

The Genesis and Revelation on Kangaroo Mother Care (KMC): What We Know So Far and What We Expect to Know in the Future from Ghanaians Perspectives

By Ephraim Kumi Senkyire

Every year, approximately 140 million babies are born¹. About 30 million of them require special care and about 10 million need intensive care each year to survive and thrive because they are born too soon, small, or sick¹.

About 2.5 million newborns die within the first 28 days from preventable causes and about 1.3 million survive with a major disability¹. To achieve the sustainable development goal (SDG 3) to end preventable newborn deaths, all countries must reduce neonatal mortality to 12 deaths or less per 1,000 live births by 2030¹.

An estimated 15 million babies are born preterm annually -- 10% of all newborns worldwide². The range of the preterm birth rate varies from country to country from about 5% to 18% with huge inequalities in survival rates worldwide². 50% of the babies born extremely preterm at 24 weeks survive in high-income countries while 50% survive when they are born at 32 weeks gestational age in low-income settings only². These low rates of survival are due to a lack of basic care like warmth, breastfeeding support, and treatment of infections². The major cause of global under age five deaths is preterm birth complications with many survivors facing a lifetime disability such as learning disabilities and visual and hearing impairment². Thus, an intervention that improves survival with minimal morbidities in both high and low-income settings are highly desired. It was agreed that KMC provides benefits to preterm and LBW babies in high, middle, and low-income settings³. Therefore, KMC through a simple intervention is crucial for improving preterm and low birth weight (LBW) outcomes and is also cost savings⁴.

In sub-Saharan Africa, 14% of babies are born low birth weight (LBW), with a birth weight of less than 2,500 g. Most new-born babies who die are LBW accounting for 60 to 90% of newborn deaths globally⁵. Compared to other regions of the world, sub-Saharan Africa has experienced slow progress towards reducing neonatal mortality, particularly mortality due to preterm birth⁶. This is likely due to the higher preterm prevalence and lower access to care^{4,7}, and shortages in health workers^{8,9}.

Under such circumstances good care of preterm and LBW babies is difficult: hypothermia and nosocomial infections are frequent, aggravating the poor outcomes due to prematurity. Other potential issues include the risk of cross-infection from other neonates when incubators are shared^{10,11,12}

Ghana ranks 25 in the world in terms of the number of preterm births¹³ and prematurity accounts for 7,200 neonatal deaths every year in Ghana¹⁴. The increase in the number of facilities providing assisted conception in Ghana could also account for the rise in premature births in Ghana¹⁴. Prematurity accounts for 14.5% of all deliveries in Ghana and compared to babies born full term, preterm babies are 25 times more likely to die in the first month of life^{7,15}. The knowledge and skill of the health care provider largely affects the quality of care and survival of the preterm newborn¹⁴.

According to the Midcluster indicator survey of 2011, the northern, upper east, upper west, and Brong-Ahafo regions have the highest child mortality rates among the ten regions in Ghana: 66/1000, 58/1000, 67/1000, and 66/1000 respectively¹⁶. Quality health care is vital to curb the challenging health needs of the aforementioned regions. These high figures are perhaps few and under-resourced health facilities. Most neonatal units lack equipment such as radiant heaters and incubators. These facilities should be equipped and resourced to improve the quality of care for infants. Two-thirds of deaths could be prevented in Ghana through skilled delivery, exclusive breastfeeding, and early initiation of breastfeeding. To achieve SDG 3, newborn deaths must be reduced to 12/1,000 live births. This involves the integration of other programs and the strengthening of both maternal and child health services.

Neonatal mortality is an important public health issue in Ghana; 21 per 1,000 live births are dying within the first four weeks of life¹⁶. Early initiation of breastfeeding was shown to be associated with reduced neonatal mortality in Ghana¹⁷, however in low- and middle-income countries (LMICs), neonatal (low birth weight, male infants, multiple pregnancies, prematurity, maternal single, nulliparous mothers and short birth spacing^{18,19,20} and health service factors(delivery and postnatal services)) were reported to have independent relations with neonatal mortality(Ligowe 2010, Mahmood 200^{18,19}.

