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Review of WHO handbook “Monitoring emergency obstetric care”

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Summary

Global health policies have traditionally stressed multiple vertically oriented programmes that focused on maternal and child health and the control of communicable childhood diseases. The result was that major health agencies focused their support on selective programmes that address priority diseases and activities. The weakness of this approach is most apparent during crises such as obstetric emergencies. Fortunately, experts in global health are beginning to take a more comprehensive view of health including the provision of emergency medical care.

Thus this handbook is based on the publication guidelines for monitoring the availability and use of obstetric services prepared by Deborah Maine, Tessa Wardlaw (UNICEF) and a team from Columbia University and on recommendations made during a technical consultation held in 2006 at WHO in Geneva.¹ The participants of the technical consultation were primarily independent experts from academia. Other participants included staff from WHO, UNICEF, UNFPA and Columbia University who have been engaged in in-country application of indicators reviewed at the consultation.

The international community has over the years been greatly disturbed by the abysmal level of maternal mortality in many countries of the world particularly the developing countries and their disproportionate contribution to the global burden of maternal mortality. More worrisome has been the failure of past traditional paradigms for maternal mortality reduction to make an appreciable impact.

Traditional paradigms for reduction of maternal mortality were agreed and promoted at various international conferences, for a starting with the 1987 safe motherhood conference in Nairobi, Kenya, followed by the 1990 world summit for children at the United Nations headquarters, the 1994 international conference on population and development in Cairo, Egypt, the 1995 fourth world conference on women in Beijing, China and several other more recent international meetings for a where consensus has been reached on new interventions that are priorities in reducing maternal mortality.

It was agreed that a new paradigm of providing emergency obstetric care be adopted to reduce maternal mortality with emphasis on the need for all births to be attended by professional, skilled birth attendants, and that this service should both be available, accessible as well as of high quality.

Crucial to achieving the goals of the newly adopted paradigm for maternal mortality reduction of emergency obstetric care is the measurement of progress. Traditional impact indicators such as maternal mortality ratio have been used, but are bedeviled serious technical and substantive drawbacks. Even more innovative methods such as the direct sisterhood method come with their inherent difficulties.

An approach which has received wide acceptance is the use of process or outcome “indicators”.

A major advantage of this method is the ability to carry out repeated measurements within short intervals as well as obtaining information that is directly useful for guiding policies and programmes and for fine-tuning programmes.

However despite their advantages process indicators still cannot totally substitute for maternal mortality ratio as a direct measure of the overall level of maternal mortality in a population.

The EmOC handbook advocates a focused approach to reduction of maternal death which has at its core the recognition that without the ability to treat women with obstetric complications, maternal mortality cannot be substantially reduced.

The handbook lists and defines indicators which are principally used in monitoring the extent of availability and implementation of treatment of emergency obstetric complications responsible for most maternal death. These indicators include for basic services the following; administration of parenteral antibiotics, uterotonic drugs, antibiotics as well as ability to perform manual removal of the placenta, perform assisted vaginal delivery as well as basic neonatal resuscitation.

For comprehensive services the above mentioned indicators as well as abilities to perform surgery and give blood transfusions are included.

Literature review

One of the eight Millennium Development Goals (MDGs) is to reduce maternal deaths, from current levels of over half a million each year, by three-quarters by 2015. Almost all maternal deaths occur in developing countries, and the difference between developed and developing countries is greater for maternal mortality than for any other health indicator.²

More than 150 million women become pregnant in developing countries each year and an estimated 520,000 of them die from pregnancy related causes. At least 7 million pregnancies results in stillbirths or infant deaths within the first week of life, also because of maternal health problems. The death of women of reproductive age translates into substantial economic and social hardship for her family and community.³ Most women in the developing world lack access to skilled obstetrical care when complications arise. Even in countries with well developed health systems, preventable maternal illness and death persist because of inadequate management of the complications directly associated with pregnancy, labour and delivery, the postpartum period and abortion.⁴

Maternal mortality claims 514,000 women's lives each year. Nearly all these lives could be saved if affordable, good-quality obstetric care were available 24 hours a day, 7 days a week. Most of the deaths are caused by hemorrhage, obstructed labour, infection (sepsis), unsafe abortion and eclampsia (pregnancy induced hypertension). Indirect causes like malaria, HIV and anaemia also contribute to maternal deaths. For every woman who dies, an estimated 15 to 30 women suffer from chronic illnesses or injuries as a result of their pregnancies. Obstetric fistula is a serious and isolating injury that would be significantly prevented through EmOC.⁵ About fifteen per cent of all pregnancies will result in complications. Most complications occur randomly across all pregnancies, both high- and low-risk.^{6,7} They cannot be accurately predicted and most often cannot be prevented, but they *can* be treated.

