Minireview Article

The midwife's multi-dimensional responsibilities in child health in sub-Saharan Africa in the 21st century – a minireview

ABSTRACT

Studies have shown that the involvement of the midwife is key to achieving a reduction in child morbidity and mortality, however, few studies have substantiated the quality of the midwife's contribution to child health. This mini-review is aimed at concisely narrating, the midwife's responsibilities in child health in the 21st century. This review approaches this discussion with the aid of a conceptual framework that succinctly demonstrates the multi-faceted roles of the midwife in child health. The midwife's obligation to the child is mainly preventative and starts as **indirect care**, before the birth of the child, through the antenatal and intra-natal periods. It then transits to a blend of both preventative/ curative and **direct care**, postnatally. Although the midwife-care-model approach which mainly centres around the mother in normal pregnancy is the main epistemic motivation in midwifery, evidence suggests significant gains in child health and survival are being recorded and need strengthening. The responsibilities of the midwife are myriad and begin with health education/ promotion for foetal and maternal wellbeing; providing clinical services in the intra-natal period such as ensuring quality neonatal care during delivery; prompt provision of newborn essential care intervention and also assist mothers initiate breastfeeding; ensuring timely immunizations and growth monitoring /development among other child health support services, postnatally. Midwives also provide palliative, rehabilitative child health services beyond preventing newborn deaths, in the immediate postpartum period but these are scarcely documented in the literature. In conclusion, it was highlighted that although sparsely reported in the literature, midwives have wide-ranging and diverse responsibilities that contribute to child health and child health services in sub Saharan Africa in the 21st century.

Keywords: [Child health, Midwife, Responsibilities, Sub-Sarahan Africa}

1. INTRODUCTION

[Every year there are an estimated 140 million births with 2·6 million stillbirths and 2·9 million infant deaths in the first month of life [1,2]. Inadequate maternal and newborn care is a major contributory factor to these majorly preventable deaths, and continued reductions in maternal and child mortality are needed overall. The Sustainable Development Goals, have been put in place as a wake-up call to ensure commitment by frontline healthcare workers, including midwives to bring about a rapid and dramatic reduction in these distressing statistics [3].

The provision of child health services is significantly aided by nurses, who are often the largest professional group in the healthcare sector [4]. According to Forbes and colleagues, nurses offer a variety of services, including preventative, curative, and rehabilitative ones. Midwives are specifically the group of health professionals specifically trained to provide care for women during pregnancy, childbirth and beyond childbirth and play a major role in improving newborn and child outcomes. Midwifery care practice extends from the grass-root including home and Primary Health Centres to the Hospital (secondary and tertiary) settings.

The midwife works in collaboration with other healthcare professionals in many settings to provide healthcare to both mother and child, although in some settings, only the midwife serves this purpose. A critical factor in the fight against child morbidity and mortality is preventative medicine where the midwife is responsible for rendering services like immunizations and child welfare clinics. This unique role entails checking that the child attains major developmental milestones, as well as, getting adequate nutrition, underpinning the roles of the midwife in promoting child health with a scope that goes beyond the immediate postpartum period or first week of life [5].

Presently, there is a growing consensus that stems from high-quality randomised trials conducted in resource-rich settings and from practical experience in resource-limited settings among public health professionals that midwifery care has a crucial contribution to improving maternal and newborn services. There seems to be general knowledge about the roles of the midwife to the mother during normal pregnancy and delivery but less awareness of their expanded responsibilities concerning child health before pregnancy and beyond childbirth. This paper is aimed at discussing extensively the midwife's responsibilities in child health in the 21st century.

2. THE BODY:

2.1 Midwife model of care and child health

Midwifery emphasizes the normalcy of pregnancy and its health potential, and delivery is considered a natural event with significant meaning to many people, and it should be handled as such unless there is evidence of a problem [6]. The midwife model of care recognizes the midwife as the woman's primary healthcare provider during pregnancy, labour and delivery [6]. Midwives are experts in protecting, supporting, and enhancing the normal physiology of labour, delivery, and breastfeeding. This model of care brings to bear the fact that midwifery pays particular attention to the mother and then her newborn, however, should not 'downplay' the care of the baby. Thus, beyond the initial immediate care of the newborn and initiation of breastfeeding, midwifery also contributes significantly to child care and renders life-saving interventions to avert child mortality, before, during and after the birth of the baby.

