

RESEARCH ARTICLE

Adherence to Standard Neonatal Care Practices among New Mothers

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ABSTRACT

Limited access to skilled maternal and newborn healthcare services in low-resource settings continues to exacerbate this mortality in many developing countries. This study examined barriers to adherence to standard neonatal care protocols in Huruma Estate, an informal settlement in Eldoret town, Kenya. A community-based cross-sectional survey design was adopted to collect both qualitative and quantitative data. The study targeted women of reproductive age (18–49 years), from whom a sample of 182 respondents was drawn using systematic sampling techniques. Data were collected through structured questionnaires, key informant interviews, and focus group discussions, and analyzed descriptively using MS Excel. The findings revealed a high level of acknowledgement of the importance of community support systems and government-led interventions in promoting compliance with recommended neonatal care practices. However, significant gaps in healthcare access, awareness-raising, and the implementation of maternal and child health programs were reported. Key informants further identified cultural beliefs, social conditions, and environmental constraints as major barriers to neonatal care practices in the settlement. Misconceptions regarding the value of colostrum, inability to afford proper infant clothing, and perceptions associating newborns with uncleanness promote harmful practices, including early bathing, thereby increasing risks of hypothermia and respiratory infections. The study recommends continuous targeted health education integrated into antenatal and postnatal care services to strengthen maternal knowledge, attitudes, and adoption of evidence-based neonatal care practices.

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Background

Infant mortality continues to be a major global public health concern, with close to 40% of deaths among children under five occurring during the neonatal stage. Complications related to premature birth, including birth asphyxia and infections, account for the majority of postnatal deaths (Khaskheli et al., 2025). In response, the World Health Organization has developed evidence-based neonatal care protocols aimed at reducing infant mortality (Kamrani et al., 2026). These guidelines emphasize hygienic delivery practices, thermal care, early initiation of breastfeeding, recognition of neonatal danger signs, cord and eye care, management of preterm and low-birth-weight infants, immunization, and timely treatment of illnesses (World Health Organization, 2022). Ayres-de-Campos (2017) further notes that access to emergency obstetric interventions, including parenteral oxytocics, antibiotics, anticonvulsants, assisted deliveries, manual placental removal, and blood transfusions, is essential for improving maternal and neonatal outcomes. Similarly, Singh (2024) observes that delayed or inappropriate maternal care-seeking behavior substantially increases neonatal mortality risk, whereas adherence to recommended antenatal and postnatal practices significantly lowers infant deaths worldwide.

Tull (2019) argues that poverty, inadequate maternal and child health literacy, and inequitable healthcare access contribute to non-compliance with WHO postnatal care recommendations, thereby increasing neonatal mortality. This situation is compounded by the heightened vulnerability of newborns and maternal health complications (Singh, 2024). Poverty and insufficient neonatal care knowledge often encourage unsafe practices, such as applying harmful substances to umbilical cord stumps, using unsterilized instruments during home deliveries, and administering unsafe herbal remedies during neonatal resuscitation (Tull, 2019). Consequently, Mbaku (2025) contends that weak healthcare systems that fail to prioritize safe motherhood initiatives further worsen the persistent burden of infant mortality.

Kenya is among the developing countries that have made considerable progress in reducing under-five mortality (Keats et al., 2018). Interventions such as expanded immunization programs, malaria prevention through insecticide-treated mosquito nets and preventive treatment during pregnancy, as well as improved fever management, have significantly reduced preventable maternal and child deaths. Nevertheless, neonatal mortality has remained relatively persistent. Evidence indicates that neonatal mortality declined from 31 per 1,000 live births in 2008 to 22 per 1,000 live births in 2014 (Dlamini, Melesse & Mwambi, 2024). Currently, neonatal deaths account for nearly 60% of under-five mortality in Kenya. Most of these deaths occur at home, outside formal healthcare settings, and are associated with inadequate knowledge of appropriate postpartum care and continued reliance on harmful traditional practices, such as applying cow dung or ghee to umbilical cord stumps (Henry et al., 2022). To mitigate this challenge, Kenya's Ministry of Health, in collaboration with the World Health Organization, has strengthened community health strategies aimed at promoting evidence-based newborn care practices and facilitating timely interventions for high-risk infants (WHO, 2014). Against this background, the present study examined barriers to adherence to standard neonatal care protocols among women of reproductive age in Huruma Estate, Eldoret Town, Uasin Gishu County, Kenya.

