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Historical Overview of Maternal, Newborn and Child Health Challenges in a Developing Economy: The Case of Nigeria.

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ABSTRACT

Maternal morbidity and mortality, neonatal mortality and prenatal death ratio rates are annually increasing with alarming proportion in Nigeria. Unhesistantly, history has continued to point at issues of over bearing ignorance on the part of the public, lackadaisical behavior by the government, including the overriding problems of pathophysiological challenges inherent in that sector. Facts are essential for balanced obsterics practice, but understanding is also required which cannot be derived solely from a book. Be that as it may, historical annals are inundated with incidental informations that are quite informing and educative. Arresting the colossal problems and decay emanent from this sector is simply beyond textbook analysis, while mere attention to patients in the labour wards and clinics may appear a peripheral attack. Record books and registers in many health establishments, whether private or government-owned are existing testimonies of litanies of unplanned abortions, stillbirths, maternal deaths, among others. Many newborns are lost even before their one year birth anniversary. Could one overlook the issue of paucity and poverty of trained staff and personnel vis a vis professionalism, economic gains and exploitation. Laboratory personnels must sell and thrive in their Blood bank business against the better option of detailing and managing pregnant mothers to make their own blood; caesarian section is economically viable to doctors quite against tailoring patients to steer-off incubating big babies, or going through the painful throes of labour. Deaths from complications of normal delivery in Nigerian health institutions and establishments are a re-occurring decimal. Nigerian development in the area of maternal and child health must be re-strategized and restructured on the pedestral of indigent checks and balances hinged on globally accepted best practices, but steered by purposeful intervention, supervision and governance. Recourse to history is very important at this stage because the national prognosis appears poor.

Key words: Maternal newborn/morbidity; maternal newborn/mortality; Focused antenatal services; Traditional birth attendants; Integration

INTRODUCTION

Maternal mortality is among the health indicators that reflect the great disparity between the rich and poor. Maternal health remains a regional and global scandal, with the odds that a sub-Saharan African woman will die from complications of pregnancy and childbirth during her lifetime at 1:16 compared to 1:3,800 in the developed world.[1] In 2007, the Millennium Development Goals report of the United Nations confirmed that the average life time risk for a woman dying of pregnancy related causes is between 1 in 4,000 and 10,000 in developed countries, whereas in developing countries, maternal death rates are 200 times higher; the average risk is between 1:15 and 1:20. While Nigeria contributes only 2.4% of world population; according to Ikpeze, one out of every 18 women of child-bearing age, according to available statistics, is likely to die from pregnancy, childbirth or its complication.[2] The World Health Organization estimates that about 600,000 women die yearly as a result of pregnancy and childbirth, and most of these deaths occur in the developing countries. It went

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on to liken it to a jumbo jet with 274 women aboard crashing into the sea every 4 hours, day and right, 365 days of the year. Over 50 million women experience average health consequences after child birth (maternal morbidity). It observed that 99% of maternal deaths and complications occur in developing countries especially Sub-Saharan Africa, where 25% of reproductive age women live **(Extract from WHO, 1999 Special Report).**

