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# Knowledge and Preventive Behaviour Towards Neonatal Infection-Prevention Strategies Mothers in Selected Special Baby Care Units in Yenagoa Metropolis

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**Abstract**

*Despite advances in neonatal care, infections remain a leading cause of preventable neonatal deaths in Nigeria. This study investigated the knowledge and preventive behaviour towards neonatal infection-prevention strategies mothers in selected Special Baby Care Units in Yenagoa Metropolis. The study adopted a descriptive cross sectional design with a population consisting of all mothers of neonates admitted to Special Baby Care Units (SBCUs). A sample of 41 mothers were selected using the multi-stage sampling procedure. The instrument for data collection in this study was a structured questionnaire with a reliability index of 0.86. The instrument was developed by the researcher in line with the study objectives and informed by a thorough review of relevant literature on neonatal infection prevention. Data collection was carried out in two phases: pre-intervention and post-intervention. Data was analyzed with the aid of the Statistical Product for Service Solution version 25.0, using frequency, percentage, mean, and standard deviation. Almost all respondents recognized the importance of hand hygiene before handling the baby (95.1%), prompt hospital visit when the baby is sick (97.6%), and immunization (90.2%). However, misconceptions were observed, as 68.3% believed applying substances on the umbilical cord promotes healing, and nearly half (48.8%) thought bathing the baby immediately after birth prevents infection. The majority consistently washed their hands before breastfeeding (73.2%), ensured immunization according to schedule (78.0%), and strictly followed medical advice when their babies were unwell (78.0%). However, lower compliance was observed in delaying the first bath for 24 hours (61.0%) and practicing skin-to-skin contact (58.5%). It was recommended that Nurses and other healthcare workers should continue to provide structured and regular health education on neonatal infection-prevention strategies to mothers, particularly emphasizing areas of misconception such as cord care and timing of the first bath.*

***Keywords:*** *Behaviour, Knowledge, Prevention, Neonate, Infection.*

## Introduction

Neonatal infections are a major contributor to global neonatal morbidity and mortality, particularly in low- and middle-income countries. These infections accounted for nearly 30% of an estimated 2.3 million neonatal deaths worldwide. Majority of these infection-related deaths were preventable through appropriate hygienic practices and timely interventions (World Health Organization [WHO], 2024). In sub-Saharan Africa, the burden of neonatal infections is disproportionately high due to poor health infrastructure, limited access to skilled care, and suboptimal hygienic practices during and after delivery. For instance, studies in countries like Ethiopia, Uganda, and Tanzania have reported high rates of neonatal sepsis, often linked to home deliveries, poor cord care, and delayed recognition of infection signs (Abate et al., 2021; Musoke et al., 2022; Manyahi et al., 2020).

In Nigeria, neonatal infections such as sepsis, pneumonia, and tetanus contribute significantly to the country's high

neonatal mortality rate, which stood at 35 deaths per 1,000 live births according to the 2018 Nigeria Demographic and Health Survey (National Population Commission & ICF, 2019). Local studies have also highlighted the critical role of caregivers, particularly mothers, in the adoption of preventive practices such as hand hygiene, proper cord care, exclusive breastfeeding, and early care-seeking behaviour (Onyearugha & Onyire, 2022).

In Bayelsa State, located in Nigeria's South-South region, neonatal infections remain a key public health issue, especially within urban centers like Yenagoa Metropolis where healthcare access coexists with persistent traditional practices and low health literacy (Duru et al., 2023). For example, a retrospective study at the Federal Medical Centre, Yenagoa (FMCY), revealed that neonatal sepsis accounted for over 40% of admissions into the Special Baby Care Unit (Ekuma et al., 2020). Contributing factors include poor knowledge and practices among caregivers, delayed presentation to health facilities, and unhygienic postnatal environments.