Methodology

Study Location

The study was conducted in Huruma Estate, a cosmopolitan residential area located approximately 2 km west of Eldoret's Central Business District. Huruma was purposively selected due to poor neonatal health indicators and reported suboptimal care practices (Imali, 2020). The estate is a home to 190,062 people with a population density of 314 persons per square kilometer. The female population constitutes about 88,860 (46.8% of the total). The estate is ethnically diverse, with the Kalenjin, Kikuyu, Luhya, Luo, and Kisii being the most represented groups. The estate features several churches, schools, shops, a Level V hospital, a low-volume Level IV facility, and various private clinics.

Research Design

This study employed a community-based cross-sectional survey research design to assess knowledge and practices related to post-birth newborn care across the sampled population. Data were collected using structured questionnaires, key informant interviews (KIIs), and observations (Bhuiya et al., 2024). This design was appropriate for examining the entire Huruma population in a real-world community setting.

Target Population

The primary target population comprised women of reproductive age (18–49 years) residing in Huruma Estate that had given birth within the last one year. This group was selected because it possesses expertise on this subject and could provide reliable insights into community-level newborn care practices (Zetterstrom & Waernbaum, 2022). The study focused on 346 women who had given birth in the past year. Data was also obtained from key informants comprising persons in charge of health facilities and Community Health Extension Workers (CHEWs). The other population segment comprised community leaders, health professionals, and residents with specialized knowledge of local women's newborn care practices and dynamics.

Sample Size

The sample size employed for the identification of the target population was scientifically computed using Yamane's formula as recommended by Adam (2020) as follows:

$$nf = \frac{n}{1 + \frac{n}{N}}$$

Where;

nf = Sample size (when the population is less than 10,000).

n = Sample size (when the population is less than 10,000); 384.

N = Estimate of the population size; 346.

Therefore, the sample size of the study for the respondents was calculated as follows:

$$nf = \frac{384}{1 + \frac{384}{346}}$$

Where;

Thus 182 out of the 346 women were considered respondents for this study.

Inclusion Criteria

Women aged 18–49 residing in Huruma who had given birth within the past year and provided informed consent were considered eligible for the study.

Exclusion Criteria

Women who were not residents of Huruma estate, not within the selected age bracket, had not given birth within the previous year, and those who met all the inclusion criteria but declined participation were excluded from this research.

Sampling Procedure

Respondents were drawn via simple random sampling from each of the 13 Community Units (CUs). Community Health Volunteers (CHVs) assisted in identifying mothers who had delivered within the preceding year in Huruma Estate, Eldoret. Names were randomly selected until the required sample size for each CU was reached. Key informants were purposively selected from the locality based on their post-childbirth care knowledge, expertise, and relevance.

Research Instruments

A structured questionnaire was the main tool used in this study. The questionnaire allowed quantitative data collection on socio-demographic characteristics, cultural practices, and newborn care behaviors during the first 28 days. The questionnaire was designed from extensive literature review and expert rating, and thoroughly revised for completeness, consistency and relevance to the subject. Using the questionnaire to collect data ensured anonymity, facilitated reliability and validity testing, and supported statistical analysis.

Instrument Validity

Content validity was ensured through a thorough literature review and expert consultation with supervisors and subject-matter specialists. The review feedback was used to hone the questionnaire to ensure relevant information collection.

Instrument Reliability

A pilot study involving 20 respondents in Langas Estate, Eldoret town, was conducted to test instrument consistency. The same protocol was strictly followed to minimize bias, and results were compared to refine the tools. A Cronbach alpha of 0.68 was established, signaling high suitability of the study instrument for this research.

Data Collection Procedure

After obtaining university and NACOSTI ethical approval, the researcher secured informed consent from participants. Physical questionnaires were distributed and collected in person, with clear explanations of the study's purpose. Two focus group discussions (FGDs), one with postnatal mothers and one with CHVs, were conducted per community unit. Each group included up to 12 participants. The main focus was the women's inclination to applying current and traditional beliefs, practices, and taboos (both healthy and unhealthy beliefs) surrounding newborn care ([Mochache et al., 2020](#)). A trained moderator facilitated open discussion using a semi-structured guide. In addition, in-depth interviews were held with community leaders, health professionals, and residents with specialized knowledge of local women's newborn care practices and dynamics. These provided contextual insights and potential solutions.

Data Analysis and Presentation

Quantitative data were analyzed using SPSS to generate descriptive statistics (means, percentages, standard deviations). Qualitative data from FGDs and interviews were thematically coded and triangulated. Findings were presented in tables, charts, and narrative summaries.

Ethical Considerations

Ethical clearance was obtained from NACOSTI and the University of Nairobi Ethics Committee. Informed consent was secured from all participants. Data were anonymized, stored securely, and used solely for research purposes. Results will be shared only with the university and the Huruma community.

