

Maternal Health

MATERNAL MORTALITY—A NEGLECTED TRAGEDY

Where is the M in MCH?

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INTRODUCTION

THE World Health Organisation (WHO) estimates that 500 000 women in developing countries die every year from complications of pregnancy, abortion attempts, and childbirth.¹ 100–300 maternal deaths per 100 000 births are common in the Third World, and rates are much higher in rural areas.² In contrast developed countries have only 7–15 maternal deaths per 100 000 live births. Morbidity rates are rarely available, but it is certain that for every woman who dies many more have serious, often long-term, complications. Most of the deaths are preventable, yet little is being done to reduce this source of unnecessary suffering and death. Although in recent years much attention has been given to “maternal and child health” (MCH), scrutiny of MCH programmes shows that most of them will do little to reduce maternal mortality. It is difficult to understand why maternal mortality receives so little serious attention from health professionals, policy makers, and politicians. The world’s obstetricians are particularly neglectful of their duty in this regard. Instead of drawing attention to the problem and lobbying for major programmes and changes in priorities, most obstetricians concentrate on subspecialties that puts emphasis on high technology. By reviewing the issue here we hope to stimulate those concerned with international health and doctors and policy makers in developing countries to make reduction of maternal mortality one of their priorities.

TRENDS IN THIRD WORLD MEDICAL CARE

Medical services in most Third World countries usually have been patterned on Western systems of medical care.^{3–5} These systems concentrate on urban medical centres, curative treatment provided by highly trained personnel (principally physicians), and modern technology. Halfdan Mahler, WHO Director General, has called such centres “disease palaces”.⁶ They consume a large portion of a poor nation’s health budget, yet serve only a minute portion of its people. A large proportion of the population in developing countries live in rural areas; it ranges from 40% in parts of Latin America to 90% in parts of Africa and Asia. There are generally logistic or financial barriers to rural people using the urban hospitals effectively. Consequently, it can be argued that in many rural areas the delivery of services (sometimes modern in nature) by traditional practitioners and the over-the-counter availability of antibiotics and other medicines in village stores, along with changes in sanitation and nutrition, have done more to reduce death rates than has the formal medical system.³

Although the British had initiated several relevant approaches to rural health care in their colonies—namely, by training various types of health care personnel to deliver some of the care^{5,7}—when national independence was achieved, the

trend was to abandon such innovations and to build hospitals and medical centres in the capital cities, often with help from international donors.⁷ During the past 15 years, however, more attention has been paid to tailoring medical systems to the needs and resources of developing countries. A major expression of this reorientation is the increased interest in primary health care (PHC), which was adopted as a global strategy for health at the Alma Ata conference in 1978.⁸

PHC concentrates on preventive care and management of the infections and nutritional deficiencies among children so common and devastating in poor countries. Moreover, PHC relies on the use of available personnel, including auxiliary health workers, villagers, and traditional health practitioners, and the small force of highly trained personnel is reserved for complicated tasks. Such an approach is necessary since in many rural areas of the Third World there are about 100 000 people per physician, compared with 1000 or less in the West and in many capital cities of developing countries.⁹ This approach has even been adopted in developed countries, where various members of the health-care team have been given new responsibilities. There can be no doubt that the move away from Western medical models and towards PHC is a major improvement. However, there are some important health problems on which PHC (as currently defined) will have little impact. One of these is maternal mortality.

MATERNAL MORTALITY IN THE THIRD WORLD

Even in the United States today, official statistics on maternal mortality are thought to underestimate incidence by 20–30%.¹⁰ In developing countries the inaccuracies are much greater. For example, in 1978 the Egyptian government reported a national rate of 82 maternal deaths per 100 000 live-births.¹¹ In 1980–82, however, a well-designed community study in a wealthy area of Egypt found a maternal mortality rate of twice that—190 per 100 000 (ref 12 and Fortney JA, Rogers SM, personal communication). Perfect data, though, are not essential for formulating health policies and programmes. For example, according to WHO, maternal mortality rates in Africa range from 160 to 1100 deaths per 100 000 births.² Even if the true figure is near the lower end of this range, say 200–400, it is still unacceptably high. Another indication of the magnitude of the problem is that about 25% of all deaths among women aged 15–49 in developing countries are maternal deaths, compared with less than 1% in the United States.^{12–14}

WHERE IS THE M IN MCH?

In discussions of MCH it is commonly assumed that whatever is good for the child is good for the mother. However, not only are the causes of maternal death quite different from those of child death but so are the potential remedies.

