Tropical Journal of Obstetrics & Gynaecology
ISSN-Print: 0189-5117
Online: 2543-148X
Official Publication of Society of Obstetrics & Gynaecology of Nigeria

Review Article

Reducing Maternal Mortality in Nigeria: Why Progress is Stalled and the Way Forward

Kuti O[1,2]; Ayodeji OF[4]; Awowole IO[1,2]; Adesina OA[3]; Raji HO[5]; Makinde ON[1,2]; Adeyemi AB[1,2]; Esan OT[6]. Kuti OA[7].

1. Department of Obstetrics, Gynaecology and Perinatology, Obafemi Awolowo University Ile-Ife, Nigeria.
2. Department of Obstetrics, and Gynaecology, Obafemi Awolowo University Teaching Hospital, Ile-Ife, Nigeria.
3. Department of Obstetrics and Gnaecology, University of Ibadan, Ibadan, Nigeria
4. Department of Obstetrics and Gnaecology, University of Medical Sciences, Ondo, Nigeria.
5. Department of Obstetrics and Gynaecology, University of Ilorin, Ilorin, Nigeria.
6. Department of Community Health, Obafemi Awolowo University, Ile-Ife, Nigeria.
7. Reliance Health, 32, Lanre Awologun Street, Gbagada GRA Phase 2, Nigeria.

Corresponding Author:

Oluwafemi Kuti, Department of Obstetrics, Gynaecology and Perinatology, Obafemi Awolowo University Ile-Ife, Nigeria.
okuti_victory@yahoo.com; okuti@oauife.edu.ng.
08038132121.

ABSTRACT

Nigeria alone, contributed 23% of the global burden of maternal mortality in 2015. The statistics remain bothersome despite the fact that the country has always been part of the global efforts to address the high maternal mortality ratio in developing countries for decades. Home-grown initiatives, some of which had received international financial support and accolades, have been added to the mix. Ironically, at the end of the Millennium Development Goal era, Nigeria was classified as having made "No progress" in reducing maternal mortality by the United Nations. The need to design a pragmatic, context-specific, achievable, accessible and sustainable national strategy, is therefore imperative. Professionalization of midwifery care is an evidence-based strategy for reducing direct maternal deaths when there is concomitant accessibility to such care. We therefore propose a NATIONAL SAFE DELIVERY PROGRAMME (NSDP), to be implemented in phases, as a pivot, using an institution-based template to distribute such care. To ensure sustainability, we recommend a "bottom-up" approach to engender political will and propose the establishment of a MOTHERS TRUST FUND, dedicated to funding obstetric care nationally, which will be backed by legislation from the National Assembly. Finally, constant vigilance by relevant community stakeholders through unrelenting advocacy for women health issues, will ensure that the political leadership remains focussed on maternal mortality reduction.

Key words: Maternal Mortality, MDG, SDG, Mothers Trust Fund

INTRODUCTION

The death of a woman during pregnancy, childbirth and after delivery is a tragedy of immeasurable proportions. The World Health Organisation defines maternal death as the death of a woman while pregnant or within 42 days of termination of pregnancy from any cause or its management but not from accidental or incidental causes.[1] Nigeria is currently the global capital of maternal deaths, contributing 23% of the global burden of maternal mortality, (67,000 out of 300,000) in 2015 [2]; India which is 7 times the population of Nigeria came a distant second with a total maternal death of 35,000 [2] in the same year.

Like most sub-Saharan countries, direct obstetric complications, which include obstetric haemorrhage, sepsis, hypertensive diseases in pregnancy, obstructed labour, abortion, and ectopic pregnancy, are responsible for more than 90% of the maternal deaths in Nigeria [3-5]. Despite the availability of safe and effective interventions for these complications, the case fatality rates remain high due to late presentation and poor health infrastructure [4]. Majority of women present to the referral hospitals in a moribund state, which will be daunting to the available infrastructure, with many of them dying within 12 hours of admission [3,4].

