

How does breastfeeding help reduce pain for infants during immunisation injections?

By Mary Virtue

Introduction

Throughout infancy, infants receive numerous immunisations, as per the New Zealand Immunisation Schedule. Most of these immunisations are injections, which are a pain stimulus and may create traumatic memories. Infants have stronger reactions and are more sensitive to pain compared to adults because their lack of experience to pain (Taddio et al., 2009), and psychological inability to block pain (Razek & El-Dein, 2009). One way to manage immunisation injection pain for infants is breastfeeding.

Literature Review

Literature reveals that breastfeeding provides an analgesic effect for infants during immunisations. There is no sole component of breastfeeding attributed to this, but rather a combination of “smell, taste (fat and protein components and sweet taste), suck, touch, seeing and hearing, and the closeness of the infant’s mother (that) saturates the senses, thereby reducing pain” (Middlemore, 2014, p.88).

Razek and El-Dein (2009) conducted a study to assess the effect of breast-feeding on pain relief during infant immunisation injections. They found that infants who were breast-fed during immunisations cried considerably less, had a lower heart rate and had a less intense pain induced cry, compared to non-breastfed infants. This demonstrates less distress in infants who were breastfed during immunisations (Razek & El-Dein, 2009).

One reason behind these results is the protein and fat components of breast milk that release beta endorphins and activate opioids which inhibit pain signals moving down the spinal cord. This results in less pain during injections (Efe & Özer, 2007). However, if an infant was fed breast milk not directly from the mother’s breast, it would not have the same effect, because breastfeeding is a combined analgesic which requires all aspects of breastfeeding to reduce pain (Middlemore, 2014).

In addition to this, it has been shown that the odour of the mother’s breast milk as well as the comfort from the mother’s embrace reduces the infant’s distress towards pain and reduces cortisol levels. (Middlemore, 2014). However, Gray, Miller, Philipp and Blass (2002) found that infants, who are breastfed, became irritable when access to the breast was prevented while being held by their mothers while receiving an injection.

Furthermore, Efe and Özer (2007) and Razek and El-Dein (2009) stated that that the combination of breast-feeding, oral tactile stimulation, holding and suckling reduce pain by activating the endogenous opioid mechanism.

Recommendations

- Some breastfeeding mothers may be unaware that breastfeeding can reduce pain during immunisation injections, nurses need to inform mothers of this advantage.
- To allow more infants to be breastfed during immunisations, nurses must help improve exclusive breastfeeding rates. To achieve this, nurses need to provide consistent breastfeeding education, teach breastfeeding skills and provide effective support for breastfeeding mothers, allowing mothers to feel well supported, encouraged and confident to initiate and continue breastfeeding, especially for mothers experiencing breastfeeding difficulties.

References

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rationale

Posters are a way of effectively informing a population on an issue or topic, by using language that can be easily understood and through attractive visual presentation. I chose a poster to present this information so I could easily educate mothers, nurses who work with mothers and other nurse colleagues who may not be aware of the pain relief effects that breastfeeding provides for infants during immunisations. This poster could be displayed in a wide variety of health settings, for instance, General Practices, Plunket clinics, Children, Neonatal and Maternity wards in hospitals, and mother and maternity support group meetings. Hopefully this poster could encourage and help mothers make an educated choice to breastfeed during their infant's immunisations, as well as educate nurses so they can inform mothers about breastfeeding pain relieving advantages.

PECOT

Category	Information relating to question	Explanation
Population	Infants who are breastfed during immunisation injections, as per New Zealand Schedule.	Most immunisations are given to infants via injection. This is a potential painful stimulus that the infant experiences.
Exposure (intervention)	Immunisations are painful injections.	This painful stimulus can be reduced through breastfeeding.
Comparison/ Control	Comparing pain experience (comparing breastfed vs non-breastfed).	Literature suggests that 'breast is best' for infant nutrition, in addition to psychological and physiological benefits.
Outcome	Evaluate the different ways that breastfeeding reduces an infant's pain experience during immunisations.	Determine how breastfeeding provides pain relief for infants during immunisations.
Time	Immediate – life long	Immunisations pain is experienced immediately, but poorly managed pain experiences can have long term consequences.