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Neonatal care knowledge and practices among new mothers in Huruma Estate, Eldoret, Kenya

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ABSTRACT

Infant mortality continues to pose a major global public health concern, particularly because close to 40% of deaths among children under five occur during the neonatal period, within the first month after birth. In many developing nations, inadequate access to skilled healthcare guidance during pregnancy and after delivery significantly contributes to these deaths. This study investigated maternal knowledge and newborn care practices among women living in Huruma Estate, Eldoret, a densely populated informal settlement with low per-capita income in Kenya. A community-based cross-sectional research design was adopted to collect both qualitative and quantitative data. Using systematic sampling, 182 women aged between 18 and 49 years were selected to participate in the study. Data collection methods included structured questionnaires, focus group discussions, and key informant interviews, while descriptive analysis was conducted using MS Excel. The findings revealed that 96% of respondents attended antenatal clinics during pregnancy, and 77.5% independently decided where to deliver. Among mothers who gave birth in health facilities, 73% reported that newborns were immediately dried and wrapped after delivery. Breastfeeding initiation varied across respondents, although 24.2% admitted giving infants fluids other than breast milk within the first 28 days after birth. Compliance with immunization schedules and proper umbilical cord care practices was notably high. Based on these findings, the study recommends continuous maternal education and strengthened postpartum newborn care interventions in informal settlements.

Keywords: neonatal care; maternal knowledge; newborn care practices; informal settlements; Kenya.

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1. INTRODUCTION

1.1 Background

Premature birth complications, like asphyxia and infections, lead to most postnatal deaths (Khaskheli et al. 2025). Consequently, the World Health Organization has proposed empirically proven routine practices and protocols to guide infant mortality prevention (Kamrani et al, 2026). These interventions cover delivery hygiene, thermal regulation, early breastfeeding, recognition of danger signs, eye and cord care, management of preterm/low-birth-weight infants, immunization, and illness treatment. Ayres-de-Campos (2016) shows that administering emergency obstetric services like parenteral oxytocic, antibiotics, and anticonvulsants, aided births, guided placental extraction, and blood transfusions conveniently ensures proper maternity treatment. Singh (2024) shows that inappropriate delays in care-seeking among mothers can contribute significantly to newborn death, while best pre-birth and post-partum practices remarkably reduce the risk of infant mortality globally.

According to Tull (2019), poverty, maternal and childcare literacy, and equity in healthcare access influence violations of WHO post-natal care guidelines, driving neonatal mortality. This emanates from the vulnerability of these infants to complications and maternal ill-health (Singh, 2024). Poverty and lack of neonatal care knowledge interact to promote harmful practices like applying harmful substances to cord stumps, using unsterilized tools in home births, or giving unhealthy herbal mixtures during resuscitation (Tull, 2019). Consequently, Mbaku (2025) suggests that healthcare systems that overlook safe motherhood programs tend to aggravate this appalling situation of frequent infant deaths.

Kenya is one of the countries that have actively embraced under-five mortality reduction measures in the third world (Keats et al., 2018). Programs like rapid immunization, malaria control (insecticide-treated nets, preventive treatment in pregnancy), and fever management have reduced the number of children and women who die from preventable diseases and have accelerated significantly. However, neonatal mortality remains largely unchanged. Evidence shows that the rate dropped from 31 per 1000 in 2008 to 22 per 1,000 live births in 2014 (Dlamini, Melesse & Mwambi (2024). Today, neonatal mortality stands at ~60% of under-five deaths in Kenya. Most of these deaths occur at home, away from healthcare providers and are linked to a lack of knowledge about proper post-partum care for mothers and newborns and upholding traditional, unhealthy postnatal care practices like applying cow dung or ghee to cord stumps (Henry et al., 2022) To address this challenge, Kenya's Ministry of Health has prioritized community health strategies to provide rapid care for at-risk newborns and promote evidence-based home practices(WHO, 2014). This study examined community knowledge and practices regarding newborn care in the low-income setting of Huruma Estate, Eldoret, Kenya, with a focus on neonatal care profiles and health-seeking behaviors.

2. METHODS

2.1 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.

2.2 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.

2.3 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 one year. Data were 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

2.4 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

$$n_x = n / (1 + n/N)$$

Where: n_x = adjusted sample size; n = initial sample size (384); N = estimated population size (346).

$$n_x = 384 / (1 + 384/346) = 182$$

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

2.5 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.

2.6 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.