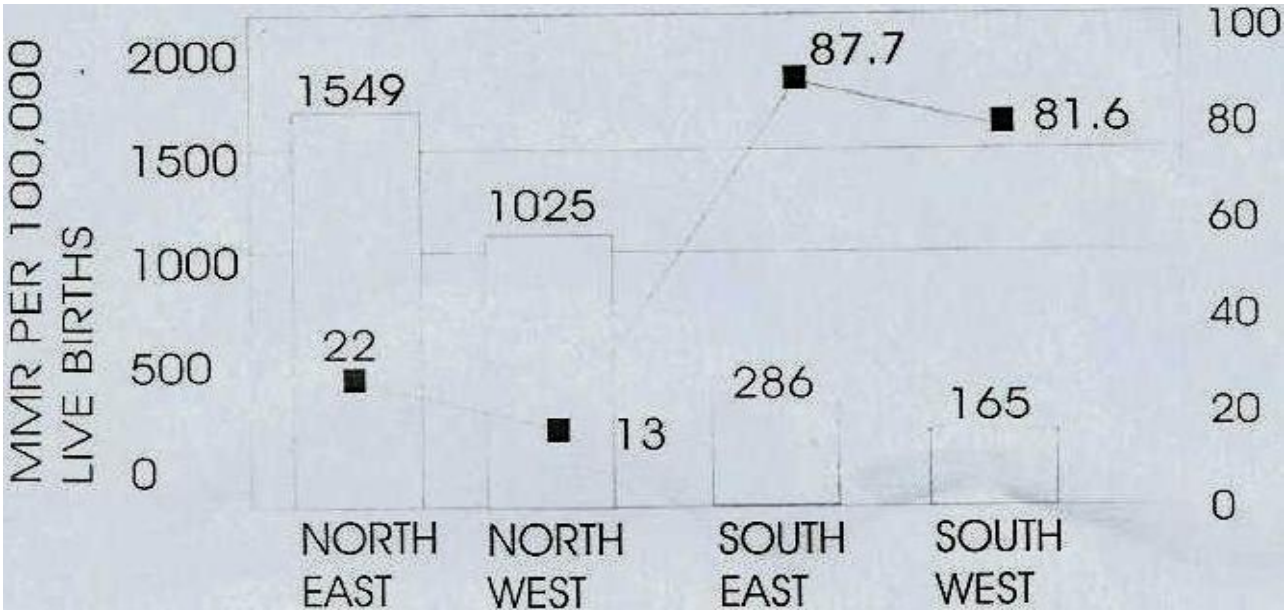
Maternal mortality is among neglected tragedy, because those who suffer it are neglected people, poor un-influential, powerless, uneducated rural dwellers. Available historical statistics equally show that for every woman that dies, more than 25 others have a debilitating injury with about 16 bases of illness, often with lifelong consequences. The magnitude of maternal mortality maybe glanced through the 2010 World Health Organisation random survey viz:

Table I

Globally	–	60,000 per year
Developing world	–	99%
Nigeria	–	140 daily (one every 8 – 10 minutes)
	–	59,000 per year
	–	1,500/1,800 in 10,000 births

In the event of maternal death, death of the newborn often results, increasing the risk of survival of the older children. Maternal mortality in Nigeria is still unacceptably high and demographic analysis have pointed to it as the leading cause of death among women of reproductive age (15 – 49 years) in Nigeria, having placed the National Maternal Mortality Ratio (MMR) at an estimated 545 per 100,000 live births[3]. It went on to observe that, 'for every woman or girl who dies, another 20-30 women and girls suffer short or long term disabilities, such as obstetric fistula, ruptured uterus, chronic pelvic pain resulting from pelvic inflammatory disease and secondary infertility[4]. Of spectacular importance is the significant disparity between MMRs in the Northern States of Nigeria, compared to the Southern States it could be seen that for every woman who dies South West Nigeria, as a result of pregnancy and child birth, 6 to 10 women die in the Northern States.

Table II



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Maternal Mortality Ratios and Skilled Birth Attendants by Geopolitical Zones in Nigeria Source: (Culled from Nigerian demographic and health surveys report, 2010)

This survey equally stated that Nigeria's health and development is among the worst in the world, especially in the Northern States. Since 2.4% of the global population of 7 billion is from Nigeria, over 10% of global maternal population has credited the country with 360,000 maternal death per annum, placing it only second to India, in its contribution to global burden of maternal death. According to this survey, the following reasons were identified for this discrepancy and disparity – lack of skilled attendants, preference for home births by traditional attendants, ignorance, poverty, cultural/traditional reluctance to use modern contraceptives, among others.

Table III
Global Cause of Maternal Mortality

Causes	Global	Nigeria
Haemorrhage	24.5%	23%
Infection	14.9%	17%
Eclampsia	12.9%	11%
Obstructed Labour	6.9%	11%
Unsafe Abortion	12.9%	11%
Other direct causes	7.9%	-
Indirect causes	19.8%	-
Malaria	-	11%
Anaemia	-	11%
Others eg. TB, etc	-	5%

Source: (Extract from United States Health Services –en: www. Maternal services,//Google Retrieved - 10/2/2015

Neonatal (newborn) mortality is the death of newborn within 28 days of birth. Emphatically, this could be considered under two groups:

a. **Early Neonatal Deaths:** Aged 7days or less (Perinatal death), Perinatal death (Still Birth + early neonatal death).
b. **Neonatal Deaths:** Late neonatal deaths (more than 7days, up to 28days).

