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REDUCING MATERNAL MORTALITY: A CHALLENGE FOR THE 21ST CENTURY

Technical discussions

EXECUTIVE SUMMARY

1. The maternal mortality ratio in the African Region, at an average of 940 per 100,000 live births, is the highest in the world. The 49th session of the Regional Committee adopted as the subject for technical discussion "Reducing maternal mortality: a challenge for the twenty-first century". This was in recognition of the magnitude of the problem and the need for prevention. Earlier, at the 47th session of the Regional Committee, Member States had adopted the *Regional Strategy on Reproductive Health* for the accelerated reduction of maternal and neonatal mortality in the Region.

2. There is a need for stronger commitment and political will on the part of Member States in addressing the problem of reducing the high maternal mortality in a co-ordinated manner. Awareness and knowledge of the problem have to be translated into concrete and sustained action by the various sectors of government, non-governmental organizations, communities and partners.

3. The Technical Discussions of RC50 will first look into the critical issues related to the reduction of maternal deaths, namely: (a) access to efficient antenatal care; (b) provision of hospital-based treatment of pregnant women with life-threatening complications; (c) transport; (d) strengthening of the health care system.

4. It is in the interest of all Member States to identify possible strategies and initiatives for accelerating the reduction of maternal mortality. To ensure the successful attainment of that objective, it is important that these efforts are sustained by all stakeholders.

5. Ultimately, the issue of reducing the Region's high maternal mortality ratio can be resolved by investing adequately in public education and health.

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INTRODUCTION

1. Childbearing is highly unsafe in sub-Saharan Africa the huge mortality and morbidity in this part of the Region is the direct result of the serious defects in the social, cultural and economic backgrounds as well as in the inadequacies in existing health services. Nevertheless, WHO believes that improvements are possible through the efficient application of existing knowledge, appropriate technology and better resource management. Strong political will is the prerequisite for the successful introduction of the relevant reforms in health and education, in maintaining a better spread of incomes generated, and in tackling the problems of social malaise and disruption.

2. The paper starts by providing some basic information on maternal mortality. This is followed by a situation analysis focused on the African Region. Finally, some suggestions on strategies for reducing maternal mortality are presented.

BASIC INFORMATION ON MATERNAL MORTALITY

Definition of maternal mortality

3. Maternal mortality[1] is defined as the death of a woman during pregnancy or within 42 days of termination of the pregnancy.

Causes of maternal death

4. The major direct causes of maternal death are unsafe abortion, anaemia, eclampsia, hemorrhage, obstructed labour and puerperal infections. The principal indirect causes are HIV/AIDS, malaria, viral hepatitis (especially hepatitis E virus), pulmonary tuberculosis, infective diarrhoeal diseases (cholera, typhoid, amoebiasis), tetanus, heart disease, and sickle cell disease. In addition, harmful traditional practices contribute significantly to maternal death in certain places. Chronic conditions resulting from some of these pregnancy complications are chronic pelvic inflammatory disease, infertility, ectopic pregnancy and obstetric fistula.

5. HIV/AIDs is increasingly becoming an important contributory factor in maternal mortality in some countries in the Region. Opportunistic infections are common, while perinatal outcome is also poor with increased frequencies of abortions, ectopic pregnancies and other complications.

6. Malaria is more dangerous during pregnancy than outside pregnancy. Increasing drug resistance hampers its control. In highly endemic areas, malaria-related maternal deaths result mainly from the most important indirect effect of the disease which is severe anaemia. In areas of unstable malaria, death occurs from its direct effects especially cerebral malaria with coma. In both areas, the most common foetal risk is low birth weight.

Consequences of maternal mortality

7. Maternal death results in significant numbers of orphans, loss of natures and income, thus contributing to family and societal poverty. Death among children occurs early and frequently, and the education of the survivors is seriously hampered. Premature death among the widowers is not uncommon. The effect on the nation at large is yet to be fully determined.

SITUATION IN SUB-SAHARAN AFRICA

[1]By definition, maternal mortality ratio is the number of maternal deaths per 100 000 live births in a given period, usually a year. Maternal mortality rate refers to the number of maternal deaths per 100 000 women in the reproductive age group (15-49) per year. Generally, the term maternal mortality rate is used whereas what is really meant is maternal mortality ratio.

