OBSTETRICIAN AND MATERNAL AND CHILD HEALTH CARE IN INDIA*

by

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In most developing countries, mothers and children form over 50% of the population and are undoubtedly more vulnerable to environmental and adverse social influences. Their health and welfare are the direct concern of obstetricians and pediatricians.

The objectives of MCH services "begin with the immediate health problems of mothers and children and extend to health throughout life and to community health. The ultimate objective of MCH services is life long health" (W.H.O. Tech. Rep. No 428, 1969). The specific objectives of MCH, however, are (i) reduction of maternal, perinatal, infant and childhood mortality and morbidity; (ii) promotion of reproductive health and (iii) the physical, psychosocial development of the child and adolescent within the family (WHO Tech. Rep. No. 600, 1976). In these, one finds identity of objectives of obstetricians as well as of the MCH personnel.

What is the Present Status of MCH Care in our Country?

In most areas, MCH care forms a part of the general health services. Of late, there is a varying degree of emphasis on family planning along with delivery of the MCH. There is, however, compartmentation in providing this care, as mostly it is looked after by the preventive health services (staffed by health oriented officers supported by nurse midwives and to some extent by health visitors and public health nurses). In teaching and district hospitals, clinically oriented specialist obstetric and pediatric services are available. The former are mainly interested in epidemiological, environmental and preventive aspects of MCH. The latter are concerned primarily with the diagnostic and curative services. In practice, there is hardly any coordination between these two service wings. We have no sensitive yardsticks to measure the MCH care except the mortality and morbidity rates. The maternal mortality, perinatal, infant and childhood mortality rates are useful indices to have an idea of the MCH services of a country. Unfortunately we have no reliable national or even regional data on these.

A. Maternal Mortality: In developed countries of the world, the maternal mortality rates vary from 4 to 20 per 100,000 live births. In developing areas including India the maternal death rates are 20 to 30 times higher (Table I). It was estimated to be about 2,000 in 1946 and about 1,000 in 1959 compared to 417.6 for rural India (Reg. General India, 1972). Our institutional figures are shockingly high mainly because of the high incidence of unbooked emergency admissions, often in late labour (Table II). In some of our metropolitan cities

**Dr. Dossibai J. R. Dadabhoy Memorial Silver Jubilee Oration of the Bombay Obstetric & Gynaecological Society delivered at Bombay on 18-1-1978.*

TABLE I
Maternal Mortality Rates in Selected Countries (1972)
(Per 100,000 livebirths)

Country	MMR	Country	MMR
Denmark	4.0	Mexico	130.2
Sweden	7.1	Chile	178.5
England and Wales	15.4	Colombia	295.7
Canada	15.5	Sri Lanka	120.0
U.S.A.	18.7	Thailand	222.4
Singapore	21.2	India*	300.0
France	25.3	Bangladesh*	700.0
Japan	40.6		

* Estimates

TABLE II
Maternal Mortality in Teaching Hospitals of India
(Per 100,000 Births)

Authors	City	M.M.R.
1. Pandit et al (1975)	Bombay	170
2. Rao and Mallika (1976)	Madras	450
3. Devi et al (1975)	Hyderabad	530
4. Konar et al (1975)	Calcutta	550
5. Kotwani et al (1975)	New Delhi	680
6. Engineer (1972)	Lucknow	1250
7. Ponda et al (1975)	Berhampur	1550

where 85-90% of deliveries are supervised, these rates are low-92 for Madras (Subramaniam, 1975) and 93 for Bombay (Motashaw, 1975).

The main causes of maternal deaths in different countries and institutions are sepsis (including induced abortions), haemorrhages, toxaemias of pregnancy and accidents of labour (Table III). Table IV gives us an idea of the leading causes of maternal death in rural India, where most of the deliveries take place. The situation in our cities is not far different (Table V). Inspite of the M.T.P. Act, illegal abortions are still common. Among the associated causes, infective hepatitis and anemia complicating pregnancy continue to be the major killers (Rao and Mallika, 1976).

