

## **The study of dextrose solution effect in decreasing painful procedure in neonates**

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### **Background**

Pain nerve fibers would be developed at the age of 22 to 29 weeks in the fetus. However, the response to the pain is different between term and preterm infants. That pain is the cause of behavioral and physiological responses in infants. The physiological response includes increased blood pressure, heart rate, cranial pressure, tachycardia, tachypnea, apnea and sweating. On the other hand, the behavioral response includes crying, frowning and body and extremities movement.

Several evaluation methods are usually implemented for pain studies, such as premature infant pain profile (PIPP) or behavioral pain scale (BPS), or neonatal infant pain scale (NIPS). Furthermore, a myriad of methods and drugs would be used for pain management in infants, the most significant of which are silence area, massage therapy, skin contact or administration of acetaminophen, fentanyl and opioids. It is also worth mentioning that one of the most non-pharmacological drugs is the dextrose solution.

### **Methods and Materials**

In this cross-over trial, a randomized placebo-controlled study was performed on 50 well-term neonates (male: 27 and female: 23). We compared 5cc dextrose solution with 5cc distilled water (placebo) orally in interval one-day blood sampling. Infant response against pain stimulants evaluated with NIPS, consisting of crying severity, face mood affect changes, body and extremity movements and pulse rate (P-value <0.05).

### **Conclusion**

This study demonstrates that administrated dextrose decreases crying severity and causes less mood affect change. However, it does not prevent heart rate changes (bradycardia and tachycardia) and does not prevent body and extremity contraction in painful procedures.

### **Biography**

Seyed Saeid Nabavi is an Assistant Professor of Pediatrics at Tehran Azad University. He is graduated from Tehran Azad University and completed his residency in Pediatrics at Zanzan University of Medical Sciences. Nabavi's area of interest is Neonatology and participated at pediatric congress in the Rome (2017) and presented his article about Brain Ultrasonografic finding in Neonatal Seizure.