INTERNATIONAL JOURNAL OF HEALTH & MEDICAL RESEARCH

ISSN(print): 2833-213X, ISSN(online): 2833-2148

Volume 05 Issue 03 March 2026

DOI : 10.58806/ijhmr.2026.v5i3n02

Page No. 188-196

Is Breastfeeding Initiation Earlier After Uncomplicated Caesarean Delivery Following the Ultra-Short Stay Post-Operative Management Protocol than The Traditional Protocol? A Randomized Controlled Trial

Nuvie Oyeyemi[1*], Uche Onwudiegwu[2], Dibo Pughikumo[3], Abisoye Oyeyemi[4]

[1]Department of Obstetrics & Gynaecology, Federal Medical Centre, Yenagoa, Bayelsa State. Nigeria.

[2]Institute of Medical Education, Bayelsa Medical University, Yenagoa, Bayelsa State, Nigeria.

[3]Department of Physiology, Faculty of Basic Medical Sciences, College of Health Sciences, NDUTH Niger Delta University, Wilberforce Island, Bayelsa State, Nigeria.

[4]Department of Community Medicine, Faculty of Clinical Sciences, College of Health Sciences, NDUTH Niger Delta University, Wilberforce Island, Bayelsa State, Nigeria.

Corresponding author: Nuvie Oyeyemi

ABSTRACT: Background: Early initiation of breastfeeding defined as putting the neonate to the breast within the first hour of life, is a critical intervention for ensuring long-term breastfeeding success. However, early breastfeeding initiation rates are low in common practice, especially following Caesarean delivery. It is important that post-operative management protocols with duration of hospital stay are examined as they impact on the initiation of breastfeeding after uncomplicated Caesarean delivery. The study aims to determine and compare the time of initiation of breastfeeding in the ultra-short versus the traditional post-operative management protocol after uncomplicated Caesarean delivery.

Methods: A randomized controlled trial done in three centres in Bayelsa state, South-South Nigeria. The Federal Medical Centre, Yenagoa, the Niger Delta University Teaching Hospital, Okolobiri, and the Diete-Koki Memorial Hospital, Opolo. A total of 179 women who just had uncomplicated Caesarean delivery were randomized into the ultra-short stay (90) and traditional groups (89), and were recruited in the recovery room immediately after the uncomplicated Caesarean delivery. The women in the ultra-short stay group were given minty chewing gums (menthos) to chew for two hours, within the first six hours after surgery; started ambulating and commenced oral intake with catheter discontinued 6-12 hours post-operative. The traditional group was ambulant, oral intake initiated and urethral catheter discontinued 12-24 hours post-operative. The neonates were put to the mother's breast by the healthcare provider (the Nurse on duty or occasionally the attending Doctor) as soon as she was disposed to breastfeed. In the ultra-short stay group, the wounds were inspected, exposed and the patient discharged at 36-48 hours post-operative. In the traditional group, the wounds were inspected and exposed and patient discharged on day 3-5.

Results:. The mean time of initiation of breastfeeding was 1.3 and 2.4 days in the ultra-short and traditional hospital-stay groups respectively. The ultra-short stay group had significantly earlier initiation of breastfeeding ($t=2.92$, $p<0.001$, CI=1.35-1.84, RR=1.58).

Conclusion: There is earlier initiation of breastfeeding in the ultra-short stay than the traditional hospital-stay protocol, after uncomplicated Caesarean delivery.

Trial was retrospectively registered by the Pan African Clinical Trials Registry(PACTR), number **PACTR202509662932971, 11 September, 2025.**

KEYWORDS: early, initiation; breastfeeding; uncomplicated Caesarean delivery; ultra-short stay; traditional protocol; Bayelsa.

BACKGROUND

Initiation of breastfeeding is when the neonate is put to breast and there is satisfactory areaolar grasp and suckling is established, disregarding when the breast milk begins to flow well as perceived by the mother. Early initiation of breastfeeding is defined as putting the neonate to the breast within the first hour of life, ensuring the areolar grasp and commencement of sucking.[1] It is a critical intervention for the survival of the newborn and for ensuring lactational and long-term breastfeeding success.[1,2] Despite

its importance, early breastfeeding initiation rates are low in conventional practice, especially following Caesarean delivery. Global rate of early initiation of breastfeeding (irrespective of mode of delivery) is about 42%; 38% in Central Africa, 69% in Southern Africa and about 34.7% in Nigeria. [3]