TABLE III
Maternal Mortality by Causes in Certain Countries (1972)

Country	Rates	Total Number	Toxaemia	Malnutrition	Leg. ab.	Illeg. ab.	Sepsis	Others
England & Wales	15.6	112	21	11	10	16	15	39
Japan	40.6	827	273	217	8	16	42	271
Mexico	130.2	3054	371	670	2	176	236	1599
India*	300.0							

* Estimates

TABLE IV
Maternal Deaths per 100,000 Livebirths by causes in Rural India (1972)

Causes	Rates
1. Haemorrhages (APH 60.2; PPH 36.1)	96.3
2. Abortion	56.2
5. Toxaemia of pregnancy	56.2
4. Pregnancy with anaemia	50.2
3. Peurperal Sepsis	46.2
6. Malpresentations	28.1
7. Others	84.3
All Causes	417.6

(Source: Model Reg. Survey of causes of Death, 1972, Reg. General India)

ventable in 50-85% of cases. In our own study, it was 60% (Rao and Mallika, 1976). The preventable factors are determined after studying each death carefully, following a confidential enquiry and discussions at maternal audit meetings.

B. Perinatal and Infant Mortality: The perinatal mortality (PNM) rates are extremely important to obstetricians, pediatricians and community physicians, as these indicate the reproductive wastage which is mostly avoidable.

The PNM rates for most of the developed countries are less than 25 per 1000 births whereas they exceed 35 per 1000

TABLE V
Maternal Mortality by Causes at Teaching Centres in India
(Figures in per cent)

Causes	Bombay (1975)	Madras (1975)	Delhi (1970)	Madurai (1972)
Sepsis	25.8	38.0	28.0	19.4
Haemorrhage	16.0	27.0	24.0	27.0
Rupture uterus	?	16.5	12.0	30.7
Toxaemia	12.8	9.0	12.0	15.6
Others	45.4	9.5	24.0	7.3
Total	100.0	100.0	100.0	100.0

Maternal mortality increases after the third delivery. In U. K., the sharp decline in births in higher age and parity groups have contributed to a reduction of maternal deaths. In our country, over 20% of all births occur in high parity groups (para 5 and over) and about 8-10% in the elderly multis (35 years and over). These women face grave risks in going through repeated unwanted pregnancies. In lower social classes, urban slums and rural areas (where communication and transportations are primitive), the death rates are higher. The most important single factor contributing to maternal death is lack of antenatal care. Just as with accidents, these deaths are largely pre-

in developing areas (Table VI). The higher birth rates are often associated with higher perinatal and infant mortality rates due to various social and enviromental factors. Just as with maternal deaths, the PNM rates in our hospitals are 3-4 times higher than in well organised institutions (Table VII). Important causes are anoxia, birth-trauma, infections and congenital abnormalities. The low birth weight babies form nearly 70% of perinatal deaths. Compared to developed areas, where low-birth weight babies form 3-6% of all new borns in the developing countries, it is as high as 20-25%, perhaps due to higher incidence of toxaemia, anemias and malnutrition etc.

TABLE VI

Perinatal and Infant Mortality Rates in Selected Countries (1972)

Country	P.N.M.	I.M.R.	Birth Rate
Sweden	14.4	10.8	13.8
Japan	19.0	11.7	19.3
Canada	19.2	17.1	15.9
Singapore	20.7	19.3	23.0
England	22.0	17.2	14.8
U.S.A.	27.8	18.5	15.6
Malaysia	37.2	37.9	33.3
Sri Lanka	?	45.1	29.5
India	?	122.0	36.0

TABLE VII

Perinatal Mortality Rates in Teaching Hospitals, India

Author(s)		City	PNM Rates
Menon	(1971)	Madras	78.1
Rao	(1976)	Madras	77.4
Gupta et al	(1975)	Chandigarh	78.0
Duttabanik et al	(1975)	New Delhi	75.0
Misra et al	(1973)	Lucknow	85.5
Karan et al	(1972)	Hyderabad	87.0
Kasturilal	(1974)	Gulbarga	121.8

Out of about 125 million infants born in 1975 in this world, 12 millions died before their first birth day. In this country, the infant mortality rate (IMR) continues to be high and we still lose over 2 million infants annually. The decline has been gradual from 192 in 1951 to 122 per 1000 in 1971, It is still as high as 131 for rural areas compared to 81 in urban sectors (Reg. General India, 1972). The IMR is 10-20 per 1000 where MCH services are well organised or availed of. In these countries, the neonatal and postneonatal death rates are almost equal. On the other hand, in developing countries, the IMR is 10-20 times higher. About 60-80% of the infants die in the postneonatal period, mainly as a result of malnutrition and infections. In a study involving 10 countries in America, when 3500 deaths in children under 5 years were analysed, it was found that 78.6% of these were under 1 year. Of the 21.4%, who died in the preschool age group, nutritional deficiencies, infections and diarrhoeas were the leading causes (Puffer and Serrano, 1973). In our country, there is a need for a similar study as the preschool child mortality is still considerable.