Preventive behaviour, which includes practices aimed at reducing the risk of neonatal infections, is shaped by both knowledge and socio-cultural norms (Onyemaobi et al., 2023). While awareness alone may not guarantee behavioural change, structured caregiver education has proven effective in improving hygiene practices and reducing infection-related neonatal mortality (Bhutta et al., 2019). In the Nigerian context, caregiver-focused health education has been associated with improved cord care and thermal protection practices (Odetola, 2021). However, gaps remain in how effectively these interventions are delivered, especially in neonatal intensive care or special baby care unit settings.

Caregiver health education in hospital-based settings offers a unique opportunity to equip mothers with actionable knowledge and skills before discharge. This is particularly important in Special Baby Care Units (SBCUs), where neonates are more vulnerable due to preterm birth, low birth weight, or prior infection. Yet, few interventional studies in Nigeria, and particularly in Bayelsa State, have rigorously examined the impact of structured health education on the preventive behaviours of mothers in such high-risk units.

Given this context, this study seeks to assess the impact of caregiver health education on the level of preventive behaviour towards neonatal infections among mothers in selected Special Baby Care Units in Yenagoa Metropolis. By evaluating behaviour, the study aims to generate evidence that could inform practice and policy, especially in similar resource-limited neonatal care settings.

## Statement of the Problem

Despite advances in neonatal care, infections remain a leading cause of preventable neonatal deaths in Nigeria, contributing significantly to the country's persistently high neonatal mortality rate of 35 deaths per 1,000 live births (National Population Commission & ICF, 2019). In regions like Bayelsa State, contextual challenges such as low health literacy, harmful traditional practices, and delayed care-seeking continue to heighten the risk of infection-related complications in newborns (Duru et al., 2023). These challenges are particularly critical in Special Baby Care Units (SBCUs), where neonates—often preterm, underweight, or recovering from sepsis—are more vulnerable.

Evidence suggests that simple, low-cost preventive behaviours such as hand hygiene, clean cord care, and early recognition of infection signs can substantially reduce neonatal infections (Bhutta et al., 2019; Onyearugha & Onyire, 2022). However, these practices are not consistently adopted by caregivers, largely due to inadequate knowledge and sociocultural misconceptions (Onyemaobi et al., 2023). While health education has been shown to improve maternal practices in community settings (Odetola, 2021), there remains a critical need to strengthen such education within hospital settings—especially at the point of discharge from SBCUs.

In Yenagoa Metropolis, where both healthcare services and traditional practices coexist, caregiver education represents a crucial intervention to improve maternal competence in neonatal infection prevention. Yet, the extent to which structured hospital-based education in SBCUs can influence maternal preventive behaviour remains underexplored. It is therefore essential to assess the impact of caregiver health education in promoting preventive behaviours that can reduce neonatal infections and ultimately improve survival outcomes. The study provided answers to the following research questions:

1. What is the baseline level of mothers' knowledge of neonatal infection-prevention strategies before the health education?
2. What is the level of preventive behaviour towards neonatal infections among mothers in selected Special Baby Care Units in Yenagoa Metropolis before exposure to caregiver health education?
3. What is the impact of caregiver health education on the preventive behaviour of mothers in selected Special Baby Care Units in Yenagoa Metropolis?

## Methodology

The study adopted a descriptive cross-sectional design with a population consisting of all mothers of neonates admitted

to Special Baby Care Units (SBCUs) in selected health facilities within Yenagoa Metropolis, Bayelsa State. These mothers are directly responsible for the care of their newborns and play a critical role in the prevention of neonatal infections. As at the time of conducting this research, the average number of mothers of neonates admitted into SBCUs in health facilities in Yenagoa metropolis was unknown. A sample of 41 mothers were selected using the multi-stage sampling procedure. First, health facilities in Yenagoa Metropolis that had functional Special Baby Care Units (SBCUs) and a consistent flow of neonatal admissions were purposively selected. These facilities were identified based on their accessibility, patient load, and willingness to participate in the study. Following the selection of the health facilities, a purposive sampling technique was employed to recruit participants. Mothers whose neonates were admitted to the SBCUs of the selected facilities and who met the inclusion criteria were approached and invited to participate in the study.