A study in Ghana reported that 32.7% of neonates died from LBW and 10% died due to prematurity²¹. Another study conducted in the Brong-Ahafo region of Ghana found that prematurity (18.75%) was among the main causes of neonatal mortality and concluded that birth weight is among the determinants of neonatal mortality²².

A study conducted in Ghana by Bergh, et al. (2013) and published in the *Ghana Medical Journal* and entitled, “Progress with the Implementation of Kangaroo Mother Care in Four Regions in Ghana to Measure Progress with the Implementation of KMC for LBW Infants at Health Systems Using Action Research Design,” with district and regional hospitals as the unit of the analysis showed that 26 of 38 hospitals (68%) demonstrated sufficient progress with KMC implementation. Half of the hospitals had designated a special ward for KMC. 66% of hospitals used a special record for infants receiving KMC. Two of the main challenges were lack of support for mothers who had to remain with their LBW infants in hospital and no follow-up review services for LBW infants in 39% of hospitals. In conclusion, it was possible to roll out KMC in Ghana, but further support for the regions is needed to maintain the momentum²³. A review of a study by Barros, et al. and the Global Alliance for the Prevention of Prematurity and Stillbirth (GAPPS) Review Group in 2010 showed a paucity of data on the impact of potentially relevant interventions for the prevention and management of preterm births for low- and middle-income countries like Ghana²⁴. In this global report, 11 interventions including hospital-based KMC, were found to improve the survival of preterm or LBW babies. Identifying small babies and providing extra support for feeding also has great potential to reduce the neonatal mortality rate²⁴.

A report in Ghana by Owusu Nyarko found the following benefit of KMC; KMC stimulates proper breathing in the baby and also helps the mother to produce adequate breast milk which contains the right amount of nutrients the preterm or LBW baby needs for proper development. KMC is at least equivalent to conventional care (incubators), in terms of safety and thermal protection, if measured by mortality. KMC, by facilitating breastfeeding, offers noticeable advantages in cases of severe morbidity. KMC contributes to the humanization of neonatal care and better bonding between mother and baby in both low and high-income countries. KMC is, in this respect, a modern method of care in any setting, even where expensive technology and adequate care is available.²⁵

A current study conducted by Nguah et al in Kumasi, Ghana on perception and practices on KMC after discharge concluded that mothers' knowledge initially was low but once it was initiated, they were willing to practice it both in the hospital and at home with their infants gaining optimal weight, yet there exists a lot of low-level knowledge and barriers among Ghanaian women who provide KMC to their preterm babies as per my experiences²⁶.

In 2017, while working at the paediatric ward at the Cape Coast Teaching Hospital, it was observed that mothers, both young and old who had been discharged from the NICU after spending one to two weeks of care in the pediatric ward for continuing KMC were ignorant of it; they do not have any ideas or have not heard it in their life, some felt shy to practice it the first time, other were unable to purchase KMC clothes and had unsuccessful breastfeeding while practicing KMC despite the implementation of KMC in Ghana since 2007.

However, few studies on KMC in Ghana were confined to a setting or use qualitative approaches to explore the mothers' experiences. Therefore, future research should concentrate on using a mixed methodology to generate a large volume of data from different settings to be able to generalize the results on experiences of mothers providing KMC to their preterm babies and also the need to intensify information, education, and communication on KMC to mothers at all levels of health care in Ghana.

Author bio

Senkyire Ephraim Kumi is a registered nurse (general) with a Bachelor of Science degree in nursing in paediatrics from the University of Ghana. He had more than three years of clinical experience in various aspects of nursing, especially in child health and two years experience as a teaching assistant. His scientific interests are child and maternal health, family centered care, health care education, and other allied health-related topics. He is also a member of various regional and international organizations and associations. As an emerging nurse-scientist, Senkyire has had articles published in several journals online. His future research will center on using a mixed methodology in exploring women's experiences with preterm infants with a focus on Kangaroo mother care (KMC). The intention is to gain an in-depth understanding of mothers' experiences in providing KMC.