Review of WHO guidelines on management of postpartum haemorrhage and retained placenta

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Short summary of the guideline

WHO guidelines for the management of postpartum haemorrhage (PPH) and retained placenta came out strongly as an evidence based tool that guides health care providers and policy makers in ensuring evidenced based practices with respect to management of PPH and retained placenta.[1]

It also serves as an empirical evidence to develop national and states protocol s, job aids and referral system in addressing PPH which will greatly impact on achieving the Millennium Development Goal 5 of reducing maternal mortality by three – fourth by 2015.

The document is broken down in to relevant sections which each commencing with a research questions that address particular aspect of PPH management.

The sections are;

1. Diagnosis of PPH
2. Management of atonic PPH
3. Management of retained placenta
4. Choice of fluid for replacement or resuscitation
5. Health systems and organizational interventions

Each of the above named sections commences with at least one research question which the guideline came up with an answer based on a wide range of consultations with experts in that field through robust review of literature to find the most reliable evidence of that question and based on that, recommendations follow suit on a specific management steps in addressing PPH.

The last sections of the document captured the items below

1. PPH care pathways
2. Research implications
3. Plans for local adaptation of the recommendations
4. Plans for supporting implementation of these recommendations
5. GRADE tables

These are also equally important components of the document as they have prompted for more research where strong evidence is lacking for a particular research question and recommendations that ensure proper implementation of the document in various settings.

Brief literature search

Nigeria is located in West Africa, bordered by Benin to the west, Niger to the north, Cameroon to the east and the Atlantic Ocean. Nigeria was a British colonial creation. It came into being in January 1914 with the amalgamation of the Colony of Lagos (first annexed in 1861), the Southern Protectorates (established 1885 – 1894) and the Northern Protectorate (pacified by 1903). Nigeria was granted its independence on 1st October 1960, originally with Dominion status. In 1963, Nigeria broke its direct links with the British Crown, and became a Republic within the Commonwealth.[2]

According to 2006 census figure, Nigeria's population stands at approximately 140 Million with a total land area of approximately 923,768 square kilometres.[3] Nigeria is the tenth largest country in the world and the most populous country in Africa. The country has 36 States plus one federal capital territory (Abuja) and 774 Local Government Areas governed by Governors and Chairmen respectively.[4] The countries major languages are: English (official), Yoruba, Ibo, Hausa, with Major religions: Islam, Christianity, Traditional beliefs. It has a life expectancy of 49 years.

Nigeria's population growth rate is estimated as 2.8 %. The population is expected to double in 24 years at this rate of growth. Nigeria has a high dependency ratio due to high fertility rate of 5.7.

Nigeria's health policies

In 1988, the federal government introduced its first Policy on Population tagged the **National Policy on Population for Development, Unity, Progress and Self Reliance**. This policy set the following targets.[5]

"Reduce the proportion of women marrying before the age of 19 years by 50 % by 1995

- Reduce the proportion of women who bear more than 4 children by 80 % by 2000
- Reduce the infant mortality rate to 50 per 1000 live birth by 1995 and 30 per 1000 live birth by the year 2000
- Reduce the number of pregnancy to women below the age of 18 and above the age of 35 years by 50 % by 1995 and by 90% by the year 2000
- Make Family Planning services available to 50 % of women of child bearing age by 1995 and 80 % by year 2000
- Reduce rate of population growth from 3.3 to 2.5 % by 1995 and 2 % in the year 2000
- Provide suitable Family Life Education, Family Planning Information and Services to all adolescents by the year 2000."

These targets were reviewed in November 2001 under the National Policy on Population for Sustainable Development.[6] The review put targets with respect to achieving the Millennium Development Goals particularly Goal 4 and 5 (Reducing Child Mortality and Maternal Mortality respectively). That policy reviewed was done due to the wide criticism it generated as a result of unrealistic and unachievable targets, lack of proper coordination, strategic planning, effective monitoring and evaluation and under funding.

The new National Health Policy of Nigeria (2005) has been formulated within the context of:

1. "The Health Strategy of the New Partnership for Africa's Development (NEPAD), a pledge by African leaders based on a common vision and a firm conviction that they have a pressing duty to eradicate poverty and place their countries individually and collectively on a path of sustainable growth and development.

2. The United Nations Millennium Development Goals (MDGs) to which Nigeria, like other countries, is a signatory and has committed its resources to achieve.