Inclusion was based on their availability during the study period and their willingness to complete both the pre- and post-intervention assessments. Recruitment continued until the required sample size was attained. The instrument for data collection in this study was a structured questionnaire with a reliability index of 0.86. The instrument was developed by the researcher in line with the study objectives and informed by a thorough review of relevant literature on neonatal infection prevention. Data collection was carried out in two phases: pre-intervention and post-intervention. In the pre-intervention phase, the researcher administered the structured questionnaire to participants to assess their baseline knowledge and preventive behaviours regarding neonatal infections. In the post-intervention phase, the same questionnaire used for the pre-test was re-administered to participants one week after the intervention to evaluate changes in knowledge and reported preventive behaviours. The post-test was conducted under similar conditions as the pre-test to ensure consistency in data collection. Data was analyzed with the aid of the Statistical Product for Service Solution version 25.0, using frequency, percentage, mean, and standard deviation.

## Results

The results of the study are shown below:

**Ethical Consideration**

An introductory letter was obtained from the School of Post Basic Nursing, University of Port Harcourt Teaching Hospital to enable the researcher apply for ethical approval to conduct the study. The Research and Ethics Committee of the Bayelsa State Ministry of Health granted ethical approval to conduct the study after going through the letter of introduction and a summary of the research proposal. Administrative permit was also obtained from selected health facilities in Yenagoa Metropolis to carry out the study in their respective Special Baby Care Units (SBCUs). The purpose of the study was explained to the respondent and informed consent was obtained before data collection commenced. The data extracted from the questionnaires were saved in a pass-worded computer and only accessed by authorized persons for the purpose of study. Confidentiality was maintained through anonymity. Respondents were also assured of a willing withdrawal from the study and that the data collected would be used only for academic purposes.

***Table 1: Demographic Characteristics of Respondents***

| Variable | Category | Frequency (n) | Percentage (%) |
|---|---|---|---|
| **Age (years)** | < 20 | 5 | 12.2 |
| | 20–29 | 17 | 41.5 |
| | 30–39 | 14 | 34.1 |
| | ≥ 40 | 5 | 12.2 |
| Mean/Standard | 30(SD±6.0) | | |
| **Marital status** | Single | 4 | 9.8 |
| | Married | 34 | 82.9 |
| | Widowed | 2 | 4.9 |
| | Divorced | 1 | 2.4 |
| **Highest level of education** | No formal education | 3 | 7.3 |
| | Primary | 7 | 17.1 |
| | Secondary | 18 | 43.9 |
| | Tertiary | 13 | 31.7 |

| Variable | Category | Frequency (n) | Percentage (%) |
|---|---|---|---|
| **Occupation** | Trading | 11 | 26.8 |
| | Civil servant | 9 | 22.0 |
| | Artisan | 7 | 17.1 |
| | Unemployed | 10 | 24.4 |
| | Others (e.g., farming, private sector) | 4 | 9.8 |
| **Parity (children born)** | 1 (Primiparous) | 12 | 29.3 |
| | 2–3 | 19 | 46.3 |
| | ≥4 | 10 | 24.4 |
| **Place of residence** | Urban | 27 | 65.9 |
| | Rural | 14 | 34.1 |

Results in Table 1 show that most respondents were within the age group of 20–29 years (41.5%), with a mean age of 30 years (SD ± 6.0). The majority were married (80.5%) and had at least secondary education (73.2%). Trading (29.3%) and unemployment (26.8%) were the most common occupations. Most of the mothers had 2–3 children (46.3%) and resided in urban areas (65.9%).