2.7 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

2.8 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 based on an extensive literature review, expert ratings, and thorough revisions to ensure completeness, consistency, and relevance to the subject. Using the questionnaire to collect data ensured anonymity, facilitated reliability and validity testing, and supported statistical analysis.

2.9 Instrument Validity and Reliability

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

A pilot study involving 20 respondents in Langas Estate, Eldoret, 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's alpha of 0.68 was obtained, indicating a high suitability of the study instrument for this research.

2.10 Data Collection Procedure

After obtaining ethical approval from the university and NACOSTI, 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 focus was on women's inclination to apply current and traditional beliefs, practices, and taboos (both healthy and unhealthy) 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.

2.11 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.

2.12 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.

3. RESULTS

3.1 Demographic Characteristics of the Respondents

Table 1:
Socio-demographic characteristics of respondents (N = 182)

Socio-demographic attribute	Profile	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
	Total	182	100
Number of children	None	2	1
	One	55	30
	Two	93	51
	Three	20	11
	More than three	13	7
	Total	182	100
Religion	Christians	91	49.5

Socio-demographic attribute	Profile	Frequency	Percentage (%)
	Muslims	48	26.6
	Others	43	23.9
	Total	182	100
Occupation	Housewife	25	13.9
	Employed	66	36.1
	Self-employed	91	50.0
	Total	182	100
Mode of child delivery	Spontaneous Vertex Delivery	141	77.2
	Assisted Spontaneous Vertex Delivery	34	18.5
	Caesarean Section	8	4.3
	Total	182	100

The findings indicate that most respondents were relatively young, with 38% aged under 25 years, 37% aged 25-35 years, and only 25% aged 36–45 years. Educational attainment was generally high, as half of the participants had college or university education, whereas only 3% had no formal education. In terms of marital status, 47% were married, 33% single, and 20% divorced or separated. Regarding family size, the majority of respondents (51%) had two children, while 30% had one child and very few had no children. Christianity was the dominant religion among respondents at 49.5%, followed by Islam at 26.6%, while 23.9% belonged to other religions. Occupationally, 50% of respondents were self-employed, 36.1% were formally employed, and 13.9% were housewives. Most women (77.2%) delivered spontaneously via vertex, while assisted deliveries and cesarean sections accounted for smaller proportions.

3.2 Antenatal Facility Visit Patterns

Table 2:
Antenatal facility visit patterns among respondents

Facility visit Patterns		Yes	No
During pregnancy, did you attend any antenatal clinic?	n	175	7
During pregnancy, did you attend any antenatal clinic?	%	96.0	4.0
Did you plan the antenatal visit to the clinic	n	175	7
Did you plan the antenatal visit to the clinic	%	96.0	4.0
Did you choose the place you gave birth to	n	141	41
Did you choose the place you gave birth to	%	77.5	22.5

The findings demonstrate high utilization of maternal healthcare services among respondents. Nearly all participants (96%) attended antenatal clinics during pregnancy, while only 4% did not seek antenatal care. Similarly, 96% reported that their clinic visits were planned, reflecting strong awareness and preparation for maternal healthcare needs. Additionally, 77.5% reported personally choosing the health facility where they delivered, suggesting considerable maternal involvement in childbirth decision-making, although 22.5% lacked such autonomy in selecting delivery locations.

3.3 Descriptive Summary of Delivery and Newborn Care Indicators

Table 3:

Descriptive summary of findings previously presented as figures

Indicator	Response / category	Frequency (n)	Percentage (%)	Descriptive interpretation
Current child's birthplace	Health facility	—	94.0	Most births occurred in health facilities.
Current child's birthplace	Home	—	4.0	A small minority of births occurred at home.
Current child's birthplace	Traditional birth attendant (TBA)	—	2.0	Very few births occurred with a TBA setting reported.
Birth process helper	Healthcare provider	—	94.0	Healthcare providers assisted nearly all reported births.
Birth process helper	Neighbour	—	3.0	Neighbour assistance was uncommon.
Birth process helper	Traditional birth attendant (TBA)	—	2.0	TBA assistance was uncommon.
Birth process helper	Relative	—	1.0	Relative assistance was rare.
Baby dried at birth	Yes	—	73.0	Most newborns were dried immediately after birth.
Baby dried at birth	No	—	27.0	More than one-quarter were reportedly not dried at birth.
Baby covered after birth	Yes	—	69.0	Most newborns were covered after birth.
Baby covered after birth	No	—	31.0	Nearly one-third were reportedly not covered after birth.
Infant bath time	Early morning	11	6.0	Early-morning bathing was least common.
Infant bath time	Late morning	35	19.2	About one-fifth bathed infants in the late morning.
Infant bath time	Afternoon	106	58.2	Afternoon was the most common bath time.
Infant bath time	Late in the afternoon	30	16.5	A smaller proportion bathed infants late in the afternoon.
Non-breast milk fluids within 28 days	Yes	44	24.2	About one-quarter introduced fluids other than breast milk.
Non-breast milk fluids within 28 days	No	138	75.8[a]	Most respondents did not introduce non-breast milk fluids.
Immunization at birth	Yes	—	75.0	Three-quarters reported that infants were immunized at birth.
Immunization at birth	No	—	25.0	One-quarter reported no immunization at birth.

