

Background and aims Disturbed cerebral oxygenation during the neonatal period might pose preterm infants at risk for neurological deficits. Our aim was to determine whether regional cerebral tissue oxygen saturation ($r_c\text{SO}_2$) and fractional tissue oxygen extraction (FTOE), measured by near-infrared spectroscopy, were associated with neurodevelopmental outcome of preterm infants at 2–3 years of age.

Methods We included 83 preterm infants (gestational age < 32 weeks) and measured $r_c\text{SO}_2$ and calculated FTOE on days 1, 2, 3, 4, 5, 8, and 15 after birth: $(\text{tcSaO}_2 - r_c\text{SO}_2) / \text{tcSaO}_2$. Additionally, we determined the area under the curve (AUC) of $r_c\text{SO}_2$ and FTOE during the first 2 weeks. Cognitive, motor, neurological and behavioural outcome was determined at 2–3 years of age. Multiple linear regression analyses were used to determine whether $r_c\text{SO}_2$ and FTOE contributed to outcome.

Results We included 67 infants for follow-up. Lower quartile (P_{25-50}) and highest quartile (P_{75-100}) of $r_c\text{SO}_2$ values on day 1 were associated with poorer cognitive outcome ($p=0.044$ and $p=0.008$, respectively). Lower AUC of $r_c\text{SO}_2$ was associated with poorer cognitive outcome ($p=0.014$). Lower quartile (P_{25-50}) AUC of $r_c\text{SO}_2$ was associated with poorer fine motor outcome ($p=0.004$). The amount of time $r_c\text{SO}_2 < 50\%$ on day 1 was negatively associated with gross motor outcome ($p=0.002$). The highest quartile of FTOE values on day 1 was associated with poorer total motor outcome ($p=0.041$).

Conclusions Neurodevelopmental outcome at 2–3 years of age was associated with cerebral oxygen saturation during the first 2 weeks after birth in preterm infants. Both high and low $r_c\text{SO}_2$ values had a negative influence on neurodevelopmental outcome.

110 GUIDED IMAGERY: BEYOND PROCEDURAL FEAR AND PAIN - TECHNIQUES FOR CHILDREN, ADOLESCENTS AND YOU, THE HEALTH PROFESSIONAL

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'You have had blood tests before, haven't you?'
'Yeah, but never this exciting!'

The response to the question quoted above came from an 11 year-old boy with special needs following his venepuncture 'in imagery'. The procedure was 'exciting' because he was playing his favourite game - cricket. He hit a fantastic score, got 'run out' and won the game, all in the space of seven (7) minutes from the beginning to the end of the procedure.

Guided Imagery is a therapeutic technique that enables a top-down shift in experience from pain and fear to a chosen reality in imagery. It is used to help a child gain a sense of being in control in the face of fear, anxiety and pain during medical procedures.

This presentation will include:

- an overview of guided imagery
- video of a child undergoing a procedure in imagery;
- mindfulness and Acceptance and Commitment Therapy - ACT (Hayes & Smith, 2005) in relation to procedural pain and fear; and,
- moving from patterns of 'avoidance and bravery' to 'acceptance and achievement' in managing pain.

Delegates attending this presentation will have an opportunity to engage in a mindfulness exercise.

Hayes, S.C. & Smith, S. (2005). *Get out of your mind and into your life: The new acceptance and commitment therapy*. Oakland: New Harbinger.

111 THE EFFECT OF KANGAROO CARE ON PAIN SEVERITY DURING HEEL STICK IN PREMATURE INFANTS

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Objective Pain is a multi-dimensional and complex experience which influences all people physically, emotionally and socially. The process of care and pain relief is the duty of nurses. Today, pain is assessing as the fifth human vital signs. Therefore, the standards of nursing care should be prioritized. The objective of this study was to assess the efficacy of kangaroo care (KC) on pain severity during the heel stick in premature infants.

Material and method In this interventional study, a total of 20 premature infants recruited during 4 months were enrolled in this study. The inclusion criteria were premature infants with gestational age 27–36 weeks and aged 3–28 days, stable respiratory status. In need of heel stick and Apgar score more than 6 at 5 minutes. In this randomized interventional study the blood is taken from each infant once by using KC and another time by incubator care(IC). In each method, PIPP was used to evaluate the severity of pain. Data were analyzed using by SPSS for Windows. Paired sample t-test was used for data analysis.

Findings The severity of pain as the result of heel stick is different in 2 methods. The mean pain score in the KC method was 4.9 ± 2.92 vs IC 11 ± 4.22 and that is, significantly lower than the (IC) ($P < 0.001$).

Conclusion KC that starting 30 minutes before and continuing 10 minutes after heel stick was found to be effective in decreasing pain before and after heel stick in premature infants.

112 A PILOT STUDY INVESTIGATING THE USE OF HEATED HUMIDIFIED OXYGEN AND DRY OXYGEN THERAPY IN CHILDREN WITH ACUTE RESPIRATORY ILLNESS

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Background and aims Low flow oxygen can be delivered either as a dry or heated humidified gas. Little evidence exists about which is most beneficial to the paediatric patient. The aim of the study is to investigate whether children aged < 2 years with acute respiratory illness requiring low flow oxygen (< 2 litres) would benefit from heated humidified oxygen when compared to dry oxygen therapy.

Methods A prospective randomised controlled pilot study of 117 children aged < 2 years with an acute respiratory illness requiring low flow oxygen therapy. 54 participants were randomised to receive dry oxygen and 63 participants were randomised to receive heated humidified oxygen. Hours on oxygen therapy, hours to ready to discharge and hours to hospital discharge were recorded.