***Table 2: Baseline Knowledge of Neonatal Infection-Prevention Strategies Among Mothers***

| S/N | Item Statement | True *f (%)* | False/Not Sure *f (%)* | Mean ± SD |
|---|---|---|---|---|
| 1 | Washing hands before breastfeeding or carrying a baby helps prevent infections | 38 (92.7) | 3 (7.3) | 0.93 ± 0.25 |
| 2 | Applying substances such as toothpaste, herbs, or powder on the cord helps it heal faster | 28 (68.3) | 13 (31.7) | 0.68 ± 0.47 |
| 3 | Exclusive breastfeeding for the first six months helps protect babies from infections | 35 (85.4) | 6 (14.6) | 0.85 ± 0.36 |
| 4 | The baby's umbilical cord should be kept clean and dry until it falls off naturally | 36 (87.8) | 5 (12.2) | 0.88 ± 0.33 |
| 5 | Immunization of babies according to schedule prevents serious infections | 37 (90.2) | 4 (9.8) | 0.90 ± 0.30 |
| 6 | Keeping the baby in a crowded room increases the risk of infection | 33 (80.5) | 8 (19.5) | 0.81 ± 0.40 |
| 7 | Visitors should wash their hands before touching the baby | 39 (95.1) | 2 (4.9) | 0.95 ± 0.22 |
| 8 | A mother should take her baby to the hospital promptly when the baby develops fever or difficulty breathing | 40 (97.6) | 1 (2.4) | 0.98 ± 0.15 |
| 9 | Skin-to-skin contact (kangaroo care) can help improve the baby's immunity | 29 (70.7) | 12 (29.3) | 0.71 ± 0.46 |
| 10 | Bathing the baby immediately after birth prevents infections | 20 (48.8) | 21 (51.2) | 0.49 ± 0.50 |
| 11 | Using soap and water or sanitizer before handling the baby reduces infection | 37 (90.2) | 4 (9.8) | 0.90 ± 0.30 |
| 12 | Delaying the baby's first bath for at least 24 hours reduces infection risk | 28 (68.3) | 13 (31.7) | 0.68 ± 0.47 |
| 13 | Overcrowded and poorly ventilated rooms make babies more vulnerable to infections | 34 (82.9) | 7 (17.1) | 0.83 ± 0.38 |
| 14 | Breastfeeding mothers should keep their breasts clean to prevent passing germs to the baby | 36 (87.8) | 5 (12.2) | 0.88 ± 0.33 |
| 15 | Sick persons should not be allowed near newborns | 39 (95.1) | 2 (4.9) | 0.95 ± 0.22 |
| | *Group Mean Knowledge Score* | | | 11.4 ± 2.3 |

Results in Table 2 show that mothers demonstrated good awareness of several neonatal infection-prevention strategies. Almost all respondents recognized the importance of hand hygiene before handling the baby (95.1%), prompt hospital visit when the baby is sick (97.6%), and immunization (90.2%). However, misconceptions were observed, as 68.3% believed applying substances on the umbilical cord promotes healing, and nearly half (48.8%) thought bathing the baby immediately after birth prevents infection. The overall group mean knowledge score was 11.4 ± 2.3 out of 15, indicating a relatively high knowledge level before the intervention.

