

Maternal Health in Nigeria – Biosocial Theory, History & Implications of COVID-19

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Abstract

According to the World Health Organization, nearly 830 women die from preventable causes daily. About 99% of these deaths take place in low- and middle-income countries, and more than half of those occur in sub-Saharan Africa alone. The target of the Sustainable Development Goals is to improve maternal and reproductive health outcomes and reduce global maternal mortality rates to fewer than seventy deaths per 100,000 live births by 2030. Every woman has the right to live and thrive. To accept the tragedy that one woman in the world dies every two minutes from pregnancy or childbirth due to preventable causes is to deny their basic right to life. This article, based on the Nigerian context, identifies biosocial theories, historical antecedents, metrics relevant to maternal health, and the impact of the COVID-19 pandemic, describing the potential of policy for rights-based interventions that address (1) inequity in access to safe basic and emergency obstetric care; (2) disenfranchisement and disempowerment of women; and (3) women's rights and respectful maternal care in health care settings. The

article also describes how innovative strategies that are multisectoral, community-oriented and people-centered can help accelerate the response towards ending preventable maternal deaths for a more balanced and prosperous world.

Introduction

Nigeria has been described as one of the most dangerous places in the world for a woman to give birth.¹ Maternal death rates are 556 women for every 100,000 live births, accounting for one of sub-Saharan Africa's highest maternal mortality rates.² These are women of reproductive ages, 15-49 years, and often younger in communities where early marriage takes place.³ While attended skilled deliveries have gradually risen in the last decade, approximately 60% of all child births happen at home and unattended.⁴ In fact, every 10-13 minutes, one Nigerian woman dies – that is approximately 150 women dying each day – from preventable causes related to pregnancy and childbirth.⁵ For every woman who dies, up to fifty women will experience life-long complications and disabilities. This equates to more than five hundred women who will either die or face severe disabilities daily.⁶ Bleeding, infections, hypertension, obstructed labor, and unsafe abortions constitute the main causes of death and disability.⁷ With a population of over 200 million people, where 51.4% of people live in the rural areas, the majority of Nigeria's women reside in rural and semi-urban areas.⁸ The challenge of high maternal morbidity and mortality thus results in untold hardships for them, their children, families, and communities.

Decades of military rule, entrenched corruption, poor investment in development programs, and a broken health system have led to these poor maternal health indices.⁹ A gap therefore exists for the improvement of healthcare delivery at the community level,

a fundamental right to health that so many are denied, to address poor maternal health and strengthen the healthcare system.

An Analysis of Biosocial Factors

Research on non-medical factors affecting maternal mortality in Nigeria identified payment of treatment costs, health facility location, and access to antenatal care as significant.¹⁰ Nigeria's Health Insurance Scheme offers financial coverage to barely 5% of the population, leaving most citizens to pay for healthcare out-of-pocket.^{11,12} Poverty, low educational levels, paucity of information, harmful cultural practices, inaccessible facilities, and poor road networks and transportation limit the accessibility of the antenatal and delivery care which many pregnant women need.¹³ Additionally, harmful cultural factors present barriers to health care through norms which disallow women access to healthcare outside their homes.^{14,15} These gendered domestic power structures, resource allocation dynamics and limited decision-making therefore exert negative impacts on women's health-seeking behavior, health, and wellbeing.¹⁶ A lack of consideration for these factors in the respectful delivery and efficacy of care compromises healthcare quality and the actualization of women's fundamental human rights.¹⁷

Several biosocial theories are thus relevant to an analysis of Nigeria's maternal mortality challenges.

According to the *theory of social suffering*, social violence from political, economic, and institutional powers leads to inequity.¹⁸ The theory is comprised of four interrelated concepts: the origin of suffering from wider social issues; the limitation of free will and potential; the impact of health challenges beyond the individual alone; and lastly, the worsening of social and health challenges by society and the institutions set up to alleviate them.¹⁹

In many Nigerian communities, cultural beliefs and traditions enshrined within value systems have regarded women as lesser beings in the family hierarchy.²⁰ This misogynistic outlook prevents many women from seeking antenatal care or childbirth services unless their husbands or male family members are present to permit it.²¹ This results in late identification of medical conditions associated with high-risk pregnancies, ultimately leading to maternal deaths from bleeding, infection, high blood pressure, obstructed deliveries, and miscarriages.²² For many, simply accruing delayed healthcare is unjust if the wider social issues are not addressed. These notions of social difference in gender like race, ethnicity, class, and sexuality have propagated and perpetuated structural violence across the world. By labelling certain groups as different or “less than,” social institutions developed to alleviate suffering in individuals end up aggravating their anguish.²³ Infamous examples include segregation-era United States of America, apartheid South Africa, and homophobia and violence against homosexuals.²⁴ These social groups therefore endure double burdens of social suffering from health challenges where they exist, and the structural violence directed at them from society.²⁵