Caesarean section/delivery is a major surgical procedure in obstetric practice. It is carried out when there are reasons (indications) that it is the safer option of delivery of a baby/babies, than vaginal delivery, for the mother, baby or both. It is the most common major surgical procedure currently done in Obstetrics worldwide and is presently a relatively safe procedure. It is important that post-operative management protocols are examined that will reduce duration of hospital stay after the procedure, and at the same time not compromise its safety in terms of post-operative complications. The duration of hospital stay following uncomplicated Caesarean delivery may also have important implications on lactational success. [4-6]

There are various factors that affect time of initiation of breastfeeding and are associated with early initiation of breastfeeding. Previous studies have shown that institutional delivery and Caesarean delivery were associated with lower odds of early initiation of breastfeeding, while placement of the newborn on mother's chest and bare skin after birth was associated with higher odds of early initiation of breastfeeding. [7]

Early initiation of breastfeeding is an important predictor of long-term success in breastfeeding, and children breastfed for seven to nine months or longer are found to have an average intelligence quotient about six points higher than those breastfed for less than a month. [2,7] The WHO recommendation for breastfeeding include; early initiation of breastfeeding within one hour after birth, exclusive breastfeeding (no water, other fluids or food) for six months, and continued breastfeeding for two years or more with the addition of timely, adequate, safe, and proper complementary foods.[2]

Local experience shows that women who undergo Caesarean delivery are often very reluctant to commence breastfeeding early enough. This may stem from concerns about their own recovery and fitness for the task. The aim and objectives of the study are: to determine and compare the time interval of initiation of breastfeeding after uncomplicated Caesarean delivery following the ultra-short stay and the traditional hospital stay post-operative management protocol and to determine possible factors associated with time of initiation of breastfeeding after uncomplicated Caesarean delivery.

METHODS

This was a multi-centre randomized controlled trial, of the parallel design with allocation ratio of 1:1[8], carried out from April 2024 to April 2025, among booked antenatal patients in the Federal Medical Centre, Yenagoa (FMC-Y); the Niger Delta University Teaching Hospital (NDUTH), Okolobiri; the Diete-Koki Memorial Hospital (DKMH), Opolo; all in Bayelsa state, South-south Nigeria. Ethical clearance for the study was obtained from the Research Ethics Committee of the Federal Medical Centre, Yenagoa. Protocol number: 716, in accordance with the Declaration of Helsinki. The trial was registered by the Pan African Clinical trials Registry (PACTR), at completion of the trial, unique identification number **PACTR202509662932971, 11 September, 2025.**

Participants were patients who just had uncomplicated Caesarean delivery for various indications, and are in the recovery room, fully awake. Women excluded were those outside the reproductive age group which is 15-49 years, [9] those who had any medical condition that required management by other specialities post-delivery that may warrant prolonged hospital stay; and Immunosuppressed or HIV positive women in whom breastfeeding was contraindicated; women who had prolonged labour or prolonged rupture of membranes, which are factors that increase risk of sepsis and cause prolonged hospital stay.

A total of 180 eligible consenting patients were consecutively recruited into the study. Randomization was done using computer generated random numbers (unstratified balanced allocation from WinPepi) [10] and random allocation concealment done using sealed opaque envelopes numbered from 1 to 60 for each centre. In this way, recruited patients were randomised into either of two groups representing the arms of the study: group A (traditional protocol) and group B (ultra-short stay protocol). An independent observer picked the envelopes consecutively at the time the eligible patient got to the recovery room after an uncomplicated Caesarean delivery, A total of 90 women were allocated into the ultra-short stay group and 89 (one of the women inadvertently allocated here in one of the centres had a iatrogenic bladder injury intra-operatively, so she was subsequently excluded reducing the participants to 89) into the traditional group**.** The sealed envelope picked was placed within the patients' case notes. All the surgeries were performed by Consultants and Senior Registrars in the Department of Obstetrics and Gynaecology of the respective hospitals.

At recruitment in the recovery room, the women in the ultra-short stay group were given minty (menthos) chewing gums to chew for at least two hours and the appropriate sections of the proforma and interviewer-administered questionnaire (containing patient biodata and intra-operative information) were filled. The Healthcare Providers attending to all the participants were instructed to encourage and support the women to begin breastfeeding from when they are received in the recovery room. The time of initiation of breastfeeding was recorded in the proforma. The protocol (specific interventions) for the ultra-short stay protocol was placed at the nursing station on the ward for attention of the nursing staff. Those for the traditional protocol (group A) were managed according to normal unit protocol.