A study by Renfrew and colleagues [1] which looked at midwifery and quality care, reported that they included two reviews by Khan-Neelofur and colleagues [7] and Sandall and colleagues [8] that included a total of 18 studies, conducted in high-income countries, that involved over 19 000 women. The systematic review compared midwife-led continuity models of care with an obstetrician or family doctor-led care (midwives or nurses, or both, provided intrapartum care and in-hospital post-partum care under medical supervision), or shared models of care. It was discovered that women who were randomly assigned to receive midwife-led continuity models of care were less likely to give birth prematurely and lose a fetus before 24 weeks gestation. However, no significant differences between groups were found in fetal loss or neonatal death of at least 24 weeks gestation or overall fetal or neonatal death. The majority of the included studies in their review indicated that the midwifery-led continuous care strategy had high levels of maternal satisfaction.

It is also worth highlighting that Renfrew and colleagues [1], also found that several midwifery-led evidenced-based interventions contributed significantly to a reduction in

perinatal, neonatal, or infant mortality[8–11], Reduced Fetal loss [8,10], reduced preterm birth [8,11–13], Reduced low birthweight [13] Reduced small for gestational age babies [11,12,14], Fewer neural tube defects [15], Increased average birthweight [11], Reduced mother-to-child transmission of HIV [16], Reduced risk of infection, [9], Reduced risk of hypothermia,[9], Breastfeeding initiation and duration improved [9] and Shorter hospital stay for babies [9]. The aforementioned studies, therefore, suggest that midwife-led interventions have substantially contributed to improved child health and survival across the continuum of care.

