research

Three research priorities follow directly from our findings. First, the counterintuitive postpartum–interaction association we observed needs replication in an independent sample using multilevel or cluster-adjusted modelling and formal multicollinearity diagnostics before it is treated as a stable finding rather than an artefact of correlated predictors. Second, longitudinal or panel designs are needed to establish whether the structural advantages of public facilities and the environmental advantages of private facilities in this setting actually translate into different downstream outcomes, such as return for subsequent facility delivery or uptake of postnatal and family-planning services, rather than relying solely on cross-sectional experience data. Third, intervention studies that test low-cost, scalable improvements to client–provider interaction, for example, structured communication checklists or brief provider coaching against routinely measured experience-of-care outcomes would help establish whether the interpersonal gap identified here can be closed without proportionally large investment in staffing or infrastructure.

Strengths and limitations

This study's principal strength was the direct comparison of public and private secondary facilities within the same metropolitan setting, using instruments applied consistently across both. Including women, providers and facility managers allowed structure, process and outcome to be assessed from more than one vantage point, and the framework-based design gave the analysis a coherence that a purely descriptive survey would have lacked.

Several limitations qualify how the findings should be read. The cross-sectional design prevents causal inference throughout, and the associations reported here should be interpreted as correlational rather

than causal. Women were interviewed within 24 hours of delivery, when reports of experience may be coloured by residual emotion, social desirability, or a wish to preserve goodwill with providers who were still caring for them; healthcare providers' self-reported motivation and competence are subject to similar social-desirability bias, which we could not independently verify. The study was confined to secondary facilities in a single metropolitan area, so findings may not generalise to primary care centres, tertiary hospitals, or rural settings. Facility-level sampling was also imbalanced by design: only six public facilities, against twenty-six private facilities, met the eligibility criteria and were selected, so the public-sector results in particular rest on a small number of clusters and may not capture the full range of variation across public facilities in this setting.

Several further limitations relate to measurement. Although the data-collection instruments were assembled from previously validated tools (Additional file 1) and pretested with acceptable internal consistency, the composite instruments as combined for this study were not independently revalidated, for example, with confirmatory factor analysis in this population, and residual measurement error cannot be excluded. Perceived competence, by definition, is not the same as objectively assessed technical competence. Continuous interaction and experience scores were dichotomised into good/poor categories for analysis, which simplifies interpretation but discards some information on the gradation of women's experience. Data on monthly income were missing for 82 women (16.4%), so income-related comparisons rest on a subsample and should be interpreted with this in mind. Finally, as discussed above, the regression analysis did not account for clustering by facility, and this should be borne in mind when interpreting the precision of the adjusted estimates, particularly for variables such as postpartum interaction where the direction of association is counterintuitive.

Conclusions

Women who received care in public secondary health facilities in Ibadan reported better overall experiences of perinatal care than those in private facilities, despite comparably high satisfaction across both sectors. Provider availability and perceived competence were independent correlates of a better experience, while client-provider interaction remained poor throughout, regardless of ownership. These findings suggest that improving perinatal care in this setting is likely to require attention not only to staffing and infrastructure but also to communication, respectful treatment, emotional support, and postpartum counselling, though as a cross-sectional study this should be read as a basis for targeted quality-improvement work rather than as proof of a causal pathway. Encouraging routine measurement of women's experiences as part of quality monitoring, alongside supportive supervision and targeted quality-improvement work, may help move both public and private maternity services toward more consistently person-centred care.

Abbreviations

AOR

Adjusted odds ratio

CI
Confidence interval
HCP
Healthcare provider
IQR
Interquartile range
LGA
Local Government Area
OR
Odds ratio
SD
Standard deviation
WHO
World Health Organization.

Declarations

Ethics approval and consent to participate

The study protocol was approved by the Oyo State Ministry of Health Ethical Review Committee (reference AD13/479/626) and by the National Postgraduate Medical College of Nigeria before data collection began. Administrative permission was obtained from each selected health facility. Written informed consent was obtained from every participant, and all procedures were carried out in accordance with the approved protocol and relevant institutional and national guidelines.

Consent for publication

Not applicable. No individual-level identifying information, images or videos are reported in this manuscript.

Competing Interests

My co-author has a relationship with this Journal. He is an editor in this Journal

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Author Contribution

SEA conceived and designed the study, led data collection, analysed and interpreted the data, and drafted the manuscript. AMA supervised the study design and data analysis, critically revised the manuscript for important intellectual content, and approved the final version. Both authors read and approved the final manuscript.