All patients in group A were commenced on graded oral sips at 24 hours post-operative and regular diet 12 hours later; ambulated within 24 hours (sitting out of bed from 12 hours and walking around ward from 24 hours) post-operative and had urethral catheter (with strict urinary output monitoring) discontinued 24 hours after surgery. Intravenous fluids dextrose water alternating with normal saline was given at 1 litre 8 hourly for at least the first 24 hours after surgery and until oral intake was well established. Analgesics, intramuscular pentazocine at 30mg 6 hourly, suppository diclofenac 100mg 12 hourly for 72 hours and intramuscular paracetamol 600-900mg 8 hourly administered for the first 24 hours after surgery. Antibiotics, usually intravenous ceftriaxone, genticin and metronidazole at 1g 12 hourly, 80mg 8 hourly and 500mg 8 hourly respectively were also given for the first 48 to 72 hours. Antibiotics were converted to the oral equivalents when the intravenous regimen had been completed and analgesics to oral paracetamol 1g 8 hourly, and diclofenac 50-100mg 12 hourly respectively. Wound was inspected and exposed on the fifth post-operative day and patient subsequently discharged home.

All patients in group B commenced graded oral fluids at six hours post-operative, gradually graded to semi-solids, then intravenous fluids were discontinued; and regular diet was commenced at 12 hours post-operative. They sat out of bed from 6 hours post-operative and walked around the ward from 12 hours post-operative. Urethral catheter was discontinued 6-12 hours after surgery. Analgesics, intramuscular pentazocine at 30mg 6 hourly for 24 hours, suppository diclofenac 100mg 12 hourly until discharge and intramuscular paracetamol 600-900mg 8 hourly was administered for the first 24 hours after surgery. Antibiotics, intravenous ceftriaxone, genticin and metronidazole, at 1g 12 hourly, 80mg 8 hourly and 500mg 8 hourly respectively were also converted to the oral equivalents at discharge and the analgesics changed to oral paracetamol 1g 8 hourly and diclofenac 50-100mg 12 hourly respectively. Wound was inspected and exposed on the second post-operative day (36-48 hours post-operative) and patient subsequently discharged home on the same day without schedule for home visits, but with customer care lines to call if the need arises. All participants were equally encouraged and supported to establish breastfeeding throughout their stay in the hospital.

Data analysis was done using the IBM SPSS statistical software version 25. Data was presented in text and tables. Analysis included use of descriptive statistics such as mean, proportion and standard deviation to summarize the quantitative variables. Association between categorical variables was tested using Chi-square and differences in group means were assessed using t-test, also relative risks/risk ratios (RR) and confidence intervals (CI) were determined where appropriate. A confidence level of 95% was used with the level of significance set at a p-value of <0.05.

RESULTS

There were 179 women who had uncomplicated Caesarean delivery, who were randomized into 90 women for the ultra-short stay post-operative management protocol and 89 for the traditional protocol. Eight women dropped out of the protocols, two in the traditional group (one had severe post-partum haemorrhage, acute kidney injury and had prolonged hospital stay; the other had acute urinary retention at removal of urethral catheter which led to re-catheterization that resulted in prolonged hospital stay). Six women in the ultra-short stay protocol group, dropped out of the protocol; reasons ranging from post-operative blood transfusions, signs of wound sepsis at wound exposure on discharge leading to postponement of the discharge, to post-partum pregnancy-induced hypertension, all extending hospital stay. Four of the participants did not breastfeed, two from each group, and they were among the ones that dropped out, these were three early neonatal deaths and one extended admission in the special care baby unit (SCBU) that led to non-breastfeeding, probably due to lactational failure.

Most of the participants were married women (93.3% in each group respectively) between the ages of 19 and 45 years. The two groups were comparable in age, parity, marital status, religion, tribe, except educational status where there were slightly more educated women in the ultra-short stay than the traditional protocol group ($X^2 = 7.82$, P-value = 0.020). Indications for Caesarean delivery, and estimated gestational age at delivery had no statistically significant difference between the two groups.

The median time interval from delivery to initiation of breastfeeding in the traditional group was two days while that in the ultra-short stay protocol was one day (the means 2.4 and 1.3 days respectively). The range in time interval to initiation of breastfeeding in all the participants was 0 – 21 days. Those who did not breastfeed at all were excluded from this observation, those who commenced breastfeeding immediately were scored as 0. Four women (2 in each group) did not breastfeed at all due to three early neonatal deaths, and one prolonged admission in the special care baby unit that probably resulted in lactational failure. Only four participants initiated breastfeeding immediately in the recovery room and were therefore scored time of zero day. Other participants who commenced shortly after delivery were expressed in fractions of a day depending on the number of hours that elapsed before they initiated breastfeeding. The results were comparable in both the intention-to-treat and per-protocol analysis.

Is Breastfeeding Initiation Earlier After Uncomplicated Caesarean Delivery Following the Ultra-Short Stay Post-Operative Management Protocol than The Traditional Protocol? A Randomized Controlled Trial.