Besides its serious impact on the survival of the existing children and the newborns, the deaths of these mothers have a considerable adverse social, economic, and psychological impact on the immediate and extended families and the attending medical staff [6-8]. For the medical staff, who witness the scenario daily, the deaths have gone beyond statistics, rather, it is a constant source of psychological distress [8].

The stories surrounding these deaths are usually tragic, with the patients having been mismanaged and even medically abused in the referring centres [9]. It becomes even more painful to know that more than 90% of these deaths are preventable, had the women presented earlier [3,4].

Over the years, successive governments in Nigeria, Non-Governmental organisations and International Donor Agencies have launched various programmes to reduce the maternal mortality ratio in the country. Nigeria has always been part of the global effort for addressing the high maternal mortality ratio in developing countries, from the launching of the Safe Motherhood Initiative in 1987 through the Millennium Development Goal agenda, to the current Global Vision of Ending Preventable Maternal Deaths. In 2017, the then Minister of Health inaugurated a 34-member task force for the accelerated reduction of maternal mortality in Nigeria [10]. More recently in February 2019, the Executive Director of the Primary Health Care Board declared a state of emergency on the menace of maternal deaths in Nigeria [11]. Unfortunately, all these programmes and promises have not translated into positive results.

The United Nations Sustainable Development Goal 3.1 requires every country to reduce the maternal mortality ratio to less than 140 per 100,000 live births by the year 2030 [12]. With a current maternal mortality ratio of 917 per 100,000 live births [2], Nigeria should aim for an Average Annual Rate of Reduction (ARR) of 17% to be able to achieve the SDG goal. In the MDG era, we had an ARR of 2.0%, far below the expected rate of 5.5% required to achieve the MDG. If Nigeria is to achieve the SDG, we need a critical appraisal of the strategies we had employed in the past to determine where we had gone wrong, with their implementation. This is towards developing a context-specific, accessible, acceptable and sustainable strategy with the potential for favourable implementation outcomes, not only to enable us to achieve the SDG but also to achieve the Global vision of Ending Preventable Maternal Deaths.

Previous Safe Motherhood Programmes in Nigeria and Why They Stalled

Nigeria was part of the safe-motherhood initiative when it was launched in Nairobi, Kenya in 1987. It was hoped that this initiative would lead to a substantial reduction in maternal death ratios in developing countries. Unfortunately, apart from creating global awareness of the high maternal mortality rates in developing countries, the goal of the initiative was not achieved in most developing countries [13].

To reduce the burden of maternal deaths in Nigeria, the Federal and State Governments, National and International Donor Agencies and Professional Organisations had launched several programmes. Many of these programmes however were generic, patchy and unsustainable. Programs such as Maternal Newborn Child Health, Life-Saving Skills, Task Shifting and Task Sharing are generic as they were not stand-alone strategies solely aimed at reducing maternal deaths [14-16].

Other programmes such as the Conditional Cash Transfer, (implemented in 12 of

36 states in Nigeria), and the Midwives Service Scheme, implemented in 10% of the Local Governments in Nigeria, though targeted at maternal mortality reduction, were patchy, poorly planned and badly implemented [17-19]. Besides, many of the laudable programmes executed by state governments, such as the "Abiye" Program in Ondo State [20], were not sustainable and ended with the regime of the government that started them.

The recently launched Maternal Perinatal Death Surveillance and Response Programme was aimed at reviewing all maternal and perinatal deaths both at institutional and community levels to identify avoidable deaths and to make recommendations to prevent future occurrences [21]. Implementation of the programme, however, has been sparse across the country and even where it has been practised, recommendations from the review meetings have not been affected [22].

Progress In Maternal Mortality Reduction Since 1990

The consequence of all the above-mentioned poorly implemented programmes in Nigeria is a failure of a significant reduction in the maternal mortality ratio in the last 30 years! In 2015, a report by the WHO, the United Nations Population Fund (UNFPA) and the World Bank showed that Nigeria had not made any progress at the end of the MDG period [23]. During this period, MMR in Nigeria dropped from 1,350 maternal deaths per 100,000 live births in 1990 to 814 maternal deaths per 100,000 live births in 2015, a reduction of 39.7% as against the MDG target of 75% reduction. The annual Average Rate of Reduction (ARR) of 2.0% [22] was also far below the expected rate of reduction of 5.5%. Of greater concern is the declining annual rate of reduction of maternal mortality ratio in Nigeria.