While attention has been focused on several other health risks, the high rate of maternal mortality in Nigeria has not received the attention it deserves. In fact, it is one of the world's most neglected problems.

For any woman, becoming pregnant and giving birth should call for celebration but for many couples in the developing world, they are occasions that cause sorrow and grief. For these women, pregnancy and childbirth are experienced as major risks of death and disability.

Globally, of the 536,000 maternal deaths recorded in 2005, developing countries accounted for over 99 percent. Of this figure, 50 percent of the deaths took place in sub-Saharan Africa while sub-Saharan Africa and South Asia accounted for 84 percent of maternal deaths in the

world. Furthermore, about 10 countries account for about two-thirds, with India contributing 22 percent or 117,000 deaths. Nigeria accounted for 10 percent of the deaths with 59,000 maternal deaths.⁸⁻¹⁰

Lifetime risk of dying from pregnancy-related cause in the developing world is one out of 76 live births and in the industrialized world it is one out 8000 live births. In Niger Republic, it is one out of seven live births, the highest in the world. Nigeria is not much better with lifetime risk of one out of 13 live births. In Ireland the lifetime risk is one out of 47,600 live births.¹¹

While the world has reduced maternal mortality ratio (that is number of women who die as a result of pregnancy or childbirth) by 5.4 percent, there has been no appreciable progress in sub-Saharan Africa including Nigeria. Serious maternal under nutrition is still very common in Nigeria, where not enough infected women have access to HIV/AIDS treatment.¹²

For a country like Nigeria these figures give cause for concern. There is no other country with the amount of resources Nigeria has that has such grim statistics. India has a population that is several times higher than Nigeria's and has made enormous progress since 2005 when the research was done. In contrast, Nigeria has not made much progress since then.¹³

The factors that cause maternal mortality are known to the average individual and to the government. Pregnant women die in Nigeria and the rest of the developing world because they lack, or at best, have limited access to healthcare. In the few instances where there is access to healthcare, the quality of care is poor.⁶ Then they die of complications such as bleeding, infection, abortion, prolonged or obstructed labour, which can be contained if there are skilled personnel, adequate facilities to handle emergencies and appropriate afterbirth care. Maternal death has strong negative effects on the nation, the family and children. It impacts on the nation because it retards a country's development.⁸ The nation is robbed of skilled labour especially now that women constitute a significant proportion of the nation's workforce.

It affects the economy of the family because in many homes, women have become breadwinners or joint breadwinners with their husbands. Death resulting from pregnancy or childbirth will lead to loss of income in such families.

It is taken for granted that death of a mother will adversely affect her children both materially and emotionally. Studies have shown that an infant whose mother dies within the first six weeks of their lives is more likely to die before their second birthday relative to others whose mothers are alive. It is therefore imperative for the government to take urgent steps to stem the tide of maternal mortality in Nigeria. It is gratifying that the Federal Ministry of Health and its partners have put together the Integrated Maternal, Newborn and Child Health (IMNCH) strategy.¹³ This initiative represents the articulation of a bold and new thinking on fast tracking comprehensive actions to change the course of maternal and child health in the country.

In the international literature, improving access to skilled care during delivery, and in particular to emergency obstetric care, is the key solution to reducing maternal mortality. But, many studies have reported that in rural areas, access to skilled care and emergency obstetric cares are limited by the existence of multiples barriers (socio-cultural, economic, barriers linked to health services organizations and to quality of care).

In the middle of the 1990s, studies in Africa reported that it possible to improve access to skilled care and emergency obstetric care by addressing locally the multiple barriers to care. At the end of the 1990s and the early 21st century, many projects were implemented in the

rural districts of Nigeria to improve access to skilled care and emergency obstetric care, with the aim of reducing maternal mortality.

Prior to 2000 safe motherhood received some policy attention in Nigeria but was never institutionalized as a political priority. High maternal mortality in Nigeria first received international notice through a 1985 paper by obstetrician and gynecologist, Kelsey Harrison, in the *British Journal of Obstetrics and Gynaecology*.⁸ This paper provided one of the impetus for convening an international safe motherhood conference in Nairobi, Kenya in 1987, which launched a global safe motherhood movement. Harrison and other Nigerians attended, returning with a commitment to achieving in their country the objective agreed to at the conference: a reduction in the number of maternal deaths by half by the year 2000. The Federal Ministry of Health subsequently established a national safe motherhood committee, and the Society for Obstetrics and Gynecology of Nigeria (SOGON) heightened efforts to promote maternal mortality reduction. Also, Columbia University established the Prevention of Maternal Mortality Network, conducting formative research. However, these initiatives were not scaled up, and under the military government safe motherhood activities in Nigeria stagnated.