CONSORT FLOW CHART

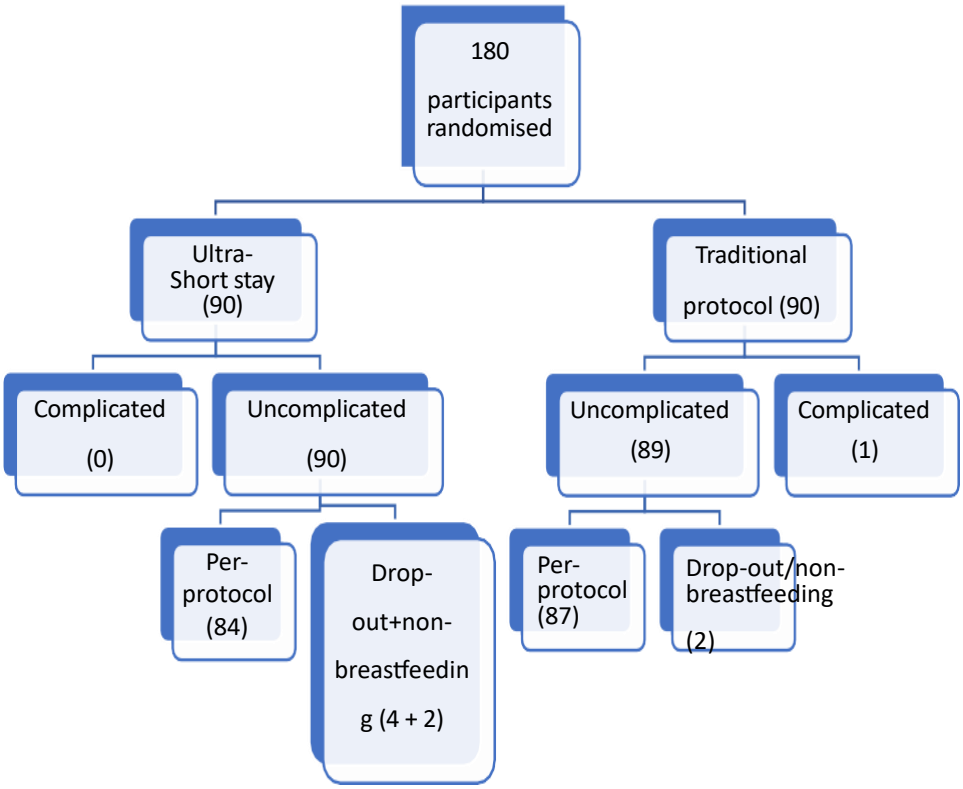

Figure 1: Flow diagram showing randomization to analysis [11]

Table I: Sociodemographic characteristics of all participants

Characteristic	Traditional (n = 89) Frequency (%)	Ultra-short (n = 90) Frequency (%)	t/χ^2	P-value
Age (years)	32.0 ± 4.6	32.2 ± 5.4	3.13	0.371*
≤ 24	7 (7.9%)	5 (5.6%)		
25 - 29	17 (19.1%)	27 (30.0%)		
30 - 34	38 (42.7%)	32 (35.6%)		
≥ 35	27 (30.3%)	26 (28.9%)		
Marital status:				
Single	6 (6.7%)	6 (6.7%)	2.40	0.301*
Married	83 (93.3%)	84 (93.3%)		
Educational status:				
No formal	0 (0%)	2 (2.2)	7.82	0.020*
Secondary	34 (38.2%)	19 (21.1%)		
Tertiary	55 (61.8%)	69 (76.7%)		
Religion:				
Christianity	86 (96.6%)	90 (100%)	3.09	0.079*
Islam	3 (3.4%)	0 (0%)		
Tribe:				
Ijaw	54 (60.7%)	58 (64.4%)	1.85	0.764*
Yoruba	2 (2.2%)	3 (3.3%)		
Ibo	16 (18.0%)	18 (20.0%)		
Hausa	4 (4.5%)	2 (2.2%)		
Other	13 (14.6%)	9 (10%)		

*Fisher's exact P- value, t-test is for numerical variables while chi-squared test (χ^2) is for categorical variables. P - value < 0.05 is statistically significant.

Table II: Occupational and obstetric characteristics of all participants.

