



Received: 23-07-2023
Accepted: 03-09-2023

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

A Ten-Year Retrospective Study Evaluating the Effectiveness of the Maternal Newborn and Child Health Weeks Intervention among Pregnant Women in Nigeria

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Abstract

The health of mothers and children is crucial for the overall wellbeing of any nation, and Nigeria is no exception. As a response to this universal health concern, the Maternal Newborn and Child Health Weeks intervention was implemented in the country. This study aims to assess the effectiveness of this intervention among pregnant women in Nigeria.

Guided by specific objectives related to maternal and child health, this retrospective study reveals that progress has indeed been made in improving maternal, newborn, and child health in Nigeria, thanks in large part to the implementation of the Maternal and Child Integrated Programme initiatives. Nonetheless, it is evident that further

efforts are needed to enhance the intervention's impact, particularly in remote rural areas where access to safe delivery, maternal nutrition, and healthcare services remains a challenge.

To maximize the intervention's benefits, it is recommended that additional resources and targeted interventions be allocated to these underserved regions. By promoting safe delivery practices and improving maternal and child nutrition and healthcare services in remote rural areas, Nigeria can significantly improve the health outcomes of mothers and their babies, ultimately contributing to the overall health of the nation.

Keywords: Maternal, Newborns, Pregnant Women, Intervention and Child Health

Introduction

Every day, approximately 830 women die from preventable causes related to pregnancy and child birth and 99% of all maternal deaths occur in developing countries (World Health Organization, 2019) ^[14]. At the country level, Nigeria and India are estimated to account for over one third of all maternal deaths worldwide in 2015, with approximately 58 000 maternal deaths (19%) and 45,000 maternal deaths (15%), respectively (Abbas, & Walker, 2016) ^[11]. In Nigeria, 19% of child deaths were due to pneumonia in 2018, and it was the biggest killer of children under-five in 2017 (Africa Health Organization, 2018) ^[2].

More than one-half of Nigerian babies who die do so at home. The place where mothers give birth, which usually indicates whether or not the birth is attended by skilled birth attendants, is strongly associated with the place of death and also with levels of maternal and neonatal mortality. According to the 2008 NDHS, approximately 62% of births occur at home, while only 35% take place in a health facility and there had been no significant increase in facility births over the five years preceding the survey. 10 of the births that take place in a health facility, 15% are in private sector facilities, and 20% in public sector facilities (Fig 1). Rates of facility deliveries are higher for women in urban centres (59%), mothers who have had an education beyond secondary level (90%) and those in the highest wealth quintile (80%). (Jido, Sarkinfada, Galadanci, & Garba, 2018) ^[10].

A mother's health is inextricably linked to the health of her newborn. Maternal mortality is not just a health problem— it has far-reaching medical, social and economic implications for the newborn, family, community and the world at large. When

mothers are malnourished, or receive inadequate antenatal care (ANC) and care during childbirth, they and their babies face a higher risk of disease and premature death. There are a number of maternal health champions in Nigeria, but a lack of reliable estimates at state level has contributed to a situation in which most state governors and local government heads have previously been unaware of problems in their own areas, resulting in inaction (Nzama & Hofoney 2015) ^[11]. One analysis of political priority for maternal health in Nigeria describes an open policy window for safe motherhood after decades of neglect (Okoli, Hajizadeh, Rahman & Khanam 2020) ^[12] Since the analysis, this policy window has broadened to include maternal, newborn and child health. More than two-thirds of maternal deaths occur during childbirth, and are closely linked to intrapartum stillbirths and early neonatal deaths. (Fagbamigbe, & Idemudia, 2015) ^[6]. There is an additional burden: for every woman who dies during pregnancy or childbirth, around 30 women are estimated to suffer short- and long-term disabilities, such as fistula, anaemia, pelvic infection, malnutrition and depression, all of which can lead to reduced economic productivity (Fagbamigbe, & Idemudia, 2015) ^[6]. In developing countries, a mother's death in childbirth means peril for her newborn. Those babies who survive infancy often face serious challenges to their growth, development and long-term survival. Studies have shown that children who lose their mothers during childbirth have a 66% higher risk of death than those whose mothers survive (Nzama & Hofoney 2015) ^[11]. Nigeria's high neonatal mortality rate reflects a vicious cycle common in many low-resource settings.