The National Directorate of Health Services in 2010 estimated the burden of neonatal mortality at 40 per 1,000 live births, translating to 241,000 newborn deaths out of 5.9 million babies born in Nigeria annually. In addition, 30 stillbirths occur per 1,000 live births, amounting to 163,400

still births annually. The following factors were identified as predisposing causes – Birth Asphyxia 27%, prematurity 25%, infection 22%, Tetanus 8%, low birth weight 14%, others 4%.

REFLECTIONS

Available medical history shows that Blacks are more susceptible to maternal mortality than Whites, hence **Race** is a factor. In the United States of America, out of MMR of 7.2% in 100,000, the black population was noticed to be most affected[5]. **Age** was equally listed. Being too young or being pregnant after the age of 38years could be a problem. Frequency of pregnancy as a factor could mean too many times or too soon a time, especially less than two years interval. Under the factor of **Environment,** where the woman resides, including the stage of development of that place remains a big factor. This could determine access to quality health services, hence maternal and newborn mortality remain high in South Asia and rural Africa. **Barriers** to care include poverty, illiteracy, religious/cultural beliefs and practices, gender imbalance, unprofessional health practices, legal/political factors among others.

Whereas it is known that maternal and newborn mortality could happen through Direct or Indirect reasons – Death resulting from obstetric complications of pregnancy, labour, pureperium and interventions, or any after affects of these events e.g postpartum haemorrhage (Direct), while Indirect refers to death resulting from worsening or existing conditions by pregnancies or delivery e.g death from diabetes, sickle cell disease, among others.

Be that as it may, at this juncture, this study deems it timely to consider the implications and possible consequences of maternal morbidity in the country. Because it is a premature death, it is a tragedy to the whole family. The growth and development of possible orphans left behind is doubtful, hence such children have 66% higher risk of dying. Sequel to the loss of a care taker, and possible income earner (breadwinner), such children could become delinquent and turn into community *cum* national problem. Furthermore, several research have shown that for every woman who dies, approximately 20 more suffer short or long term disabilities like - Vesico vaginal fistula/Recto-vaginal fistula, stress incontinence, chronic anaemia, chronic pelvic pain, emotional depression, maternal exhaustion/physical weakness, Uterine prolapses, Haemorroids, Infertility from infections or damages to reproductive organ.

A peripheral consideration of certain health challenges and conditions that continuously pose a threat to pregnant mothers may help in driving this study – *Diabetes mellitus*, Hypertension, Bleeding, Anaemia, Sickle cell disease, HIV/AIDS, Malaria and Infections.

Diabetes mellitus is a metabolic disorder of multiple etiologies characterized by chronic hyperglycaemia, with disturbances of carbohydrate, fat and protein metabolism, resulting from defects in insulin secretion, insulin actions or both[6].

Diabetes has long been associated with maternal and prenatal morbidity and mortality[7]. *Diabetes mellitus* in pregnancy is classified into pre-gestational and gestational types 1 or 2 (Pre-gestational), while any abnormality in glucose level, excluding the possibility that such intolerance antedates the pregnancy, is regarded as gestational. According to the WHO, the global burden of the problem is more than 200 million people, with about two-thirds of these people living in developing countries[8]. Before the discovery of insulin in 1992, it was uncommon for women with *Diabetes mellitus* to give birth to a healthy baby. Many women of child bearing age were either infertile or sterile, while those who managed to be pregnant were unable to carry a fetus to term. Prenatal mortality rate was globally above 65%, with stillborn being the largest cause of fetal death[9].

Similarly, **Hypertension** or high blood pressure is a medical condition in which the blood pressure in the arteries is elevated due to disorders emanating from primary or secondary factors. This exposes the heart to work harder than normal, circulating blood through the circulatory system: When it occurs during pregnancy, whenever the maternal blood pressure is either within 140/90mmHg to 160/110mmHg or above, having been measured on two separate occasions of more than 6 hours apart, the diagnosis of hypertension is made. Pre-clampsia, Oedema, Hellpsyndrome, Eclampsia may then manifest. Apart from the possibility of genetic predisposition, pre-existing hypertension, obesity and renal and placental abnormalities as causative factors, *Diabetes mellitus* most often remains a major component in Nigeria.

Bleeding in pregnancy, whether in late pregnancy (ante partum), during labour (intra partum) and after delivery of the baby (post partum), if not monitored and very well controlled poses a threat to both mother and baby. However, *ante-partum* and *post partum* haemorrhages appear more trivial. When a pregnant woman bleeds from the genital tract after the age of fetal viability

(after 28weks) and before the onset of labour, *antepartum* haemorrhage (APH) is diagnosed with special observation directed on the well-being of the placenta, due to either trauma or implantation hazards. Undue persistent bleeding after delivery has equally led to the death of many healthy women[10].