Findings

Demographic Characteristics of the Respondents

Table 1

Socio-demographic characteristics of the respondents

Socio-demographic	Indicator	Frequency	Percentage
Age	Below 25 years	69	38
	25–35	67	37
	36–45	46	25
	Total	182	100
Level of Education	None	5	3
	Primary	47	26
	Secondary	38	21
	College/University	91	50
	Total	182	100
Marital Status	Married	86	47
	Single	60	33
	Divorced/separated	36	20
Number of Children	None	2	1
	One	55	30
	Two	93	51
	Three	20	11
	More than three	13	7
Religion	Christians	91	49.5
	Muslims	48	26.6
	Others	43	23.9

Socio-demographic	Indicator	Frequency	Percentage
	Total	182	100
Occupation	Housewife	25	13.9
	Employed	66	36.1
	Self-employed	91	50.0
	Total	182	100
Mode of Delivery	Spontaneous vertex delivery	141	77.2
	Assisted spontaneous vertex delivery	34	18.5
	Caesarean section	8	4.3

The results revealed that the majority of respondents were youthful, with 38% aged below 25 years and 37% falling within the 25–35-year age bracket, while only 25% were between 36 and 45 years. Levels of educational achievement were notably high, as 50% of the participants had attained college or university education, whereas only 3% lacked formal schooling. Concerning marital status, nearly half (47%) were married, 33% were single, and 20% were divorced or separated. In relation to household size, most respondents (51%) had two children, 30% had one child, and only a small proportion had no children. Christianity emerged as the predominant religion, practiced by 49.5% of the respondents, followed by Islam at 26.6%, while 23.9% subscribed to other faiths. Regarding occupation, 50% were self-employed, 36.1% engaged in formal employment, and 13.9% identified as housewives. Additionally, the majority of the women (77.2%) reported having spontaneous vertex deliveries, while comparatively smaller proportions underwent assisted deliveries or caesarean sections.

Constraints Faced in Caring for the Newborn

Notably, 118 (64.8%) of the mothers indicated that they face constraints in caring for their neonates, while 64 (35.2%) claimed that they do not face any constraints in caring for their newborn. The study examined the scope of the factors leading to early feeding of neonates among the respondents.

Table 2

Observed scope of neonatal feeding challenges

Challenge	Frequency	Percentage
Feeling that breastmilk is inadequate, leading to early weaning	53	29
Maternal health concerns undermine breastfeeding	48	26
Pressure from mother-in-law to feed the neonate early	48	26
Breast pain linked to breastfeeding encourages early feeding	46	25
Need to return to work encourages neonate feeding with non-breastmilk substances (ordinary food)	44	24

The study's findings showed that the main obstacles to exclusive breastfeeding were the assumption that milk is not enough to keep the infants full. A remarkable proportion (29%) of the respondents believe that infants remain hungry after breastfeeding, maternal health concerns linked to breastfeeding (26%), pressure from the mother-in-law (26%), breast pains (25%), and the need to return to work (24%). Collectively, these challenges influenced feeding of neonates before the recommended period of weaning (6 months).

Views on the Influence of the Surrounding Environment on Neonatal Infant Care

Table 3

Perceived influence of the environment on infant care practices

Does environment influence infant care practices?	Frequency	Percentage
Yes	108	59.3
No	74	40.7
Total	182	100

The study established that 108 (59.3%) of the respondents admit that the surrounding environment influences the care that the newly-born child gets, while 74 (40.7%) disagreed. When asked about community in regards to neonatal care, the respondents revealed that the community plays a remarkable role in boosting infant care.

The study observed that 16% of the respondents disagree while 84% agree that the community has boosted the care of the neonates and infants. The respondents held that this is achieved via community member liaison with mothers, reducing healthcare costs, expanding access to treatment, enhancing care quality, and ameliorating health inequities. Further assessment revealed that new mothers worked with health care educators to facilitate learning for positive health behavior change to ensure newborns receive standard care immediately after delivery. The respondents were asked to state whether the government is supportive of enhancing newborn care. The table below shows the answers that the study obtained.

Government Contribution to Good Health and Care to Mothers and the Newborns

Table 4

Perceived government contribution to maternal and newborn care

Do you think the government has significantly enhanced post-birth mother and child care?	Frequency	Percentage
Yes	100	54.9
No	82	45.1
Total	182	100

A majority of respondents (100, 54.9%) agreed that the government has significantly contributed to improving maternal and newborn health, though a sizable proportion (82, 45.1%) disagreed.

Key Informant Interview and Focused Group Discussion Findings

KIIs and focus group discussions generated findings that reinforced the survey results, which revealed that mothers generally provide basic neonatal care, particularly in breastfeeding, thermal protection, and cord management. Community-based interventions were also identified as critical to promoting healthier newborn care practices through timely healthcare-seeking, training local volunteers, and community participation in referral, diagnosis, and treatment services.

