

MATERNAL MORTALITY IN INDIA: CURRENT STATUS AND STRATEGIES FOR REDUCTION

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Magnitude of the Problem

No other health disparity between rich and poor nations is more striking than the difference in their maternal mortality rates. More than half million women in developing countries die each year during pregnancy, child birth or from related causes making at least 1 million children motherless. The risk of dying from pregnancy or childbirth in the poorest countries in the world is upto 200 times higher than in the developing countries(1). The maternal mortality rates (MMR) in parts of Asia and Africa can be as high as 1000 per 100,000 live births compared to 4 per 100,000 live births in Northern Europe. More mothers die in India in one week than they do in the whole of Europe in 12 months(1). However, this does not make any headline since the mothers die a few at a time in poor countries and in small villages.

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It is well known that getting accurate and reliable National data on Maternal Mortality from developing nations is not easy and there is a great deal of under reporting. In a recent multi-centric hospital based study conducted by the Indian Council of Medical Research (ICMR) the MMR was found to be 4.21/1000 live births(2).

Causes of Maternal Mortality

A. Medical

The direct obstetric causes constitute 50-98% of all maternal deaths in developing countries. Hemorrhage, infection and hypertensive disorders together make up at least half of all maternal deaths in all these countries. Ruptured uterus, hepatitis and anemia also rank quite high in the list in many studies(1). It is worth noting that more than half the maternal deaths due to sepsis occur amongst patients who undergo illegal induced abortion(3). An analysis of our data from a multicentric ICMR study(2) reveals a picture not much different from what has just been described, i.e., 58.5% of all maternal deaths were due to direct obstetric cause. Hemorrhage, infection and hypertensive disorders were responsible for 12.8, 17.3 and 12% of deaths, respectively. Ruptured uterus, hepatitis and anemia were responsible in 8.3, 15.8 and 7.5% of cases, respectively (*Table I*). What is saddening is the knowledge that most of these deaths are preventable, and what is even more disturbing is the fact that the maternal mortality rates in India have shown no tendency to decline during the last 15 years.

B. Reproductive Factors

Extremes of age, primi and grande multiparity, unplanned pregnancy and

TABLE I—Causes of Maternal Deaths

Cause	Percentage
Direct	
Sepsis	17.3
Hemorrhage	12.8
Eclampsia	12.0
Rupture uterus	8.3
Others	8.3
Indirect	
Hepatitis	15.8
Others	10.5
Anemia	7.5
Heart disease	6.0
Malignancies	1.5

related illegal abortions are well known causes of maternal mortality.

C. Health Care Delivery System

The 1985 WHO Inter-regional meeting at Geneva(1) highlighted the fact that 63-80% of maternal deaths due to direct obstetrical causes and 88-98% of all maternal deaths could probably have been avoided with proper handling even by standards realistic under the circumstances prevailing in that country at that time. This also holds true for India and goes to show that a lot can be achieved simply by energizing the system even in the form it exists. Lack of any antenatal and intranatal care, quality apart, non-operational referral and feed back system, lack of linkage between the peripheral and the district health personnel and inability of the Primary, Secondary and even Tertiary level centres to cope adequately with the problems of the referred mothers shows the sad state of our Maternal Health Care Delivery Systems which, in

TABLE II—National Programmes of Government of India

1. EPI and Universal Immunization Programme
2. Integrated Child Development Services
3. Vitamin A Deficiency Prophylaxis
4. Oral Rehydration Therapy
5. Treatment of Acute Respiratory Infections
6. All India Post Partum Programme
7. Maternal Anemia Prophylaxis Programme

turn, becomes responsible for many of the maternal deaths(4,5).

The problem is further compounded by what is rightly described as fragmentation of not just the care of the Mother and Child, but even of the care of the Mother herself. The National Health Programmes which are currently offering Maternal and Child Health (MCH) care are outlined in Table II. Each of these programmes are funded and administered separately and deals with one or more specific aspects of MCH care. Each in its zeal of pursuing their programmes refuse to offer other advice and the helpless mother feels even more frustrated. This, could be one of the reasons of non-utilization of services by the community.