Sickle cell disease condition in pregnancy elicits cautionary management. Having its origins in sub-Saharan Africa, Middle East, the Caribbean, and parts of India, the sickle cell disorder is a group of inherited-single-gene autosomal recessive disorders, caused by the sickle gene, which affects haemoglobin structure. Haemoglobin S combined with normal haemoglobin A, becomes AS, hence a sickle cell trait, which is asymptomatic. Sickle cells only live for about 14days, while normal red blood cells can live up to 120days[11]. This is because the spleen which helps filter bacterial infections from the blood, and act as the recycle center of red blood cells, tends to destroy the sickle cells, leading to a lack of oxygen-carrying red cells in the blood, causing chronic anaemia. The inability of much blood cells to carry much oxygen as needed during pregnancy, sequel to its sickling effect and haemolysis, many organs and body systems lack oxygenated blood, hence creates more complications during pregnancy. Anaemia could even occur.

The prevalent economic hardship and ignorance level persisting in Nigeria have made many pregnant women to be nutritionally compromised, hence exposed to the dangers of anaemia. **Anaemia** is the reduction in quality or quantity of red cells, resulting in reduced oxygen-carrying capacity of the blood, or a combination of both of them. Pregnant women could be anaemic due to physiological, nutritional and exposure to the detailed complications of infections like malaria, hookworm and other chronic illnesses[12].

The **Human Immunodeficiency Virus** is one of today's health concerns, Diagnosed in the early 1980s, it came with a syndrome which systematically attacks the individuals immune system over time, exposing and destroying the person's ability to withstand infections. Progressively, it develops to Acquired Immune Deficiency Syndrome (AIDS). According to expert information, an estimated 3.6 percent of Nigerians are living with HIV and AIDS[13]. Approximately, 220,000 people died from AIDS in Nigeria in 2009, and with AIDS claiming so high, UNDP observed that Nigeria's life expectancy has declined significantly to only 52years in 2010[14]. The World Health Organization's Centre for Disease Control has it that females are

most likely to get infected, than men; sequel to exposure to heterosexual, homosexual, blood or blood products, donated semen and organs, mother-to-child (MTCT), including vertical sources of transmission[15]. Undoubtedly, many pregnant women, and females yet be pregnant have fallen prey to this status. Most retroviral drugs employed in the management of this condition, exposes such people to excessive bleeding, especially during pregnancy and delivery.

Infection is the entry and development or multiplication of dangerous micro organisms in man, through contamination, exposure and the reactivation of latent elements. Infections abound in life which affects man, just as many infective micro-organisms abound. Malaria, Tuberculosis, STDs, Typhoid, Gastroenteritis among others, remain intractable reoccurrences which challenge human life in Nigeria. Apart from the menace of other listed health conditions, the issue of malaria and its developing complications in Nigeria, most especially during pregnancy is better assessed than overlooked. Apart from the fact that malaria still appears to be the highest killer in Africa, South of the Sahara, this malady has succeeded in leaving on its trail, several premature births, including unwanted abortions, mental inconsistencies and several presentations of anemia. The fast rate with which the malaria protozoan mutation and replication is unfolding in the last few years, has accorded it a very high resistant survival capability to most anti-malaria preparations. Malaria appears from all indications to be the highest hurdle against safe delivery and motherhood in Nigeria.

Even at this stage of Nigeria national development, the country is still suffering from severe deficiency in the number of skilled birth and health attendants, who could monitor and manage pregnancy from conception to at least the delivery period. This study deems it wise using a little space at the introductory part of this work to graphically analyze the issue of geopolitical paucity of health professionals in the country. This aspect plays a very important role in determining the cumulative level of maternal and newborn morbidity and mortality in any nation. Sustaining high unemployment rate and unavailability of health facilities in Nigeria's Health Sector, most especially in the area of Primary Health Care is unacceptable, and tantamount to a dysmal failure on the part of governance. This factor has seriously contributed to the 'Four Delay Model' that experts have identified which continue to contribute to the high causality rate in that sector.