3.2 Conceptual framework illustrating the Midwife's responsibilities in Child Health

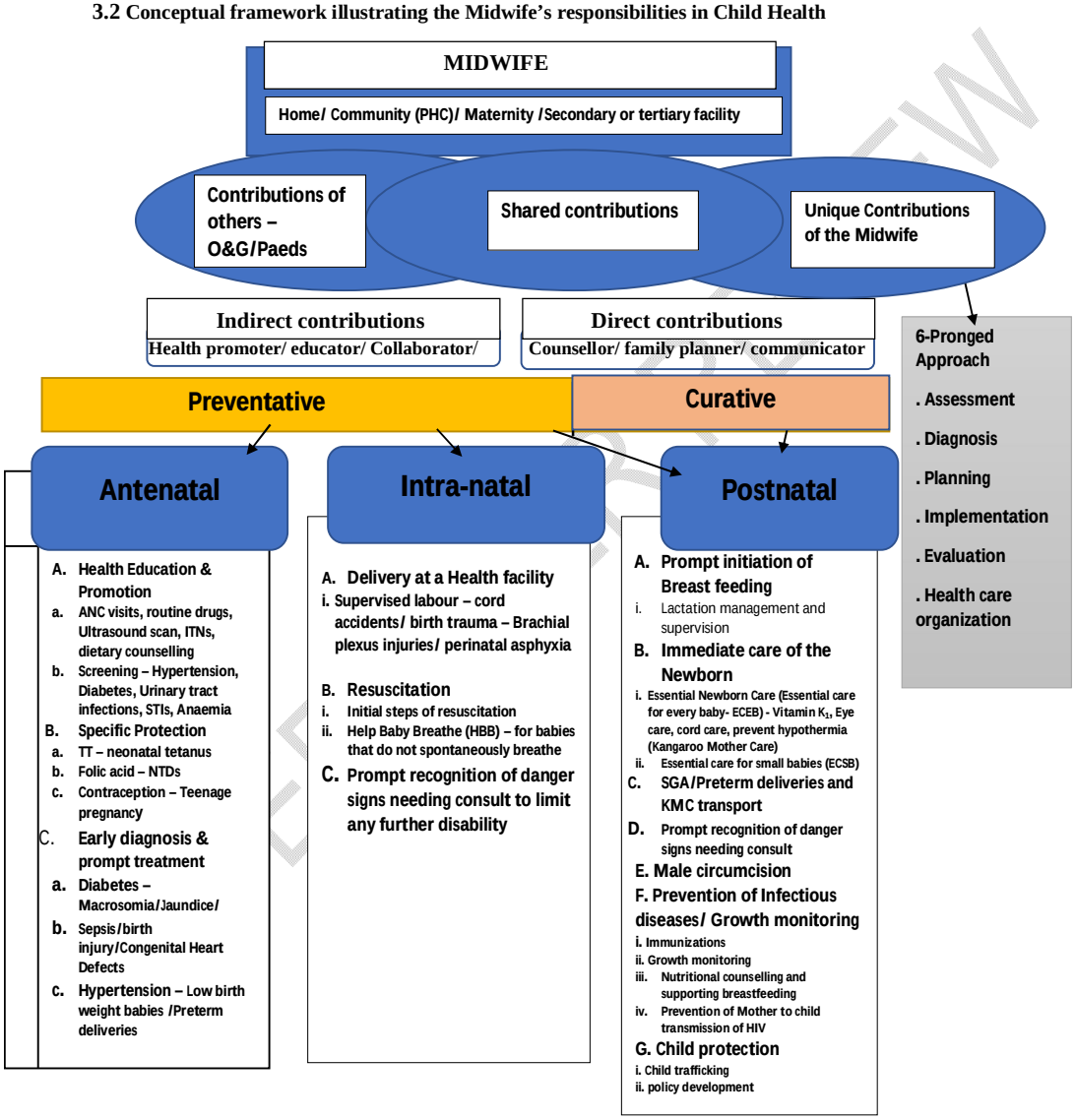

Figure 1: Conceptual framework illustrating the Midwife's responsibilities in Child Health in sub-Saharan Africa

2.3 The role of the midwife in place of work and child health

From the conceptual framework it is clear that midwives work in various health care settings ranging from rendering Grassroot services in the community (midwife-led community care) – at homes, primary health centres or hospital settings – secondary and tertiary care settings. Irrespective of the care setting the roles of midwives is comprehensive and could be similar to nurses and include preventative, curative, rehabilitative, palliative and health organisational services. The scope and magnitude of each role, however, would largely depend on the setting and locale. With regards to child health services majority of the midwife's primary responsibility to the child also begins from the preconception period, through to the postnatal period. Whereas most interventions targeted at the mother are aimed at preventing foetal wastage, interventions are likely to be uniform irrespective of the modality of care or care setting. Nonetheless, roles may vary beyond being preventative if the child is in a higher institution – the midwife may seldom have the responsibilities of either palliative or rehabilitative services or both and so may have to treat and rehabilitate children with congenital abnormalities and disabilities [3]. For instance, a baby delivered via emergency caesarean section for life-threatening multiple congenital anomalies would require the Midwife to also be responsible for ensuring quality delivery care, and resuscitation and also ensure the baby is nursed palliatively until the end of life, even if the baby survives a few weeks, due to the possibility of prolonged hospital stay, may need rehabilitative care also.

2.4 The responsibilities of the Midwife in child health

Irrespective of geographical setting, location of work, cadre and years of practice every midwife should be responsible for the welfare, care and safety of children and should ensure no harm befalls any foetus, newborn, infant or child, in their care. Hence, it is pertinent to mention that the midwife would have assumed all of the following roles in other to improve the child's health:

a. **Health educator/ health promoter**: The health educator-midwife represents the knowledgeable health worker who must be up-to-date with trends, clinical protocols and the evidence from the latest research and guidelines to ensure mother and baby are given appropriate pieces of health advice.
b. **Counsellor:** The midwife's responsibility as a counsellor is to give unbiased, evidence-based and scientifically sound health information as regards the development of the foetus, and preparations for birth and also advise as necessary when complications surrounding the birth or the baby are indicated to help parents make informed decisions.
c. **Caregiver:** To every foetus, baby or infant, the midwife is a caregiver. All clinical procedures and or interventions from birth and the ensuing months afterwards are to be directed by the midwife including monitoring growth, development and immunizations.
d. **Communicator:** The midwife is a skilled communicator who understands the implication of words and who is aware of the power of words. With pregnant women and family members, building trust is beneficial. For expectant women and their families to be able to discuss all of their issues, the midwife must be able to interact with them effectively.
e. **Leader:** The primary role of the midwife minimizes hospital admission and leads to much less intervention during labour.
f. **Manager:** The midwife manages all the circumstances where appropriate and can recognize and refer women with either complicated pregnancies or compromised newborns to obstetricians and paediatricians when necessary.
g. **Health care organizer**: The midwife is responsible for organizing the labour unit and at times family planning or immunization units and this responsibility is geared towards providing suitable and safe spaces for childbirth and recommending strategies to improve child outcomes.

