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Risk Factors Associated with Weight Loss in Term Breastfed Neonates on Post Natal Day 12

[1]M.S. Shiffana Rukkya and [2]K.E. Elizabeth

[1,2]Department of Pediatrics, Sree Mookambika Institute of Medical Sciences (SMIMS), Kulasekram, India

Abstract

In exclusively breastfed babies generally there is a weight loss of 10% birth weight by postnatal day 3 and the birth weight should be regained by 10 to 14 days but most babies do not regain birth weight by 10 to 14 days. Good practice of breast feeding prevents weight loss in babies. To assess the percentage weight loss between weight on post natal day 1 and weight on post natal day 12 and to find the association between the risk factors and the weight loss in the neonates. Baby weight was recorded on post natal day 1 and post-natal day 12 in 198 babies with gestational age ≥37 completed weeks and birth weight >2500 grams. Percentage difference between the weights recorded on postnatal day 1 and postnatal day 12 are calculated. Descriptive statistics are used for categorical variables and mean and S.D are used for continuous variables. Multiple regression analysis done for significant factors. Among 198 babies, 42 babies had weight loss in which 26 male and 16 female babies. Associated risk factors inadequate feeding time (<10 min) 42.9%, Poor latch score-42.9%, Infrequent feeding-38.1%, Low milk supply-31%. history of Jaundice-31%. We found the following risk factors (duration of feeding session <10 minutes, poor latching, infrequent feeding, low milk supply and jaundice) were associated independently and also interrelated with each other in neonatal loss of weight on post-natal day 12.

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Key Words

Exclusively breastfed, association, percentage difference, weight loss

Corresponding Author

M.S. Shiffana Rukkya,
Department of Pediatrics, Sree Mookambika Institute of Medical Sciences (SMIMS), Kulasekram, India

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INTRODUCTION

In the initial 3 months of life, babies gain 200 grams per week[1]. In exclusively breastfed babies generally there is a weight loss of 10% birth weight by postnatal day 3 and the birth weight should be regained by 10-14 days but most babies do not regain birth weight by 10-14 days[2]. Good Practice of breast feeding initially includes frequent feeding, duration of feeding more than 10 minutes per feed, latch score of more than or equal to 8/10 with the responsive feeding by understanding the hunger cues of the baby and allowing self-regulation by the baby. Which in turn supports the oxytocin reflex and increases the milk supply in the mother and even prevents jaundice in baby. A good practice of breast feeding also prevents the formation of blocked ducts in mothers which may also lead to low milk supply. Feeding problems are common like breast engorgement emptying of hindmilk, poor latch score, lack of confidence and support which leads to inadequate breast feeding and weight loss in baby.

Research Question: What are the factors associated with weight loss in term breastfed neonates on postnatal day 12?

Objectives:

- To assess the percentage weight loss between weight on post natal day 1 and weight on post natal day 12.
- To find the association between the risk factors and the weight loss in the neonates.

MATERIALS AND METHODS

A total of 198 babies with gestational age ≥37 completed weeks and birth weight >2500 grams are recruited for the study. IEC and Informed consent obtained prior to the study. Baby weight was recorded on post natal day 1 and post-natal day 12 on digital weighing machine. Percentage difference between the weights recorded on postnatal day 1 and postnatal day 12 are calculated. Socio demographic factors and feeding practices assessed using questionnaire. Latch score was assessed.

Data was computed and analysed using IBM SPSS windows 29.0. Descriptive statistics are used for categorical variables and mean and S.D are used for continuous variables. Multiple regression analysis done for significant factors.

RESULTS AND DISCUSSIONS

Among the 198 babies, 42 babies had weight loss, in which 26 are male babies and 16 are female babies. Percentage difference between the weights recorded on postnatal day 1 and day 12.

In this study, the minimum weight recorded on the day 12 among the 42 babies is 2.42 and the maximum percentage of weight loss among the 42 babies on day 12 is -5%. Hence there is significant weight loss among these babies observed on post-natal day 12.