Characteristics	Traditional(n = 89)	Ultra-short(n= 90)	t/ χ^2	P – value
Occupation				
Civil/public service	12 (13.5%)	12 (13.3%)	10.16	0.338*
Business/entrepreneur	48 (53.9%)	46 (51.1%)		
Nursing	3 (3.4%)	7 (7.8%)		
Student	7 (7.9%)	5 (5.6%)		
Medical Lab. Science	4 (4.5%)	3 (3.3%)		
Applicant	5 (5.6%)	0 (0.0%)		
Medical practice	0 (0.0%)	2 (2.2%)		
Trading	3 (3.4%)	5 (5.6%)		
Teaching	3 (3.4%)	4 (4.4%)		
Other	4 (4.5%)	6 (6.7%)		
Parity	2.1 ± 1.2	2.3 ± 1.8	0.41	0.815*
1	34 (38.2%)	33 (36.7%)		
2 - 4	51 (57.3%)	51 (56.7%)		
> 4	4 (4.55)	6 (6.7%)		
Estimated GA at C-section	37.6 ± 2.2	38.0 ± 1.5	0.46	0.796
< 37 weeks	15 (16.9%)	16 (17.8%)		
37 - 40 weeks	70 (78.7%)	68 (75.6%)		
> 40 weeks	4 (4.5%)	6 (6.7%)		
Indications for C-section	33 (37.1%)	35 (38.9%)	6.89	0.331*
Previous C-section	16 (18.0%)	10 (11.1%)		
Hypertensive disorders	8 (9.0%)	3 (3.3%)		
Placenta praevia	4 (4.5%)	7 (7.8%)		
Breech presentation	2 (2.2%)	5 (5.6%)		
Abnormal lie	1 (1.1%)	3 (3.3%)		
Maternal request	25 (28.1%)	27 (30.0%)		
Other				

*Fisher exact P - value, t-test is for numerical variables while chi-squared test (χ^2) is for categorical variables. P - value < 0.05 is statistically significant. C-section – Caesarean section

Table III: Time interval for initiation of breastfeeding

Variables	Traditional	Ultra-short	t-test	RR	CI	P-value
Initiation of breastfeeding (mean number of days)	2.4 ± 3.1*	1.3 ± 1.7*	2.92	1.58	1.36-1.84	<0.001
Intention-to-treat analysis						
Total	87 (100%)	88 (100%)				
Initiation of breastfeeding (mean number of days) Per-protocol analysis	2.2 ± 2.5*	1.2 ± 1.6*	3.01	1.55	1.33-1.60	<0.001
Total	87 (100%)	84 (100%)				

t-test is for numerical variables. *Standard deviation ≡ standard error, P - value < 0.05 is statistically significant, RR – Relative Risk or Risk Ratio, CI – Confidence Interval.

Bivariate analysis for sociodemographic associations with time of initiation of breastfeeding showed significant association of educational status, religion and tribe with time of initiation of breastfeeding. The only two participants who had no formal education both had early initiation of breastfeeding, and a greater proportion of the Ibo and Hausa women tended to have earlier initiation of breastfeeding, though there were very few Hausa women recruited in the study. A higher proportion of Christians initiated breastfeeding earlier, though the number of Muslims who participated in the study were very few, since the predominant religion in the study area is Christianity.

Table IV: Bivariate analysis of possible sociodemographic factors associated with participant's initiation of breastfeeding, after combining the groups.

	Time interval for initiation of breastfeeding (number of days) (n = 175)				
Variable	<1 day	1-2 days	>2 days	χ^2	P value
Age					
≤ 24	7 (6.5%)	4 (6.8%)	1 (11.1%)	6.47	0.373
25 – 29	31 (29.0%)	9 (15.3%)	4 (44.5%)		
30 – 34	38 (35.5%)	25 (42.3%)	3 (33.3%)		
≥ 35	31 (29.0%)	21 (35.6%)	1 (11.1%)		
Marital status					
Single	3 (2.8%)	6 (10.2%)	1 (11.1%)	5.74	0.219
Married	102 (95.3%)	53 (89.8%)	8 (88.9%)		
Widowed	2 (1.9%)	0 (0.0%)	0 (0.0%)		
Education					
No formal	2 (1.9%)	0 (0.0%)	0 (0.0%)	12.51	0.014
Secondary	23 (21.5%)	25 (42.4%)	5(55.6%)		
Tertiary	82 (76.6%)	34 (57.6%)	4(44.4%)		
Religion					
Christianity	106 (99,1%)	59 (100%)	7 (77.8%)	24.47	<0.001
Islam	1 (0.9%)	0 (0.0%)	2 (22.2%)		
Tribe					
Yoruba	2 (1.9%)	3 (5.1%)	0 (0.0%)	17.24	0.028
Ibo	21 (19.6%)	10 (16.9%)	3 (33.3%)		
Hausa	4 (3.7%)	0 (0.0%)	2 (22.2%)		
Ijaw	64 (59.8%)	41 (69.5%)	3 (33.3%)		
Other	16 (15.0%)	5 (8.5%)	1 (11.1%)		

*Fisher's exact P-value, χ^2 – chi square test for categorical variables, P – value of < 0.05 is statistically significant.

