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The effect of aromatherapy with rose water and breast milk on physiological responses and pain caused by the injection of Pentavalan vaccine in infants.

*A Thesis
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Abstract

Introduction and purpose: vaccination is one of the treatment-related pains in infants, which is often done without pain management; Therefore, it is necessary to use strategies to control or reduce pain in this field. The present study was conducted with the aim of comparing the effect of aromatherapy with rose water and breast milk on pain caused by pentavalan vaccine injection in infants.

Implementation method: In this three-blind clinical trial, 111 two-month-old infants referred to the comprehensive health centers of Khorramabad city in 2019-2018 were studied in three groups: aroma-therapy with rose water, aroma-therapy with mother's milk, and control.. Aromatherapy was performed from one minute before to three minutes after the injection of pentavalan vaccine with a cotton ball dipped in five drops of rose water or mother's milk. Pain was measured from ten seconds before to three minutes after the injection with the Modified Behavioral Pain Response Scale, the duration of crying was measured with a stopwatch, pulse and arterial blood oxygen (SPO₂) were measured with pulse oximetry. The data were analyzed by chi-square test, ANOVA, ANOVA with repeated measurements and paired t-test.

Results: There was no significant difference between the intervention and control groups in terms of individual characteristics ($P>0.05$). The duration of crying, average pain behavioral reactions and arterial blood oxygen (SPO₂) in the intervention groups were significantly lower than the control group ($P<0.05$). There was no significant difference between the average number of heartbeats in the studied groups ($P>0.05$).

Conclusion: The scent of mother's milk and rose water reduced the pain caused by intramuscular injection of vaccine in infants. Between the scent of mother's milk and rose water, after intramuscular injection of vaccine in infants, rose water group caused the highest increase in SPO₂ compared to mother's milk group, and also the duration of crying was the least. It had an increasing trend in the rose water group. Therefore, the use of these scents, especially rose water, is recommended to reduce the pain of infant vaccination.

Keywords: Vaccination ,Infant ,Aromatherapy ,Pain ,Breast milk ,smell ,Physiological index ,rose water