PERINATAL MORTALITY AND MORBIDITY IN DEVELOPING COUNTRIES A GLOBAL VIEW

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Med Trop 2003 ; **63** : 366-368

MORTALITE ET MORBIDITE PERINATALES DANS LES PAYS EN DEVELOPPEMENT: UNE VISION GLOBALE

RESUME • Le calcul du taux global de mortalité périnatale fait apparaître que ,sur les 132 millions de naissances par an dans le monde, il y a entre 6 et 7 millions de décès périnatals. Les pays en développement représentent 90% de ces naissances, mais 98% de la mortalité périnatale. L'analyse des statistiques démontre que les taux moyens sont comparables aux taux qui étaient observés en Angleterre pendant les années 1930. Les causes de mortalité périnatale enregistrées sont les mêmes dans les pays moins développés et les facteurs communs sont le jeune âge des mères, la mauvaise santé maternelle et surtout le manque de services adéquats de qualité. Bien que les gestes pouvant sauver la vie à la plupart de ces enfants soient parfaitement connus depuis plusieurs décennies, un tiers des mères n'a actuellement toujours pas accès aux services médicaux pendant la grossesse et la moitié d'entre elles n'a pas accès aux services médicaux pendant l'accouchement. Il y a des disparités énormes non seulement entre les pays mais aussi à l'intérieur d'un pays. Le meilleur équilibre entre les ressources disponibles et les besoins des mères et des enfants reste à trouver. La formation d'agents de santé qualifiés fournirait un atout majeur et constituerait le meilleur investissement. En effet, le coût d'une telle formation est modéré et l'impact serait grand sur la santé des mères et des enfants. Ainsi, il serait possible d'améliorer la santé de la génération suivante à moindre coût.

MOTS-CLES • Mortalité périnatale - Pays en développement - Agents de santé.

ABSTRACT • Global perinatal mortality figures show that of the 132 million births per year, there are between 6 and 7 million perinatal deaths. While 90 % of these births are in less developed countries, perinatal deaths take 98% of the global share. These statistics show on average the rates as they were in England during the 1930s. The most common recorded medical causes of perinatal deaths are also similar in the less developed countries, and the common denominators are early childbearing, poor maternal health and above all, the lack of appropriate and quality services. Although life-saving practices for most infants have been known for decades, currently a third of mothers still have no access to services during pregnancy, and almost half do not have access to services for childbirth. There are enormous variations both among and within countries. It takes innovation to find the best fit between the needs of women and infants and resources. A health worker with excellent knowledge and skills is the key resource and the best investment. The cost is moderate, and the investment pays a high dividend in improved health of both the mother and her baby, and better health for the next generation at lower cost.

KEY WORDS • Perinatal mortality - Developing world - Health worker.

There were 132 million births in year 2000, 90 % of them took place in developing countries where more than 80% people live. Despite a progressive increase in use of family planning around the world, the total number of births is still increasing. Today's mothers were born at the times when fertility rates were high.

MAGNITUDE AND CAUSES OF PERINATAL DEATHS

There are between 7 and 8 million perinatal deaths, but we do not know exactly how many are early neonatal deaths and how many are stillbirths (1). The highest perinatal mortality rates are in Africa, followed by Asia (Fig. 1). One million infants die in the late neonatal period (second to fourth week of life). The figures could be higher ; in many cases, births and deaths of infants who die soon after birth are not recorded, and therefore not counted. Some 18 million or 15 % of infants in less developed countries are born with birth weight less than 2500 grams (2).

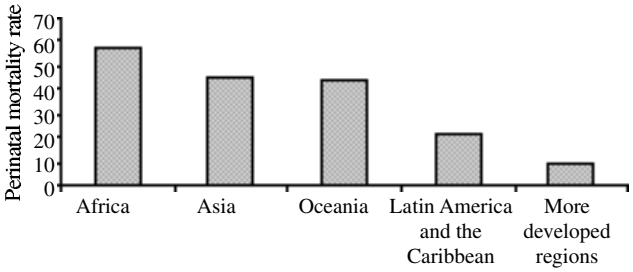

Figure 1 - Perinatal mortality rate by geographical region, around 2000.

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Statistics of developing countries show on average that the level of pregnancy outcomes is the same as it was in the 1930's in England and the causes are also similar to those in the era of no-antibiotic and no-oxytocics (3).

Most commonly recorded medical causes of perinatal deaths are : unexplained intrauterine death in pregnancy, intrauterine death due to maternal complication, intrapartum death due to obstetrical complications or inadequate management of birth, birth asphyxia, preterm birth, sepsis and congenital anomalies. In late neonatal period deaths are mostly due to late complications of preterm birth and acquired infections. Maternal endemic diseases (syphilis, malaria, HIV) and neonatal tetanus add to the death toll where endemic or appropriate services are not available.

It is not only deaths that count, disabilities, effect on adulthood disease, practices (breastfeeding) are determined in this important and vulnerable period. Conditions related to pregnancy and birth, such as preterm birth, brain damage during delivery, and infections can cause death but can adversely impact physical and mental development of survivors. Their consequences are profound and long lasting for the mother, the baby, the family and the community. In addition, fetal growth may be linked to adult health : infants born too small may have more problems later in life than normally grown newborns. If the mother dies, her children die more frequently until age of five, girls more than boys.

Although exact medical causes of perinatal deaths in countries may differ, the common denominator to those deaths is the lack of appropriate and quality services, confounded by poverty (4).

