



Transcutaneous oxygen saturations in former preterm infants breathing in room air at discharge from the NICU

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Abstract

Former preterm infants who are breathing in ambient air remain at risk for apnea and brief intermittent episodes of hypoxemia. Continuous cardiorespiratory monitoring is therefore provided until the day of discharge. However, intermittent episodes of hypoxemia are frequently self-limited and may set off the low alarm for oxygen saturation (SpO_2) only briefly, easily escaping from the observation of the bedside caregiver. Moreover, the accurate lower limit for SpO_2 in this population is unknown and often extrapolated from full term infants. By analyzing electronically recorded SpO_2 , we aimed to define the normal range for SpO_2 measurements in these infants and to determine the amount of time SpO_2 were below the lower limit of normal. This ongoing prospective, observational study started enrollment in June of 2017. Former preterm infants born <32 weeks of gestational age (GA), who are breathing without additional support in ambient air and are close to discharge were eligible. Enrolled infants were attached to an additional pulse oximeter with a covered display. Only the clinical team caring for the infant determined readiness for discharge as per St. Vincent NICU guidelines. After the infant was discharged, the investigators downloaded and analyzed up to 96 hours of recorded SpO_2 measurements from the study oximeter using computer software. Pertinent maternal and neonatal data were collected from the electronic medical record. Mean SpO_2 for all studied infants was $\geq 98\%$. In 95% of AFRT, infants had SpO_2 of 96- 100%. Infants spent < 1% of recording time with $SpO_2 \leq 90\%$ and < 5% with $SpO_2 \leq 95\%$. These results can now be used to interpret SpO_2 recordings in former preterm infants in room air close to discharge. Based on this data, we can create guidelines for safe SpO_2 ranges and acceptable time spent below a certain SpO_2 target before discharge.

Biography

Taha Ben Saad grew up in Tripoli, Libya and graduated from Faculty of Medicine, Tripoli University. He completed his residency at Woodhull Medical Center, Brooklyn, New York, and Fellowship in Neonatal –Perinatal Medicine at University of Rochester. He joined St. Vincent Women's Hospital after completing his fellowship. He earned an MBA Degree from Indiana Wesleyan University, also appointed as Clinical Assistant Professor, Marion University, and College of Osteopathic medicine. He is the Medical Director of the Neonatal Transport. He was awarded The Outstanding Outpatient Teaching Faculty Award for 2011. He has strong interest in resident teaching and education.



[International Conference on Pediatrics and Neonatal Care | July14, 2020](#)

Citation: Taha Ben Saad, *Transcutaneous oxygen saturations in former preterm infants breathing in room air at discharge from the NICU*, Neonatal care 2020, International Conference on Paediatrics and Neonatal Care, July14, 2020, Page 10