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Data Availability

The datasets generated and/or analysed during this study contain potentially identifiable participant information and are therefore not publicly available but are available from the corresponding author on reasonable request and with permission of the Oyo State Ministry of Health Ethical Review Committee

References

1. World Health Organization. Maternal mortality. Fact sheet. Geneva: WHO. 2025. Available from: <https://www.who.int/news-room/fact-sheets/detail/maternal-mortality>
2. United Nations Inter-agency Group for Child Mortality Estimation. Never forgotten: the situation of stillbirth around the globe. New York: UNICEF; 2023.
3. Uneke CJ, Sombie I, Uro-Chukwu HC, Johnson E. Developing equity-focused interventions for maternal and child health in Nigeria: an evidence synthesis for policy, based on equitable impact sensitive tool (EQUIST). *Pan Afr Med J*. 2019;34:158.
4. Tunçalp Ö, Were WM, MacLennan C, Oladapo OT, Gülmezoglu AM, Bahl R, et al. Quality of care for pregnant women and newborns—the WHO vision. *BJOG*. 2015;122(8):1045–9.
5. Donabedian A. Evaluating the quality of medical care. *Milbank Q*. 2005;83(4):691–729.
6. Kruk ME, Gage AD, Arsenault C, Jordan K, Leslie HH, Roder-DeWan S, et al. High-quality health systems in the Sustainable Development Goals era: time for a revolution. *Lancet Glob Health*. 2018;6(11):e1196–252.
7. Afulani PA, Phillips B, Aborigo RA, Moyer CA. Person-centred maternity care in low-income and middle-income countries: analysis of data from Kenya, Ghana, and India. *Lancet Glob Health*. 2019;7(1):e96–109.
8. Bradley S, McCourt C, Rayment J, Parmar D. Disrespectful intrapartum care during facility-based delivery in sub-Saharan Africa: a qualitative systematic review and thematic synthesis of women's

- perceptions and experiences. *Soc Sci Med*. 2016;169:157–70.
9. Kruk ME, Gage AD, Joseph NT, Danaei G, García-Saisó S, Salomon JA. Mortality due to low-quality health systems in the universal health coverage era: a systematic analysis of amenable deaths in 137 countries. *Lancet*. 2018;392(10160):2203–12.
 10. Emelumadu OF, Onyeonoro UU, Ukegbu AU, Ezeama NN, Ifeadike CO, Okezie OK. Perception of quality of maternal healthcare services among women utilising antenatal services in selected primary health facilities in Anambra State, Southeast Nigeria. *Niger Med J*. 2014;55(2):148–55.
 11. Bohren MA, Vogel JP, Tuncalp O, Fawole B, Titiloye MA, Olutayo AO, et al. Mistreatment of women during childbirth in Abuja, Nigeria: a qualitative study on perceptions and experiences of women and healthcare providers. *Reprod Health*. 2017;14:9. 10.1186/s12978-016-0265-2.
 12. Okonofua F, Ogu R, Agholor K, Okike O, Abdus-Salam R, Gana M, et al. Qualitative assessment of women's satisfaction with maternal health care in referral hospitals in Nigeria. *Reprod Health*. 2017;14:44.
 13. Izugbara CO, Wekesah F. What does quality maternity care mean in a context of medical pluralism? Perspectives of women in Nigeria. *Health Policy Plan*. 2018;33(1):1–8.
 14. Onwujekwe O, Hanson K, Uzochukwu B. Examining inequities in incidence of catastrophic health expenditures on different healthcare services and health facilities in Nigeria. *PLoS ONE*. 2012;7(7):e40811.
 15. World Bank. Service delivery indicators: Nigeria health sector report. Washington, DC: World Bank; 2022.
 16. Kirkwood BR, Sterne JAC. *Essential medical statistics*. 2nd ed. Malden, MA: Blackwell Science; 2003.
 17. Tukur J, Lavin T, Adanikin A, Abdussalam M, Bankole K, Ekott MI, et al. Quality and outcomes of maternal and perinatal care for 76,563 pregnancies reported in a nationwide network of Nigerian referral-level hospitals. *EClinicalMedicine*. 2022;47:101411.
 18. Monebenimp F, Tenefopa M, Koh Mve V, Kago I. Competence of health care providers on care of newborns at birth in a level-1 health facility in Yaoundé, Cameroon. *Pan Afr Med J*. 2012;11:45.
 19. Amdemichael R, Tafa M, Fekadu H. Maternal satisfaction with the delivery services in Assela Hospital, Arsi Zone, Oromia region. *Gynecol Obstet*. 2014;4:257. 10.4172/2161-0932.1000257.
 20. Nyamtema AS, Urassa DP, Massawe A, Lindmark G, van Roosmalen J. Staffing needs for quality perinatal care in Tanzania. *Afr J Reprod Health*. 2008;12:113–24.
 21. World Health Organization. *Standards for improving quality of maternal and newborn care in health facilities*. Geneva: WHO; 2016.
 22. Okumu C, Oyugi B. Clients' satisfaction with quality of childbirth services: a comparative study between public and private facilities in Limuru Sub-County, Kiambu, Kenya. *PLoS ONE*. 2019;14:e0216334. 10.1371/journal.pone.0216334.