Inequalities in health outcomes also exist between rural and urban areas, across geopolitical regions of the country, and across income groups. Maternal mortality is higher in women living in rural areas and among poorer communities. Pregnant mothers in rural areas are often poor, malnourished and overworked and may still be recovering from a previous pregnancy. One Federal Ministry of Health (FMOH) Safe Motherhood Survey concluded that "the pregnant women in rural areas rarely ate a balanced diet because of the high level of poverty facing them" (Ubesie & Ibeziakor, 2012) ^[13]. Other maternal conditions that directly or indirectly impact newborn health include illiteracy, gender inequality, high fertility, teenage pregnancy, early marriages and other harmful traditional practices such as female genital cutting (FGC).

Childhood mortality rates are proven to be higher in rural areas than in urban areas, and higher in the northern zones than in the southern zones. Childhood mortality is positively correlated with the wealth quintile, as well as with the level of mothers' education. Pneumonia, diarrhoea, malaria, and newborn diseases amount to about 75% of the causes of child deaths in Nigeria (Ahman & Zupan 2014) ^[3]. Malnutrition and nutrition-related diseases still constitute a formidable public health problem in Nigeria and remain the underlying cause of above 60% of under-five mortality in the country (Fagbamigbe, & Idemudia, 2015) ^[6]. There is inequity in access to services due to socio-economic status and geographic location. 86% of mothers in urban areas receive ANC from skilled providers, compared to only 48% of mothers in rural areas (Ayeeni, & Oduntan. 2010) ^[5].

Skilled care before, during, and after childbirth can save the lives of women and newborns. Though mortality rates have decreased globally from 58% from an estimated 93 deaths

per 1000 live births in 1990 to 39 deaths per 1000 live births in 2017, the number of deaths remains high and uneven. The risk of a child dying before completing five years of age is still highest in the WHO African Region (74 per 1000 live births), around 8 times higher than that in the WHO European Region (9 per 1000 live births). An estimated 1 in 26 children died before reaching age 5 globally in 2017. In Nigeria, one in every eight children do not survive to their fifth birthday, leading to a mortality rate of 138 per 1000 live births (Fagbamigbe, & Idemudia, 2015) ^[6].

Persistent trends of deaths amongst women, newborns and children in Nigeria necessitated the need for the endorsement of the implementation of the Maternal Newborn and Child Health Weeks at the 53rd session of the National Council on Health (NCH) in 2010 that aims to contributing to health systems strengthening through improved delivery and utilization of health services and to improve the health status of women and children by increasing coverage of key Maternal, Newborn and Child Health interventions. In addition, the 55th regular session of the NCH approved the institutionalization of registration of births & deaths in all health facilities at the State & LGA levels with the assistance of the health personnel and inclusion of messages on births & deaths registration in public health advocacy and enlightenment programmes at the State, LGA & Community levels.

In 2009, the first edition of Saving Newborn Lives in Nigeria: Situation Analysis and Action Plan for Newborn Health was produced in order to provide a more comprehensive understanding of newborn survival and health in Nigeria, to analyse the relevant data by state and to present concrete steps to accelerate action to save newborn lives in Nigeria in the context of the Integrated Maternal, Newborn and Child Health (IMNCH) strategy. This second edition of the report includes updated national and state-level data profiles in line with the global Countdown to 2015 for Maternal, Newborn and Child Health process; a new chapter on maternal, newborn and child nutrition; updated recommendations; and a renewed call to action, including letters of commitment from key stakeholders in maternal, newborn and child health in Nigeria. The goal of maternal newborns and child week is to contribute towards the reduction of maternal new-born and child mortality and improve health and nutrition through an equitable, accessible and comprehensive health care services to all Nigerians.

To further ensure the universal health coverage in Nigeria, prevent mortality and morbidity of diseases and attainment of sustainable development goals target of reducing the global maternal mortality ratio to less than 70 per 100,000 live births (Galandanci, Ejembi, Iliyasu, Alagh, & Umar 2017) ^[9]. And deaths of newborns and children under 5 years of age as low as 25 per 1000 (2018 Global Health Observatory Data) calls for strengthening of the existing MNCH week in Nigeria. The Maternal Newborn Child Health Week approach which has evolved to cover Reproductive Maternal Newborn Child, Adolescent Health and Nutrition (RMNCAH+N) is being modified into an optimized MNCH Week with the view to provide a more holistic approach to implementation and improve reach of services through an integrated and equitable approach.

