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Women's Health and Safe Motherhood: a United Nations Report

United Nations. Department of Economics and Social Affairs; Population Division.

Complications related to pregnancy and childbirth are among the leading causes of mortality for women of reproductive age in many parts of the developing world. Estimates of maternal mortality issued in 1996 indicate that around 585,000 women die each year of pregnancy-related causes, 99 per cent of them in developing countries (table 1). The gap in maternal mortality ratios between more developed and less developed regions is wide: in 1990, there were more than 480 maternal deaths per 100,000 live births in the less developed regions compared with about 27 per 100,000 live births in the more developed regions. In parts of Africa, ratios can be as high as 1,000 maternal deaths per 100,000 live births.

Table 1: Revised 1990 estimates of maternal mortality by region

	Maternal mortality ratio (maternal deaths per 100,000 live births)	**Number of maternal deaths (thousands)**	**Lifetime risk of maternal death: 1 in**
World total …….	430	585	60
More developed regions ...	27	4	1800
Less developed regions ….	480	582	48
Africa ……..	870	235	16
Asia [a] ……..	390	323	65

Europe ……	36	3	1400
Latin America and the Caribbean …….	190	23	130
Northern America ……	11	0.5	3700
Oceania [b] …….	680	12	6

Source: World Health Organization/United Nations Children's Fund, Revised 1990 Estimates of Maternal Mortality (Geneva, 1996).

[a] Excluding Japan which is included in more developed regions.

[b] Excluding Australia and New Zealand which are included in more developed regions.

The maternal mortality ratio represents a measure of the obstetric risk, that is to say, the risk of pregnancy-related death associated with each: pregnancy. Where women have many pregnancies, the risk of pregnancy-related death over the course of a lifetime is compounded and the disparities between developed and developing regions is demonstrated even more dramatically. In Africa the lifetime risk is around 1 in 16, compared with 1 in 65 in Asia, 1 in 130 in Latin America and the Caribbean, and 1 in 1,400 in Europe (see table 1).

The causes of maternal deaths are similar around the world. Globally, about 80 per cent of such deaths have direct causes, that is to say, obstetric complications of the pregnant state (pregnancy, labor and the puerperium), arising from interventions, omissions, incorrect treatment or a chain of events resulting from any of these. The single most common direct cause of death - accounting for a quarter of all maternal deaths - is obstetric hemorrhage, generally occurring post-partum. Puerperal infections, often the consequence of poor hygiene during delivery or untreated reproductive tract infections (including those that are sexually transmitted), account for some 15 per cent of maternal mortality. Hypertensive disorders of pregnancy, particularly eclampsia (convulsions), result in some 13 per cent of all maternal deaths. About 7 per cent of maternal deaths occur as a result of prolonged or obstructed labor. Other direct causes of

maternal deaths include ectopic and molar pregnancies, embolisms and consequences of interventions such as anesthesia. About 20 per cent of maternal deaths have indirect causes, that is to say, they are the result of existing disease aggravated by the physiological effects of pregnancy. Of these indirect causes of death, anaemia is among the most significant.

A substantial proportion of maternal deaths; approximately 13 per cent, result from complications associated with unsafe abortion [1]. The Program of Action of the International Conference on Population and Development has recognized unsafe abortion to be a major public health issue and recommended that the recourse to abortion be reduced through expanded and improved family planning services. The Program of Action goes on to stress that in circumstances where abortion is not against the law, such abortion should be safe. In all cases, women should have access to quality services for the management of complications arising from abortion. At present, approximately 90 per cent of the countries of the world, representing 96 per cent of the world population, have policies that, under varying legal conditions, permit abortion to save a woman's life. However, a significant proportion of the abortions carried out are self-induced or otherwise unsafe, resulting in a large fraction of maternal deaths or permanent injury to the women involved.

More is known about the dimensions of maternal mortality than about the incidence and prevalence of pregnancy-related morbidity and disabilities. Over recent years, innovative research methodologies have been developed to attempt to quantify the burden of such morbidity. However, all such methods are hampered by the need for clinical and laboratory examinations in order to diagnose the nature and severity of the morbidity; in this field as in other areas of ill health, self-reporting is not a reliable guide to the true extent of the problem [2]. Moreover, at the global level, relatively few studies have been completed and for the vast majority of countries and areas, there is no reliable information on the incidence, prevalence or severity of the major pregnancy-related morbidity's and disabilities. The studies that have been carried out indicate a problem of considerable magnitude (Fortney and others, 1997).

In an effort to bring together the disparate types of information on pregnancy-related morbidity, WHO has made estimates of the dimensions of the problem on the basis of evidence about the incidence of major obstetric complications, caw-fatality rates, and clinical and epidemiological judgements as to the dimensions and nature of the main sequelae. This information is summarized in Table 2. The analysis is limited to the five main direct causes of maternal mortality and the major morbidities associated with each cause (hemorrhage,

puerperal infection, eclampsia, obstructed labor and unsafe abortion). Thus, the data presented here do not include morbidities arising from other direct causes of maternal death (such as ectopic pregnancy) or from indirect causes (such as cardiovascular diseases or diabetes) with the exception of anaemia which has been included as an outcome of severe hemorrhage.