23. Ashmore J. Going private': a qualitative comparison of medical specialists' job satisfaction in the public and private sectors of South Africa. *Hum Resour Health*. 2013;11:1.
24. Bonenberger M, Aikins M, Akweongo P, Wyss K. The effects of health worker motivation and job satisfaction on turnover intention in Ghana: a cross-sectional study. *Hum Resour Health*. 2014;12:43. 10.1186/1478-4491-12-43.
25. Mutale W, Ayles H, Bond V, Mwanamwenge MT, Balabanova D. Measuring health workers' motivation in rural health facilities: baseline results from three study districts in Zambia. *Hum Resour Health*. 2013;11:8. 10.1186/1478-4491-11-8.
26. Weldegebriel Z, Ejigu Y, Weldegebreal F, Woldie M. Motivation of health workers and associated factors in public hospitals of West Amhara, Northwest Ethiopia. *Patient Prefer Adherence*. 2016;10:159–69. 10.2147/PPA.S90323.
27. Odetola TD, Fakorede EO. Assessment of perinatal care satisfaction amongst mothers attending postnatal care in Ibadan, Nigeria. *Ann Glob Health*. 2018;84:36–46. 10.29024/aogh.10.
28. Odusanya O, Akinyinka M, Oluwole E, Odugbemi B, Bakare O, Adeniran A. How does the public perceive healthcare workers in Lagos? A comparison of health workers in public and private health facilities. *Niger Postgrad Med J*. 2018;25:177–83. 10.4103/npmj.npmj_102_18.
29. Lohela TJ, Nesbitt RC, Manu A, Vesel L, Okyere E, Kirkwood B, et al. Competence of health workers in emergency obstetric care: an assessment using clinical vignettes in Brong Ahafo region, Ghana. *BMJ Open*. 2016;6:e010963. 10.1136/bmjopen-2015-010963.
30. Abdulai MS, Mumuni E, Abdulai M. Beyond technical skills: how communication shapes patient satisfaction in Ghana's healthcare system. *Dialogues Health*. 2025;7:100254.
31. Esan OT, Maswime S, Blaauw D. Directly observed and reported respectful maternity care received during childbirth in public health facilities, Ibadan metropolis, Nigeria. *PLoS ONE*. 2022;17(10):e0276346.
32. Kigenyi O, Tefera GB, Nabiwemba E, Orach CG. Quality of intrapartum care at Mulago national referral hospital, Uganda: clients' perspective. *BMC Pregnancy Childbirth*. 2013;13:162. 10.1186/1471-2393-13-162.
33. Kifle MM, Ghirmai FA, Berhe SA, Tesfay WS, Weldegebriel YT, Gebrehiwet ZT. Predictors of women's satisfaction with hospital-based intrapartum care in Asmara public hospitals, Eritrea. *Obstet Gynecol Int*. 2017;2017:2765121. 10.1155/2017/2765121.
34. Haftu A, Hagos H, Mehari MA, G'her B. Health care providers' adherence to immediate postpartum care guideline and associated factors among women who gave birth in Mekele public teaching hospitals, Tigray, Ethiopia. *BMC Pregnancy Childbirth*. 2018;18:315. 10.1186/s12884-018-1938-3.
35. Jha P, Larsson M, Christensson K, Skoog Svanberg A. Satisfaction with childbirth services provided in public health facilities: results from a cross-sectional survey among postnatal women in Chhattisgarh, India. *Glob Health Action*. 2017;10:1386932. 10.1080/16549716.2017.1386932.
36. Bishanga DR, Massenga J, Mwanamsangu AH, Kim YM, George J, Kapologwe NA, et al. Women's experience of facility-based childbirth care and receipt of an early postnatal check. *Int J Environ Res*