The major causes of illness and death among young children in the Third World are diarrhoeal and other infectious diseases (such as measles and pneumonia) and malnutrition. To reduce mortality among infants and young children in developing countries, national and international agencies are promoting several relatively simple preventive measures, including oral rehydration, growth monitoring, breastfeeding, and immunisation. Other components of what has come to be recognised as the basic MCH package are food supplementation in cases of malnutrition, and family planning. Only one of these services can substantially reduce maternal mortality—and that is family planning.

FAMILY PLANNING AND MATERNAL HEALTH

Women who have many children, or who give birth at either extreme of their reproductive years, are more likely to die of complications than are other women.^{15,16} Births to older women are common in poor countries. In Ghana, for example, 20% of all births are to women aged 35 or older.¹⁷

Many people in developed countries still believe that all Third World women want large families or as "many children as God sends". However, the World Fertility Survey has shown that this is not the case. In many countries—such as Colombia, Dominican Republic, Egypt, Jamaica, Pakistan, and Sri Lanka—40–60% of all married women say that they do not want any more children.¹⁸ Even in SubSaharan Africa, where the proportion of women saying that they do not want any more children is smaller than elsewhere, that proportion is at least 15%. In all the countries surveyed the proportion of women not wanting any more children rises sharply with increasing maternal age and parity, as does risk of maternal death—a fortunate convergence between women's childbearing desires and a factor that could reduce risk of maternal death. Unfortunately, many of these women—from about 50% in Egypt and Indonesia to more than 75% in Pakistan and Lesotho—are not using effective contraceptives, for reasons that need to be explored and addressed. If all women who want to limit their families could do so, maternal mortality would be reduced substantially, by from 15% in SubSaharan Africa to 40% or more in Sri Lanka and Pakistan.¹⁸

OBSTETRIC CARE AND MATERNAL HEALTH

The major causes of maternal death in developing countries today are the same as they were in industrialised countries 50 years ago—haemorrhage, infection, toxæmia, and obstructed labour (though the ranking varies). Ten studies in developing countries showed that at least 75% of obstetric deaths were attributed to these causes.¹⁹

Another major cause of maternal mortality is illegal abortion. By its very nature, the contribution of illegal abortion to maternal deaths is always difficult to determine but, despite under-reporting, existing data show that the practice is widespread. For example, hospital studies in India and Papua New Guinea showed that more than one-tenth of all maternal deaths were due to abortion.¹⁹ Reports of women requiring hysterectomy as a result of self-induced abortion are commonplace. Even in SubSaharan Africa (where induced abortion is believed to be less common than anywhere else in the world) at least 3% of maternal deaths in hospital studies are due to abortion.²⁰ Furthermore, African clinicians report that they are seeing more and more young women with complications of illegal abortion.^{21,22} According to one study in 60 developing countries, an estimated 68 000 women died as a result of illegal abortion in 1977, and it seems that the problem is particularly acute in Latin America.²³ Illegal abortion harms women's health not only directly, through the high rates of infection and haemorrhage, but also indirectly because treatment of its complications requires resources such as hospital beds, staff time, plasma, and antibiotics, which are often in short supply.

The most important feature of deaths from such complications as haemorrhage and obstructed labour is that the majority cannot be averted by preventive measures, including screening during antenatal care. For example, although it is true that serious post-partum bleeding is commonest among women who have had four or more children, it is difficult to identify the individual in whom this

complication will occur. Furthermore, a sizeable proportion of serious complications occur among women with no recognisable risk factors. Nor are some aspects of the management of these complications possible without hospital facilities and highly trained personnel—for instance, blood transfusion, caesarean section (such as for complete placenta praevia or cephalopelvic disproportion), hysterectomy (such as for uterine rupture due to obstructed labour), or the treatment of eclampsia. Screening implies that there is a hospital or clinic to which women can be referred. In many developing countries, this is simply not the case, at least not within reasonable distance or at reasonable cost. What happens now is unnecessary loss of life. For example, a 1977 hospital study in Malawi showed that one-fifth of the maternal deaths in the hospital could have been averted if the women had been brought to the hospital after 12 h of unproductive labour instead of after several days.²⁴ Unfortunately, the solution is not just better transportation and referral. Many hospitals have chronic shortages of trained staff and essential supplies.

