

In 2002, extremely low birth weight (ELBW) and very low birth weight (LBW) newborns were significantly lower than those for the following years*. When the 2005-2009 populations were stratified by the 2002 composition, it was noted that the expected NMCs were below: 15.7%₀-14.81%₀; 19.55%₀-11.87%₀; 17.67%₀-15.5%₀; 17.0%₀-12.9%₀ and 14.2%₀-12.6%₀. ($X^2 = 10.03\%$; $p < 0.05$). The ELBW and LBW occurrences in the 2005-2009 populations did significantly differ from the 2002 ones: average 1.30% and 2.25% compared to 0.92% and 2.03%, lower than the others ($p < 0.05$). No significant difference was noted for mothers' age and pre-natal visit number parameters.

Conclusion: The 2005-2009 NMCs were higher than those for 2002, when population composition was different from that of the following years, based on the lower ELBW and LBW rates achieved at.

1180

THE RELATIONSHIP BETWEEN PERINATAL ASPHYXIA AND NEONATAL MORTALITY AT A HOSPITAL IN THE SOUTH REGION OF SÃO PAULO

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Objective: To assess the asphyxia-mortality relationship.

Method: A case-control study involving all live births (NB) between 2005 and 2009 (N=9,535) with hospital records analysis based on stillbirths (cases) and live births (controls) for a 28-day period as regards weight, Apgar, survival and mortality cause. Cases and controls were compared by the Chi-square test ($p < 0.05$).

Results: Out of 9,535 births there were 139 deaths, 58.3% in the first week, 3.6% for serious asphyxia and positive association between mortality and asphyxia, with significantly decreasing figures up to 2,000 g weight. In the $< 1,000$ g weight group, the asphyxia-mortality relationship was three times higher than that in the 1,000-1,500 g group and 35 times higher than that of the 3,000 g group. Among the 8-10 Apgar index group, mortality rate in low weight was twice that of the $> 2,499$ g children. The

chi-square result for weight-mortality relationship was of 1252.24 ($p < 0.0001$) and for asphyxia-mortality was of 626.46 ($p < 0.0001$). Asphyxia and prematurity were associated to the early neonatal death, and malformations and asphyxia were associated to late mortality. The death predictive value for Apgar < 4 varied according to weight from 62.74% for the $< 1,000$ g group to 5.5% for the $> 3,000$ g group. Asphyxia also correlated with lack of prenatal visits, preterm labor, normal childbirth and urinary infection.

Conclusion: Perinatal asphyxia is associated with epidemiological as well as with delivery care, causes neonatal death and is associated with extreme low weight.

1181

THE EFFECT OF TOXIC METALS AND TRACE ELEMENTS IN THE MECONIUM IN PRETERM DELIVERY

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Background: Many studies suggest an association between heavy metals in the blood or placenta and premature birth. However, there have been no studies that show an association between premature birth and exposure to trace elements at toxic levels in the meconium. The meconium is a matrix that can be obtained easily and noninvasively and is representative of a wide period of exposure in the fetus during gestation. Aim. The purpose of this study was to measure the levels of toxic metals (lead, cadmium) and trace elements (zinc, iron, copper) in meconium samples and to understand their association with prematurity.

Method: Metal and trace element levels in the meconium of 810 infants were measured with a flame atomic absorption spectrophotometer.

Results: Toxic metals and trace element levels in the meconium were significantly higher in preterm compared to term infants (for all $p < 0.0001$). In the regression analysis, it was shown that meconium metal levels were among the risk factors for prematurity.