- Public Health. 2018;15:2224. 10.3390/ijerph15102224.
37. Srivastava A, Avan BI, Rajbangshi P, Bhattacharyya S. Determinants of women's satisfaction with maternal health care: a review of literature from developing countries. *BMC Pregnancy Childbirth*. 2015;15:97. 10.1186/s12884-015-0525-0.
 38. Montagu D, Landrian A, Kumar V, Phillips BS, Singhal S, Mishra S, et al. Patient-experience during delivery in public health facilities in Uttar Pradesh, India. *Health Policy Plan*. 2019;34:574–81. 10.1093/heapol/czz067.
 39. Ahmed J, Alam A, Khokhar S, Khowaja S, Kumar R, Raynes-Greenow C, et al. Exploring women's experience of healthcare use during pregnancy and childbirth to understand factors contributing to perinatal deaths in Pakistan: a qualitative study. *BMC Pregnancy Childbirth*. 2021;21:11. 10.1186/s12884-020-03482-4.
 40. Berglundh S, Benova L, Olisaekke G, Hanson C. Caesarean section rate in Nigeria between 2013 and 2018 by obstetric risk and socio-economic status. *Trop Med Int Health*. 2021;26(7):775–88.
 41. D'Ambruoso L, Abbey M, Hussein J. Please understand when I cry out in pain: women's accounts of maternity services during labour and delivery in Ghana. *BMC Public Health*. 2005;5:140. 10.1186/1471-2458-5-140.
 42. Imtithal Adnan F, Noor NM, Mat Junoh NA. Associated factors of labor satisfaction and predictor of postnatal satisfaction in the north-east of Peninsular Malaysia. *PLoS ONE*. 2020;15:e0239448. 10.1371/journal.pone.0239448.
 43. Ware JE, Snyder MK, Wright WR. Development and validation of scales to measure patient satisfaction with medical care services. Vol I, Part A: review of literature, overview of methods, and results regarding construction of scales. Springfield, VA: National Technical Information Service; 1976.
 44. Wilde B, Larsson G, Larsson M, Starrin B. Quality of care: development of a patient-centred questionnaire based on a grounded theory model. *Scand J Caring Sci*. 1994;8(1):39–48.
 45. Thompson JE, Land S, Camacho-Hubner AV, Fullerton JT. Assessment of provider competence and quality of maternal/newborn care in selected Latin American and Caribbean countries. *Rev Panam Salud Publica*. 2015;37(4–5):343–50.
 46. World Health Organization. Packages of Interventions for Family Planning, Safe Abortion Care, Maternal, Newborn and Child Health. Geneva: WHO; 2010.
 47. Mbindyo PM, Blaauw D, Gilson L, English M. Developing a tool to measure health worker motivation in district hospitals in Kenya. *Hum Resour Health*. 2009;7:40.
 48. Bennett S, Franco LM, Kanfer R, Stubblebine P. The Development of Tools to Measure the Determinants and Consequences of Health Worker Motivation in Developing Countries. Major Applied Research 5, Working Paper 1. Bethesda, MD: Partnerships for Health Reform, Abt Associates; 2001.
 49. Mutale W, Ayles H, Bond V, Mwanamwenge MT, Balabanova D. Measuring health workers' motivation in rural health facilities: baseline results from three study districts in Zambia. *Hum Resour Health*.

50. Oyekale AS. Assessment of primary health care facilities' service readiness in Nigeria. BMC Health Serv Res. 2017;17:172.

