

three groups; EMLA cream, local refrigeration, and non-intervention groups, as the control, to compare the effectiveness of two pain-reducing procedures on venipuncture-related pain.

**Results:** The mean and standard deviation of scores based on FACES scale in EMLA, local refrigeration and control groups were  $3.26 \pm 2.79$ ,  $8.23 \pm 2.39$  and  $7.06 \pm 2.27$ , respectively. The corresponding values for CHEOPS scale were  $7.40 \pm 2.15$ ,  $4.26 \pm 2.81$  and  $9.35 \pm 2.17$ . The between groups difference was statistically significant according to both scales ( $P < 0.00$ ). EMLA and local refrigeration significantly reduced the venipuncture-related pain, compared to controls. There was no significant difference between EMLA and refrigeration groups in reducing the pain.

**Conclusion:** Both refrigeration and EMLA are effective on reducing venipuncture-related pain in children. So, refrigeration, as a non pharmacological, cost effective, and available method, is recommended to manage procedural pain in pediatric patients.

**Disclosure:** None declared

## T279

### THE EFFICACY OF CONTAINMENT FOR RELIEVING PAINFUL RESPONSES AMONG JORDANIAN PRETERM INFANTS DURING HEEL STICK BLOOD DRAWING

H.M. Obeidat\*. Princess Muna College of Nursing, Mutah University, Amman, Jordan

**Background:** Preterm infants in neonatal intensive care units are exposed to a high number of painful procedures. Repeated and sustained pain has adverse consequences on the neurological, behavioral, cognitive, and learning-oriented development of preterm infants. Containment is the gentle motoric position of the preterm infant's arms and legs in a flexed, midline close to trunk with the infant in side-lying position or supine position.

**Aims:** Was to examine the effectiveness of Containment during heel stick blood draws on relieving painful responses of preterm infants.

**Methods:** A cross over design was used, where preterm infants acted as their own controls. Based on a power analysis and statistical consultation, 50 preterm infants between 30–34 weeks gestation (mean = 32.5 weeks gestation), birth weight 1–2.2 kg (mean = 1.45 kg) were selected from the neonatal intensive care unit at King Hussein Medical Center. The infants were observed twice during each heel stick blood draws. One heel stick was done with the infant in any position according to the neonatal intensive care routine; the other position was done using containment. The Preterm Infant Pain Profile was used to measure the painful responses.

**Results:** There were significant differences in PIPP scores for containment and usual position ( $t = 30.68$ ,  $p = .000$ ) where preterm infants with containment had lower painful responses score as compared with preterm infant with usual position.

**Conclusions:** This study provides that containment position during heel stick act to reduce painful responses.

**Disclosure:** None declared

## T280

### THE EFFECTS OF BREAST MILK AND GLUCOSE ON PAIN SCORES OF PRETERM NEONATES UNDERGOING HEEL LANCING: A RANDOMIZED CONTROLLED TRIAL

M. Bueno<sup>1\*</sup>, B. Stevens<sup>2,3,4</sup>, P. Camargo<sup>1,5</sup>, E. Toma<sup>5</sup>, V. Krebs<sup>5</sup>, A. Kimura<sup>1</sup>. <sup>1</sup>School of Nursing, University of São Paulo, São Paulo, Brazil; <sup>2</sup>The Hospital for Sick Children, <sup>3</sup>Lawrence S. Bloomberg Faculty of Nursing, University of Toronto, <sup>4</sup>Faculty of Medicine, University of Toronto, Toronto, ON, Canada; <sup>5</sup>Children's Institute, Faculty of Medicine, University of São Paulo, São Paulo, Brazil

**Background and Aim:** Effects of glucose on neonatal procedural pain relief are well known but the role of expressed breast milk (EBM) has not been completely explored. The aim of this study was

to compare the effects of 25% glucose and EBM on pain scores of infants undergoing heel lancing.