D. Socio-economic Factors

The women continue to be a socially disadvantaged group. Their poor status in the society, directly or indirectly, affects their nutrition, reproductive behavior, utilization of health care facilities and vulnerability to harmful traditional practices. Unless mass illiteracy amongst women is eradicated and their status in the society improves, nothing may really change for maternal mortality.

Strategies for Reducing Maternal Mortality

The almost static Maternal Mortality Rate (MMR) for decades is an indication that our present policies and programmes are not adequate and either need to be abandoned, modified or reorganized. Surely, there is not much point in continuing with such programmes and funding them from one Five Year Plan period to the next which have clearly failed to achieve their objectives—neither the Maternal Mortality, the Perinatal Mortality nor the population growth rate has shown any perceptible change. One might be justified in calling it a cruel waste of Tax payers' money. Time has now come for bold new thinking and determination, if we sincerely wish to tackle the problem of high mortality and population growth. The following is a summary of appropriate strategies for reducing maternal mortality.

1. *High Priority to MCH Services and Integration of Various Vertical Programmes Related to MCH*

MCH needs to be given high priority with Family Welfare Service becoming a part of MCH. Perhaps, time has come for integration of many of the vertical programmes related to MCH into one Programme with provision of an Integrated Comprehensive package for the care of the mother and her child. Family Planning will thus become an integral part of the MCH care and might become acceptable and meaningful to the community.

2. *Attention to Intra-Partum Care*

It is unrealistic to hope to improve the Nation's health, reduce under five, infant or neonatal mortality without focussing

attention on the pregnant mother herself. The management at the time of delivery is one area which most scientists and health administrators shy away from. It has been estimated that this short journey through the birth canal is perhaps the most hazardous journey man ever undertakes and more deaths occur during this time than during the following 4 years of life. It is also the time during which majority of maternal deaths take place. As a matter of fact not just the maternal and perinatal but even the infant mortality is directly related to the duration of first and second stages of labor. It is, therefore, vital that our programmes for MCH are so designed that supervision during labor is given a high priority. We have been debating about antenatal and postnatal care of the pregnant mother but have never seriously considered her supervision during labor in any of our National Programmes. It is during labor that the mother usually bleeds, ruptures her uterus or kills or badly damages her child. This is not to underscore the need and importance of antenatal visits for care, screening and referral purposes, although studies such as the one done in Vietnam showed that 'very few adverse events were found at antenatal visits'. One is more likely to find adverse events during labor than at any time of pregnancy. Antenatal care and selection of High Risk Women are not an end in themselves. They are simply preparation for a safe delivery.

Until the time that our programmes take effect and every pregnant mother receives quality intrapartum care one could for the interim, try alternative strategies such as:

(a) *Community Based Community Huts*

Community based delivery huts situated

within easy reach of one or a cluster of closeby villages to serve as "Sulabh Prasav-alya" for the community to use appears a workable alternative. Besides providing a clean and safe place for delivery near a mother's own house, it will also provide a 'Labor Room' for every Traditional Birth Attendant (TBA) in the community.

(b) *Maternity Waiting Homes*

These could be considered at the site of the hospitals for high risk mothers as recommended by the WHO.

3. *Improvement of Quality of MCH Care at the Rural Community Level*

Besides maximizing registration of pregnant women for antenatal care, attention should also be paid towards improvement in the quality. The nature of care must change from mere listing of names of women to whom iron and folic acid tablets have been distributed or tetanus toxoid given to proper history taking, palpation, examination of blood pressure and fetal heart, screening for any risk factors, proper record keeping and referral.

4. *Improvement of the Quality of MCH Care at the PHC Level*

The PHC must gear up to provide emergency obstetric care for post partum hemorrhage, delayed or obstructed labor and abortions. The yardstick of evaluation or functioning of the PHC should be quality and quantity of MCH services on the whole and not just completion of Family Planning targets alone. They must also operationalize proper referral system.