The continuing burden of maternal mortality, especially in developing countries has prompted a shift in paradigm from the traditional risk assessment approach (Though beneficial in many ways, these efforts have not succeeded in lowering maternal mortality rates. Studies shows that most women who develop complications do not have risk factors) to the provision of access to emergency obstetric care services for all women who are pregnant.

Indeed, even if a woman is in good health and receives antenatal care, there is no way to know whether she will develop complications and require emergency services. As a result quality EmOC services need to be available to every pregnant woman.

Maternal health community has identified three types of delays that can affect a woman's chances of surviving an obstetric emergency. The first two—delay in deciding to seek care and delay in reaching a healthcare facility at least in fact reflect underlying social factors. But the third type of delay---delay in receiving medical attention while in the health facility are within the control of health personnel. Because the direct causes of maternal death are treatable, EmOC becomes a sine-qua non for achieving substantial reduction in maternal deaths.

Of the two indicators (maternal mortality ratio and proportion of births with skilled attendants) for measuring progress towards the fifth Millennium Development Goal (MDG5) of reducing maternal mortality between 1990 and 2015 by three quarters, maternal mortality ratio is generally more difficult to measure compared to the proportion of births with skilled birth attendants (doctors, midwives, or nurses) which can readily be measured in national surveys.^{5,6} Knowing the proportion of women who deliver with skilled assistance is not enough. Mere presence of skilled attendants at birth is unlikely to reduce maternal mortality if there is no supportive environment with essential drugs and supplies, equipment, and appropriate referral and communication system.

Increasingly it is being recognized that availability and access to emergency obstetric care improves maternal morbidity and mortality. Based on functionality and ability to provide lifesaving emergency obstetric procedures, a health facility can be classified as either basic or comprehensive emergency obstetric care facility (EmOC) Basic EmOC facilities are expected to provide the following six services: administration of parenteral antibiotics; parenteral oxytocic drugs; parenteral anticonvulsants for pre-eclampsia; manual removal of retained placenta; removal of retained products of conception; and assisted vaginal delivery (vacuum

extraction or forceps delivery). Comprehensive EmOC facilities are expected to provide caesarean section and blood transfusion in addition to those services provided by the basic EmOC facilities.

Guideline objectives

The objectives of the guideline is well defined which is to help encourage the new paradigm of EmOC in the continued search to reduce the burden of maternal mortality around the world.

There is a detailed coverage and description of the questions covered by the guideline.

The guideline is meant for health professionals and administrators on how best to implement the processes of EmOC for the benefits of women who are the primary victims of maternal morbidity/morbidity as well as their children and community in general.

While professional groups are supposed to be the drivers for implementing the guidelines, not much consultation was made with relevant professional groups, it is difficulty to understand when and how relevant obstetric societies in developing countries were incorporated into developing the guideline.

Guideline applicability

My conclusion is that maternity unit operatives at the primary and secondary care levels in most countries are poorly knowledgeable about the concept of emergency obstetric care services and they still prioritize the strengthening of routine antenatal care services based on the risk approach over other interventions for promoting safe motherhood despite a global current shift in paradigm. There is an urgent need to involve the staff in line with global best practices. No evidence of any pilot study of the recommendations of the guideline by targeted users is provided.

Systematic methods were used to search for the best evidence influencing the design of the guideline with clearly defined criteria for selecting the evidence. Ditto, for methods of formulating the overall guideline.

The overall health benefits of the guideline are stressed and relevant risks discussed. The recommendations tallied with the evidence gathered systematically. For now there is no comment on how this guideline will be upgrade in future based on reports from the field or new overwhelming new evidence. The recommendations of the guideline are specific and unambiguous but without allowing room for physician or facility peculiarities. The key recommendations are easily identified, practical depending on availability of resources and obviously of proven value. Tools for implementing the guidelines are clearly stated but no recommendations on trainings required. Peer review and testing of the guideline has not involved the countries with the main burden of maternal deaths and morbidity and reviewers/developers were mainly drawn from non-clinical settings.