***Table 3: Respondents' Preventive Behaviour Towards Neonatal Infections at Baseline***

| S/N | Item Statement | Always n (%) | Sometimes n (%) | Rarely n (%) | Never n (%) | Mean ± SD |
|---|---|---|---|---|---|---|
| 1 | I wash my hands before breastfeeding or carrying my baby. | 30 (73.2) | 8 (19.5) | 2 (4.9) | 1 (2.4) | 3.63 ± 0.69 |
| 2 | I encourage others to wash their hands before touching the baby. | 28 (68.3) | 9 (22.0) | 3 (7.3) | 1 (2.4) | 3.56 ± 0.74 |
| 3 | I use soap and water or sanitizer regularly when handling the baby. | 27 (65.9) | 10 (24.4) | 3 (7.3) | 1 (2.4) | 3.54 ± 0.75 |
| 4 | I clean the baby's umbilical stump daily as instructed by the health worker. | 26 (63.4) | 9 (22.0) | 4 (9.8) | 2 (4.9) | 3.44 ± 0.87 |
| 5 | I avoid applying substances (e.g., powder, toothpaste, herbs) on the cord. | 25 (61.0) | 8 (19.5) | 5 (12.2) | 3 (7.3) | 3.34 ± 0.95 |
| 6 | I observe the cord area for signs of infection (e.g., redness or discharge). | 27 (65.9) | 7 (17.1) | 5 (12.2) | 2 (4.9) | 3.44 ± 0.91 |
| 7 | I feed my baby only breast milk without water or other fluids. | 29 (70.7) | 6 (14.6) | 4 (9.8) | 2 (4.9) | 3.51 ± 0.87 |
| 8 | I breastfeed my baby on demand (as often as needed). | 31 (75.6) | 7 (17.1) | 2 (4.9) | 1 (2.4) | 3.66 ± 0.70 |
| 9 | I maintain good breast hygiene before feeding. | 30 (73.2) | 6 (14.6) | 4 (9.8) | 1 (2.4) | 3.63 ± 0.75 |
| 10 | I take my baby for immunization according to the scheduled dates. | 32 (78.0) | 6 (14.6) | 2 (4.9) | 1 (2.4) | 3.68 ± 0.66 |
| 11 | I remind others about the importance of routine immunization. | 27 (65.9) | 8 (19.5) | 4 (9.8) | 2 (4.9) | 3.46 ± 0.87 |
| 12 | I know where to go if I miss an immunization date. | 28 (68.3) | 7 (17.1) | 4 (9.8) | 2 (4.9) | 3.49 ± 0.86 |
| 13 | I keep the baby's sleeping area clean and dust-free. | 29 (70.7) | 7 (17.1) | 3 (7.3) | 2 (4.9) | 3.54 ± 0.82 |
| 14 | I ensure that baby clothing and bedding are washed and dried properly. | 30 (73.2) | 8 (19.5) | 2 (4.9) | 1 (2.4) | 3.63 ± 0.70 |
| 15 | I avoid overcrowded and poorly ventilated rooms. | 26 (63.4) | 9 (22.0) | 4 (9.8) | 2 (4.9) | 3.44 ± 0.87 |
| 16 | I restrict visitors from carrying my baby unnecessarily. | 24 (58.5) | 10 (24.4) | 5 (12.2) | 2 (4.9) | 3.37 ± 0.89 |
| 17 | I do not allow sick persons near my baby. | 28 (68.3) | 8 (19.5) | 3 (7.3) | 2 (4.9) | 3.51 ± 0.84 |
| 18 | I ensure visitors clean their hands before touching the baby. | 27 (65.9) | 9 (22.0) | 3 (7.3) | 2 (4.9) | 3.49 ± 0.83 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 19 | I observe my baby for signs like fever, difficulty breathing, or refusal to feed. | 31 (75.6) | 6 (14.6) | 3 (7.3) | 1 (2.4) | 3.63 ± 0.74 |
| 20 | I take my baby to the hospital promptly when I notice unusual symptoms. | 30 (73.2) | 7 (17.1) | 3 (7.3) | 1 (2.4) | 3.61 ± 0.73 |
| 21 | I follow medical advice strictly when my baby is unwell. | 32 (78.0) | 6 (14.6) | 2 (4.9) | 1 (2.4) | 3.68 ± 0.66 |
| 22 | I ensure my baby is adequately clothed, including a cap and socks. | 29 (70.7) | 8 (19.5) | 3 (7.3) | 1 (2.4) | 3.63 ± 0.72 |
| 23 | I delay the baby's first bath for at least 24 hours after birth. | 25 (61.0) | 9 (22.0) | 5 (12.2) | 2 (4.9) | 3.39 ± 0.90 |
| 24 | I practice skin-to-skin contact (kangaroo care) when advised by health workers. | 24 (58.5) | 10 (24.4) | 5 (12.2) | 2 (4.9) | 3.37 ± 0.89 |
| 25 | I avoid exposing my baby to cold environments or drafts. | 28 (68.3) | 7 (17.1) | 4 (9.8) | 2 (4.9) | 3.51 ± 0.84 |
| | Group Mean ± SD | | | | | 3.52 ± 0.18 |

Results in Table 3 show that mothers reported high compliance with several infection-prevention practices. The majority consistently washed their hands before breastfeeding (73.2%), ensured immunization according to schedule (78.0%), and strictly followed medical advice when their babies were unwell (78.0%). However, lower compliance was observed in delaying the first bath for 24 hours (61.0%) and practicing skin-to-skin contact (58.5%). The overall group mean score was 3.52 ± 0.18.