Table 1. Comparative Trends in MRR – Nigeria, India and Rwanda 1990 – 2017

			NIGERIA	INDIA			RWANDA		
YEAR	MMR	% Reduction	ARR	MMR	% Reduction	ARR	MRR	% Reduction	ARR
1990	1350	-		556	-		1300	-	
2000	1200	-		370	-		1160	-	
2015 ARR (1990-2015)	814	39.7	2.0	174	68.7	4.6	290	77.7	6.0
2017 ARR (2000–2017)	917	24	1.6	145	61	5.5	248	79	9.1

A recent assessment of progress between 2000 and 2017 [2] revealed a further decline of the ARR to 1.6, compared to the progress observed in low and middle-income countries such as India and Rwanda that have made consistent progress in their ARR from 1990 (Table 1).

For Nigeria to achieve the SDG 3.1 of a maternal mortality ratio of 140 per 100,000 live births and to join the Global Vision of Ending Preventable Maternal Deaths, we should aim for an average annual reduction of maternal mortality ratio of 17%. We certainly cannot achieve this if we continue to do business as usual. We, therefore, need to design and properly implement a more pragmatic, context-specific, achievable, accessible and sustainable national strategy that is focused directly on addressing the complications that cause maternal deaths.

The Way Forward

Most stakeholders have attributed the absence of the impact of the Safe Motherhood Initiative on maternal death reduction to the use of wrong strategies [12,13,24]. Previous strategies focusing on the education of mothers, training of Traditional Birth Attendants, and Risk Assessment in the Antenatal Clinics, have been shown to have very little impact, if any, on reducing maternal mortality [12,24]. The current evidence-based strategy for reducing direct maternal deaths is the professionalisation of midwifery care and ensuing accessibility to such care [24-26]. Experience from developed countries that achieved low maternal mortality ratios, within a relatively short period, has confirmed the pivotal role of professionalisation of midwifery care. Sweden was the first to professionalise obstetric care in the late 18th century and by 1900, midwives attended 78% of births and their maternal MMR was 228 per 100,000 live births [24]. In Nigeria, only 39% of births are currently attended by skilled birth attendants [27], a rate below that of Sweden of 40% in 1861[24]. Following the example of Sweden, the Netherlands, Denmark, and Norway all achieved a maternal mortality ratio below 300 per 100,000 live births in the early 20th century. However, in 1900 the MMR in England was 500 per 100,000 live births and in 1918, that of the United States of America was 885 per 100,000 live births.

In both countries, during these periods, deliveries were still conducted mainly by TBAs [24]. Following the visit of a special mission of the United Kingdom to Sweden, Denmark and the Netherlands in 1932, for advice on obstetric care, England and Wales started the professionalisation

of midwifery care in the early 1930s and within 20 years their MMR dropped from 500 per 100,000 live births to 85/100,000 [24]. It is also worthy of note that the few African countries that made significant progress in reducing MMR have all employed strategies that professionalised midwifery care and removed barriers to accessing care [12,28]. The WHO Making Pregnancy Safe Initiative supported a national strategy of skilled birth attendants during pregnancy, delivery and the immediate postpartum period as a veritable solution to reducing maternal mortality [29].

In line with global thinking, therefore, the way forward in reducing the high burden of maternal deaths in Nigeria is to develop a national strategy that will address the direct obstetric complications which are still the major causes of maternal deaths in Nigeria [12,29,30]. For the strategy to be impactful, it should be institutional based and composed of a package of interventions for early diagnosis and treatment of the five major direct obstetric complications – postpartum haemorrhage, hypertensive diseases in pregnancy, obstructed labour, sepsis, and unsafe abortion. Interventions to treat these complications have been known for years and are widely available even in developing countries like Nigeria. The challenges that we need to overcome include training more health professionals for diagnosing and managing these complications and removing the economic, geographical and social barriers to accessing care by mothers.