h. **Family planner: A**s a family planner, the midwife also offers counselling to individuals and teenage girls. They help couples make decisions by supplying all the necessary information about various family planning techniques.
i. **Record keeper/data collector:** The midwife's responsibility will be incomplete without the accurate and complete keeping of records. It facilitates easier care continuity and enables early problem identification.
j. **Supervisor:** monitoring the health of the foetus, helping moms during the prenatal period, and using their knowledge to spot early indications of complications.
k. **Lactation manager**: The midwife's responsibility is also to initiate and support breastfeeding. This begins in the antenatal period when breast assessment is done to limit nipple challenges. During breastfeeding breast problems like engorgement, and sore and cracked nipples.

2.5 The interaction between the midwife's responsibilities and child health

In this review, the conceptual framework (figure 1) adapted from another study by Forbes and colleagues [4] will be used to discuss the structural analyses of the evidence and to identify the scope of midwifery practice in child health. The responsibilities of the midwife in child health are indeed important and multi-faceted spanning the entire period before conception to the post-natal period. It is pertinent to also highlight that the role of the midwife before the birth of the baby is predominantly preventative and indirect, as most interventions are directed at the mother but aimed at ensuring the foetus is safe.
Firstly, irrespective of a professional role in an organization, the midwife's contributions, mostly revolve around sound research and evidence-based interventions or approaches to child care which arise following shared interactions between medical doctors and nurses. These shared and informed contributions guide the midwife's practices as it pertains to child health. Since the core roles of the midwife are mainly centred around the period of preconception and foetal development, during delivery and up to 6 weeks post-delivery, the responsibility of the midwife is undoubtedly double-fold; first to the mother and also to the baby. This paper, therefore, highlights the multi-faceted duties of the midwife and how it adds to ensuring optimum health of children to reduce child mortality in the 21st century at every phase of foetal and child development.

Antenatal Period: During the antenatal period, the midwife's responsibility as regards the child's health is primarily preventative and would indirectly impact the growing foetus. As displayed in Figure 1, health education and health promotion will be a priority and include educating pregnant women on the importance of getting registered and being adherent to follow-up visits to enable early detection of any aberrations from normalcy. Mothers will also be educated on the importance of the use of insecticide-treated nets for the prevention of malaria in pregnancy;
The midwife also specifically advises mothers to ensure intake of nutritionally balanced diets with recommended supplementations during pregnancy [11]; Mothers will also be discouraged from smoking and consuming alcohol during pregnancy to prevent miscarriages and fetal alcohol syndrome [17]; Routine promotion of the benefits of breastfeeding and peer support to promote breastfeeding initiation will be emphasized as well as nipple inspection, to adequately prepare mothers to develop a breastfeeding plan and address breastfeeding challenges early [18]; Health promotion of folic acid supplementation for both pre-pregnant and pregnant women ≤12 weeks of gestation to prevent neural tube defects (NTDs) [15].
Other preventive measures would include zinc supplementation for improving pregnancy and infant outcomes [19]; Routine daily oral supplementation with iron or iron and folic acid during pregnancy for reduction of anaemia and improving pregnancy outcomes[20]; others include Calcium supplementation during pregnancy for preventing hypertensive disorders

and related problems [21]; Health education on contraceptive use by women after childbirth and teenage girls to avoid unwanted pregnancies.
Furthermore, other preventative measures with an indirect impact on child health to be performed by the midwife include – specific protective measures. These include screening for and treatment of antenatal lower genital tract infections for prevention of preterm delivery and sexually transmitted infections to prevent the occurrence of congenitally acquired infections – TORCHES diseases which can increase child morbidity and mortality [13]. Similarly, screening for diabetes to prevent fetal macrosomia and the associated postnatal complications like congenital heart disease, jaundice and hypoglycaemia can be minimized. Screening for hypertension in pregnancy to prevent complications from pre-eclampsia/ eclampsia like preterm births, small for gestational age babies (SGAs) and eventual costs due to the need for preventable prolonged hospitalization. In addition, counselling mothers to be vaccinated with tetanus toxoids to prevent neonatal tetanus. Also, Anti-D immunoglobulin in pregnancy to prevent rhesus alloimmunization and severe neonatal jaundice.
In other words, the midwife's responsibility in the antenatal period is to prevent the occurrence or limit significantly the incidence of preterm births, stillbirths, congenital anomalies and foetal wastages hence improving child health.