***Table 4: Paired Sample t-test of Mothers' Knowledge and Preventive Behaviour Scores Pre- and Post-Intervention***

| Variable | Mean ± SD (Pre) | Mean ± SD (Post) | Mean Difference | t-value | df | p-value |
|---|---|---|---|---|---|---|
| Knowledge score | 11.4 ± 2.3 | 13.7 ± 1.1 | 2.3 | 12.37 | 40 | <0.001 |
| Preventive behaviour score | 3.52 ± 0.18 | 3.89 ± 0.20 | 0.37 | 11.24 | 40 | <0.001 |

Results in Table 4 show that mothers' mean knowledge score increased from 11.4 (SD ± 2.3) before the intervention to 13.7 (SD ± 1.1) after the intervention, with a mean difference of 2.3. Similarly, preventive behaviour scores increased from 3.52 (SD ± 0.18) at baseline to 3.89 (SD ± 0.46) post-intervention, with a mean difference of 0.37. Both differences were statistically significant at $p < 0.001$.

## Discussion of Findings

The findings showed that mothers demonstrated relatively high baseline knowledge of neonatal infection-prevention strategies, with an overall mean score of 11.4 ± 2.3 out of 15. More than half of the respondents (56.1%) were classified as having good knowledge, 31.7% had moderate knowledge, and 12.2% had poor knowledge. At the item level, almost all mothers recognized the importance of hand hygiene before handling the baby (95.1%), prompt hospital visits when the baby shows signs of illness (97.6%), and timely immunization (90.2%). However, gaps were evident in some critical areas: 68.3% of mothers mistakenly believed that applying substances on the umbilical cord promotes healing, and 48.8% thought that bathing the baby immediately after birth prevents infection. These results indicate that while mothers possessed substantial knowledge of general preventive practices, misconceptions in specific areas could compromise neonatal safety. The implication is that targeted health education is necessary to correct harmful beliefs and reinforce accurate practices, particularly regarding umbilical cord care and immediate newborn hygiene, which are crucial for reducing infection risk in neonatal units.

When compared to previous studies within Nigeria, these findings are consistent with reports from Lagos and Ibadan, where postnatal mothers demonstrated moderate to good knowledge of infection-prevention strategies (Olusanya et al., 2018; Ezeaka et al., 2019). Similarly, studies from Ghana and India reported moderate maternal knowledge of

newborn care practices, especially regarding hygiene and breastfeeding (Amoakoh-Coleman et al., 2016; Kumar et al., 2017). In contrast, studies conducted in rural Northern Nigeria found lower levels of maternal knowledge, with less than one-third of mothers having adequate awareness (Abubakar et al., 2017), likely reflecting differences in educational attainment, urban versus rural settings, and access to health information.

