

delivered safely. Perinatal death audits that evaluate both cause of death and potential for preventability are crucial to reduce preventable mortality. Finally, availability of sufficient staff and appropriate equipment to handle obstetric emergencies is crucial. Most important is the recognition that in order to reduce neonatal death and disability from intrapartum asphyxia, prevention and treatment of obstetrical conditions in the mother is better than resuscitation of an already asphyxiated infant. This paper is important because it focuses on the intrapartum factors related to perinatal asphyxia, and starts to address preventable causes [6]. Further work should evaluate methods to reduce perinatal asphyxia of obstetric origin.

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Maternal Risk Factors Affecting Perinatal Mortality

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The term "perinatal mortality" includes deaths that are attributed to obstetric events, such as stillbirths and neonatal deaths in the first week of life. Perinatal mortality is an important indicator of maternal care, health and nutrition; it also reflects the quality of obstetric and pediatric care available. The vast majority of global perinatal deaths occur in the low- and middle-income countries. The perinatal mortality and stillbirth rates for India according to National Family Health Survey-3 (2005-06) are 48.5 per 1000 live births and 19.2 per 1000 pregnancies, respectively [1].

Stillbirths include intrauterine fetal deaths which occur prior to the onset of labor (ante-partum stillbirths) as well as those that occur during labor (intrapartum stillbirths). Ante-partum stillbirths are caused by maternal risk factors like hypertensive disorders, placental dysfunction, hemorrhage, and fetal or placental abnormalities, which

predispose the fetus to intra-uterine hypoxia and/or infection. In a recent meta-analysis, several interventions showed clear evidence of impact of interventions such as heparin therapy for certain maternal indications, syphilis screening and treatment, and insecticide-treated bed nets for prevention of malaria, on reduction of stillbirths [2]. Other interventions, such as management of obstetric intrahepatic cholestasis, maternal anti-helminthic treatment, and intermittent preventive treatment of malaria, showed promising impact on stillbirth rates but require confirmatory studies [2]. As of now interventions like antibiotics in prolonged premature rupture of membranes, anti-oxidant supplementation for deficient mothers, calcium supplementation to prevent PIH and pre-eclampsia in deficient populations, periodontal care for mothers as well cessation of smoking by pregnant females and reduction of exposure to smokeless tobacco have no definite impact on reduction of stillbirth or perinatal mortality rates. Protein-energy malnutrition and lack of

peri-conceptional folic acid, have yet not shown significant associated reductions in stillbirth rates [2].

In this issue of *Indian Pediatrics*, a study from a teaching hospital in North India evaluated the clinical, behavioral and health-care associated risk factors of intrapartum perinatal mortality (IPPM) [3]. They reported that a large proportion of women deliver at home or reach health facilities late during labor. In addition, limited round-the-clock coverage, lack of trained health care personnel and non-adherence to standard management protocols contributed to increased IPPM. Low socioeconomic status, absence of hemoglobin and urine examination during pregnancy, obstructed labor, and a delay in seeking health care were significant risk factors for intrapartum-related perinatal mortality among emergency obstetric referrals [3]. The mode of delivery did not affect the IPPM; previously, timely delivery, often by caesarean section or instrumental vaginal delivery, has been shown to reduce associated intrapartum stillbirth, and has been credited for the relatively low intrapartum stillbirth rates in high-income countries. A recent meta-analysis, outlined the clear advantage of strategies like comprehensive emergency obstetric care packages, including caesarean section in breech delivery, and induction of labor (vs expectant treatment) in post-term pregnancy. Other advanced interventions such as amnioinfusion and hyperoxygenation need further evidence before their use can be advocated as a policy [5]. A number of studies have shown that suboptimal care, particularly inadequate, inappropriate, or delayed care of complications such as obvious fetal distress, placental abruption, breech presentation, twin pregnancy, or eclampsia, is associated

with increased perinatal mortality [6].

While most of the success stories on reduction in perinatal mortality are in relation to developed countries and mostly in term babies, a lot needs to be desired in resource-poor countries where further research is still needed to decrease the alarmingly high rates of perinatal mortality and to define more appropriate interventions.

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T-cells and Cardiac Complications in Infectious Mononucleosis

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Infectious mononucleosis (IM) is characterized by symptoms which are thought to be caused by -either directly or indirectly-the expansion of CD3+CD8+ T-cells after acute Epstein-Barr virus-infection resulting in a decreased CD4/CD8 ratio. Over 50% of the T-lymphocytes response may be EBV-specific [1,2]. Several viral infections (coxsackie B3, influenza, parvovirus B19, varicella-zoster, cytomegalovirus) have been described to be associated with cardiac complications, including pericarditis, myocarditis and

pericardial effusion [3-5]. However, there is not much known about the involvement of cardiac complications in EBV-induced IM, except for a few case studies. The study by Papadopoulou, *et al.*, [6] in this issue of *Indian Pediatrics* for the first time sets out to analyze the occurrence of cardiac complications in infectious mononucleosis in a systematic manner. They evaluated 25 children suffering from IM during the acute phase of infection and after 3-6 months for cardiac complications and relate these cardiac complications to CD3+CD8+ T