To reduce the cost of implementing the strategy and improve geographical accessibility, basic health centres should be used as the means of distribution. This will not require a new structural outlay, except to upgrade existing health facilities and employ more midwives. Currently, many of these health centres are either non-functional or underutilised [31]. Sustainability will require strong advocacy by all stakeholders, including professional bodies and women's organisations to engender political commitment [12]. This was the experience in England leading to the formation of the "Mother's Charter" of 1902 and the Royal College of Obstetricians and Gynaecologists in 1929[24].

We, therefore, propose a National Safe Delivery Programme as a strategy to rapidly reduce the current maternal deaths in Nigeria, (Appendix I). Implementation of this project should be in phases as detailed in Appendix II. The engine for the successful implementation of the programme is political will, which is required for financial support and implementation at scale.

Strategies to Ensure Sustainability of The National Safe Delivery Program.

Previous laudable programmes such as the Abiye programme in Ondo State and the Midwives Service Scheme got stalled because they were not sustainable due to lack of funding. The political will that birthed these programmes was through a top-to-bottom approach, in which the visioner was the political leader himself hence the will died at the end of his tenure. Besides, in most previous programmes, there was no dedicated account backed by the Act of Parliament to fund the programme.

We, therefore, propose two strategies to engender continuous political will and sustainable funding of the NSDP:

1. The Bottom-Up approach to engender political will: In this approach, the main drivers of political will are the stakeholders who suffer the dreadful impact of maternal deaths first-hand. These include women's groups, faith-based organizations, community leaders, medical associations and relevant educational institutions. They will be educated on the causes and preventability of maternal death and the crucial role of political leaders in actualising the reduction of the menace. This will be done through social media, radio and television programmes. The stakeholders will consequently put a demand on any political leader to reduce maternal death a priority project.

2. Establishment of Mothers Trust Fund: To guarantee sustainable funding of the programme, the establishment of a Mothers Trust Fund backed by the Act of Parliament and primarily dedicated to funding Obstetric Care is proposed. Experience with the Tertiary Education Trust Fund (TETFUND) confirms the usefulness of such a dedicated fund in ensuring sustainability.

The fund should be disbursed and managed at all tiers of government to ensure that implementation of the programme runs concurrently at all levels of health care from primary to tertiary.

CONCLUSION

Reduction of Maternal Mortality in Nigeria has been stalled because of the use of inappropriate,

patchy, and poorly implemented strategies. To achieve SDG 3.1 and join the global vision of Ending Preventable Maternal Deaths we need to professionalize midwifery care, ensure accessibility and employ a National Strategy at scale to address the direct obstetric complications. A bottom-up approach to ensure continued political will and the establishment of a Mothers Trust Fund will guarantee sustainable funding.