The findings revealed that mothers demonstrated generally high preventive behaviours towards neonatal infections at baseline, with an overall group mean score of 3.52 ± 0.18. At the item level, most mothers consistently washed their hands before breastfeeding or carrying their babies (73.2%), ensured that their babies were immunized according to schedule (78.0%), and strictly followed medical advice when their babies were unwell (78.0%). However, lower adherence was observed for delaying the baby's first bath for at least 24 hours (61.0%) and practicing skin-to-skin contact (58.5%). Based on Bloom's cut-off, 58.5% of mothers demonstrated good preventive behaviours, 31.7% had moderate behaviours, and 9.8% exhibited poor preventive behaviours. These results indicate that while mothers in the selected Special Baby Care Units generally practiced recommended infection-prevention measures, gaps remain in specific practices that are critical for neonatal health, such as early bathing and kangaroo care. The implication is that even when mothers possess knowledge, translating it into consistent preventive actions may require reinforcement through structured health education, practical demonstrations, and supportive supervision in the care setting. Comparatively, these findings align with studies in Nigeria, where postnatal mothers in urban hospitals showed relatively high compliance with hand hygiene, immunization, and routine newborn care, but lower adherence to practices such as delayed bathing and skin-to-skin contact (Olusanya et al., 2018; Ezeaka et al., 2019). Similar patterns were reported in Ghana and India, where mothers were more consistent with routine hygiene and breastfeeding practices but less compliant with recommended cord care and immediate newborn care interventions (Amoakoh-Coleman et al., 2016; Kumar et al., 2017). Conversely, in rural Northern Nigeria, mothers' preventive behaviours were generally poorer, reflecting limited access to health education and healthcare services (Abubakar et al., 2017).

The results revealed a significant improvement in both knowledge and preventive behaviours of mothers following the caregiver health education intervention. Mothers' mean knowledge score increased from 11.4 ± 2.3 at baseline to 13.7 ± 1.1 post-intervention, reflecting a mean difference of 2.3 ($t = 12.37$, $p < 0.001$). Similarly, the mean preventive behaviour score rose from 3.52 ± 0.18 to 3.89 ± 0.20, with a mean difference of 0.37 ($t = 11.24$, $p < 0.001$). These results indicate that the health education intervention had a statistically significant positive effect on mothers' knowledge and practices regarding neonatal infection prevention. The implications of these findings are substantial. Enhanced maternal knowledge is critical because it underpins appropriate preventive behaviours, which are essential for reducing neonatal morbidity and mortality due to infections. The observed improvement suggests that structured caregiver health education can effectively bridge knowledge gaps and reinforce correct practices, particularly in areas previously identified as weak, such as cord care, delayed bathing, and skin-to-skin contact. These findings are consistent with previous studies both within and outside Nigeria. For instance, Olusanya et al. (2018) reported that targeted postnatal education significantly improved mothers' knowledge and practices related to newborn care in Lagos, Nigeria. Similarly, interventions in Ghana and India demonstrated that structured health education significantly enhanced maternal knowledge and compliance with neonatal infection-prevention measures (Amoakoh-Coleman et al., 2016; Kumar et al., 2017). Comparatively, studies in rural Northern Nigeria highlighted lower baseline knowledge and preventive behaviours, which improved markedly after educational interventions, emphasizing the role of context-specific health education (Abubakar et al., 2017).

## Conclusion

The study on mothers' knowledge and preventive behaviours highlights the need for government and health policy makers to invest in structured maternal and neonatal health education programs within Special Baby Care Units and broader healthcare settings. This includes ensuring adequate resources for health education, strengthening community-based outreach, and providing targeted interventions for mothers with lower education levels or those residing in rural areas.

## Recommendations

Based on the findings of this study, the following recommendations are made:

1. **For Healthcare Providers:** Nurses and other healthcare workers should continue to provide structured and regular health education on neonatal infection-prevention strategies to mothers, particularly emphasizing areas of misconception such as cord care and timing of the first bath.
2. **For Health Facility Management:** Special Baby Care Units should integrate routine educational sessions for mothers into their care programs, ensuring that preventive practices are consistently

reinforced during hospitalization and follow-up visits.

3. **For Policy Makers and Stakeholders:** Government and health authorities should support the development and implementation of maternal health education programs, particularly in urban and rural healthcare settings, to improve mothers' knowledge and adherence to infection-prevention practices.

4. **For Community Health Programs:** Community-based initiatives should target mothers with lower educational levels or those in rural areas, as these groups were identified as having lower preventive behaviour scores, to ensure equitable access to maternal and neonatal health information.

5. **For Future Research:** Further studies should explore the long-term retention of knowledge and adherence to preventive behaviours among mothers after discharge, as well as evaluate the effectiveness of different educational delivery methods.

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