The EmOC guideline is well known within the obstetrics/gynaecology community in Nigeria and quite a number of professionals are involved in training primary as well as tertiary healthcare providers on the provision of EmOC guidelines. The society for obstetrics and gynaecology of Nigeria (SOGON) has adopted the guideline and currently has an implementation community in collaboration with the federal ministry of health. SOGON is

currently at the forefront of ensuring that agencies and government health ministries support health facilities to provide EmOc services. And that these health facilities are supported by a functioning referral system.

The recommendations of the guideline are adhered to as much as possible; limitation remains challenges which may arise from either health personnel, institutional issues or non-preference as solidly expressed by the client.

The EmOc guideline is used in the institution where I practice with frequent deviations based on availability of human and material resources as well as an expressed preference of the clients in managing emergencies. Full adoption of the core prescription of this guideline taking into cognisance Nigeria's peculiar problems is highly favoured by me for my professional practice and Nigeria. The provision of timely treatment during life-threatening obstetric emergencies has not always received priority attention for many health systems in developing countries, Nigeria inclusive. Obstacles to implementing effective EmOC includes a lack of structural models, inappropriate training foci, concerns about cost, and sustainability in the face of a high demand for EmOC services. Studies of barriers to implementation of health policies, including plans to improve obstetric care, show that there is a major shortfall in the provision and utilization of EmOc services in a developing country such as Nigeria.

This guideline reviews evidence of the need to put in place as well as strengthen emergency obstetric care services within health facilities in Countries. Even a basic but effective level of EmOC in response to perceived and actual community needs will help to improve the health of populations in general.

Conclusion

Especially for developing countries with staggering maternal mortality figures and despite being amongst the 189 countries that in 2000 set reduction of maternal mortality ratio by three-quarters by 2015 as one target of the millennium development goals, there is a clarion call for urgent and consistent action to address the issues of maternal deaths. This frightening scenario notwithstanding substantial progress can be achieved through adoption and implementation of important elements of the WHO handbook on EmOC.

While the adoption of EmOC is not a whole scale panacea to the lingering challenges of addressing maternal death, tertiary health institutions engaged in maternity care in most developing countries should step up their emergency obstetric services and reach out to other care providers to build greater understanding of issues relating to safe motherhood and the positive results potentially achievable with EmOC

References

1. World Health Organization. Monitoring emergency obstetric care: a handbook. Geneva: WHO; 2009.
2. Omo-Aghoja LO, Aisien OA, Akuse JT, Okonofua FE. Maternal mortality and emergency obstetric care in Benin City, South-south. *Journal of Chinese Clinical Medicine*. 2010;5(3):164-70.
3. UNICEF, UNFPA, WHO. Maternal mortality in 2000: estimates developed by WHO, UNICEF and UNFPA. Geneva: WHO; 2004.

4. National Planning Commission. Children's and women's rights in Nigeria: A wake-up call. Situation Assessment and Analysis, 2001. ISBN No.92-9186-021-2.
5. Shiffman J, Okonofua FE. The state of political priority for safe motherhood in Nigeria. BJOG. 2007 Feb;114(2):127-33.
6. Ozumba BC, Nwogu-Ikojo EE. Avoidable maternal mortality in Enugu, Nigeria. Public Health. 2008 Apr;122(4):354-60.
7. Adegoke AA, Lawoyin TO, Ogundeji MO, Thomson AM. A community-based investigation of the avoidable factors of maternal mortality in Nigeria: the pilot experience. Afr Health Sci. 2007 Sep;7(3):176-81.
8. Harrison KA. Reducing Nigeria's high maternal and newborn mortality and morbidity. BJOG. 2007 Sep;114(9):1178.
9. Maine D. Safe motherhood programs. Options and issues. Centre for Population and Family Health. New York: Columbia University; 1991.
10. Okonofua FE, Abejide A, Mankanjuola RA. Maternal mortality in Ile-Ife, Nigeria: a study of risk factors. Stud Fam Plann. 1992 Oct;23(5):319-24.
11. Unuigbo JA, Orhue AA, Oronsaye AU. Maternal mortality at the University of Benin Teaching Hospital Benin City, Nigeria. Trop J Obstet Gynaecol. 1988;1(1):13-8.
12. Olusanya O, Amiegheme N. Biosocial factors in maternal mortality: a study from a Nigerian mission hospital. Trop J Obstet Gynaecol. 1988;1(1):88-9.
13. Society of Gynecology and Obstetrics of Nigeria (SOGON). Status of emergency obstetrics services for safe motherhood in six states of Nigeria. A project report submitted to the Macarthur Foundation, USA. May 2004.