One may not conclude this study without recognizing the depth of unethical practices and behavior exhibited by health personnel operating in most, especially the Primary Health Sector. All through the ladder, starting from the medical doctors, the nurse/midwife, laboratory technologists and assistants, including even the ward maids. Ethically, their various duties when very well done, or carried out, coalesce into a beautiful whole, which would humanely bring equitable service and care to the vulnerable pregnant mother and her newborn. Antenatal and postnatal sessions demand both creation of awareness and guided interventions as the case maybe, whether in the Primary Health facility or tertiary institutions. Financial exploitation of the ignorance of the many, or that of the vulnerable could come through delays in intervention, choice of procedural approach, including unnecessary prescriptions, among others. When the ultimate aim is to boost personal financial gains, professional etiquette is cast overboard; the midwife could pay less attention to clients who are registered with the government-owned health centres than those who patronize her maternity; the medical doctor would find it financially beneficial exposing pregnant women through the rigours of Caesarian Section, than helping them through normal deliveries; the laboratory section is most effective in providing 'ready-made blood' at the flimsiest request, all at the detriment of other services they are supposed to be rendering. When laboratory reagents are seriously compromised, one wonders what caliber of test results would emerge from such places. The list of unethical professional ills appears endless, and when all of them are intentionally swept under the carpet, like cancer, it continues to metastasize and become malignant. Behaviors like these continue to impact negatively on Nigeria's health sector, frightening the rural population, when a good percentage of the elite populations appear to be submerged under a terrible dysfunctional silence. The cumulative multiplier effects of these acts have continued to impact negatively on the nation's health apparatus.

Over the years, 'FOUR DELAY' factors have been identified which contribute to, and help determine the level of maternal and newborn mortality in Nigeria. These 'delays' are factors that affect the interval between the onset of obstetric complications and its outcome.

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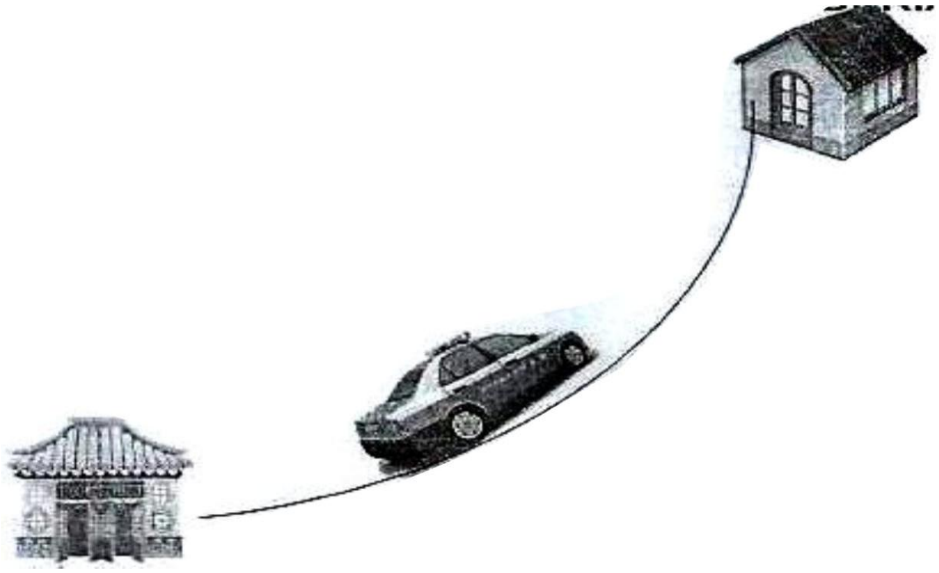
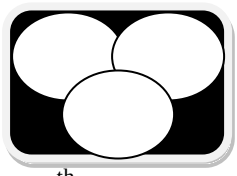
Table IV

THE "FOUR DELAY" MODEL THAT CONTRIBUTE TO THE MATERNAL AND NEW-BORN MORTALITY IN NIGERIA



2nd delay in accessing the Health Facility

3rd delay in receiving care at the Health Facility



4th delay ..... in referring the patient from the Health Facility to a Tertiary Center

1st delay in the Home

Source: Derived From Author's Survey to Elucidate Delay Process

Delays are factors that affect the interval between the onset of Obstetric complications and its outcome.