Another biosocial theory, the *local moral world theory*, describes values shared by people in a shared space or environment at a particular moment in time, albeit temporarily or permanently, which may conflict with one’s own personal values and beliefs.²⁶ The relevance of this to maternal mortality in Nigeria is illustrated by the concept of the ‘purdah woman’ in Islam and the ‘Hebrew woman’ in Christianity. In many Pentecostal Christian settings in Africa, it is believed that the Bible promises every Christian woman ‘delivery like the Hebrew woman’ – meaning a quick, painless, and intervention-free process. Findings from a study on perceptions surrounding

cesarean (surgical) deliveries in south-eastern Nigerian women support this.²⁷ In both belief systems, women are often discouraged from seeking medical interventions that could be lifesaving. While she may not believe in that concept, she may be conflicted because of the influence of her ‘moral world’. These beliefs and actions then become institutionalized in their socially constructed worlds, are perpetuated within communities, and often continue from generation to generation.²⁸

In the *unintended consequences of purposive action* theory, unanticipated outcomes of an intervention can arise.²⁹ In Nigeria, primary healthcare centers are often poorly located in communities.³⁰ Important factors such as population demographics and transportation logistics are not often considered due to political influences and vested interests, leading to low facility utilization rates. The placement of these health facilities therefore sometimes results in preventable hardships for the intended beneficiaries such as vehicular accidents, robberies and even sexual assaults encountered *en route* such centers. When communities and deployed healthcare workers abandon such facilities, unsupervised or poorly supervised births among local women continue unabated, thereby feeding the vicious cycle of high maternal mortality rates.

Journey from History to the Present

Nigeria first encountered orthodox medicine in 1472 when Portuguese navigators first arrived to its shores.³¹ With the country’s establishment as a British colony in 1861, hospitals and healthcare dispensaries were subsequently built.³² These were, however, mostly located in the urban centers where the colonial administrators worked and resided. The health system was regionalized, and most public hospitals provided free healthcare for colonial government workers and their dependents while church-owned hospitals

provided care for the indigent, creating an imbalance between healthcare in urban towns compared to rural areas.³³ This legacy of colonialism can still be observed in several African countries such as South Africa and Tanzania.³⁴⁻³⁶

Following the country's independence from British rule in 1960, the healthcare system continued to develop, albeit modeled on the colonial system, with a focus on urban-located hospitals and health facilities.³⁷ This left millions of Nigerians in the rural areas unable to access quality healthcare and thus reliant on traditional care, often within the context of gendered cultural beliefs and norms.

The turbulent 1970s, with fights for equality from marginalized populations in America and across the world, brought the theme of primary health care to the fore worldwide.³⁸ By 1975, attempts at broadening the availability of healthcare to include rural communities commenced with the Basic Health Services Scheme (BHSS), followed by the establishment of fifty-two model primary healthcare centers across Nigeria between 1986 and 1992, and the National Primary Healthcare Development Agency (NPHCDA) in 1992 by former Minister of Health Professor Olukoye Ransome-Kuti.³⁹ These laudable attempts have been severely challenged by poor road networks, inadequate health personnel deployment, insufficient financing, vested interests and widespread corruption.⁴⁰

Successive military governments undermined the objectives of these centers by situating them based on the influence of powerful military officers, rather than on population, need, and access.⁴¹ Many of these facilities were developed to raise the profile of government officials without consideration for effectiveness and value-creation. With the advent of democracy in 1999, the trend continued with ministers, senators, governors, and other political office holders. Thus, even

where foreign and local non-governmental organizations (NGOs) sought to provide aid through collaborative health intervention programs, these foundationally challenged facilities were unable to provide the base for implementation.

