

Breast Feeding as Analgesia in Neonates

Major myth regarding neonatal pain suggests that neonates because of their neurological immaturity do not experience pain ⁽¹⁾. Infants, including newborn babies, experience pain similarly and probably more intensely than older children and adults ⁽²⁾. Neonates requiring intensive care undergo a number of painful diagnostic & therapeutic procedures. A wide variety of pharmacological and non-pharmacological interventions is available for management of pain in infants. Non-pharmacological interventions are more feasible alternatives as they are associated with minimal or no adverse effects. It is proposed that breast feeding through combination of smell, taste, suck, touch, seeing and hearing, and the closeness of the infant's mother, saturates the senses thus reducing perception of noxious stimuli.

A prospective, randomized, controlled trial, published in 2016, in a Tertiary level Neonatal Intensive Care Unit at Command Hospital (Air Force) Bangalore, was conducted over 18 months, aimed to find out analgesic effects of breastfeeding in neonates, by comparing the change in physiological parameters after heel prick between two groups of babies, one being breastfed and other not breastfed. Sixty healthy, full-terms, non-asphyxiated neonates who were hemodynamically stable and were not receiving oxygen or any analgesia scheduled to receive heel sticks to collect blood for obligatory newborn screening, were included in the study. The neonates whose mothers had received analgesia during labor were excluded from the study. Participating mothers signed an informed consent, which was approved by the Institutional Review board allowing their infants to be participants in the study. ⁽³⁾

These neonates were randomized into two groups (30 neonates each) using a system of sealed envelope randomization system. The neonates in test group (Group I) they were breast-fed, breast-feeding initiated two minutes before the procedure and continuing throughout. The heel prick was performed when the infant had achieved a good attachment at breast as determined by standard signs including baby's mouth being wide open, lower lip turned outward, baby's chin touching mother's breast. In group 2 (control group) they were held in their mother's arms without breast-feeding, this was done two minutes before the heel prick. Heart rate, transcutaneous oxygen saturation, blood pressure and duration of cry were recorded for each neonate at 0 min (baseline of the heel prick), 1 min, 3 min, 5 min, 7 min and 10 min. The protocol was designed to have a study baseline (2 minutes), intervention (2 minutes) followed by heel prick (10 seconds) and recovery period (10 minutes). Audio tape recorder was used to record crying. Duration of cry was measured with a stopwatch from first burst of sound until neonate became quiet again. ⁽³⁾

The results of this study were; neonates in both groups expressed pain by crying, increase in heart rate, fall in transcutaneous oxygen saturation and rise in blood pressure. Compared to control group, the babies who were breast fed were found to have lesser crying time (40.04 sec and 69.09 sec respectively, $p < 0.05$) and lesser rise in heart rate (rise of 21.78 and 34.46 bpm respectively, $p < 0.03$). In the breast-fed group, there was a

trend to a lesser decrease in oxygen saturation and lesser rise in blood pressure though this was not statistically significant⁽³⁾.

In conclusion, breast-feeding offers a quick and effective means of reducing pain in neonates during routine neonatal procedures.

References:

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