Conceptual Framework of MNCH Week

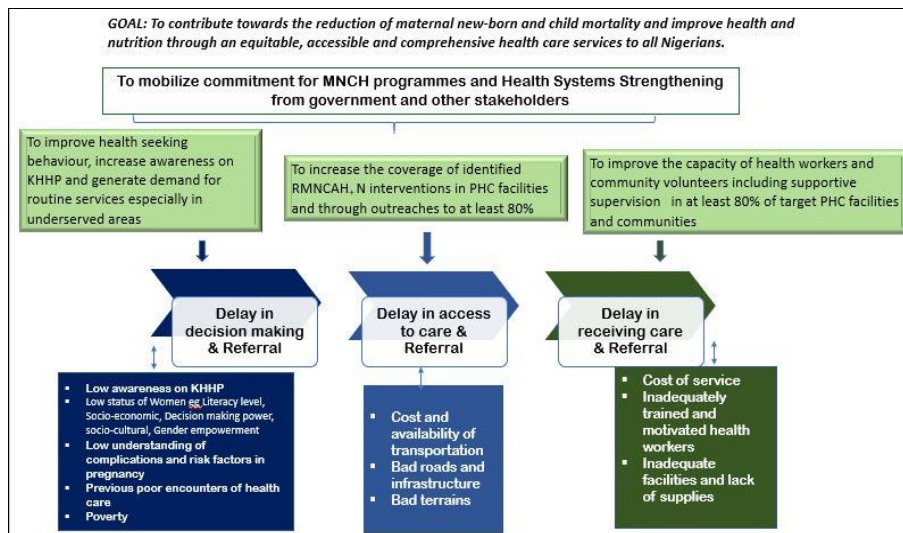


Fig 1: Logic Frame

Table 1

Objectives	Inputs	Process	Outputs	Outcomes
1. To increase awareness on Health Seeking Behaviour, KHHP and generate demand for routine services	Knowledge kit	Sensitization, Engagement and Deployment of Key Influencers, WDCs and CHIPS Personnel to promote health in communities	Number of households with understanding of MNCH programmes and interventions	Improved knowledge on key healthy household practices and health seeking behaviour
2. To increase the coverage of MNCH interventions including PMTCT and RI services in PHC facilities as well as through outreaches (especially in underserved and HTR communities)	Service Kit	Increase outreach programmes; Engagement of CHIPS in underserved and hard to reach communities	Number of new outreaches used for service delivery; number of CHIPS engaged to deliver services in underserved settlements	Increased coverage of MNCH interventions
3. To improve the capacity of health workers through supportive supervision for Health Workers in at least 80% of target PHC facilities and training for community volunteers	Supervision kit	On-the-job training and mentoring of health workers	Number of health workers supervised and checked for adequate service delivery	Improved capacity of health workers delivering MNCH Services at all levels
4. To mobilize commitment for MNCH programmes and Health Systems Strengthening from government and other stakeholders	Advocacy kit	Advocate to Policy makers	Number of stakeholders supporting MNCH programmes and HSS	Increased commitment for MNCH programmes and Strengthened Health Systems from government and other stakeholders

Aim of the Study

To evaluate the maternal new born and child health week intervention among pregnant women from 2010 to 2019.

Objectives of the Study

To showcase the value of the interventions in addressing the burden of Maternal, Neonatal, Newborn and Child Mortality and Morbidity through the MNCH Weeks intervention from 2010 to 2019.

Methods

Study Population: Pregnant women attending Antenatal Care and Women of Child Bearing Age, Children and Health Workers across Nigeria.

Planning meetings, Scoping reviews (data, state reports, monitoring reports, call in data, Open Data Kits (ODKs) capture and analysis, desk reviews, refresher training, interviews, pre-distribution of commodities.

Morbidity and mortality rates, comparative reports using NHIS reports were utilized to see if the interventions have made meaningful contributions to antenatal mothers.

Study design, sample selection and data collection

Review of the Implementation data of retrospective cohort targeting all pregnant women who attended Antenatal Care during the implementation period of the rounds was carried out.

Data analysis deep dived from analyzing Country Performances, selecting 12 states (2 states per geopolitical zone).

The finalized data among others pregnant women that received Iron folic Acid, Sulphadoxime Pyrimethamine, Prevention of Mother to Child Transmission Services and, Health Education on key household practices.

Data Analysis

Data were entered into Excel software from the harmonized data reporting templates from states and then exported and coded for analysis in SPSS 22.0.1. Descriptive statistics were used to describe continuous and categorical

variables.... Both the mean and standard deviation (SD) values were calculated for continuous and numbers or proportions for categorical variables.