Table V: Bivariate analysis of possible occupational and Obstetric factors associated with participant's initiation of breastfeeding, after combining the groups.

	Time interval of initiation of breastfeeding (n = 175)				
Variable	< 1 day	days	> 2 days	χ^2	P value
Occupation					
Civil service	12 (11.2%)	12(20.3%)	0 (0.0%)	19.19	0.380
Business	51 (47.7%)	33 (55.9%	6 (66.7%)		
Nursing	8 (7.5%)	1 (1.7%)	1 (11.1%)		
Student	7 (6.5%)	5 (4.7%)	0 (0.0%)		
Med. Lab.	4 (3.7%)	2 (3.4%)	1 (11.1%)		
Applicant	3 (2.8%)	2 (3.4%)	0 (0.0%)		
Medical prac.	2 (1.9%)	0 (0.0%)	0 (0.0%)		
Trading	7 (6.5%)	0 (0.0%)	1 (11.1%)		
Teaching	4 (3.7%)	3 (5.1%)	0 (0.0%)		
Other	9 (8.4%)	1 (1.7%)	0 (0.0%)		
Parity					
1	37 (34.6%)	26(44.1%)	4 (44.4%)	2.56	0.634
2 - 4	63 (58.9%)	30(50.8%)	5 (55.6%)		
> 4	7 (6.5%)	3 (5.1%)	0 (0.0%)		
EGA at C-section					
< 37 weeks	19 (17.8%)	10(16.9%)	2 (22.2%)	2.53	0.639
37 - 40 weeks	84 (78.5%)	44(74.6%)	6 (66.7%)		
> 40 weeks	4 (3.7%)	5 (8.5%)	1 (11.1%)		
Indications					
Previous C-section	53 (49.5%)	14(23.7%)	1 (11.1%)	27.23	0.007
Mild hypertension	8 (7.5%)	11(18.6%)	3 (33.3%)		
Placenta praevia	5 (4.7%)	6 (10.2%)	0 (0.0%)		
Breech	5 (4.7%)	6 (10.2%)	0 (0.0%)		
Abnormal lie	7 (6.5%)	0 (0.0%)	0 (0.0%)		
Maternal request	1 (0.9%)	3 (5.1%)	0 (0.0%)		

Other	28 (26.2%)	19(32.2%)	5 (55.6%)

*Fisher's exact P-value. P – value of < 0.05 is statistically significant, C-section – Caesarean delivery

Bivariate analysis of possible occupational and Obstetric factors associated with time of initiation of breastfeeding after uncomplicated Caesarean delivery showed statistical significance only with the indications for Caesarean section. Participants who had had previous Caesarean section initiated breastfeeding earlier than those who had Caesarean section for other indications.

DISCUSSION

This multi-centre randomized controlled trial evaluated initiation of breastfeeding among women discharged early (36–48 hours) following uncomplicated Caesarean section compared with those managed under the conventional/traditional hospital-stay of 3–5 days after delivery. The primary findings revealed that women in the ultra-short stay group exhibited significantly earlier initiation of breastfeeding than their counterparts in the traditional hospital-stay group.

The study offers critical insights into the effectiveness and acceptability of early discharge protocols following Caesarean section, with implications for optimizing maternal recovery, patient-centred care, and resource utilization in similar healthcare settings. These findings could support evidence-based review of post-Caesarean management practices in low-resource environments. [12]

The earlier initiation of breastfeeding observed in the ultra-short stay group aligns with benefits documented in studies investigating enhanced recovery and early discharge models. These models, which emphasize early mobilization, patient education, and coordinated home support, are associated with quicker psychological and physiological recovery and positive maternal-infant bonding, potentially facilitating breastfeeding behaviours. [2,12,13] Breastfeeding initiation and sustained lactation are influenced by maternal confidence, support, and early maternal-infant contact, all of which can be strengthened in the home environment where familial support structures are present. [14,15] While some randomized trials have reported similar breastfeeding rates between early and standard discharge groups, especially when structured support such as midwife home visits is provided, early discharge does not appear to compromise breastfeeding outcomes and may in fact enhance maternal satisfaction with early feeding experiences. [16]

The observed benefits of ultra-short stay discharge on functional recovery have important implications for postpartum care models, especially in settings where prolonged hospital stays contribute significantly to healthcare costs, bed occupancy pressures, and patient dissatisfaction. [5,13]