There is, of course, an important role to be played by preventive programmes. Health workers and traditional midwives can be taught how to prevent some obstetric complications and how to manage the less severe cases. All midwives can be trained in the use of aseptic procedures, and to avoid harmful drugs or procedures. All can be taught to recognise early signs of sepsis. Where referral for treatment is difficult, midwives and other health workers can be taught to follow "standing orders" (a checklist of indications and contraindications) for prescribing antibiotics intravenously if necessary. They can also be taught to prescribe vitamin supplements and antimalarial drugs to prevent anaemia, so that any haemorrhage becomes less life-threatening than it otherwise would be. To be able to cope with post-partum haemorrhage, midwives can be trained in bimanual uterine massage and, somewhat more controversially, to give an oxytocic agent. There is the fear, though, that such drugs may be given during labour to speed delivery, but such abuse can be minimised by proper teaching. Pre-eclampsia can be managed at village level by bed rest. Only rarely is cephalopelvic disproportion recognised antenatally in developing countries, but midwives can be taught to screen for this. It has been suggested that if cephalopelvic disproportion has been identified, prophylactic symphysiotomy will allow the woman to be delivered normally at home rather than by caesarean section. However, symphysiotomy itself has to be done in hospital and should be reserved only for those women for whom institutional delivery remains impossible.

We believe that what is needed is a major investment in a system of comprehensive maternity care. In 1971, Taylor and Berelson outlined such a model.²⁵ For rural areas they recommended small maternity centres serving a population of approximately 4000 with an estimated 160 births per year. Each of these would be staffed by an auxiliary midwife and a village assistant. This team would be responsible for antenatal care and education, family planning services, supervision for normal deliveries, and management of early complications of pregnancy as outlined above.

For every 100 000 people, Taylor and Berelson recommended a 20-bed rural MCH centre, staffed by a physician with obstetric experience and several nurse-midwives or other trained health professionals. These centres would be referral centres for high-risk women and women with serious complications. Some women could still die of haemorrhage or eclamptic convulsions before they reached the MCH centre, but a great many lives would be saved.

Unfortunately, at least in the near future, such systems are unlikely to be set up in many developing countries, partly because of lack of financial and human resources but largely because of lack of political will to face this problem. Creating this political will is the responsibility of the international obstetric community.

OUR PROPOSAL FOR IMPROVING MATERNAL HEALTH

At international meetings of obstetricians, where developing countries are well represented it is depressing to find that the emphasis is almost entirely on the high-technology subspecialties and that sessions on the social issues are usually attended by a small minority of physicians who are already knowledgeable about these problems.

Despite publications about the proportion of maternal deaths in hospitals due to haemorrhage, eclampsia, and so on, little thought seems to be given to the deaths from these causes that occur outside the medical-care system. The obstetric community should lead a review of the problem, in conjunction with government health departments and donor agency officials. Improvement of maternal care in developing countries is a long-term undertaking that will require national and international health planning to provide the necessary facilities, personnel, and supplies.

UNICEF has taken the lead in promoting effective primary health care for infants and young children; UNFPA in promoting family planning and population programmes for both demographic and maternal/child health purposes; and WHO in promoting overall primary health care. The World Bank has been a leader in describing the ways in which population growth hinders socioeconomic development. Some years ago the Bank established a department of population, health, and nutrition, to which it has committed sizeable resources, but programme and project developments have, in general, been difficult. In part this is because the Bank's programme is based on loans, an approach that has been successful for large capital projects such as road construction, industrial development, and dam building, but less so for social programmes such as population and health.

We suggest that the Bank makes maternity care one of its priorities. A programme for the prevention of maternal deaths could be built around the building of maternity centres in rural areas, the recruitment and training of staff for the centres, and the provision of supplies and drugs. The programme could be phased so that governments would take over these expenses in time. Loans for these purposes should be seen as an acceptable long-term investment in improving the health of women. In addition, because women receiving maternity care are an appropriate group to whom contraceptive information and services can be offered, our proposal provides an opportunity for the Bank to work toward its goal of reduced population growth rates. Leadership by the Bank, with its enormous resources, could, as an integral part of maternity care, considerably reduce maternal morbidity and mortality and perinatal mortality, and encourage contraceptive practice. In the socialist/communist countries of Cuba and the People's Republic of China, most women have ready access to maternity care, with effective referral systems for higher-level care. This has been accomplished through the allocation of the necessary resources. Such a system is not beyond the means of most countries, but it requires a dramatic shift in priorities.

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Occasional Survey

NATURAL HISTORY OF THE FETAL ALCOHOL SYNDROME: A 10-YEAR FOLLOW-UP OF ELEVEN PATIENTS

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Summary Of the eleven children who were the first to be diagnosed as having the fetal alcohol syndrome ten years ago, two are now dead, one is lost to follow-up, and the remaining eight continue to be growth deficient and dysmorphic. With menarche, which occurred with normal timing, the female patients developed increased body fat. The mothers were all severe chronic alcoholics. Four of the eight known survivors are of borderline intelligence and have needed some remedial teaching. The other four are severely handicapped intellectually and need complete supervision outside the home. The degree of growth deficiency and intellectual handicap was directly

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