The maternal and perinatal mortality rates are undoubtedly influenced by the quality of prenatal care and the number of antenatal visits. In Sweden and Denmark, the average number of antenatal attendance per case is 13 and 8 respectively. In our institutions hardly 25% of the deliveries are booked in the sense that they have had atleast 3 visits antenatally. As stated earlier, the mortality rates could be markedly reduced if the deliveries are attended by trained personnel and are conducted in the hospital. In developed countries, almost cent per cent

of births are supervised by trained staff and the deliveries are mostly institutional. In all developing countries, the skilled care is often not available and most confinements are domiciliary. In rural India, a survey done in 1969 showed that 26.5% of births were attended in institutions by trained staff, 47% by untrained attendants and remaining 26.4% by none or her relatives (Chatterjee, 1976). This gives us an idea of the seriousness of the problem of maternity care in our country. It is impossible at present to provide institutional care for all; but it definitely is possible to provide skilled care and supervision during all deliveries by increasing the number of ANMs, proper screening of high risk cases and greater mobility of the back up facilities. Through ICDS (Integrated Child Development Services) and other schemes, attempts are made to provide better protection and support to mothers and children, but the problem is really colossal. It has not been possible at present to achieve even 50% of the modest targets set for the immunisation of mothers and children.

C. *Family Planning*: In family planning, which forms an important part of reproductive health and MCH, the declared policy of the Government of India is to reduce the birth rate to 30 per 1000 in 1979 and 25 per 1000 by 1984. For this, they plan to provide all contraceptive facilities (including voluntary sterilisations) free at all major and district hospitals, besides 2000 primary health centres. The targets for 1974-79 are 18 million sterilisations, 5.9 million IUDs and 8.8 million conventional contraceptives. Of these, a little over 50% of the targets were achieved under sterilisation before the programme came under fire for alleged coercion and misuse in certain isolated places. Unfortunately, the family welfare programme has almost come to a halt now. 'It needs a herculean effort to restore the previous tempo and bring about the desired levels of population control which is extremely important for the progress of this country. Even at the height of the family planning drive, hardly 13.2% of eligible couples in India (ranging from 23.7% in the Punjab, through 15-20% in Maharashtra, Tamil Nadu and Kerala to 6.7% in U.P., Bihar Rajasthan and Assam) were covered. Unless atleast 45-50% of eligible couples follow different methods of contraception and effective temporary methods are popularised, voluntary sterilisations and abortion programmes only will not help us to achieve our goal. Abortion was legalised 6 years ago, mainly to protect maternal health. But facilities available are restricted to major cities and towns. The message has not reached the rural areas. Illegal abortions are still widely prevalent and consequently, several hundred women die annually and thousands suffer from residual pelvic infections.

D. Regarding child development and adolescence, the attention given by pediatricians and obstetricians is grossly inadequate. We have little data to monitor their growth and health—mental or physical. Adolescent physiology and psychology have not been properly studied by us. There is a need for careful observations on the morphologic, endocrinologic and psychological variations relating to this vital period of life. The understanding of these problems is extremely important in the management of the adolescent.

What is the Role of the Obstetrician in Improving this Situation?

1. Firstly, our outlook should be broadened. We should take greater interest in social and environmental aspects of human reproduction and perhaps even

change the name of our speciality to community reproductive medicine. We should also come out of the confines of our wards and clinics and work in close collaboration with the social and preventive medicine department of our college and MCH officers of the municipality. Similarly such co-operation is needed at district, state and central levels in delivering the MCH care.

2. There should be an increased emphasis on health education (with handouts, person to person communication, radio and television) for the target population of school children and the adolescent, the women in reproductive age groups and the general public. (Here one has to remember that our general literacy rate is 33.8% and for females, it is only 21.5%). The content of health education should cover family life education (sex education, prenatal, postnatal care and family planning), nutrition, immunisation and mothercraft. Education should be imparted at each MCH contact by all categories of health and allied personnel.