8. The estimates for maternal mortality ratio for the African regional blocs are: 1060 for East Africa, 1020 for West Africa, 950 for Central Africa, 340 for northern Africa and 260 for southern Africa compared to ratios of less than 30 in developed countries. In some countries in the Region, one woman in 12 dies of pregnancy-related complications compared to one in 4,000 or even one in 10,000 in developed countries. International efforts at reduction of maternal mortality date back to the launching of the Safe Motherhood Initiative in 1987. Apart from enhanced advocacy, they have not succeeded largely because the quality of life has worsened during this period. The GNP in Africa today is still lower than the GNP in Western Europe some 200 years ago, as reflected by the difference in the maternal mortality ratios.

Health conditions

9. Health conditions in the region are generally poor. Although only 10% of the world's population live in Africa, the Region has 90% of the world's malaria, 70% of the world's HIV/AIDS and 36% of the world's maternal deaths.

10. Most maternal deaths result not from lack of understanding of the nature of the medical and obstetric causes but because their treatment is inappropriate, delayed or non-existent. The delay is in deciding to seek help or in getting to the appropriate health care facility or in receiving the right treatment at the health care facility. Ideally, treatment ought to start early when maternal illness is mild, but because of the delay, treatment often starts when maternal illness is well advanced. Consequently, more mothers and their babies die, the survivors take longer to recover fully, while treatment costs increase, contributing further to the vicious circle of poverty and ill-health. Fatal abortions and perinatal mortalities are also rampant.

Economic and social factors, including illiteracy

11. Africa's progress is hampered by the inadequate development of the Region's vast natural resources. The depressed economy, poverty and prevailing low literacy levels coupled with the poor quality of the available education contribute significantly to the low quality of life. The same poor conditions affect the morale of health care workers which in turn leads to inefficiency in the discharge of their duties and deterioration in the quality of patient care.

Countries in difficult situations

12. Presently, many of the 46 countries in the Region come under this category because of civil strife, war or other emergencies including those created by natural disasters. In the worst affected areas, governance has collapsed, the economy and social institutions have been destroyed, public utilities have ceased to function, while the health system has broken down. A significant proportion of the labour force is lost through brain drain. There is massive internal and external population displacement, creating the need to set up refugee camps to house the displaced persons. Death within and outside the refugee camp is very common and chiefly results from injuries, malnutrition and communicable diseases. Pregnant women and children are the worst affected due to the absence of obstetric care and interruption of vaccination.

STRATEGIES FOR REDUCING MATERNAL MORTALITY

Fundamental principles

13. To make childbearing safer the following conditions need to be satisfied:

(a) Intersectoral collaboration to improve living conditions and enhance the population's acceptance of modern maternity care;

(b) Strengthening the health system to build the capacity to achieve total population coverage of professional antenatal care;

(c) Provision of appropriate mix of interventions to salvage unbooked emergencies[2], the most vulnerable group with the highest proportion of maternal deaths (Table 1);

(d) Promotion of the socio-economic, educational, cultural, infrastructural, political and health conditions that eliminate unbooked emergencies.

Table 1

RESULTS OF PREGNANCY AMONG THREE GROUPS OF WOMEN IN ZARIA, NIGERIA 1976-1979

RESULTS OF PREGNANCY	GROUPS OF WOMEN		
	Received antenatal care, remained healthy	**Received antenatal care, developed pregnancy complications**	**Unbooked Emergencies**
Number of maternal deaths	5	14	219
Maternal deaths per 100000 deliveries	44	372	2844
% Operative deliveries	6	25	30
Singleton babies: Perinatal deaths per 1000 deliveries.	22	74	247
Singleton babies: % Low birth weight.	6	13	24

Source: Harrison K.A. Childbearing, health and social priorities: A survey of 22 774 consecutive hospital births in Zaria, Northern Nigeria. *British Journal of Obstetrics and Gynaecology* 1985, 92, supplement 5, pages 92, 102.