PHASE I:

a. Delay in decision to seek care. The factors responsible for delay at this level could be illness e.g. a HIV positive woman or that with previous caesarian

section; who may have danger signs in pregnancy, labour or after child birth.

b. In some places, certain socio-cultural norms inhibit women's propensity to make wealth hence incapacitating her ability to cater for her own health demand. Apart from the stipulated need for her husband's consent, in-law's permission may equally be necessary.
c. Socio-legal issues such as illegal abortions – the perceived social stigma, sanctions on infidelity where applicable.
d. Women's status – low status of women in the society such as economic, educational, cultural and political empowerment (gender inequality).
e. Accessibility – distance, transportation and road condition.
f. Cost and financial constraints.
g. Perception on quality of care: Previous experiences (satisfaction or dissatisfaction with staff service attitude, waiting time (excessive protocols), availability of supplies, fear of hospital procedure privacy and limitations of family/professional support and guidance.

PHASE II

Delay in accessing health care facility. This delay may be due to geographical location, terrain or physical barriers (mountain, Island, river), distance, travel time, unavailability of vehicle, high cost of transportation, bad/rough road network, poor communication, among others.

PHASE III

Delay in the provision and receiving of adequate attention and care at the health facility due to poorly staffed facilities e.g. shortage of skilled birth attendants (Physician, Nurses, Midwives), Negative staff attitude, long waiting hours, poor medical care, incompetent staff, lack of essential drugs/supplier and equipment, incorrect diagnosis and treatment, lack of electricity and waters including the challenges of the laboratory services, including the lack of blood that maybe needed for transfusion.

PHASE IV

Delay in referring patients and complex cases to the next level of care, due to indecision by health officers, unavailability of professional hands (Doctor/Midwife) who would officially refer the case, no vehicle or tiredness on the part of the staff, shortage of staff to accompany the patient.

RECOMMENDATIONS

The United Nations Millennium Development Goal (MDG) on maternal health aims at reducing the number of women who die in pregnancy and childbirth by three-quarters between 1990 and 2015. To achieve this goal, it is estimated that an annual decline was only 0.5% in the sub-Saharan region, compared to 4.2% for the middle income Countries of Asia[16]. Today, as the MDG project is being rounded up, that of the Sustainable Development Goals, though multiple and variegated in approach, has in stock dynamic intervention strategies aimed at the reduction of maternal and newborn morbidity and mortality globally[17].

According to Kobhrisky, Campbell and Heicheleim, experiences from different countries have shown that reducing maternal mortality may depend partly on the availability and use of professional attendants at labour and delivery, and a viable referral mechanism of obstetric care for managing complications, or the use of basic essential obstetric care for all deliveries. Moving in this direction, different packages came up, though embodied in the direction of providing effective continuum for pregnant women through pregnancy, child birth and the post-natal period, including the newborn. These interventions which are evidence-based, emphasizes quality rather than quantity, and hinges on the strategic importance of, and specific advantages of Focused Antenatal Care (FANC) over traditional

Antenatal Care[18]. Continuing on the same trajectory, Adesokan stipulated that the major goal of focused antenatal care is to ensure good outcome of pregnancy, labour and pure premium through:

> *Health promotion and education/counseling;*
> *Prevention of complications of pregnancy and childbirth;*
> *Early and prompt management/treatment of existing complications and problems,birth preparedness and complication/emergency readiness*[19].

The provision of standard basic maternal and child health services in Nigeria must be adjusted to meet the particular needs of the population, taking into account the existing available resources, and in consonance with specific scientific basis for such interventions. Overtime, it became obvious that pregnant women detest frequent antenatal visits, probably due to the logistic and financial burden it bequeathed on them, though it was equally realized that even when women go for Antenatal Care (ANC), they do not receive the full care as prescribed in National Reproductive and Child Health/Maternal and Child Health (RCH/MCH) programme, guidelines, even with long waiting times and poor feedback to the women. To address these short comings and equally enhance effective continuum of care delivery, the World Health Organization in 2001 adopted the FANC evidence-based intervention mechanism over the Risk-based ANC (Antenatal Care).

FANC Operational Module is centered on the following Principles:

- Evidence-based, goal directed actions and family centered care; quality rather than quantity of visits, and care by skilled providers.
- The proper entry point for a pregnant woman to receive a broad range of health promotion, preventive health services, nutritional support, the prevention and treatment of anemia, prevention, detection and treatment of malaria; tuberculosis, sexually transmitted infections (STIs), HIV/AIDS and tetanus toxio immunizations.
- It is an opportunity to promote the benefits of skilled attendance at birth, and encourage women to seek post-partum care for themselves and their newborns. It is an ideal time to counsel women about the benefits of child spacing.
- As an essential link in the household-to-hospital care continuum (an integral intervention that ensures household and peripheral facility level), it helps stabilize the link to tertiary or higher levels of care when needed.
- This is because, in the house-hold-to-hospital continuum of care, the community is mobilized as a vital link between families and the care they need. At this stage skilled attendants and Community Health Workers (CHWS) help women and their families become active participants in maintaining normal pregnancy and in seeking additional care when needed.