Note. Percentages for birthplace, birth-process helper, drying, covering and immunization were reported graphically in the supplied manuscript, so frequencies were not provided. [a]The supplied text reported 138 "No" responses but stated 73.8%; 138/182 corresponds to 75.8%, which is shown here for internal consistency.

A majority of the women (94.0%) claimed that their las birth process occurred in a health facility, 4.0% gave birth at home, and only 2.0% said that they last gave birth at the TBA. Also, 94.0% of the women reportedeingre assisted by healthcare providers, 3.0% by neighbors, 2.0% by TBAs, and 1.0% by relatives.

The study revealed that 73% of respondents had their baby dried after birth, while the procedure was not performed for 27%. Further, 69% agreed that their infant was covered after birth, whereas 31% reported this did not occur.

3.4 Post-Birth Newborn Care Practices

Table 4:
Post-birth newborn care practices among respondents (N = 182)

Post-birth practice		Frequency	Percentage
Umbilical cord cutting instrument	Old Razor Blade	10	5.5
	New surgical Blade	106	58.2
	Household Knife	29	15.9
	String	37	20.3
	Total	182	100
What was applied to the umbilical cord after cutting	Methylated spirit	124	68.1
	Iodine	35	19.2
	Cow dung	0	0.0
	Oil	3	1.6
	None	20	11.0
	Total	182	100
	Immediately after birth	0	0.0
First time infant bathing was conducted	6 hours after birth	2	1.1
	24 hours after birth	119	65.4
	48 hours after birth	27	14.8
	72 hours after birth	34	18.7
	Total	182	100
First time the infant was breastfed after birth	Immediately	96	52.7
	30 minutes to 1 hour	55	30.2
	2-4 hours	23	12.6
	Days	8	4.4
	Total	182	100.0

Newborn care practices varied among respondents, particularly in umbilical cord management, infant bathing, and breastfeeding initiation. Most mothers (58.2%) reported using a new surgical blade to cut the umbilical cord, indicating relatively good adherence to safe delivery practices. However, some respondents still relied on less hygienic methods, such as household knives (15.9%), old razor blades (5.5%), and strings (20.3%), potentially exposing newborns to infections. After cord cutting, methylated spirit was the most commonly applied substance (68.1%), followed by iodine (19.2%), while 11% applied nothing. A very small proportion used oil (1.6%), and none reported using cow dung, reflecting reduced engagement in harmful traditional practices. Regarding infant bathing, most mothers (65.4%) delayed the first bath until 24 hours after birth, aligning with recommended newborn care guidelines to help preserve body temperature. Smaller proportions bathed infants after 48 hours (14.8%) or 72 hours (18.7%). Breastfeeding practices were generally positive, with 52.7% initiating breastfeeding immediately after birth and 30.2% within one hour, although some delayed breastfeeding for several hours or days.

3.5 Infant Bath Time

The study revealed that 11 (6%) bathe their baby early in the morning, 35 (19.2%) bathe their baby late in the morning, 106 (58.2%) bathe their baby in the afternoon, and 30 (16.5%) bathe their baby late in the afternoon. From these findings, we can infer that most respondents bathe their babies in the afternoon.

3.6 Non-Breast Milk Fluid Administration Practices

About administering fluids that are not breast milk to the infants, 24.2% of the respondents agreed that there was a fluid apart from breast milk they give to their baby immediately or within 28 days after delivery, while 73.8% disagreed that there was a fluid apart from breast milk they give to their baby immediately or within 28 days after delivery.

3.7 Immunization at Birth

Notably, 75% agreed that their infants received regular immunization at birth, while the rest disagreed. It was inferred that the majority of babies in this estate are immunized at birth, but a large proportion of infants are not (25%).