Results Median hours on dry oxygen therapy totalled 43 hours versus 39 hours in the heated humidified oxygen group. Wilcoxon rank test ($p=0.05$) returned P value 0.77. Hours from randomisation to ready to discharge equated to 66 hours dry oxygen and 52 hours heated humidified oxygen. Wilcoxon rank test ($p=0.05$) calculated $p=0.36$. The total median length of hospital stay was 53 hours in the dry oxygen group and 47 hours in the heated humidified oxygen group. Wilcoxon rank test ($p=0.05$) determined $p=0.70$.

Conclusion No statistically significant difference in hours on oxygen therapy, time to ready to discharge and length of hospital stay between the dry oxygen and heated humidified group. No significant benefit to the administration of heated humidified oxygen at low flows was found.

113 HOW A CESAREAN CAN AFFECT WITH BREASTFEEDING?

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Several factors related to the mother and the baby, however, have a negative effect on the initiation of breastfeeding. Mode of delivery is one of these factors. When delivery takes place by cesarean section, the mother becomes a surgical patient with all the inherent risks and problems. The cesarean rate in the world has started to rise. Many mothers have to cope with having a cesarean just as they are also trying to care for their newborn children. Cesareans delivery affect significantly is breastfeeding.

When we look according to delivery types, breastfeeding is affected by these reasons after the cesarean birth:

1. Maternal pain, fear and stress, fatigue, and prolonged recovery
2. Complications and separation of mother and baby
3. Delayed access to baby and supplementary feedings
4. Anesthesia and analgesia (delayed lacto genesis and poorer infant suck)

Cesarean section may limit mother's comfort in terms of positioning, but the baby's sucking stimulate mother's uterus contract more quickly, speeding up their healing. Researches show fewer women breastfeed their babies after having had a cesarean. Breastfeeding advocates have long promoted the idea that woman who has had a cesarean need extra support and help to establish breastfeeding.

114 STRATEGIES FOR INCREASING BREASTFEEDING SUCCESS

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Breast milk is the preferred nutritional source for all newborns and infants through the first six months of life and is widely recommended through the first year. It has significant health benefits for infants and mothers. Providing maternal support and structured antenatal and postpartum breastfeeding education are the most effective means of achieving breastfeeding success. Immediate skin-to-skin contact between mother and infant and early initiation of breastfeeding are shown to improve breastfeeding outcomes.

WHO/UNICEF were determined tens steps for increasing breastfeeding success. This steps are;

- Determining a written breastfeeding policy,
- Training all health care staff for implementing this policy,
- Informing all pregnant women about the benefits and management of breastfeeding,
- Helping mothers initiate breastfeeding,
- Showing mothers how to breastfeed and how to maintain lactation,
- Giving infants only breastmilk,
- Practicing rooming-in,
- Encouraging breastfeeding on demand,
- Giving no pacifiers or artificial nipples,
- Supporting mother with foster breastfeeding groups before discharge.

In this curriculum nurses can work as lactation consultants for teaching breastfeeding to new mothers. Lactation consultants help mothers for determining obstacles. And also teach some basic points for deciding timing of breastfeeding, using the experiences of others and being ready to start breastfeeding. Some social support systems like La Leche League International is also a great resource for sharing breastfeeding experience. More supported mothers continue breastfeeding more successfully. And more breastfeed child become healthier children.

115 BREASTFEEDING AND BONDING AFTER CESAREAN

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Breastfeeding is the most suitable and unequalled method of feeding, one that ensures the healthy growth and development of the infant. At the same time, breastfeeding is a vehicle of interaction that has positive biological and emotional effects on the health of both mother and child. Some mothers who undergo a cesarean birth have difficulty at the beginning with taking their babies in their arms and breastfeeding. For this reason, babies encounter problems at the breast.

Moreover, during the mother's stay at the hospital, the nurse should provide her with information about lactation and the mechanism involved, breastfeeding methods, baby care, problems that may be encountered and their solutions, breast care, personal care, nutrition and exercise.

Bonding is often an issue after a caesarean. Many mothers report feeling distant and detached from their caesarean babies. In part, this may be because the mother is not able to actually "see" the baby emerging from her body, and is usually one of the last people to get to hold and snuggle baby for any real time.

Lastly, starting off on a positive mother-baby relationship after a cesarean helps to instill a feeling of trust in the child and forms the foundation for the development of a healthy personality in later life. Nurses and other health professionals working with newborns have important responsibilities in helping to initiate this relationship.

116 ROLE OF NURSES IN MULTIPLE BABIES BREASTFEEDING SUCCESS

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Mother's milk is the most appropriate food for infants. There is no other food to replace it. The number of multiple-birth families has increased dramatically in the last several decades. It has always been wondered how to breastfeed multiple babies. A lot of questions come to mind such as what would be the best method for babies, the things that can be done for sufficient milk for each baby, the requirements for a comfortable breastfeeding period of mother.

Milk production is associated with the law of supply and demand and the amount of produced milk was found to be enough to feed all babies in previous studies. The families, especially mothers having multiple babies need support and information by the professional medical personnel on issues such as breastfeeding technique, increasing the milk supply and collection method of milk, duration and frequency of feeding and weaning.

It is commonly believed that breastfeeding of multiple babies is difficult, troublesome, and even impossible. Virtually all mothers can breastfeed one or more infants, provided that they have correct information and the support of their family and health care professionals. Nurses have an important function on infant feeding decisions. It is vital that nurses have the basic knowledge and skills to provide advice and assist in solving breastfeeding problems.

117 ACCREDITATION OF MEDICAL TRAINING IN THE US: ARE PROGRAMS CREATING COMPETENT TRAINEES?

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The assessment and accreditation of medical education training in the United States is rapidly moving from experience-based to