Proper maternity care

14. Modern maternity care is based on scientific biomedical principles. The basic level of care, that is primary health care, offers antenatal care, normal delivery, and case referral services. The venue for normal deliveries - home or health care establishments - is a decision best taken locally to allow for custom, tradition and geographical location. The next tier, the first referral level of care, is hospital-based. The hospital should be adequately equipped with essential lifesaving facilities to cater for case referrals, handle complicated pregnancies and deliveries and take care of puerperal complications. A very small minority in need of highly specialized care and others requiring intensive care are managed at the tertiary level where specialist services are concentrated. Linkages between all three tiers are necessary. The bulk of care needed to reduce maternal mortality is provided at the primary and first referral levels. The personnel are midwives, nurses including community, public health and auxiliary nurses and general duty

[1]Unbooked emergencies are women who fail to receive proper antenatal care and arrive at the hospital in a critical condition, having developed life-threatening, pregnancy-related complications. Often illness is advanced to the point where in each woman affected, two or more complications are nearly always present instead of one. For example, obstructed labour is complicated by ruptured uterus, heavy bleeding, widespread infection and shock. In another, very severe anaemia and tuberculosis acquired during pregnancy are neglected until a puerperal complication such as retained placenta forces the woman to visit a health care establishment for the first time. Early report for antenatal care would have led to the detection and treatment of the two pre-existing conditions before the onset of labour.

doctors trained to perform basic obstetric functions such as operative deliveries. The midwives will be the crucial staff.

Role of Member States

Political commitment

15. Political and professional leadership initiates the process of reducing maternal mortality by raising awareness, setting the correct priorities, and wholeheartedly committing itself to their implementation. Fostering the spirit of public service is also essential.

Vision and policy guidance

16. A national policy on maternal health should set targets for maternal mortality reduction over a given period of time - 5, 10 or 25 years - and also formulate a social policy aimed at changing people's behaviour and promoting maternal health.

Poverty reduction

17. The Government should coordinate this activity using resources mobilized both locally and externally. To reduce the high maternal mortality rates the additional resources generated must be spent largely on public education and health care for the benefit of the entire population.

Health care systems

18. Health care systems used in operating maternity care share common features with other major disciplines while other features are unique to them. The former include the provision and maintenance of basic medical infrastructure, the supply of equipment and materials, and the provision and management of personnel. Capacity building is another important feature.

Pillars of maternity care

19. Features of the health care system that are unique to maternity care include the following:

(a) efficient antenatal care should take place at the first facility and community levels to ensure total population coverage;

(b) women who develop complications (including puerperal complications) should be transferred early to second level facilities (district hospitals and their equivalents) for life-saving treatment;

(c) efficient transport is a crucial element;

(d) specific guidelines should be developed to determine the quality of care and action taken towards improvement.

Quality of care and audit

20. The quality of care is determined by five processes: (i) assessment; (ii) identification of the problem; (iii) proposition of solutions; (iv) implementation of solutions; and (v) evaluation. These processes are followed in the annual perinatal audit, with which maternal health workers are quite familiar. The result in its simplest form could show just the figures for deliveries and deaths (see Table 2). By adding to the table staff strength, proportions of hospital deliveries, operative deliveries and unbooked emergencies one can assess the quality of coverage and utilization of maternity care. This format is suitable as an initial step in places with very high death rates. To reduce substandard care and achieve improvements in case management, confidential enquiry into maternal deaths is required. Publicizing the facts to the local community is absolutely vital.

Table 2

MATERNAL DEATHS AND BIRTHS IN KIGOMA REGIONAL HOSPITAL, TANZANIA. 1984 - 1991.

	1984	1985	1986	1987	1988	1989	1990	1991
Maternal death (number)	28	24	26	16	14	9	7	8
Total births	3070	3305	3072	3580	3845	4042	4170	4440

Source: Mbaruko G. in Starr A. The Safe Motherhood Action Agenda: Priorities for the next decade. Report on the Safe Motherhood Technical Consultation, 18-23 October 1997,. Colombo. Sri Lanka. InterAgency Group for Safe Motherhood. 1997. Box N. page 50.

Family planning services and child health

21. Family planning services could help prevent clandestine abortion and related deaths by advocating against unwanted pregnancy. In pediatric care, emphasis on protection against childhood infections through immunization and better nutrition, reduces stunted growth. This will enable the child to attain a good pelvic size during adolescence and thereby reduce cephalopelvic disproportion and obstructed labour.

Relevant health information and management systems

22. Health information can be obtained by compiling vital statistics and conducting population census. At the national level, it is important to collect accurate information on births and deaths and keep the records in a form that will permit periodic data analysis for purposes of assessing performance and planning improvements.