5. *Provision of MCH and FP Services for Urban Community Through Post Partum Programme*

The All India Hospital Post Partum Programme, by and large, seems to have lost sight of its objectives and most units are functioning essentially as MTP centres. Since, by the turn of the century, 30% of India's population will be living in the cities where organized or structured MCH Care Delivery system exists, one wonders whether with suitable modifications and additions the massive nationwide infrastructure of Post Partum Programme could not be given a new role to become centres for Urban MCH and Family Welfare activities.

6. *Feasibility of a National Blood Transfusion Service Network*

Hemorrhage being a major killer, there is need to consider if a National Network of Blood Transfusion Service would be feasible proposition. PHC should be supplied 'O Negative' blood on the line of cold chain maintained for vaccines.

7. *Improving Transportation*

As the WHO meeting recommended(1), attention must be paid to the key role of transportation and an effort should be made to make all kinds of Government vehicles available in emergencies, rather than relying on scarce (or non existent) health department vehicles alone. Innovative emergency calling system for rural community should be developed for calling ANMs, etc. in time of need.

8. *Education for Young Girls*

A lot can be done through changes in

the content of formal education to young girls. One can, for example, provide a chapter on pregnancy, childbirth and newborn care in the Home Science books without using the word Sex Education. Our children are taught about reproduction of every other species except to which they themselves belong.

9. *Non-formal Education for the Masses Regarding Maternal and Child Health*

The full potential of the national television media has not yet been tapped adequately for imparting education to the masses regarding Maternal and Child Health. A properly designed and produced serial shown at peak viewing time will be far more effective than small repetitive advertisements and can convey simple messages such as need for antenatal care, supervision during delivery, need for seeking advice if labor goes beyond eight hours, etc. in a dramatic way.

10. *Medical Education*

Every Obstetrician is also a Gynecologist and the more senior he/she becomes in the profession the less obstetrics he/she practices. A prolapsed or a bulky uterus is more likely to get the Senior Obstetrician and Gynecologist's personal attention than a mother or her unborn or newborn child in a serious state. We must remind ourselves that more women die in their youthful years due to obstetric causes than they do due to Gynecological causes. Even the Indian Medical Council recommends two thirds of teaching time in the Department of Obstetrics and Gynecology to Obstetrics ensuring that the doctors actually acquire practical skills regarding management of pregnancy, labor and newborn. The Coun-

cil should see to it that these recommendations are translated into practice. Time may well have come to suggest that the speciality of Obstetrics ought to be practised by those who are prepared to devote their full time and energy to Obstetrics alone.

11. *Research*

A lot has to be learnt in relation to human reproductive behavior and information on this must be obtained from all corners of the country on the ongoing basis so as to monitor, evaluate and plan strategies. The Human Reproduction Research Centres created by the ICMR is a laudable step in this direction and more such centres should be opened in the country.

12. *Right to Safe Motherhood*

Every woman should have a "Right to Safe Motherhood" which ensures the woman of optimal care and safety during her pregnancy, child birth and puerperium and for her child. The cost for their insurance will have to be borne by the Nation. Young, orphaned children of this country, who lost their mothers because of the lack of such care will then have a right to demand compensation.

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NOTES AND NEWS

SECOND SUMMER COURSE IN BIOSTATISTICS

Announcement

Christian Medical College, Vellore, India-632 002, Department of Biostatistics along with Epidemiologic and Health Management Network of India (EPIDMAN), will be organizing the following intensive, application-oriented 3-week courses in Biostatistics, from 15th June to 3rd July 1992: (a) Demographic Analysis and their biostatistical applications; (b) Applied Multivariate techniques; (c) PC-based statistical Software in Health Care; (d) Introduction to Biostatistics and Hospital Statistics; and (e) Epidemiologic Methods and Analysis.

Fees: Ind. Rs. 1500 per course.

Last date for Registration: 30th April, 1992

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