Table 2: Incidence, case fatality, and cause-specific mortality rates due to major direct obstetric complications, 1990

	Incidence of major direct obstetric complications (as a percentage of live births)	**Case fatality (death as a percentage of complications)**	**Cause-specific mortality (per 100,000 live births)**
Hemorrhage …….	10	1.0	105
Puerperal sepsis …. …	8.5	0.8	65
Hypertensive disorders of pregnancy and eclampsia ..	5.0	1.1	55
Prolonged or obstructed labor ……..	5.0	0.6	35
Unsafe abortion …….	14.0	0.4	55
Other direct causes …..	2.5	1.2	30
Total direct causes ……	45	0.8	340
Indirect causes ……..	10	0.9	85
Total ……	55	0.8	430

Source: World Health Organization, Maternal and Newborn Health/Safe Motherhood Program (Geneva), unpublished estimates.

The immediate cause of pregnancy-related complications, ill health and death is inadequate care of the mother during pregnancy and delivery. More distal factors include women's subordinate status, poor health and inadequate nutrition. The age at which women begin or stop childbearing, the interval between births, the total number of lifetime pregnancies and the socio-cultural and economic circumstances in which women live all influence maternal morbidity and mortality. However, the single most important proximate determinant of maternal health and survival is the extent to which women have access to and utilize high-quality maternal health care services. This was explicitly recognized in the Program of Action of the International Conference on Population and Development which states: "All countries, with the support of all sections of the international community, must expand the provision of maternal health services in the context of primary health care.... All births should be assisted by trained persons, preferably nurses and midwives, but at least by trained birth attendants" (United Nations, 1995, chap. I, resolution 1, annex, para. 8.22).

WHO has defined a minimal package of essential maternal health care interventions that should be provided through maternal health services (World Health Organization, 1994). These interventions could, if applied comprehensively in all developing countries, help to ensure the attainment of the goals of the Program of Action. However, this will mean ensuring that all pregnant women have access to and use quality maternal health care services during pregnancy, childbirth and the post-partum period.

The person best able to assist normal deliveries and manage or refer complications is the person with midwifery skills who is part of and lives in the community that she or he serves. In many developing countries, there is a shortage of such well-trained health-care personnel and pregnancy-related care is often provided by less-qualified staff such as auxiliary nurses/midwives, village midwives, health visitors and trained traditional birth attendants (TBAs). These persons have at least some training and frequently provide the backbone of maternity services at the periphery. The outcome of pregnancy and labor can be improved by making use of their services, especially if they arc supervised by well-trained midwives. However, to fulfil the complete set of tasks required to manage normal pregnancies and births and identify and manage or refer complications, the education, training and skills of traditional birth attendants are insufficient. Their background may also signify that their practice is conditioned by strong cultural and traditional norms which may impede the effectiveness of their training. In many developing countries, large numbers of deliveries take place outside the formal health-care system altogether and women give birth alone or with the help of a relative or an untrained TBA.

Current global estimates by WHO show that, in the developing world, approximately 65 per cent of pregnant women receive at least some care during pregnancy; that 40 per cent of deliveries take place in health facilities; and that slightly more than half of all deliveries are assisted by skilled personnel. This contrasts sharply with developed countries where practically every woman receives regular rare during pregnancy, delivery and the post-partum period.

Post-partum care has been a relatively neglected aspect of maternity care. Estimates based on the limited data available indicate coverage of post-partum care to be below 30 per cent for developing countries, the global estimate being 35 per cent (World Health Organization, 1997c). This low level of care is disturbing, since timely interventions during the post-partum period can prevent deaths both of mothers and of newborn infants, and can reduce the incidence of long-term pregnancy related morbidities.

The most obvious impediment to use of maternal health care services is distance. In rural settings, where women have little access to resources to pay for transport and where roads are likely to be poor and vehicles rare, the physical barriers involved render the use even of routine prenatal care services complicated and use of services for complications and emergencies difficult.

As experience with implementing safe motherhood programs has grown, it has become increasingly clear that the traditionally used indicator of maternal health status - the maternal mortality ratio - is not useful for monitoring progress in the short term. Maternal mortality ratios are inappropriate for monitoring for several reasons. Few developing countries have the sophisticated and comprehensive systems of vital registration needed to accurately monitor levels of maternal mortality. Maternal deaths are relatively rare events even where maternal mortality is high; thus, all household survey techniques are subject to wide margins of error and are very expensive to implement. Furthermore, the simple measurement tools developed in recent years such as the sisterhood method are not appropriate for regular monitoring purposes because they provide data relating to a point situated some time in the past.

For these and other technical reasons, most safe motherhood programs now rely on process indicators for regular program monitoring. Such process indicators can include the number and distribution of essential obstetric care services, the proportion of deliveries attended by skilled health-care providers or performed in institutional settings, the rates of operative delivery and institutional case-fatality rates. In addition, countries are urged to make maximum use of

qualitative techniques such as in-depth maternal audits and case reviews, to evaluate the quality of care provided.

Notes

1. Unsafe abortion is defined as a procedure for terminating an unwanted pregnancy that is performed by persons lacking the necessary skills and/or in an environment lacking the minimal medical standards (based on World Health Organization, The Prevention and Management of Unsafe Abortion (Geneva, April 1992), report of a Technical Working Group (WHO/MSM/92.5).

2. Statement from a Task Force Meeting on Validation of Women's Reporting of Obstetric Complications in National Surveys, Mother Care Matters (Arlington, Virginia) vol. 6, No. 2 (March/April 1997), pp. 15-1 6.