4. DISCUSSION

The study findings demonstrate encouraging uptake of essential newborn care practices among mothers in Huruma Estate, although several gaps that may compromise infant health and survival remain evident. High antenatal clinic attendance and planned healthcare visits suggest that most women recognize the importance of maternal healthcare services, consistent with Blanc et al. al's (2016) findings. This may explain the relatively high adherence to recommended newborn care practices, including immunization, delayed bathing, breastfeeding initiation, and hygienic umbilical cord care. The majority of respondents reported that their infants received immunization at birth, indicating improved awareness of preventive healthcare and the importance of protecting newborns from vaccine-preventable diseases. Nevertheless, the fact that one-quarter of infants reportedly missed birth immunization remains concerning, as delayed or missed vaccination increases vulnerability to neonatal infections and childhood illnesses. It suggests that a significant proportion of women in these informal settlements place limited importance on infant immunization, aligning with Egondi et al's (2015) findings.

The findings further revealed that most mothers used a new surgical blade to cut the umbilical cord and applied methylated spirit afterward, reflecting compliance with safer cord care practices. The absence of harmful substances like cow dung indicates a decline in dangerous traditional newborn care methods in Kenya, including the informal settlements (Blanc et. Al., 2016). However, the continued use of household knives, old razor blades, and non-standard materials still exposes some infants to possible infections, including neonatal tetanus and sepsis. These findings suggest the need for continuous education on hygienic delivery and postnatal care practices.

Breastfeeding practices were generally positive, with more than half of the mothers initiating breastfeeding immediately after birth and many others within the first hour. Early breastfeeding is essential because it promotes bonding, improves infant immunity, and provides colostrum, which protects newborns from infections. Despite this, nearly one-quarter of respondents admitted giving infants fluids other than breast milk within the neonatal period. These findings match Masaba et al.'s (2021) claim on the low rates of exclusive breastfeeding among mothers in Kenya. Such practices may interfere with exclusive breastfeeding recommendations and increase the risk of diarrheal diseases and malnutrition.

The timing of infant bathing also reflected partial adherence to recommended neonatal care guidelines. Most mothers delayed bathing until the afternoon or at least 24 hours after birth, which helps prevent hypothermia among newborns. Additionally, most respondents confirmed that their babies were dried and covered immediately after delivery, practices critical to maintaining body temperature and preventing neonatal complications. However, the proportion of infants who were neither dried nor covered after birth remains substantial and may increase their susceptibility to cold stress and infection.

5. CONCLUSION

The study concludes that mothers in Huruma Estate, Eldoret, demonstrate relatively high awareness and adoption of essential newborn care practices, largely influenced by high rates of antenatal clinic attendance and exposure to maternal healthcare services. Most respondents practiced recommended newborn care behaviors, including timely immunization, early initiation of breastfeeding, delayed infant bathing, hygienic umbilical cord care, and keeping newborns warm after birth by drying and covering. These practices are important in reducing neonatal infections, hypothermia, and infant mortality.

Despite these positive findings, significant gaps in newborn care practices still exist. A considerable proportion of mothers reported introducing non-breast milk fluids within the neonatal period, while others failed to immunize infants at birth or used unsafe materials for cord cutting. In addition, some newborns were not dried or covered immediately after delivery, exposing them to preventable health risks. These findings indicate that although maternal knowledge on newborn care is improving, harmful practices and inconsistencies remain within the community.

6. RECOMMENDATIONS

The findings of this study emphasizes the need for strengthened maternal and child health education programs, continuous antenatal and postnatal support, and community-based interventions targeting informal settlements. Improving access to accurate health information and reinforcing evidence-based newborn care practices can significantly enhance neonatal survival and overall child health outcomes.

DECLARATION

Conflict of interest

The author declares no conflict of interest of any form regarding this work, and is, thus, his (own) original work done independently.

REFERENCES

Adam, A. M. (2020). Sample size determination in survey research. *Journal of Scientific Research and Reports, 26*(5), 90–97. **doi:10.9734/JSRR/2020/v26i530263** (ResearchGate)

Ayres-de-Campos, D. (2016). *Obstetric emergencies: A practical guide*. Springer. **doi:10.1007/978-3-319-41656-4** (Springer)

Bhuiya, N. A., Liu, S., Muyodi, D., & Bucher, S. L. (2024). Feasibility and acceptability of a novel biomedical device to prevent neonatal hypothermia and augment Kangaroo Mother Care in Kenya: Qualitative analysis of focus group discussions and key informant interviews. *PLOS Global Public Health, 4*(4), e0001708. **doi:10.1371/journal.pgph.0001708** (Directory of Open Access Journals)