Some studies have explored discharge at even earlier time points (like 24 to 36 hours) and reported equivalent breastfeeding outcomes and satisfaction by six weeks postpartum compared with day two discharge, suggesting that carefully selected women can safely benefit from accelerated timelines without compromising key health outcomes. [14,17,18] A recent prospective study conducted in South-Western Nigeria evaluating an ultra-short stay post-operative management protocol after routine (predominantly elective Caesarean sections) showed the feasibility of discharge home within 36 hours after Caesarean section (with a mean length of post-operative hospital-stay of 32.5 hours), and the participants expressing satisfaction with this regimen. [18] These findings reinforce the fact that discharge timing per se is not detrimental when accompanied by robust postpartum support, but the specific context, resources, and individual patient factors should guide clinical protocols.

Anecdoctal experiences reveal a reluctance among women who have just had a Caesarean delivery to initiate early breastfeeding, but with the WHO recommendations for breastfeeding, it is important that post-operative management protocols promote early recovery and initiation of breastfeeding among women who just had uncomplicated Caesarean section, which will help to dispel this misgiving. This study generally shows delayed initiation of breastfeeding among these women, which is in contrast to another study which showed much earlier initiation of breastfeeding postpartum. [14]

Prominent among the factors affecting time of initiation of breastfeeding (associated with earlier initiation of breastfeeding) in this study is previous Caesarean section as an indication for the Caesarean delivery, which may probably be due to the woman's success in overcoming the previous reluctance after having had a previous experience of Caesarean delivery.

Some limitations of this study is the fact that it did not consider pre-operative medication, which can affect breast milk production, also fetal and neonatal outcomes were not considered in the study. The sample size was relatively small.

CONCLUSION

The ultra-short stay post-operative management protocol of early discharge after uncomplicated Caesarean delivery is associated with a significantly quicker initiation of breastfeeding, compared with the traditional hospital-stay. However there is generally a delay in initiation of breastfeeding in women who have had a Caesarean delivery. Healthcare providers should help to dispel the misgivings against the early initiation of breastfeeding in women who have had Caesarean delivery by adopting post-operative management protocols that enhance recovery, and also by encouraging and supporting women to ensure early initiation of breastfeeding after Caesarean delivery.

List of abbreviations

AIDS - Acquired Immune Deficiency Syndrome
CI - Confidence interval
CONSORT - Consolidated Standards of Reporting Trials
C/S - Caesarean Section
DKMH - Diete-Koki Memorial Hospital
EDD - Expected Date of Delivery
EGA - Estimated Gestational Age
ERAC - Enhanced Recovery after Caesarean Section
ERAS - Enhanced Recovery after Surgery
FMC-Y - Federal Medical Centre, Yenagoa
GA - General anaesthesia
HIV - Human Immunodeficiency Virus
IBM - International Business Machines Corporation
LMIC - Low-Middle Income Countries
p. - Pages
PACTR - Pan Africa Clinical Trial Registry
% - Percent
P-value - Probability value
RCT - Randomized Control Trials
RR - Relative Risk or Risk Ratio
SCBU - Special Care Baby Unit
SPSS - Statistical Package for the Social Sciences
SUML - Subumbilical midline incision
SVD - Spontaneous Vaginal Delivery
t - Student's t-test
WHO - World Health Organization
WinPEPI - Windows versions of Programs for Epidemiologists
X^2 - Chi square test.

DECLARATIONS

- Ethical approval for the study was obtained from the Research Ethics Committee of the Federal Medical Centre, Yenagoa. Protocol number: 716, in accordance with the Declaration of Helsinki; and written consent to participate was obtained through consent forms.
- **Consent for publication not applicable**
- **The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.**
- There are no conflicts of interest
- **There was no Funding**
- Contributions of authors:
- Oyeyemi N. – concept, literature review, methodology, data collection, analysis
- Onwudiegwu U. – supervision and correction of the proposal and the final paper
- Pughikumo D. – supervision and correction of the proposal and the final paper
- Oyeyemi A.S. – Data analysis and editing of the paper
- The paper was read and approved by all the authors

Acknowledgements to Dr. Judith Adhuze who supervised the collection of data in the other two centres – NDUTH and DKMH and to the staff of the Department of Obstetrics & Gynaecology, FMC-Yenagoa.

REFERENCES

1) UNICEF Data. Breastfeeding: Too few Children benefit from Recommended Breastfeeding Practices. December 2025.
2) Pan American Health Organization. Early Initiation of Breastfeeding: The key to Survival and Beyond. [cited 2026, January 24].