**Methods:** Noninferiority randomized controlled trial conducted in one teaching hospital (São Paulo, Brazil). Neonates were born between 34–36 weeks of gestational age, were 24–72 hours post birth, had Apgar scores  $\geq 7$ , and had no syndromes or malformation. Interventions were 2 mL of glucose (control group-CG) or EBM (experimental group-EG), 2 minutes prior to heel lancing. Pain scores were assessed using the Premature Infant Pain Profile (PIPP) in 30 seconds intervals for 3 minutes after lancing (T30 to T180).

**Results:** 113 infants were randomized and 88 completed data collection. No significant differences on demographics were observed between groups, except for birth weight ( $p = 0.013$ ). Analyses of variance indicated a significant main effect of the intervention favoring glucose ( $p < 0.001$ ) and main effect of the time ( $p < 0.001$ ). Maximum mean PIPP scores were observed at T30: 4.5 ( $\pm 3.1$ ) for CG and 7.5 ( $\pm 3.6$ ) for EG. Lower number of infants who received glucose presented scores  $\geq 7$  at T30 (CG: 11/43–25.6%, EG: 24/40–60.0%),  $p = 0.002$ ; results also favored glucose on the intention to treat analysis (CG: 25/57–43.9%, EG: 40/56–71.4%),  $p = 0.003$ .

**Conclusion:** Glucose and EBM reduced PIPP scores. Future research is required to establish the effectiveness of EBM on neonatal pain.

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## T281

### SHORT TERM SAFETY OF EXPRESSED BREAST MILK AND GLUCOSE AS PAIN RELIEF STRATEGIES FOR LATE PRETERM NEONATES UNDERGOING HEEL LANCING

M. Bueno<sup>1\*</sup>, B. Stevens<sup>2,3,4</sup>, P. Camargo<sup>1,5</sup>, E. Toma<sup>5</sup>, V. Krebs<sup>5</sup>, A. Kimura<sup>1</sup>. <sup>1</sup>School of Nursing, University of São Paulo, São Paulo, Brazil; <sup>2</sup>The Hospital for Sick Children, <sup>3</sup>Lawrence S. Bloomberg Faculty of Nursing, University of Toronto, <sup>4</sup>Faculty of Medicine, University of Toronto, Toronto, ON, Canada; <sup>5</sup>Children's Institute, Faculty of Medicine, University of São Paulo, São Paulo, Brazil

**Background and Aim:** Glucose and expressed breast milk (EBM) have been investigated as neonatal analgesic strategies. Safety of these interventions is of particular interest in late preterm infants. The aim of this study is to compare the occurrence of short term adverse events (AE) amongst infants receiving 25% glucose and EBM prior lancing.

**Methods:** As part of a noninferiority randomized controlled trial conducted in a teaching hospital (São Paulo, Brazil) this secondary analysis focused on AE. Participating neonates were born between 34–36 weeks of gestational age, were aged 24–72 hours, had Apgar scores  $\geq 7$ , and had no syndromes or malformation. Infants received 2 mL of 25% glucose (control group-CG) or EBM (experimental group-EG) prior lancing. Desaturation (O2Sat  $< 80\%$ ), bradycardia ( $< 80$  bpm), tachycardia ( $> 200$  bpm), choking, nausea, vomiting, and coughing were recorded as AE. Intention to treat (ITT) analysis was used.

**Results:** 113 infants were randomized and 88 infants completed data collection. Groups were similar regarding demographics, except for birth weight ( $p = 0.013$ ). There was no statistical difference on AE occurrence between the groups: 5/43 (11.6%) for EG, and 4/45 (8.9%) for CG ( $p = 0.736$ ). Groups were similar on ITT analysis: 18/56 (32.1%) for EG, and 16/57 (28.0%) for CG ( $p = 0.637$ ). All AE were benign and self-limited and included: O2sat  $< 80\%$  (4–44.4%), nausea and/or vomiting (3–33.3%), O2Sat  $< 80\%$  and choking (1–11.1%), bradycardia, O2Sat  $< 80\%$ , and choking (1–11.1%). Infants did not require medical or nursing interventions.

**Conclusion:** EBM and glucose are safe analgesic strategies in late preterm infants.

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