Blanc, A. K., Warren, C., McCarthy, K. J., Kimani, J., Ndwiga, C., & RamaRao, S. (2016). Assessing the validity of indicators of the quality of maternal and newborn health care in Kenya. *Journal of Global Health, 6*(1), 010405. **doi:10.7189/jogh.06.010405** (PubMed)

Dlamini, W. J., Melesse, S. F., & Mwambi, H. G. (2024). Under-five mortality: Comparative study of Kenya and other three East-African developing countries. *The Open Public Health Journal, 17*, e18749445270922. **doi:10.2174/0118749445270922240125062052** (The Open Public Health Journal)

Egondi, T., Oyolola, M., Mutua, M. K., & Elung'ata, P. (2015). Determinants of immunization inequality among urban poor children: Evidence from Nairobi's informal settlements. *International Journal for Equity in Health, 14*(1), 24. **doi:10.1186/s12939-015-0154-2** (PubMed Central (PMC))

Henry, J., Clarke-Deelder, E., Han, D., Miller, N., Opondo, K., Oguttu, M., Burke, T., Cohen, J. L., & McConnell, M. (2022). Health care providers' knowledge of clinical protocols for postpartum hemorrhage care in Kenya: A cross-sectional study. *BMC Pregnancy and Childbirth, 22*(1), 828. **doi:10.1186/s12884-022-05128-6** (PubMed)

Imali, N. M. (2020). *Stunting in children less than two years in rural and urban households in Turbo Sub County, Uasin Gishu County* [Doctoral dissertation, Kabarak University]. (FAO Agris)

Kamrani, A., Iravani, M., Abedi, P., Najafian, M., Khosravi, S., Alianmoghaddam, N., & Cheraghian, B. (2026). Evaluation of the effectiveness of the World Health Organization Labor and Delivery Management Program on neonatal clinical outcomes of vaginal delivery. *Journal of Education and Health Promotion, 15*, 36. **doi:10.4103/jehp.jehp_159_25** (PubMed)

Keats, E. C., Macharia, W., Singh, N. S., Akseer, N., Ravishankar, N., Ngugi, A. K., Rizvi, A., Khaemba, E. N., Tole, J., & Bhutta, Z. A. (2018). Accelerating Kenya's progress to 2030: Understanding the determinants of under-five mortality from 1990 to 2015. *BMJ Global Health, 3*(3), e000655. **doi:10.1136/bmjgh-2017-000655** (PubMed)

Khaskheli, M. K., Bashir, A., Sirichand, Chandio, M. A., Nuhrio, S. M., & Farooq, S. (2025). Postnatal magnesium sulfate therapy in term neonates with birth asphyxia. *International Journal of Medicine & Public Health, 15*(4), 1559–1562. **doi:10.70034/ijmedph.2025.4.281** (ijmedph.org)

Masaba, B. B., Mmusi-Phetoe, R. M., & Mokula, L. L. D. (2021). Factors affecting WHO breastfeeding recommendations in Kenya. *International Journal of Africa Nursing Sciences, 15*, 100314. **doi:10.1016/j.ijans.2021.100314** (Directory of Open Access Journals)

Mbaku, J. M. (2025). An international human rights-based approach to reducing maternal mortality and enhancing safe motherhood in Africa. *San Diego International Law Journal, 27*(1), 1. (Digital USD)

Mochache, V., Wanje, G., Nyagah, L., Lakhani, A., El-Busaidy, H., Temmerman, M., & Gichangi, P. (2020). Religious, socio-cultural norms and gender stereotypes influence uptake and utilization of maternal health services among the Digo community in Kwale, Kenya: A qualitative study. *Reproductive Health, 17*(1), 71. **doi:10.1186/s12978-020-00919-6** (Springer)

Singh, S. (2024). *Maternal and child*. Blue Rose Publishers.

Tull, K. (2019). *Inequity and leave no one behind: Approaches to maternal and newborn healthcare* (K4D Helpdesk Report 556). Institute of Development Studies. (GOV.UK)

World Health Organization. (2014). *WHO country cooperation strategy Kenya: Medium-term support strategy 2014–2019*. **No DOI.** (World Health Organization)

Zetterstrom, S., & Waernbaum, I. (2022). Selection bias and multiple inclusion criteria in observational studies. *Epidemiologic Methods, 11*(1), 20220108. **doi:10.1515/em-2022-0108** (De Gruyter Brill)