Intra-natal care: During the intra-natal period, the midwife's responsibility as regards the child's health is primarily preventative but may occasionally be curative and would directly impact the newborn. As displayed in Figure 1, the midwife's responsibility is to ensure the child is safe by being born in the presence of a skilled birth attendant preferably at an approved Health facility. The midwife supervises the labour process and limits cord accidents/ birth trauma – Brachial plexus injuries. If the baby fails to breathe spontaneously, active resuscitation is performed by the midwife using the Help Baby Breathe (HBB) protocol and is performed within the golden minute to enable the baby to breathe spontaneously. The midwife also promptly recognizes danger signs needing consult to limit any further disability.

Postnatal care: During the post-natal period, the midwife's responsibility as regards child health is a combination of preventative, curative and less often palliative and or rehabilitative and directly impacts the newborn, infant or growing child. As displayed in Figure 1, the midwife's responsibility is to ensure postnatally, the newborn promptly initiates breastfeeding and supervises lactation and promptly identifies challenges to breastfeeding, proffering solutions. The midwife also performs the immediate essential care of the newborn, providing skin-to-skin contact, eye care with 5% erythromycin ointment and Cord care with 4% chlorhexidine gel for the prevention of eye and cord infection. Vitamin K_1 is also administered to prevent haemorrhagic disease of the newborn and prevention of hypothermia through prolonged skin-to-skin contact via Kangaroo Mother Care. If the baby is small for gestation or is very low birth weight, baby can be referred to a centre for a paediatrician/ neonatologist and transported in the kangaroo mother care (KMC) position is advised to prevent hypothermia and mortality.
In addition, other responsibilities expected of the midwife to improve child health include male circumcision, and prevention of infectious diseases through coordinating the well-child clinics where growth monitoring and immunizations are supervised and growth faltering and missed opportunities prevented. The benefits of exclusive breastfeeding for at least 6 months and complementary feeding practices are also explained to mothers.

Other complementary responsibilities of midwives in the 21st century include child protection – Policymaker midwifery nurses bring an important voice and point of view to limit child trafficking and child swapping even at birth and thereafter. As an advocate for the child, the midwife is also responsible for conducting research and developing evidence-based recommendations and policies as needed. This promotes the development of healthy

children who reside in families, environments, and communities where they have the chance to realize their fullest potential.

3. CONCLUSION

In conclusion, this paper discovered that although sparsely described in the literature, midwives have wide-ranging and diverse responsibilities that contribute to child health and child health services in sub-Saharan Africa in the 21st century.

