

Factors Affecting the Target Oxygen Saturation in the First Minutes of Life in Preterm Infants

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Background: The aim of this study was to describe the effect of factors on time to reach a pulse oxygen saturation (SpO₂) level of 90% in preterm infants in the delivery room.

Methods: Preterm (<35 gestational age) infants who did not require supplemental oxygen were included in the study. Continuous recordings were taken by pulse oximetry during the first 15 min of life.

Results: Of 151 preterm infants, 79 (52.3%) were female and 126 (83.5%) were delivered by cesarean section. Target saturation level (≥90%) was achieved faster in preductal measurements. Mean times taken to have a preductal and postductal SpO₂ level of 90% were significantly lower in preterm babies born by vaginal delivery, with umbilical arterial pH ≥ 7.20 and whose mothers were non-smokers during pregnancy.

Conclusions: Differences in achievement of target saturation level were influenced by multiple factors (birth way, probe location, maternal smoking and umbilical blood gas pH) in the delivery room during resuscitation of preterm babies.