Cost-free healthcare for only government workers drawn from the colonial era remains an issue today, as it is mainly registered workers in the formal sector who are covered by public health insurance.⁴² Postcolonial power structures maintain these imperial dynamics with high-level government officials and their staff working predominantly in cities with access to health finance protection.⁴³ In addition to the attractions of city life, urbanization has been driven by increasing numbers of young, under-employed Nigerians on a quest for employment opportunities and security because of terrorism and communal clashes in rural areas.⁴⁴

Power Structures and Dynamics Behind Maternal Health in Nigeria

Custodians of the power structures and power dynamics responsible for Nigeria's maternal health include the Nigerian Federal and State Ministries of Health, National Primary Healthcare Development Agency (NPHCDA), the Society of Obstetricians and Gynecologists of Nigeria (SOGON) and national traditional, religious, and political leaders. International power holders have included the World Bank, UNFPA and the World Health Organization (WHO).⁴⁵ These power holders have, however, been predominantly based in the urban centers and healthcare facilities.⁴⁶ Whereas most of the women affected by maternal health challenges are in rural communities served by primary healthcare centers, the decisions and policies regarding their health and wellbeing have been predominantly determined in a top-down fashion by experts and specialists in urban centers and ministries of health. Community

decision makers, especially religious and traditional leaders, have ultimately perpetuated many of the assumptions, cultural norms, religious norms, institutionalized beliefs, and behaviors that have influenced policies and interventions in maternal health.^{47, 48}

Maternal Health in the COVID-19 Pandemic

The COVID-19 pandemic has considerably impacted reproductive and perinatal health in multiple ways. First, through a direct effect of the infection itself, and second, because of the changes that have occurred in health care, social policy, and socioeconomic circumstances.⁴⁹

Globally, increased severity of presentation and outcomes in pregnant women with symptomatic COVID-19 and variations in clinical guidelines for labour, delivery, and breastfeeding for COVID-19 positive patients with a likelihood of increased uncertainty and possible harm have been reported. Prenatal care visits decreased, healthcare systems were strained, and potentially harmful policies were implemented with little evidence in high-, middle-, and low-income countries.^{50,51} Several studies revealed reductions in health-facility based deliveries and an increase in rates of admission of pregnant women to intensive care units during the pandemic and substantial numbers of women had inadequate antenatal visits. Lockdowns and fear of contracting COVID-19 led to delays in seeking healthcare, ultimately resulting in complications in nearly half of pregnancies in some settings.⁵² An urban-based study conducted in Nigeria revealed that nearly half of the women studied encountered at least one challenge with accessing reproductive and maternal health services either due to inability to leave their houses owing to lockdown restrictions or unavailable transportation services. Other deterrents included high cost of

transportation, fear of contracting COVID-19, the idea of potentially being in proximity to patients with COVID-19 receiving care in the facility, and the mandatory use of facemasks at health facilities.⁵³ Pre-pandemic research has highlighted quality of care issues, such as poor staff attitude, long waiting times, poor attention to women in labour, and high cost of services in sub-standard facilities as sources of dissatisfaction with modern facility-based maternity care and as reasons why traditional care is often preferred.⁵⁴ The fear and uncertainty surrounding COVID-19 and the state of maternal healthcare services likely heightened these sentiments.

The results are findings of increased maternal stress, maternal morbidity/mortality, and neonatal and infant mortality during the pandemic, most notable in LMICs.⁵⁵⁻⁶⁰ Additionally, with COVID-19's socioeconomic impact, namely job losses, economic disempowerment, and increased domestic violence, the incidence of maternal mental health problems, such as anxiety and depression have spiked in many countries.⁶¹⁻⁶⁶ The reports of maternal deaths are most worrisome given the fact that they largely affect populations who already carry the majority of the global burden of maternal mortality.⁶⁷⁻⁶⁹

These findings are not entirely surprising, especially given that during the widespread Ebola outbreak in West Africa, poor maternal health outcomes were reported.⁷⁰ However, due to the far-reaching socio-economic consequences of the pandemic, the combined effects of undernutrition, lack of vaccination, inadequate breastfeeding, and inability to access healthcare services substantially increased mortality rates among women and children in low-income and middle-income countries (LMICs).⁷¹ Therefore, any progress that had been made in improving the quality of maternal health services prior to the pandemic could be lost for a long time to come.

A Framework to Curb Maternal Deaths

Community Involvement

Engaging and mobilizing communities was critical to addressing the socio-cultural hindrances in communities that were hesitant to the polio vaccine. This strategy can be used to address maternal mortality in Nigeria by building trust, understanding community values, and working with communities to espouse those values in a way that safeguards life. The NPHCDA's recently launched Community Health Influencers and Promoters of Services (CHIPS) initiative aims to facilitate task sharing and improve community health services coordination.⁷² To strengthen service provision, these Community Health Workers (CHWs) should be distributed amongst defined community catchment areas, receive standardized training for identification of risk and management of reproductive health challenges, monitoring and evaluation tools, in addition to supervision and research skills from specialist family physicians and obstetricians and gynecologists.⁷³ This task-shifting model would address the dearth of expert training and supervision of community health workers in rural areas that limits the provision of respectful maternal care in rural Nigeria. Additionally, the unintended consequences of purposive action, such as poor transportation logistics, would be addressed by a network of health workers spread across several catchment areas in the community, and through the implementation of transportation arrangements using remunerated local community members or through the provision of transportation fees to transport women to health facilities, as is done in rural Haiti and Liberia.⁷⁴

