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The effect of positioning on adapting to spontaneous breathing in premature infants after weaning from mechanical ventilation

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The aim of this study was to determine effects of positioning on adaptation to spontaneous breathing in premature infants after weaning from mechanical ventilation. This randomized controlled study was performed between December 2012 to December 2013. Data were collected from randomly selected 60 premature infants in the NICU. Of the infants, 30 were assigned into the study group and 30 into the control group. The study group had the prone position and the control group had the supine position for the first 120 minutes when spontaneous breathing started after weaning from the mechanical ventilation. The heart rate, SpO₂ and the respiration rate were recorded at every 20 minute. The infants were also monitored in terms of respiratory distress symptoms, breathing rhythms and presence of apnea. Data were analyzed with descriptive statistics, Chi-square test, Student's t test, Mann-Whitney U test, single factor variance analysis for repeated measures and Friedman test. The parents were informed about the study and their written informed consent was obtained. Approval was obtained from the head physicians of the hospitals and the ethical committee. There were significant intragroup differences in the mean heart rate between repeated measures. This difference was found not be due to positioning. The mean SpO₂ was higher in the study group than in the control group, though not significant. This suggested that positioning did not have an influence on SpO₂. Four infants in each group developed desaturation (SpO₂ ≤85%). Two infants in the control group failed to maintain spontaneous breathing and were put on mechanical ventilation again. Although the study group had a significantly higher respiratory rate than the control group, the difference was not significant. Therefore, positioning was not found to affect the respiratory rate. The results of the study revealed that positioning did not influence mean values of SpO₂, heart rate and respiratory rate, respiratory rhythms, presence of apnea and respiratory distress symptoms in premature infants after weaning from the mechanical ventilation.

Biography

Hüsniye Çalışır is Assoc. professor at Adnan Menderes University Aydın School of Health, Division of Nursing, Pediatric Nursing Department. She has completed her PhD at Ege University Health Science Institutes on pediatric nursing. She worked at Istanbul University Medical Hospital as nurse up to 1999. She was working at Adnan Menderes University since 2000. She is head of the Department of Pediatric Nursing. She has published 7 international papers and 14 national papers in reputed journals and has been serving as reviewers for some national journals.

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