Even as the FANC approach is predicated on mitigating the various challenges that have been identified, as snags to veritable maternal and child health care in developing countries, it may not comfortably be acclaimed to be perfect. However, the FANC emphasis is centered on-services rendered through doctor, nurse, midwife and community health worker (CHEW), who could collectively impact, monitor, manage pregnancy and its complications, knowing fully well when and how to attract the attention and help of specialists. A pregnant woman must be attended to during a scheduled four visits (within the first 16 weeks of pregnancy, 20-24 weeks,

28-32 weeks, and 36 weeks or later), and is still encouraged to even come around, in the event of complications, follow up referral, or as she or the health provider demands.

It is the recommendation of this study that FANC is encouraged, while more emphasis should be made in the areas of:-

- Counselling and educating both women and their husbands on the advantages of exclusive breast feeding, child spacing, danger signs in pregnancy/labour, individual needs (preventives like de-worming, tetanus toxoid immunization, anti-malarial interventions among others), personal and environmental hygiene, the need for Nutritional, micro nutritional and iron supplementation during pregnancy, among others.
- The need to stick to only prescribed medicaments, avoid alcohol, tobacco, including abiding by graduated rest and activity.
- Professional attention should be accorded to managing fully acclaimed/diagnosed HIV/AIDS mothers, to Prevent Mother-To-Child Transmission (PMTCT).

This will help prepare parents for birth and parenthood, as well as prevent, detect, alleviate the identified three health problems that affect mother and newborns – complications of pregnancy itself, pre-existing conditions that worsen during pregnancy and the effects of unhealthy lifestyles.

Proper development of Nigeria's health sector must start from the placement of programmes and intervention structures on a stable Primary Health Programme (which maternal and child health care is a component), to prevent and solve possible intractable problems, thereby adding value and hope to the life of the citizens. Not quite long ago, the Federal Government made a definite move, aimed at promoting skilled professional attendance during course of pregnancy and at deliveries, by introducing the programmatic Midwives Service Scheme (MSS). The aim is to reduce maternal and child morbidity and mortality, through increasing skilled attendant's involvement from33% to 90%[20]. The policy thrust of this pragmatic programme, demanded the employment of more midwives, and impacting on them additional training embodied into the LIFE SAVING SKILLS (LSS) training. Accordingly, they are taught how to prevent and manage haemorrhages, sepsis, hypertensive disorders, anaemia, malaria, obstructed labour, normal removal of retained placenta, and how to refer clients to the next level of care. Equally involved in the package are – integrated management of childhood illness through strategies for improving child health, the reduction of neonatal, infant and under-five deaths, hence it targets to checkmate and contain diseases like malaria, diarrhea, measles (particularly pneumonia and malnutrition) which account for 80% of deaths in children – from birth up to 5years of age[21]. Community household policies are equally addressed within this programme.

Beyond ideals, just as this programme took off, it dawned on all that its detailed practicability is beyond more textbook analysis. Its initial advances, becamee subdued later by – paucity of staff deployment to rural areas, weak health referral system, poorly defined roles among staff, poverty of clients, including certain socio-cultural barriers on the side of the clients.

Quite aware of the illimitable challenges subsisting in the area of maternal and newborn health in Nigeria, and the various efforts made by successive governments through policy actions to address this, the need for added high-impact intervention in that sector is incontrovertible. Because high level ignorance would not allow the rural dweller (pregnant woman, husband or mother-in-law) to acknowledge the preference of the skilled health worker over the traditional birth attendant, the government and involved

private organizations must continue to spread and sustain awareness. Youth friendly health services and the extension of family life education in schools is advocated. Newly qualified midwives could be equipped and mandatorily made serve one year in the rural area. Easy accessibility to equitable laboratory and blood transfusion service may demand a complete overhaul in the systemic overlap and differences existing between the National Blood Bank Project and the Blood Reservouirs existing in the General hospitals, Teaching hospitals and Federal Medical Centres. Increased funding and human resources provision should aim at decentralizing the use of, importance and availability of Partographs (for monitoring labour) and Uterotonic drugs (to prevent haemorrhage) in Obstetric care. The Government must see the need in making certain laws which would improve household and community behavior; which create hurdles in the area of gender imbalances, maternal and newborn health interventions.

