

Thesis Title Relationship between Milk Flow Rate and Changes
in Pulse, Respiratory Rate and Oxygen Saturation
of Premature Infants Receiving Gavage Feeding
Name Ratree Suntiti
Degree Master of Science (Nursing)
Thesis Supervisory Committee
Pornsri Sriussadaporn, B.Sc., M.Ed.
Pimolratn Thaithumyanon, M.D., American Board of
Pediatrics, American
Sub-Board of Neonatal
Perinatal Medicine.
Vena Jirapact, M.S.N., D.N.Sc.
Date of Graduation 9 August B.E.2536 (1993)

ABSTRACT

The flow rate of milk is important in gavage feeding for premature infants. Rapid flow rate will distend the stomach which may result in bradycardia, decreasing blood oxygen level, and apnea which is commonly found in premature infants. The purposes of this study were to investigate the relationship between milk flow rate and changes in pulse rate, respiratory rate and oxygen saturation in premature infants receiving gavage feeding and to identify complications during and after gavage feeding. The subject was 30 healthy premature infants. The data was analysed by SPSS/PC⁺ program for percentage, means, standard deviation and Pearson's product moment correlation coefficient.

The results were as follows

1. The majority of the subjects had a gestational age, between 33-35 weeks (63.3 percent), a postnatal age between 1-2 weeks (80 percent) and a birth weight, between 1,501-2,500 grams. (60 percent)

2. The mean milk flow rate per feeding was 2.7 ml./kg./min. or 4.5 ml./min. The mean volume of milk in one feeding was 15.4 ml.

3. Before gavage feeding the mean of pulse rate, respiratory rate and oxygen saturation were 135.2 per minute 44.5 per minute and 93.8 percent respectively.

After gavage feeding the mean of pulse rate, respiratory rate and oxygen saturation were 139.5 per minute, 44.7 per minute, and 93.2 percent respectively.

4. There was no significant correlation between milk flow rate and changing of pulse rate, respiratory rate, and percentage of saturation at the level of .05.

5. Among thirty premature infants with gavage feeding; ten of the infants had complication during the feeding, eight had oxygen saturation below 85 percent, two had apnea with oxygen saturation below 85 percent. Complication occurred in fifteen infants after feeding, six infants oxygen desaturation, apnea with oxygen desaturation were present in 6 infants, two had regurgitation with oxygen desaturation and one infant had regurgitation and apnea with oxygen desaturation

The complications during and after gavage feeding were found in most of the infants who were fed while on supine position and not burped after feeding. The recommendations from this study were milk

flow rate during gavage feeding for premature infant should be controlled at the rate of 1-2 ml./min. and nurses should be aware of complications such as regurgitation, apnea and oxygen desaturation. It would be better if the milk flow rate can be controlled by infusion pump. In further study, the sample size should be larger and the apnea and respiratory monitors are recommended for the accuracy of outcome measurement.