Associated factors with the weight loss of the babies on postnatal day 12:

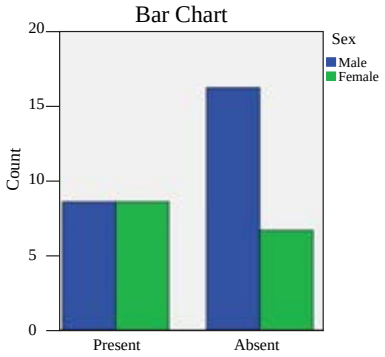

Fig.1: Duration of feed less than 10 min

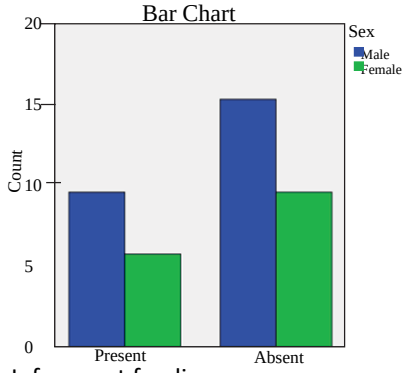

Fig.2: Infrequent feeding

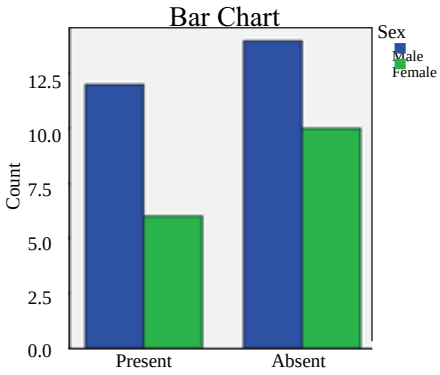

Fig.3: Latch score

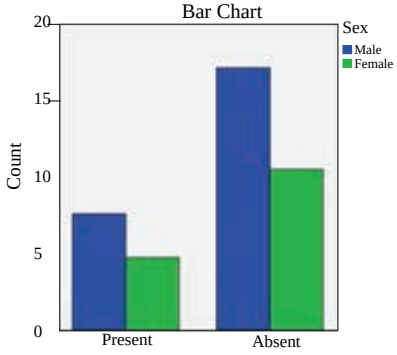

Fig.4: Low milk supply

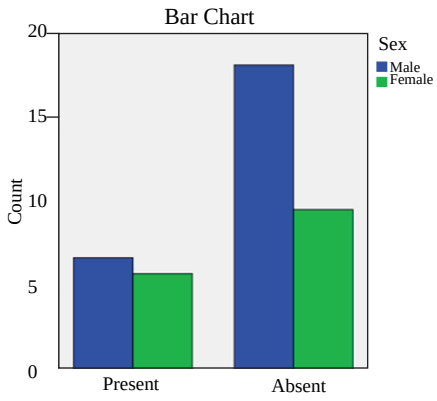

Fig.5: History of jaundice

Table 1: Percentage difference between the weights recorded on postnatal day 1 and day 12

Weight on	N	Maximum	Maximum	Mean	Std. deviation
postnatal day 1	42	2.55	3.68	2.8688	.25598
Weight on postnatal day 1	42	2.42	3.58	2.7615	.24151
Percentage difference in weight	42	-5.00	-.30	-2.2479	1.41895
Valid N(listwise)	42				

Risk Factors Leading to the Weight Loss of the Baby on Post-Natal Day 12 are :

- inadequate feeding time (<10 min)-42.9%.
  Poor latch score-42.9%.
- Infrequent feeding-38.1%.
- Low milk supply-31%.
- history of Jaundice-31%.

More Than one Risk Factors Present in Most Babies:

- 44.4% of babies with Inadequate feeding time (<10 min) had poor latch score.
- In babies with Poor latch score 50% had infrequent feeding and 38.9% had low milk supply.
- 43.8% babies with infrequent feeding had low milk supply.
- 15.4% of babies with low milk supply had jaundice.

In this study, Inadequate feeding time and poor latch score are found to be most frequently associated with the weight loss among the 42 babies. Also, improper feeding practices including short duration of feed (<10 min / feed) and infrequent feeding leads to poor latch score. Inadequate milk transfer and reduced feeding frequency again leads to low milk supply. When baby is not getting enough breast milk, bilirubin levels are increased leading to breast-feeding jaundice[3]. Thus, these risk factors are associated with significant weight loss preventing the attainment of the birth weight by day 10-14 post-natal days.

CONCLUSIONS

We found the following risk factors (duration of feeding session <10 minutes, poor latching, infrequent feeding, low milk supply and jaundice) were associated independently and also interrelated with each other in neonatal loss of weight on post natal day 12.

On average baby should be fed 8 times/ day and 20 -30 minutes/ feed with good latch score for adequate breastmilk intake. The risk factors must be sort out and corrected to ensure Exclusive Breast feeding for attaining weight gain in neonates.

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