ABSTRACT

Background Newborns endure many heel pricks and other uncomfortable invasive minor procedures during their first hospital stay.

Objective To compare the effectiveness of breast-milk and non-nutritive sucking (NNS) in reducing pain in newborns undergoing invasive minor procedure as measured by behavioral and physiological observation.

Method This randomized open trial was performed at Haji Adam Malik Hospital on September to December 2009. Subjects were 98 healthy term infants who received intramuscular Hepatitis B immunization or vitamin K injection. Subjects were randomly allocated into two groups: breast milk group (N=48); NNS group (N=48). Two minutes before injection, 48 babies received two ml of breastmilk and 48 babies received NNS; and recorded by video recorder. Transcutan hearth rate, oxygen saturation, crying time were recorder, and than two observers modified PIPP scale in different time.

Result Baseline characteristics of the newborns were same in both groups. In breastmilk group, there was significant reduction in PIPP scale (P=0.001), crying times (P=0.03) compared to NNS group. There were no significant difference in PIPP scale and crying time due to gender (P=0.4; P=0.5), but there was significant due to injection type (P=0.002; P=0.06) between both group. There were significant difference in elevated oxygen saturation level after 30 second of injection between both groups (P=0.001), but there was not significant in heart rate.

Conclusion Two milliliters of breastmilk was given for two minutes before invasive minor procedure effectively in reduction pain in term neonates, shown as reduction of PIPP scale, crying time, and increased of oxygen saturation compared by NNS.

Keywords: breastmilk, non-nutritive sucking, pain, invasive minor procedure, newborn