REFERENCES

1. World Health Organisation: International statistical classification of diseases and related problems, 10th Revision, Geneva, World Health Organisation 1992.
2. WHO, UNICEF, UNFPA, WORLD BANK GROUP, Trends in Maternal Mortality: 2000 to 2017. Estimates by WHO, UNICEF, UNFPA, the World Bank and the United Nations Population Division. Geneva WHO, 2019. https://apps.who.int/iris/bitstream/handle/10665/327596/WHO-RHR-19.23-eng.pdf
3. Awowole IO, Badejoko OO, Kuti O, Ijarotimi OA, Sowemimo OO and Ogunduyile IE (2017). Maternal mortality in the last triennium of the Millennium Development Goal Era at the Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria. J Obstet Gynaecol;38(2):189-193. doi: 10.1080/01443615.2017.1336752.
4. Oladapo OT, Adetoro O.O, Ekele BA, Chama C, Etuk SJ, Aboyeji AP et al (2016). When getting there is not enough: a nationwide cross-sectional study of 998 maternal deaths and 1451 near-misses in public tertiary hospitals in a low-income country. BJOG 2016; 123:928-938.
5. The Alliance for maternal and Newborn Health Improvement (AMANHI) mortality study group. Population-based rates, timing, and causes of maternal deaths, stillbirths, and neonatal deaths in South Asia and sub – Saharan Africa: a multi-country prospective cohort study. Lancet Glob Health 2018, 6 e1297 – 308.
6. Molla M, Miliku I, Worku A, Yamin AE(2015) impacts of maternal mortality on living children and families: a qualitative study from Butajira, Ethiopia.Reproductive Health 2015, 12 (suppl 1): S6.
7. Fathalla MF (2013). The human strategy of maternal mortality: 10 messages. Regional conference on population and Development in the Arab States Cairo, June 2013.
8. Dartey AF and Phuma-Nojaiyaye E(2020) Physical Effects of Maternal Deaths on Midwives Health: a qualitative Approach. J Pregnan. https://doi.org/10.1155/2020/2606798.
9. Kuti O, Dare FO, and Ogunniyi SO. The role of referring centers in the tragedy of unbooked patients. Trop J Obstet, Gynaecol 2001; 18(1):24-26.
10. Federal Ministry of Health. Accelerated Reduction of Maternal and Newborn Mortality in Nigeria. Abuja, FMOH 2017. https://health.gov.ng/doc/accelerated-reduction.
11. Federal Ministry of Health: The National Primary Health Care Development Agency's Strategic Approach to Rapidly Reduce Maternal and Child Mortality in Nigeria FMOH, Abuja 2019. https://health.gov.ng/doc/accelerated-reduction.pdf
12. World Health Organisation Strategies toward ending preventable maternal mortality (EPMM) Geneva: WHO, 2015. https://apps.who.int/iris/bitstream/handle/10665/153540/WHO_RHR_15.03_eng.
13. Maine D, Allan Rosen field A. The safe Motherhood initiative: why has it stalled? American J Public Health 1999, 89 (4) : 480-482.
14. Federal Ministry of Health. Integrated Maternal, Newborn and Child Health Strategy. Abuja: FMOH, 2007. https://healthresearchwebafrica.org.za/files/IMNCHSTRATEGICPLAN
15. Federal Ministry of Health. Training of Health Professionals in Life Saving Skills. Abuja: FMOH, 2014.
16. Federal Ministry of Health Task-Shifting and Task Sharing Policy for Essential Health Care Services in Nigeria. Abuja FMOH, 2014 https;//Task-shifting and Task-sharing Policy for Essential Health Care Services in Nigeria | Family Planning 2030 (fp2030.org).
17. Federal Ministry of Health. Conditional Cash Transfer. Abuja: FMOH, 2013.
18. Federal Ministry of Health. The Nigerian Midwives Service Scheme: Abuja FMOH, 2009. https://www.academia.edu/4341953/The_Midwives_Service_Scheme_in_Nigeria
18. Okeke EN, Pitchforth E, Exley J, Glick P, Abubakar I.S., Chari A.V et al. Going to scale: design and implementation challenges of a program to increase access to skilled birth attendants in Nigeria. BMC Health Serv Res 2017;17:356.
19. Ogbeye GB. Concept of Abiye Programme in Ondo State: an Effective Strategy for Maternal Mortality Reduction in Nigeria. Int J Med Sci and Appl Biosci 2018; 3 (i): 15-36.
20. Federal Ministry of Health National Guideline for Maternal Perinatal Death Surveillance and Response in Nigeria. Abuja FMOH, 2014.
21. Okonofua F, Imosemi D, Igboin B, Adeyemi A, Chibuko C, Idowu A et al Maternal Death Review and outcomes: an assessment in Lagos State, Nigeria. PLoS ONE 12(12). e0188392. https://doi.org/10.1371/journal.
23. WHO, UNICEF, UNFPA, WORLD BANK GROUP, Trends in Maternal Mortality: 1990 to 2015. Estimates by WHO, UNICEF, UNFPA, the World Bank Group and the United Nations Population Division. Geneva: WHO, 2015. https://apps.who.int/iris/handle/10665/193994
22. De Brouwere V, Tonglet R, Van Lerberghe W. Strategies for reducing maternal mortality in developing countries: what can we learn from the history of the industrialised West? Trop Med Intern Health 1998; 3(10): 771
23. Campbell OMR, Graham WJ, on behalf of The Lancet Maternal Survival Series Steering Group. Strategies for reducing maternal mortality: getting on with what works. Lancet 2006; 368:1284-99.
24. Bullough C, Meda N, Makowieka K, Ronsmans C, Achadi EL, Hussein J. Current Strategies for the reduction of maternal mortality. BJOG 2005; 112:1180-1188.27. National Population Commission (NPC) (Nigeria) and ICF International 2019. Nigeria Demographic and Health Survey 2018. Abuja, Nigeria and Rockville, Maryland USA: NPC and ICF International. https://www.scirp.org/reference/referencespapers.aspx?referenceid=2713552
25. 28. US Agency for International Development (USAID), Ending Preventable Maternal Mortality: USAID Maternal Health Vision for Action. Washington: USAID 2014. https://www.usaid.gov/.../maternal-and-child-health/maternal-health-vision-action
26. 29. World Health Organisation. Making Pregnancy Safer: A Health Sector Strategy for Reducing Maternal

