

Effect of Electrical Breast Pump Loaning Project on Human Milk Feeding Practice in Preterm Neonates Less Than 32 Weeks of Gestation or Birth Weight Less Than 1,500 g

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Abstract

Objective: Milk expression is the key step of milk production in mothers of preterm infants. Our hospital has started an electrical breast pump loaning program to improve human milk feeding rate in our patients. This study was aimed to assess the beneficial effect of the loaning program.

Materials and Methods: This was an interrupted time-series study. In addition to general information, mothers in the intervention period received electrical breast pump before discharge. Maternal milk volume was recorded for 28 days, and 24-hour-feeding record and recall were used to determine breastfeeding rate at discharge and 6 months postpartum, respectively.

Results: There were 40 mothers, 20 mothers in each group, who participated in this study. Maternal milk volume in the control group was 169.3 + 152.4, 329.5 + 241.6, 547.4 + 390.8, and 704.2 + 439.6 mL/day in first, second, third, and fourth week, respectively. Milk volume in the intervention group was 308.5 + 269.6, 454.1 + 281, 544.9 + 282.2, and 531.9 + 282.2 mL/day in first, second, third, and fourth week. Average frequency of milk expression was higher in the intervention group [5.15 (1) and 6.01 (1.49) times per day, *p*-value 0.04]. There were one (5%) and four (20%) infants in the control and intervention groups who were exclusively breastfed at discharge. At 6 months, eight (40%) infants from each group were still breastfed.

Conclusion: Mothers in the pump loaning program had expressed milk more frequently. Even though maternal milk volume difference did not reach statistical significance, the intervention group had higher milk volume in the first 2 weeks postpartum. There was no difference in terms of feeding type both at discharge and 6 months postpartum.

Keywords: breast milk expression, electric breast pump, human milk feeding, preterm, breastfeeding

Introduction

PRETERM INFANTS FACE many challenges during the early life period. Compared with term infants, preterm infants are at higher risk of mortality and morbidity. Some of these challenges result from immaturity itself, such as respiratory distress syndrome or necrotizing enterocolitis (NEC). Some are the consequences from a combination of immaturity and treatment complications such as bronchopulmonary dys-

plasia and retinopathy of prematurity, or cerebral palsy.¹ Moreover, long-term health and social outcomes such as IQ, deficit in executive function, and behavioral and emotional outcomes are challenges faced by preterm infants.²

Human milk has been recognized as the best medicine in neonatology. It provides uncomparable nutritive factors, growth factors, and immunologic factors. Preterm infants who received a higher dose of human milk have a lower rate of late onset sepsis and NEC.^{3,4} The beneficial effects of

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