Financial considerations

23. Financial allocation to the health sector is generally inadequate, making expenditure on maternal services even more paltry. The budget for health care services provides for capital and recurrent expenditures. Capital expenditure concerns buildings, equipment, and initial training of staff. Recurrent expenditure covers personnel, drugs and supplies, logistics and maintenance costs. Recurrent cost is a common problem in the Region. It is created when recurrent cost coverage lasts for a limited initial period, and salaries represent 80 to 90% of the recurrent budgetary provision. When the initial period ends and recurrent costs are no longer met and the bulk of the available funding goes into salaries, the provision for other items becomes grossly inadequate. The result is that the available personnel do not have enough material to work with and, consequently, become frustrated.

24. To reduce maternal mortality in the short term, provision should be made to meet the costs of interventions (b) and (c) in paragraph 13. Studies are urgently needed to determine these costs and how they should be apportioned. Although the impression in international health circles is that 2-3 US dollars per person per year are adequate, 20 US dollars per person per year would be more realistic. It would still be necessary to determine the proportion of capital and recurrent costs in the total expenditure, as well as the proportion of the total cost to be provided by the government on the one hand, and donors on the other.

Strengthening community participation

25. Community participation could be strengthened by:

(a) identifying the strengths and weaknesses of the community set-up;

(b) identifying community problems and vision from bottom up in a participatory manner in the

belief that the community will greatly influence the choice of interventions;

(c) identifying people of influence within the community to act as focal points for possible change;

(d) Ensuring that information flows from bottom up and top down;

(e) developing an operative research agenda in a participatory manner and disseminating the results within the community in the same manner;

(f) developing information and education material for each community, with cross fertilization of ideas from one community to another;

(g) maintaining a data base of vital statistics.

Traditional Birth Attendants (TBAs)

26. Opinion is divided on the role of TBAs in maternal mortality reduction. Currently, there are many places in the Region where TBAs are the only health workers available to provide care during pregnancy, delivery and the post-natal period. Tradition still favours TBAs in some places. Hence, protagonists are of the view that it would be beneficial to retrain TBAs through programmes concentrating on basic antisepsis and asepsis, umbilical cord care, early detection of pregnancy and delivery complications and their referral, and the promotion of basic rules of hygiene. Such programmes have proved effective in reducing perinatal tetanus and late neonatal deaths, but not maternal deaths.

27. Antagonists insist that TBAs are handicapped in many ways. They are too old and therefore too set in their ways to adapt to modern health-care methods. They are mainly responsible for unbooked emergencies, among whom the death rate is very high. TBAs cannot treat any of the principal causes of maternal death. Being illiterate for the most part, TBAs cannot keep reliable records of their activities, and without such records audit becomes impossible. When literacy becomes widespread, TBAs disappear. It is therefore difficult to justify investing in both public education and TBAs. Where midwives conduct home deliveries and TBAs merely assist, modest gains in maternal mortality reduction have been achieved.

28. All things considered, there is a strong case to move progressively away from the use of TBAs.

Research issues

29. Capacity building for research is important and a research agenda will need to be worked out and properly resourced. Basic and fundamental research on how to improve maternal health should be encouraged by including relevant social and economic issues among research topics. The use of research findings should not be limited to their publication in learned journals. Where circumstances permit, the overriding need is to incorporate good research findings into policy for the improvement of maternal health.

Role of partners

30. Partners refer to bilateral and multilateral agencies, NGOs and many others. Their role is to complement government vision in ensuring implementation of agreed plans, mobilize resources and build local capacity. Donor coordination is important and requires strong leadership by government. The international community, even at the global level, is not putting in enough of the resources needed to reduce maternal deaths in the Region as a whole.

Role of WHO

31. WHO will continue to assist countries to implement the *Regional Strategy on Reproductive Health* for the accelerated reduction of maternal and perinatal mortality adopted by Member States in September 1997 at the 47th session of the Regional Committee (AF/RC47/R5) by:

(a) providing the necessary support at all stages of programme development, including needs assessment, priority setting, policy development, capacity building, resource mobilization, monitoring and evaluation;

(b) facilitating collaboration and networking among countries on best practices and innovative experiences;

(c) providing timely and effective technical support to national programmes in an integrated manner within the ongoing health sector reform;

(d) playing a catalytic role in the establishment or strengthening of existing coordination mechanisms among the key actors and partners[1].

CONCLUSION

32. To reduce maternal mortality, the overriding need is the avoidance of dislocated health care services attributable to weak policy planning and underfunding. It is important to establish a functioning maternal health care system nationwide. In the end, what matters most is that people have confidence in the health care facilities provided and use them properly.

[1] Source: Reproductive health, Strategy for the African Region, 1998-2007