In Africa, Nigeria contributes the largest number of neonatal deaths (241,000 per annum), due largely to birth asphyxia, prematurity and infections[22], and about 40,000 maternal deaths globally, only next to India's 56,000 deaths[23]. These deaths are mostly preventable and are caused by pregnancy related complications already considered in this study. What of the alarming percentage of maternal morbidity, new born morbidity and mortality. One may not even know that many newborn, even after being successfully-treated, become and remain retarded mentally and physically or otherwise, due to either minor negligence, waste of time on inadequate intervention, poverty or ignorance of the parent. It is hoped that consistent adequate **integration** of professional health attendants would bring harmony amongst them. Moreover, the recognition of, and targeted awareness made on Traditional Birth Attendants (TBA) in the rural areas, coupled with increased committed government funding (Federal, State and local) in that sector, would motivate and sustain improved and increased professional determination and conduct, towards preventing one out of the many preventable running sores inhibiting Nigeria's national development. Experts should detail the national minimal epidemiological priority profile based on World Health Organization guidelines and recommendations, to which health attendants are from time to time exposed, through random workshops. Professional associations and non-governmental organizations involved with women and children should be beckoned to come on board to help in supplies, logistics and even the provision of data. Such would help in the reduction of infringing barriers. Available data from the Nigerian Demographic and Health Surveys – Department have proved that there still exists a big gap between communities and health facilities established within the rural areas. Since the family occupy the linkage between the facility and the community, and since healthy home behaviours encourages the use of FANC Facilities, Community Health Extension Workers (CHEW) should focus on the families for awareness.

The 21st century global challenges have not left Nigeria in calm waters. Definitely, many developed nations have experienced this tide, and succeeded in sailing through. Recourse must be taken to history to provide facts, which would strategically redirect policy analysts on safer and shorter corridors to success. History is replete with oddities and it is ever ready to decode, evaluate and help re-educate the rural populace in Nigeria on the need to change certain cultural practices, the need to be dynamically in tune with the realities of the 21st century, not totally disregarding where in the past, the nation got it right. Of course, the many medical registers in the various health facilities, operating throughout Nigeria, are and would remain as binoculars in future, whenever the nations maternal and

newborn morbidity and mortality story is evaluated.

No nation can move from growth to development with disregard to the health sector. A historical interrogation of Nigeria's developmental pattern in this area, underscores the need for constructive intervention, which must flow from the roots to the tops; it has to be organic, since the stability of the top depends solely on the roots. It is simply an aberration to expect a sustainable transformational change in the national health sector, without first preparing and carrying the citizenry along. They are the heart of the nation. Being the first line in orderly medi-care (treatment, guidance and counseling), Primary Healthcare Package should focus more on the urban and rural women, as the first base-target.

It is not simply enough to publicly report that Nigeria is currently basking at 65% level of illiteracy in 2015 (at the age of 55years) and having a chequered health policy and practices[24], without diagnosing the pathological problems inherent.

FANC as an interventionist programme is undoubtedly a good start, but the 21st century advances in the techno-social highway must be integrated into health care, most especially to checkmate the maternal/newborn morbidity and mortality rates. Many a times, reliance on certain international demographic figures and reports may prove to be unrealistic. Today in Nigeria, even in the rural areas, the use of the mobile telephone system is exceptionally acceptably high. Progress could be made through the development of a sustainable **Maternal/Newborn Data Application** through which feedback information and directives could be given to pregnant women, including those managing newborn aged below 5 years. Such Applications may not essentially be on English Language alone, but made to be run on client's local language. Again, employed professional attendants who are of indigenous stock could move around such rural areas, creating important awareness. Whenever the language divide is broken, compliance and welfarism is easily obtained. This approach could be reviewed every 5 years, as a matter of government policy.

Historically, no nation is known to have progressed and developed with lackadaisical approach to national health policies and practice. Nigeria can never get it right without checkmating the increasing and debilitating drag on its economy, if the foundational and operational challenges of its primary health care are not stabilized.

END NOTES

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