The discussions further revealed that cultural beliefs strongly shape neonatal care practices. Traditional cord care practices were associated with child naming ceremonies, while misconceptions about colostrum being “dirty” or “curdled milk” discouraged optimal breastfeeding. Some respondents also believed that breastfeeding causes sagging breasts, invites bad omens, or exposes mothers to witchcraft-related curses, thereby limiting adherence to recommended feeding practices. Dietary taboos and food restrictions were similarly reported to undermine breastfeeding and complementary feeding.

Inadequate maternal support during the postpartum period emerged as another major barrier, as many mothers lacked assistance with household responsibilities and childcare. Poverty-related challenges, including inability to afford appropriate infant clothing, exposed newborns to respiratory infections. Additionally, home deliveries conducted without skilled birth attendants and with unsterile procedures increased risks of neonatal sepsis. Long distances to health facilities were also identified as a key reason for home births. Participants recommended strengthening quality maternity services and integrating essential newborn care education into routine antenatal and postnatal care programs.

Discussion

The descriptive analysis of maternal and newborn health (MNCH) in Huruma Estate community reveals multifaceted barriers and opportunities to adherence with standard neonatal care, aligning with health behavior theories like the Health Belief Model (HBM) and Social Ecological Model (SEM) (Ayereka, 2025). Survey results indicate a divided perception of government efficacy in supporting neonatal health: 54.9% (100 respondents) affirm contributions to MNCH improvements, while 45.1% (82) disagree. This schism underscores HBM’s perceived susceptibility and benefits constructs, where public distrust in systemic support may deter health-seeking behaviors (Arakelyan et al., 2021). Respondents advocate for targeted interventions in underserved

areas, economic relief for service access, health system fortification, and medication availability, echoing SEM's policy-level influences on health outcomes.

Key Informant Interviews (KIIs) and Focused Group Discussions (FGDs) enrich these findings by highlighting community-level practices and cultural dynamics. The study established positive aspects such as consistent maternal adherence to basic newborn care through effective cord management, thermal protection, and breastfeeding, augmented by community interventions that promote timely care-seeking, volunteer training, and resident involvement in diagnostics and referrals. These align with SEM's interpersonal and community layers, demonstrating how social networks enhance self-efficacy and collective action in neonatal care (Loohuis et al., 2023).

Then again, the study underscores how cultural beliefs pose significant hurdles, resonating with HBM's perceived barriers. Traditional practices, like non-standard cord care tied to naming ceremonies, persist due to ritual significance, increasing infection risks (Ayereka, 2025). Breastfeeding misconceptions like viewing colostrum as "dirty" or fearing sagging of breasts and potential "bad omens," or the "evil eye," undermine optimal neonate feeding, reflecting cognitive biases in health perceptions. Dietary taboos further compromise infant care, illustrating how cultural norms override evidence-based recommendations in the informal setup, promoting suboptimal postnatal care practices.

Inadequate postpartum support exacerbates vulnerabilities: mothers often lack family aid, juggling housework and sibling care, which diminishes newborn attention. This connects to feminist health theories emphasizing gender roles in caregiving burdens. Environmental factors, like poverty-driven exposure to weather extremes causing tracheal infections, highlight social determinants of health (SDH), where socioeconomic status directly impacts vulnerability (Dagher & Linares, 2022). Health service gaps, including absent skilled birth attendants and unsterile home deliveries, elevate neonatal sepsis risks, while geographic barriers (distance to facilities) promote high-risk home births, aligning with SDH's access inequities.

Conclusion

The descriptive analysis of maternal and newborn health (MNCH) revealed both positive perceptions and persistent barriers to effective neonatal care within the community. Respondents acknowledged the important role of government interventions in improving neonatal health, particularly through targeting underserved populations, reducing financial barriers, strengthening health systems, ensuring access to essential medication, and linking community units with healthcare facilities. Community practices such as basic cord care, thermal protection, and breastfeeding were commonly observed, while interventions promoting timely healthcare seeking, volunteer training, and community participation in referrals and treatment were viewed positively. Despite these efforts, several cultural and socioeconomic barriers continued to undermine newborn care. Traditional cord care practices associated with naming ceremonies increased infection risks, while misconceptions about colostrum, fears of sagging breasts, bad omens, and the "evil eye" discouraged proper breastfeeding. Dietary taboos also weakened infant nutrition. Additionally, inadequate postpartum support left mothers burdened with household responsibilities, limiting attention to newborns. Poverty, unsterile home deliveries, lack of skilled birth attendants, and long distances to health facilities further heightened risks of infections and neonatal complications. Participants recommended integrating essential newborn care education into routine antenatal and postnatal services.

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