3. The New Economic Empowerment and Development Strategy (NEEDS) which is aimed at re-orienting the values of Nigerians, reforming government and institutions, growing the role of the private sector, and enshrining a social charter on human development with the people of Nigeria.

4. The development a comprehensive health sector reform programme as an integral part of the NEEDS."[7]

The main health policy targets are the same as the health targets of the Millennium Development Goals, namely:[8]

1. Reduce by two-thirds, between 1990 and 2015, the under-5 mortality rate.
2. Reduce by three-quarters, between 1990 and 2015, the maternal mortality rate.
3. To have halted, by 2015, and begun to reverse the spread of HIV/AIDS.
4. To have halted, by 2015, and begun to reverse the incidence of Malaria and other major diseases.

The Policy target of reducing by three – quarters, between 1990 and 2015, the Maternal Mortality Ratio is in line with global agenda of achieving the MDGs by 2015, specifically MDG 5. The United Nation's MDG Report 2006 which observed that "skilled care at delivery is one of the key elements necessary to reduce maternal mortality" has corroborated the approach and targets enshrined in the National Health Policy.[9]

Also the National Health Policy has build on Plan of action of the International Conference on Population and Development (ICPD) which took place in Cairo, Egypt in 1994.

The ICPD Plan of Action recognized Women's Sexual and Reproductive Health and Rights. And it also made provisions for addressing

1. Maternal Mortality
2. The health impact of Unsafe Abortion
3. Adolescent Reproductive Health and Sexuality.[10]

The NDHS 2008 has provided a good insight also to a lot of factors associated with high maternal mortality. "The Increasing the percentage of births delivered in health facilities is an important factor in reducing deaths arising from the complications of pregnancy. The expectation is that if a complication arises during delivery, a skilled health worker can manage the complication or refer the mother to the next level of care." Also 35% births in Nigeria are delivered in a health facility; 20 percent of deliveries occur in public sector facilities and 15 percent occur in private sector facilities. Three in five births (62 percent) occur at home.[11]

In addition to place of birth, assistance during childbirth is an important variable influencing the birth outcome and the health of the mother and infant. The skills and performance of the person providing assistance during delivery determine whether complications are managed and hygienic practices are observed. The survey has further shown that 39 percent of births in the five years preceding the survey were assisted by a skilled health worker be it doctor, nurse, midwife, or auxiliary nurse/midwife.[12]

Haemorrhage-related complications remain the leading cause of maternal death, accounting for 36% of cases. Other direct causes of maternal deaths in Nigeria include pregnancy-induced hypertension and eclampsia, prolonged/obstructed labour, infection, abortion complications, and

ectopic pregnancy. Among the indirect causes of maternal deaths are HIV/AIDS, malaria and tuberculosis.

Among women experiencing obstetric haemorrhage, postpartum haemorrhage caused by uterine atony is a leading cause. When uncontrolled, this complication can claim a woman's life within 2 hours of onset. The fact that only 33% of women deliver with skilled birth attendants in Nigeria means that majority of women experiencing these life-threatening complications will not have an opportunity of being managed according to international standards.[13]

Scope and purpose of guideline

There is no section in the document that listed the objectives of the guideline; however the scope and purpose were explained with respect to finding answers to the draft research questions as well as highlighted the evidence for each question and recommendations. T his approach has brought out the objectives, but not specifically defined.

Based on my understanding of the document, the following are the objectives of the guidelines

1. To provide empirical evidence for a set of research questions related to management of PPH and Retained Placenta.
2. To provide specific recommendations on management of PPH and retained placenta to be implemented by health care providers.
3. To highlight some research questions that lack sufficient evidence and prompt research on that.
4. To support policy makers and health care providers in using the guidelines to develop management protocol and training curriculum

The research questions are specifically framed in a way that supported the experts consulted and technical working group to search for evidences for those researchable questions. If the questions were not specific, it would be difficult to search for the literature for or against them.

The search for evidence was systematic and through the Cochrane library, Pubmed, Embase, and Lilacs to ensure that relevant studies were not missed out and substantially all the research questions have generated evidence that led to recommendations. This argument has supported that questions were specific.

Stakeholders' involvement

In development of this guideline, participatory method through reaching out to wide range of professionals was used as a strategy to reach to the conclusion of questions, generating evidence for them as well as recommendation for the management of PPH.