EFFECTIVE INTERVENTIONS BEFORE AND DURING PREGNANCY

Health of this newly born child has been determined by the environment in which his mother grew up, her nutrition and her age when the baby was conceived. His health was and will be determined by the social status accorded to childbearing and nursing, and practices and laws designed to protect women and babies during potentially vulnerable period of pregnancy and childbirth. His health is also determined by the care that was and will be received as well as tradition and customs surrounding childbearing. A good start in life begins before birth.

Thus, an important step in preventing newborns deaths, morbidity, disabilities and effects on adult health is to ensure that all mothers and babies go through pregnancy and childbirth safely.

Preventive care begins before pregnancy. While social factors do have important influence on health, care comes to have more and more impact. The earlier preventive care is instituted, the more effective it is in reducing the hazards of childbearing. Most of the preventive efforts, often of non-medical nature - should be applied before conception : measures such as promotion of good growth and guidance on healthy behaviours (avoidance of smoking and alcohol abuse). Preventive measures against those infections that are known to be a particular threat for the mother and child (Sexually-transmitted-diseases, HIV) are best applied before pregnancy.

While social change to delay marriage to prevent very young women from becoming mothers may take longer, but family planning counseling and services to help women to delay childbearing until social and biological maturity, or to limit fertility to desired number of children can make a change tomorrow.

Although pregnancy is not a disease, it is a vulnerable period for the mother and the baby. Not all the factors that affect intrauterine growth and health of the baby are yet known, however, we know that maternal diseases, nutritional deficiencies and pregnancy complications hamper baby's health seriously.

It has been proven that women and their infants benefit from antenatal care if complications such as pre-eclampsia are recognised early and treated; if diseases such as syphilis, malaria are prevented and treated timely, and if the mother is protected against tetanus. Although those and other preventive measures should be little more than a second line of defence, in pregnancy, in many settings this is the only opportunity to ensure them.

Pregnancy is a time to prepare for childbirth, safe for the mother and her infant. A birth plan helps mothers-to-be and families to choose a skilled attendant, the safest place for childbirth depending on the risk level of pregnancy, to learn danger signs, to know when and where to seek care, and to organise ways and means to get there on time, for the mother and the baby. The poorer the woman and her baby, more problems they face, more important such care is for their health.

CARE AT BIRTH

Although most mothers and babies go through childbirth uneventfully, unpredictable and life-threatening complications can arise at any time during birth. They require immediate action. Hence every woman and her baby should be helped during childbirth by a skilled health professional. This health worker has many different tasks to ensure safe birth, avoid complications or identify them early, not only for the mother, but also the baby. She needs to know how to manage them in a timely and effective manner and when to refer the woman or the baby to a functioning hospital. Skilled attendant is also in the best position to resuscitate when a newborn is having difficulty to initiate breathing or to continue prevention of mother-to-child transmission of HIV or organize care for a baby born preterm. First hours of life also require skilled attendance - no doubt that mother is the best caregiver for her baby : her body ensures best warmth, early exclusive breastfeeding the best food; not separated from the mother the baby is also best protected from the infections. Nevertheless, a skilled attendant still plays an important role : she must be vigilant during this critical period of baby's adaptation to recognize problems in newly born infants, which are frequently subtle, and to provide immediately appropriate care and refer the baby if necessary.

Danger signs in small newly born infants are even more subtle and it takes knowledge and experience for quick and correct decision. Even where incidence of preterm birth has been reduced by improvements in social and economic conditions, the clinical problem does not disappear. While initial complications require medical treatment, best provided withtin specialized services, kangaroo mother care is the best way of caring for small infants without serious medical problems. It is a natural extension of intrauterine life that was interrupted too early (5-7).

If we know what works, why is the burden of neonatal ill-health persisting? The fact is that many women and babies lack appropriate maternity care.

Millions of women or 35% mothers do not have access to good quality health services during pregnancy despite many years of antenatal care promotion. Almost half of babies are born without a skilled attendant being present. Variations between and within countries are big. Three quarters of women and infants receive no postnatal care. In contrast, the use of maternal health services is almost universal in developed countries (8).

Even when good health services are available, social, economic and cultural limitations can prevent women from using them. If socioeconomic changes may take long what can we do today?

INVESTING IN SERVICES THAT PROTECT BABIES

Good quality maternity services will save lives of newborns. Many examples show that women use services for themselves and their newborns if they find them useful and good. The question of acceptability is relevant to all levels of care. Only services that are staffed, equipped and supplied for routine care as wells as allow management of complications, and are supported by a functional referral system can provide good care. Services organized and financed at local-authority level and with strong community participation, and linked through traditional providers attract mothers.

To find the best fit between the needs of women and infants and the resources evolves innovation and experiment. We have learned that the centers have to be of a size to receive enough pregnant women and newborns and see enough rare complications to maintain the experience and skills of the staff. On the other hand, they need to be spread evenly throughout the country to reduce regional inequalities.

The cost of organizing such services is moderate but the investment pays off. Such care for mothers and newborns does not need to be expensive - it may cost from US$2.60 per capita in a low-income setting to up to US$5.60 per capita in a middle income scenario. The skilled health worker is the main resource and cost in providing maternity care. Moderate investment pays a high dividend in improved health of both, the mother and her baby, low health care costs later in infancy, childhood and adolescence. It means lower social cost, improved performance at school, better aptitude at work and better health of the next generation.

The health of the mother and the newborn are inseparable. Good start in life begins before birth. Pregnancy, childbirth and first hours after birth are the most vulnerable periods and care is needed. But babies need also tenderness to blossom. Services, practices and laws must be designed to protect them and to allow them to blossom. The cost is moderate but it pays off. Some poor countries may well have lessons for all, who seek economical ways to improve the health of children ■

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