3) WHO and UNICEF. Capture the Moment – Early initiation of breastfeeding. The best start for every newborn. New York 2018.
4) A.P. Betran *et al.* Trends and projections of caesarean section rates: global and regional estimates. *BMJ Glob Health* (2021 Jun 1).
5) Oyeyemi N, Oyeneyin L, Oluwole A, Oyeyemi A, Afolabi B. Post-operative management in uncomplicated caesarean delivery: A randomised trial of short-stay versus traditional protocol at the Lagos University Teaching Hospital, Nigeria. *Niger Postgrad Med J, 2019. Jan-Mar; 26(1):31-37. doi :10.4103/npmj_166_18. PMID:30860197.*
6) The CAESAR study collaborative group. Caesarean section surgical techniques: a randomised factorial trial (CAESAR). BJOG 2010; 117:1366–1376.
7) Satyajit Kundu, Abebaw Gedef Azene, Subarna Kundu, Md Hassan AI Banna, Tahira Mahbub, Najim Z Alshahrani, Md et al. Prevalence of and factors associated with early initiation of Breastfeeding in Bangladesh: a multilevel modelling, International Health, Volume 15, Issue 4, July 2023, Pages 403-413, https://doi.org/10.1093/Inthealth/ihac058
8) Abrahamson JH, Abrahamson ZH (eds). Clinical Trials. Research Methods in Community Medicine 6th ed. John Wiley and Sons Ltd, 2008: 325-344.
9) Handbook on Reproductive Health indicators, United Nations. New York, 2001. Introduction, page13. Cited at http://www.unescap.org/esid/psis/publications/handbookhealth/handbook.pdf on 15/09/11.
10) Abrahamson: **WINPEPI updated: computer programs for epidemiologists, and their teaching potential.** *Epidemiologic Perspectives & Innovations* 2011 8:1.
11) Cuschieri S. The CONSORT statement. *Saudi J Anaesth* 2019; 13:S27-30.
12) Adebisi, M. O., Adekanye, E. A., Afolabi, O. B., Okurumeh, O. I., Amerijoye, A. M., Lawal, F., Akinyoade, R. A., Odiegwu, T. I., & Adeniyi, A. A. (2025). Improving maternal and neonatal outcomes through enhanced recovery after caesarean approach: a systematic review. *International Journal of Research in Medical Sciences*, *13*(8), 3411–3418. https://doi.org/10.18203/2320-6012.ijrms20252414
13) Fasubaa OB, Ogunniyi SO, Dare FO, Isawumi AI, Ezechi OC, Orji EO. Uncomplicated caesarean section: is prolonged hospital stay necessary? East Afr Med J 2000;77:448-451.
14) Johar N, Mohamad N, Saddki N, Tengku Ismail TA, Sulaiman Z. Factors Associated with Early Breastfeeding Initiation among Women Who Underwent Caesarean Delivery at Tertiary Hospitals in Kelantan, Malaysia. *Korean J Fam Med 2021* Mar; 42(2): 140-149. doi: 10. 4082/kjfm. 19.0178. Epub 2020 May 19. PMID: 32423181; PMCID: PMC8010441.
15) Zadoroznyj M. Postnatal care in the community: report of an evaluation of birthing women's assessments of a postnatal home-care programme. Health Soc Care Community. 2007 Jan;15(1):35-44. doi: 10.1111/j.1365-2524.2006.00664.x. PMID: 17212624.
16) Kruse AR, Lauszus FF, Forman A, Kesmodel US, Rugaard MB, Knud-En RK, Persson EK, Sundtoft IB, Uldbjerg N. Breastfeeding among parous women offered home-visit by a midwife after early discharge following planned cesarean section: Secondary analysis of a randomized controlled trial. Eur J Midwifery. 2023 Dec 7;7:38. doi: 10.18332/ejm/173089. PMID: 38075381; PMCID: PMC10701761.
17) Ghaffari P., Vanda, R., Aramesh, S. Jamail L, Bazarganipour F, Gbatee MA. Hospital discharge on the first compared with the second day after a planned caesarean delivery had equivalent maternal postpartum outcomes: a randomized single-blind controlled clinical trial. *BMC Pregnancy Childbirth* 2021 Jun 30;21(1):466 http://doi.org/10.1186/s12884-021-03873-8
18) Oyeneyin, L.; Adeyemo, M.; Ibukun, O. Is day-case caesarean section feasible? Evaluating an ultrashort -stay post-operative protocol at the University of Medical Sciences Teaching Hospital, Ondo state. South-western Nigeria. *Ann. Heal. Allied Sci*. **2025**, *1*, 1-6, https://doi.org/10.70019/ahas.v1i1.30.