3. Delivery of the MCH Care: It should not be separated but form a part of the primary health care. It should be flexible depending on the local needs or problems—to prevent common diseases of mothers and children and to provide good maternity and family planning care. The antenatal care for all is possible but intranatal care should be mainly looked after by midwives and trained Dais (for this, we need atleast 1 auxiliary nurse midwife for 3,000 population). Postnatal, family planning and immunisation work is done by midwives, supported by lady health visitors and supervised by public health nurses. Community health workers and locally available subprofessionals must be enlisted for the success of this programme. The "risk-approach" for fuller coverage of women at risk (medically and socially) is extremely important if the reproductive mortality rates have to be reduced. There should be proper co-ordination of the MCH care at primary, intermediate and central levels.

4. The major causes of maternal, perinatal and infant mortalities should be identified and corrected. This requires a massive co-operative effort of the Indian Council of Medical Research and Federation of Obstetric and Gynaecological Societies of India to collect and analyse the data. If country-wide study is not possible, sample surveys to cover all regions should be carried out.

5. Family Welfare Programme on a voluntary basis to serve the well-informed public with targets, active governmental and community supports and disincentives, whenever necessary, should be implemented as in Singapore.

What are our Resources (In Money, Manpower and Beds) at Present as far as The Health Care is Concerned? In 1976-77, the Government of India spent hardly 5% of its total plan outlay of Rs. 78.5 billions on health, family planning and water supply and sanitation. This works out at about Rs. 6 per capita per annum. The combined central and state expenditure on health adds upto Rs. 7.7 per head (and Rs. 10.50 in Maharashtra). Out of these, only Rs. 3 per head per year were spent on health and family planning. This figure obviously is too small. We have more doctors than nurses or midwives in our country (Sengupta, 1976). Most of them are concentrated in the cities to the utter neglect of rural areas. The health care hardly reaches few kilometres away from the primary health centres. The subcentres and areas beyond 5 kilometres from PHC forms a "twilight zone" as far as health including MCH is concerned.

Only when the local staff is recruited and assistance of the village level health workers, teachers or community leaders are enlisted, will it be possible to extend the necessary aid to these areas. We do not have enough midwives now to cater to our needs.

Is Our Present System of Training Satisfactory to Deliver The MCH Care? Far from it. We are producing so called basic physicians training them with outmoded objectives in medical education in water-tight compartments of our medical colleges with very little exposure to health and MCH problems commonly seen in the community in rural areas or urban slums. The teaching of human reproduction in our institution should be multidisciplinary in its approach. Some efforts are being made by the WHO/UNICEF to train our interns in integrated family health care in the field. But this is not enough. Both postgraduate and undergraduate students and paramedicals should be exposed to integrated method of delivering the MCH care in the field.

Just as in training, research too should be oriented towards promotion of maternal and child health; reduction of maternal, perinatal and infant mortalities; the prevention and management of low birthweight babies; effective and acceptable antifertility methods; the health problems of the adolescent; MCH care of single and working women; innovative approaches both in training and delivery of MCH care; reasons for excessive demand in some areas and non-acceptance of available MCH facilities in some others; the customs, belief relating to human reproduction etc. These are some of the topics in which more information and feed back are needed.

The vicious cycle of uncontrolled fertility with high reproductive mortality and consequent low family planning acceptance should be broken. Steps should be taken to persuade the people to adopt small family norms by spacing (and limitation) of children. By intensive and sustained immunisation campaigns and nutritional supports, infections should be prevented. The reproductive and child mortality could be markedly reduced by good health education and supportive health manpower to cover high risk mothers and children.

We hope that in delivering the MCH care in the future there will be an integrated approach in training and service so as to strengthen the health services at all levels and greater attention devoted by research teams to social problems relating to reproductive medicine and adolescent care. We should aim at lowering the maternal mortality to less than 40 per 100,000 livebirths and the perinatal and infant mortality rates to less than 30 per 1000 in a decade.

To achieve these goals, we need the cooperation of well informed and educated public and the devoted service of family physicians and health workers including obstetricians and pediatricians who should identify themselves as part of the health team whose main aim is to promote family health and thereby the health of the community and of the nation. This is perhaps a far cry from our present practice of isolating ourselves to our hospital wards, thinking of and treating only individual disease conditions or 'interesting' cases! But we could with confidence, face these formidable challenges if the Federation of Obstetric and Gynaecological Societies of India could guide us in the right direction to serve our nation better.

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