inappropriate stimuli. This study aimed to determine and compare the mean of rate and oxygen saturation of premature infants before and during a designed program in NICU.

Methods: In a clinical trial study of before and after intervention on a single group, 31 hospitalized premature newborn in NICU of Hospital in Isfahan were selected by simple continuous sampling method. Data were collected through interview, observation and records of a checklist. The data was analyzed using SPSS and descriptive and inferential statistics.

Results: Out of 31 premature infants in the study, 60% were boys and 35% were girls. The mean of arterial oxygen before and during the designed program were 92.80±2.54 and 94.22=2.59, respectively. The results of paired t test showed a significant difference between the mean of arterial oxygen saturation of the infants before and during the program (p=0.048), but there was no significant difference between the mean of the infants´ heart beat before and during the intervention.

Conclusions: The findings showed that applying daily silence periods can greatly help to increase oxygen saturation and can improve the growth of premature infants. Therefore, by programs to reduce light and noise in these wards would be possible.

Keywords: Programmed instruction, prematurity, neonatal, pulse oximetry, noise, light.

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IMMEDIATE MANAGEMENT OF GROWTH RESTRICTED INFANT

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Background and aims: Intrauterine growth restriction (IUGR) is characterized by fetal growth less than normal for the population and growth potential of a given infant. The decreased fetal growth rate in IUGR is an adaptation to an unfavourable intrauterine environment and may result in permanent alterations in metabolism, growth, and development. The acute neonatal consequences of IUGR are perinatal asphyxia and neonatal adaptive problems.

Methods: During the period of 3 years, immediate management of 160 infants from fetal growth restricted pregnancies were studied. We used SPSS 1.1 and Statgraf for Win 2.1 statistical programs. Results were compared by Person Chi-Square (< 0.05) and logistic regression analyses.

Results: Compared with normally grown infants, those who were growth restricted had increased risk for fetal distress (OR 16.47; 95%CI 6.86-39.55), operative way of delivery (OR 4.25; 95%CI 2.72-6.64), perinatal asphyxia (OR 3.26; 95%CI 1.96-5.43), need for resuscitation (OR 2.81; 95%CI 1.83-4.32) and transfer to NICU (OR 2.38; 95%CI 1.56-3.65).

Conclusions: Perinatal asphyxia is the initial concern in the IUGR fetus. Careful obstetric surveillance and timely delivery can prevent perinatal asphyxia and its clinical consequences. A neonatal resuscitative team should be available at delivery to improve neonatal outcome. Immediate management in delivery room should focus on the anticipation of a depressed infant, adequate resuscitation and insuring a normal physiologic transition.

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NEONATAL MORTALITY HISTORICAL SERIES AT A HOSPITAL IN THE SOUTH AREA OF THE SÃO PAULO CITY

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Objective: To achieve the neonatal mortality coefficient (NMC) from 2005 to 2009 at the referred facilities and compare it to the 2002 data, when this hospital was not regarded yet as a risk maternity.

Method: A retrospective cross study based on the patients' records data for all live births (NB) during the 2005-2009 period (N= 9,966) and compared by weight mortality specific coefficients to 2002 data, applying the specific coefficients for 2005 to 2009 using the Chi-Square test tool.

Results: There were 2,694 live births in 2002, out of which 32 NB had died (NMC = 1 1.8%$_0$). For the period 2005 to 2009 these rates were 15.7%$_0$; 19.55%$_0$; 17.67%$_0$; 17.0%$_0$ and 14.2%$_0$, respectively.

In 2002, extremely low birth weight (ELBW) e 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%; 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.

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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 text (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 that that in the 1,000-1,500 g group and 35 times higher that 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.

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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.