Education, Skills Acquisition and Empowerment of Rural Women

The focus of this intervention recognizes that social suffering originates from wider social issues, such as poverty, gender bias, lack of education, and economic opportunities which, if not addressed in the context of maternal mortality, will undermine opportunities for addressing preventable maternal deaths. As structural violence is often worsened by society and institutions set up to alleviate these issues, the involvement of the community in the design and implementation of the intervention would serve to alleviate suffering by taking into cognizance the unique sociocultural barriers and constraints of communities.⁷⁵ Similarly, by empowering women with education and skills that increase their awareness of their health and their agency, they are better positioned to defy dictates of their local moral world, or institutionalized thoughts and actions, to seek out healthcare services to improve their health and wellbeing.

A Revision of the Assessment of Negative Maternal Health Outcomes

The metrics that measure maternal deaths include number of deaths per 100,000 live births (maternal mortality ratios), coverage of specific reproductive healthcare services, and assessment of observed-versus-expected maternal mortality as a function of Socio-demographic Index (SDI), an indicator derived from measures of income per capita, educational attainment, and fertility.⁷⁶ These metrics have not accounted for a majority of the burden of non-fatal health outcomes associated with pregnancy and childbearing which due to further illness or disability up to one year post-childbirth negatively impact the health of the woman, her baby, her other children, and the social and economic standing of her family.^{77,78} For a more robust evaluation of maternal health interventions, disability-adjusted life years (DALYs) could

be used to compare outcomes in women exposed to certain interventions and those unexposed.^{79,80}

Similarly, indicators of social suffering and structural violence such as poverty, paucity of information, cultural practices, inaccessible health facilities, and transportation challenges are not evaluated. Person-centered and open-ended qualitative methods such as focus group discussions, one-on-one interviews and household surveys could provide insights into these indicators, in addition to the subjective perceptions and experiences of women in response to reproductive health interventions.⁸¹ These methods would give a clearer picture of the true burden of maternal health challenges.⁸²

Likely Barriers to this Community-Oriented Empowerment Framework for Addressing Poor Maternal Health Outcomes in Nigeria

The prevailing power dynamics behind maternal mortality in Nigeria could present the first source of a challenge to the framework. Typically, the power holders of maternal health have been top-level government officials, public health specialists, and specialist obstetricians and gynecologists.⁸³ Expanding decision-making to include specialist family physicians, who have hitherto been solely providers of care in the Nigerian health system, could present inter-specialty conflict.⁸⁴ Effective advocacy and dialogue could circumvent this challenge. Secondly, securing international donor funding could prove challenging, due to other competing demands and a trend toward diminishing aid to developing countries.⁸⁵ Convincing proposals that align with funders' goals and show clear metrics to assess outcomes would be crucial to counteract this obstacle. Additionally, public-private partnerships with indigenous private companies can plug funding gaps.^{86,87}

A third challenge could be opposition from spouses, religious, traditional and community leaders who may view the intervention as antithetical to their socio-cultural or religious norms.⁸⁸ Advocacy and engagement of these groups would be helpful.⁸⁹ Fourth, resistance to change may arise from health practitioners and stakeholders who are accustomed to the status quo and may have benefited from corruption, nepotism, and system inefficiencies.⁹⁰ Lastly, generating the necessary political will to support and drive the implementation and scale-up of such empowerment interventions across the country would be challenging. Rigorous management, transparency, and accountability of these interventions with evidence-based reports of achievement would simultaneously counteract corruption and serve as advocacy tools to drive political support.⁹¹

Conclusion

Any worthwhile interventions capable of delivering positive maternal health outcomes in Nigeria must be designed with consideration of the broader economic, geographical, and social factors that affect the access of rural Nigerian women to quality maternal health services, in order to provide culturally appropriate care with community participation. Utilizing a nuanced understanding of the rural woman's unique experiences and problems with existing services would ensure that solutions are derived from a community perspective. This would lead to the provision of services in a respectful and person-centered manner for women and their families along the continuum of care in their reproductive lives and thereafter. This way, their individual values and fundamental human rights are protected and assured.

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