and Perinatal Mortality. Geneva: WHO, 2000. https://www.who.int/publications-detail-redirect/9241591692

27. 30. Souza JP, Tuncalp O, Vogel JP, Bohren M, Widmer M, Oladapo OT, et al. Obstetric transition: the pathway towards ending preventable maternal deaths.BJOG; 2014; 121 (suppl.1): 1-4.

28. 31. Ijadunola KT, Fatusi AO, Orli EO, Adeyemi AB, Owolabi OO, Ojofeitimi EO et al. Unavailability of Essential Obstetric Care Services in a Local Government Area in South-West Nigeria. J Health Popul Nutr 2007; 25(1): 94-100.

Appendix I

National Safe Delivery Program (NSDP)

A strategy proposed for rapid reduction of maternal deaths in Nigeria. This is a health centre based intrapartum care strategy. It consists of

(1) A package of interventions that directly addresses the common causes of maternal deaths

a. Use of partograph for monitoring labour for early diagnoses and prompt referral of cases of prolonged labor.

b. Oxytocics in the third stage of labour (active management of third stage) to reduce postpartum haemorrhage (PPH).

c. Sterile Delivery kit for aseptic delivery procedures to address infection.

d. Regular check of Blood pressure for early diagnosis of hypertension both antenatally & intrapartum for early diagnosis and referral of pre-Eclampsia.

e. Skilled birth attendance by Certified Midwives or Auxiliary Midwives

(2) Means of Distribution - will be the health centre which is already in the health system and is therefore sustainable without the need for new capital outlay.

(3) Standby ambulance or appropriate mode of transport for prompt referral to Comprehensive Health Centre & Hospitals for management of major complications.

(4) Free Obstetric Care Service with possible monetary incentive to the mothers to facilitate mobilization of patients and encourage patronage.

(5) Targets: all pregnant women.

Appendix II

IMPLEMENTATION OF NSDP

This will involve the following phases in this order:

Phase 1

a. Upgrading health centre infrastructure to make it befitting – including uninterrupted light and water supply.
b. Training and re-training of midwives on the use of the interventions and respectful maternity care.
c. Adequate number of personnel to ensure a continuous coverage of the centre.
d. Provision of ambulance or appropriate transport services for immediate transfer of cases to referral centres.
e. Budget allocation to incentivise patients.

Phase 2

Advocacy via radio & TV jingles and the social media and employment of community midwives to inform and educate the community on the services available and the benefits of patronising them.

Phase 3

a. Continuous monitoring & evaluation of the program.
b. Regular hospital audits
c. Make birth certificate from accredited birthing centres a condition for baby to enjoy free health and free education.