Figures

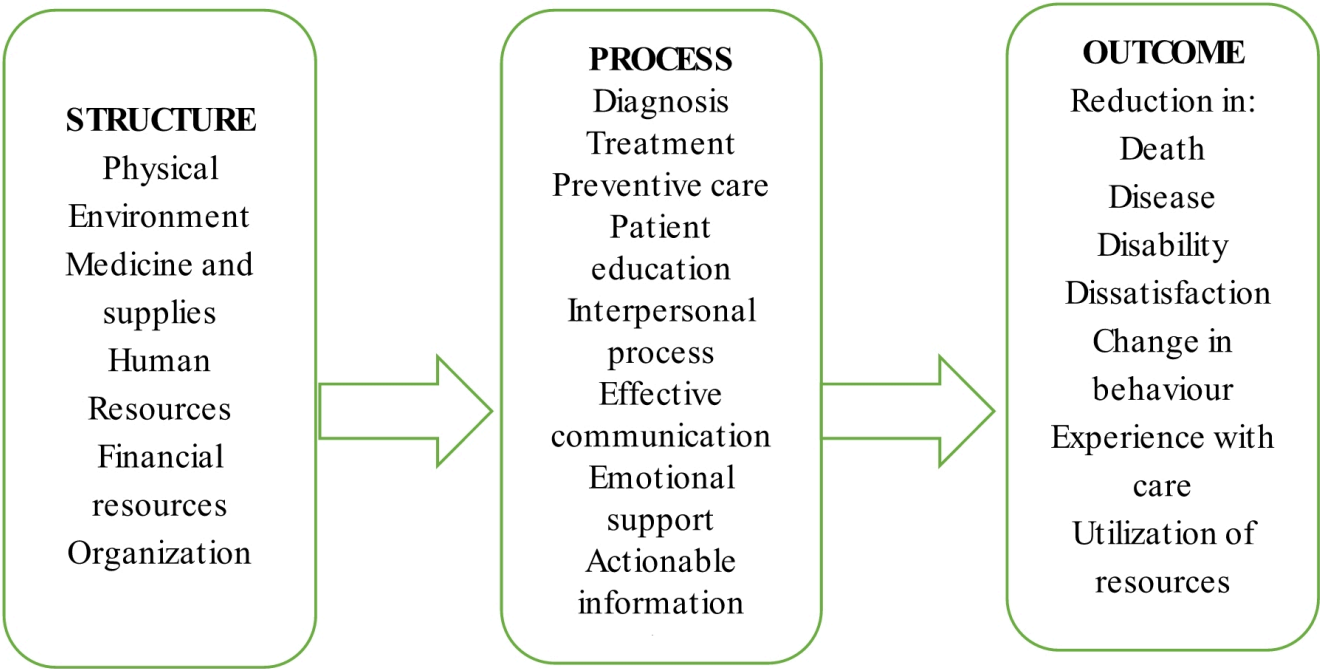


Figure 1: Conceptual framework of Quality of care using the Donabedian Framework
(Adapted from: *Introduction to quality assurance of health care*, Donabedian A, 2003 and *Quality of care for pregnant women and new-borns- the WHO vision*: Tuncalp et al, 2015)

Figure 1

See image above for figure legend.

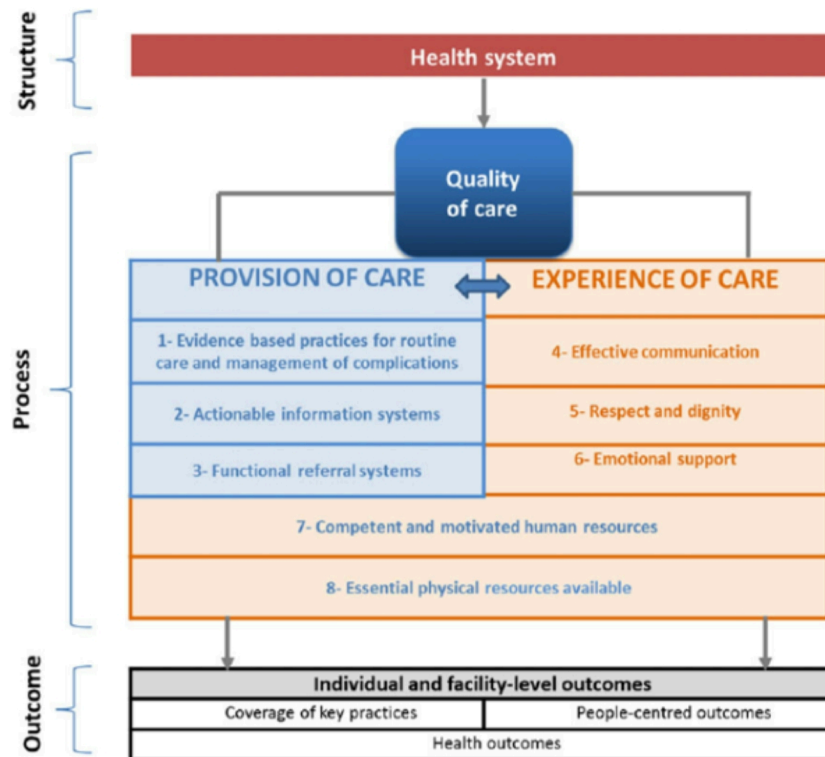


Figure 2

WHO Quality of care framework for maternal and newborn health

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