Initially Staff of WHO from various Departments of Reproductive Health and Research, Making Pregnancy Safer, and Essential Medicines and Pharmaceutical Policies drafted the lists of questions on interventions and a list of possible outcomes which were shared electronically with experts worldwide such as midwives, obstetricians, neonatologists, researchers, methodologists,

consumers and programme experts for comments and later reviewed by the same staff that sent the questions earlier on. WHO Collaborating Centre in Maternal and Perinatal Health, was commissioned to search, review and grade the evidence that answered the questions using a standardized grading system and criteria. With that, a technical review was set up to further review the search and took a decisions based on that.

Patients and target groups views and preference were not sought directly, however their views were taken in to consideration by proxy, this is due to the fact that the experts consulted to comment on the questions were people working directly with the patients and equally the literature search was done in studies on PPH and most of those research subjects were patients recruited from health facilities.

The users of this guideline are doctors, nurses, midwives, health workers, policy makers, trainers, civil societies and development partners implementing projects related to PPH management.

There is no direct information from this guideline that revealed it was piloted among the users, however, it is not really a protocol, so it might not require piloting at that stage, but when it is used to develop management protocol and training guide, the piloting would be required.

Guideline development

A good systematic method should follow a sequence of initial search of relevant literature with respect to the key research questions asked and having a strategy to search with key words and further discussion with experts or peers. With that, the search literature are assessed for their relevance to the key research question and graded based on agreed criteria and formulating recommendations.

As mentioned somewhere in this review, CREP was commissioned by WHO and undertook the review, searching and grading the evidence using the Grading of Recommendations, Assessment, Development and Evaluation methodology and adequate consultations was made with experts and technical working group before establishing recommendations. Indeed the search was systematic, so also the selection of the criteria and method used in formulating the recommendations which were made based on the initial evidence.

The evidence that ensured recommendations of all the research questions has actually considered benefits, effects and risks. Using “Management of Atonic PPH” as an example, the research question under that section *‘ Which uterotonics should be offered in the management of PPH due to uterine atony?’,* a table is provided at the end of evidence for the question to provide useful information on Three drugs; Oxytocin, Ergometrine and Prostaglandin with respect to doses, routes of administration, precautions and contra indications.

Recommendations are written in a clear language that would be understood by the users and they are strong in all the questions that have moderate to high quality of evidence, where quality of evidence is low, recommendations are weak and would require further research and justification.

There was no place in the section of ‘Methods’ where it was mentioned that, the guideline was tested, however, it was peer reviewed by the team of experts worldwide that received the research questions with the searched evidences.

Applicability

During the course of my review of this guideline, I held discussions with many colleagues and what is popularly being used is the "*Prevention and Management of Postpartum Haemorrhage; An Orientation Package for Health Care Providers*", made available by the Nigeria's Federal Ministry of Health in 2008. In producing that document, references were made to WHO *Essential Medicines for Reproductive Health.* WHO. Geneva. 2006 and WHO. *Managing Complications in Pregnancy and Childbirth.* WHO. Geneva. 2000. However very few colleagues that I asked, informed me that, they are aware about the WHO guidelines on Management of PPH and Retained Placenta.

The recommendations are applicable in Nigeria, when properly implemented, will tremendously reduce the maternal mortality attributed to PPH.

The communiqué of the 53rd Nigeria's National Council on Health Meeting held in March 2010 has identified the slow progress towards reduction of maternal, newborn and child mortality as well as regret that Nigeria still maintains a high maternal mortality ratio of over 545 deaths per 100,000 live births and this has threatened the attainment of Millennium Development Goal 5 of reducing by 75% of maternal mortality by 2015 in the country.[14]

While the tertiary institutions such as teaching hospitals and federal medical centres due to good human resources and funding could effectively use the guidelines, there are challenges of implementation at the secondary and primary health centres that are managed by State and Local Governments respectively due to dwindling resources to the entire health sector which affect human and financial resources as well as overall leadership.

The guideline is highly recommended to Nigeria at the level of federal, state and local governments.

Conclusion

The WHO guideline on management of PPH and Retained Placenta is well researched and articulated with wide consultation with experts before it is finalised. If properly implemented will significantly impact on the management of PPH and reduce the maternal mortality attributed to PPH.

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