REFERENCES

1. Renfrew MJ, McFadden A, Bastos MH, Campbell J, Channon AA, Cheung NF, et al. Midwifery and quality care: findings from a new evidence-informed framework for maternal and newborn care. The Lancet. 2014;384(9948):1129–1145.
2. Ritchie H. How many people die and how many are born each year? Our World in Data. 2019. https://ourworldindata.org/births-and-deaths. Accessed 3 July 2022.
3. WHO. Strengthening quality midwifery education for Universal Health Coverage 2030: framework for action. Geneva: World Health Organization. 2019.
4. Forbes A, While A, Ullman R, Murgatroyd B. The contribution of nurses to child health and child health services: findings of a scoping exercise. J Child Health Care. 2007;11(3):231–247.
5. Scharmanski S, Renner I. Gesundheitsfachkräfte in den Frühen Hilfen: Wie nützlich ist die Zusatzqualifikation? Eine quantitative Studie [Midwives and Nurses in Early Childhood Intervention: Benefit of additional Qualification]. Pflege. 2018;31(5):267–277.
6. Rooks J. The midwifery model of care. J Nurse Midwifery. 1999;44(4):370–374.
7. Khan-Neelofur D, Gulmezoglu M, Villar J. Who should provide routine antenatal care for low-risk women, and how often? A systematic review of randomised controlled trials. Paediatr Perinat Epidemiol. 1998;12(s2):7–26.
8. Sandall J, Soltani H, Gates S, Shennan A, Devane D. Midwife-led continuity models versus other models of care for childbearing women. In: The Cochrane Collaboration, editor. *Cochrane Database of Systematic Reviews*. 2013. Chichester, UK. John Wiley & Sons, Ltd: CD004667.pub3.
9. Conde-Agudelo A, Belizán JM, Diaz-Rossello J. Kangaroo mother care to reduce morbidity and mortality in low birthweight infants. In: The Cochrane Collaboration, editor. *Cochrane Database of Systematic Reviews*. 2011. Chichester, UK. John Wiley & Sons, Ltd: CD002771.pub2.
10. Duley L, Henderson-Smart DJ, Chou D. Magnesium sulphate versus phenytoin for eclampsia. Cochrane Database Syst Rev. 2010. doi:10.1002/14651858.CD000128.pub2.
11. Ota E, Tobe-Gai R, Mori R, Farrar D. Antenatal dietary advice and supplementation to increase energy and protein intake. In: The Cochrane Collaboration, editor. *Cochrane Database of Systematic Reviews*. 2012. Chichester, UK. John Wiley & Sons, Ltd: CD000032.pub2.
12. Duley L, Henderson-Smart DJ, Meher S, King JF. Antiplatelet agents for preventing pre-eclampsia and its complications. Cochrane Database Syst Rev. 2007. doi:10.1002/14651858.CD004659.pub2.
13. Sangkomkamhang US, Lumbiganon P, Prasertcharoensook W, Laopaiboon M. Antenatal lower genital tract infection screening and treatment programs for preventing preterm delivery. In: The Cochrane Collaboration, editor. *Cochrane Database of Systematic Reviews*. 2008. Chichester, UK. John Wiley & Sons, Ltd: CD006178.pub2.

14. Haider BA, Bhutta ZA. Multiple-micronutrient supplementation for women during pregnancy. Cochrane Database Syst Rev. 2017. doi:10.1002/14651858.CD004905.pub5.
15. De-Regil LM, Fernández-Gaxiola AC, Dowswell T, Peña-Rosas JP. Effects and safety of periconceptional folate supplementation for preventing birth defects. In: The Cochrane Collaboration, editor. *Cochrane Database of Systematic Reviews*. 2010. Chichester, UK. John Wiley & Sons, Ltd: CD007950.pub2.
16. Siegfried N, van der Merwe L, Brocklehurst P, Sint TT. Antiretrovirals for reducing the risk of mother-to-child transmission of HIV infection. Cochrane Database Syst Rev. 2011. doi:10.1002/14651858.CD003510.pub3.
17. Lumley J, Chamberlain C, Dowswell T, Oliver S, Oakley L, Watson L. Interventions for promoting smoking cessation during pregnancy. In: The Cochrane Collaboration, editor. *Cochrane Database of Systematic Reviews*. 2009. Chichester, UK. John Wiley & Sons, Ltd: CD001055.pub3.
18. Dyson L, McCormick FM, Renfrew MJ. Interventions for promoting the initiation of breastfeeding. In: The Cochrane Collaboration, editor. *Cochrane Database of Systematic Reviews*. 2005. Chichester, UK. John Wiley & Sons, Ltd: CD001688.pub2.
19. Ota E, Mori R, Middleton P, Tobe-Gai R, Mahomed K, Miyazaki C, et al. Zinc supplementation for improving pregnancy and infant outcome. Cochrane Database Syst Rev. 2015. doi:10.1002/14651858.CD000230.pub5.
20. Peña-Rosas JP, De-Regil LM, Dowswell T, Viteri FE. Daily oral iron supplementation during pregnancy. In: The Cochrane Collaboration, editor. *Cochrane Database of Systematic Reviews*. 2012. Chichester, UK. John Wiley & Sons, Ltd: CD004736.pub4.
21. Hofmeyr GJ, Lawrie TA, Atallah ÁN, Torloni MR. Calcium supplementation during pregnancy for preventing hypertensive disorders and related problems. Cochrane Database Syst Rev. 2018;2018(10). doi:10.1002/14651858.CD001059.pub5.