Results

Table 2

S. No	YEAR/ MONTH	Total Population	Target (HP)	Target (SP & Fefol)	Sulphadoxine Pyrimethamine (SP)		Iron folic acid (Fefol)		Health Promotion (HP)	
					Numbers Reached	% Coverage	Numbers Reached	% Coverage	Numbers Reached	% Coverage
1	10-May	158,697,887	7,934,894	2,909,461	730,996	25	3,600,561	124		-
2	10-Nov	158,697,887	7,934,894	2,909,461	38,899	1	51,878	0	304,702	4
3	11-May	163,773,297	8,188,665	3,002,510	644,722	21	1,776,894	5	2,870,204	35
4	11-Nov	163,773,297	8,188,665	3,002,510	441,449	15	2,407,911	7	3,926,904	48
5	12-May	169,019,328	8,450,966	3,098,688	708,862	23	2,117,240	6	5,710,397	68
6	12-Nov	169,019,328	8,450,966	3,098,688	621,264	20	1,857,937	5	4,112,197	49
7	13-May	174,442,422	8,722,121	3,198,111	647,135	20	2,427,560	6	4,283,740	49
8	13-Nov	174,442,422	8,722,121	3,198,111	849,006	27	12,752,388	33	5,790,582	66
9	14-May	180,049,323	9,002,466	3,300,904	662,658	20	3,029,158	8	6,619,429	74
10	14-Nov	180,049,323	9,002,466	3,300,904	548,302	17	2,378,872	6	6,864,180	76
11	15-May	185,847,096	9,292,355	3,407,197	19,896,273	584	3,035,714	7	7,277,934	78
12	15-Nov	185,847,096	9,292,355	3,407,197	694041	20	2989005	7	6709281	72
13	16-May	191,794,203	9,589,710	3,516,227	960448	27	2086604	5	4520587	47
14	16-Nov	191,794,203	9,589,710	3,516,227	737166	21	2429417	6	7148041	75
15	17-May	197,931,617	9,896,581	3,628,746	541136	15	3255204	7	8911232	90
16	17-Nov	197,931,617	9,896,581	3,628,746	523487	14	3204651	7	8756948	88
17	18-May	204,265,429	10,213,271	3,744,866	1423537	38	4358164	10	9593617	94
18	18-Nov	204,265,429	10,213,271	3,744,866	1006862	27	3129885	7	10128769	99
19	19-May	210,801,923	10,540,096	3,864,702	681514	18	2392832	5	6857411	65
	Total in 19 rounds	4,108,340,218	205,417,011	903,834,848	32,357,758	4	59,281,877	7	110,386,155	54
	AverageTotal in 19 rounds	186,742,737	9,337,137	41,083,402	1,470,807	3	2,694,631	5	5,017,553	28

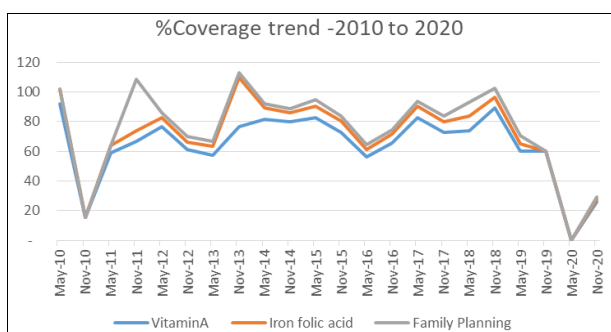


Fig 2

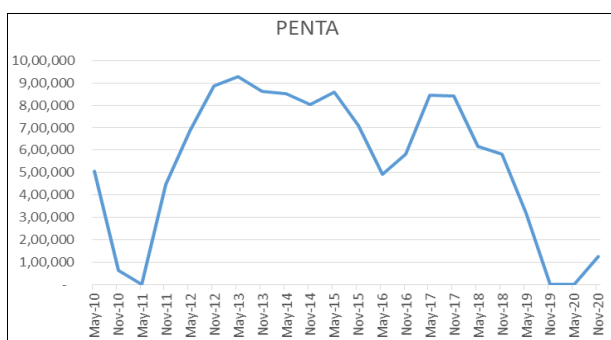


Fig 2

Conclusion

In conclusion, the retrospective study on the Maternal Newborn and Child Health Weeks intervention among pregnant women in Nigeria has revealed a sharp decline in

coverage over the past ten years. This decline has been further exacerbated by the COVID-19 pandemic, which has had a devastating effect on the healthcare system in Nigeria. It is imperative that policy makers, government, development partners, and all stakeholders increase their commitments towards budgeting, planning, and implementation of MNCHW.

To achieve this, an optimized approach through the development of new implementation innovations is necessary. This approach will lead to an increase in coverage and ultimately reduce maternal, newborn, and child morbidity and mortality rates in Nigeria. A multisectorial approach and involvement is also crucial in ensuring the success of this intervention.

In summary, the findings of this study call for urgent action to be taken to improve the MNCHW intervention in Nigeria. The health and well-being of pregnant women, newborns, and children are at stake, and it is the responsibility of all stakeholders to work together towards achieving better health outcomes for all.

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