



ORIGINAL ARTICLE

Excessive weight loss in exclusively breastfed full-term newborns in a Baby-Friendly Hospital



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KEYWORDS

Newborn;
Breastfeeding;
Weight loss;
Cesarean section

Abstract

Objective: To determine the risk factors for weight loss over 8% in full-term newborns at postpartum discharge from a Baby Friendly Hospital.

Methods: The cases were selected from a cohort of infants belonging to a previous study. Healthy full-term newborns with birth weight $\geq 2.000\text{g}$, who were exclusively breastfed were included and excluded twins and those undergoing phototherapy as well as those discharged after 96h of life. The analyzed maternal and neonatal variables were maternal age, parity, ethnicity, type of delivery, maternal diabetes, gender, gestational age and appropriate weight for age. Adjusted multiple and univariate Cox regression analyses were used, considering as significant $p < 0.05$.

Results: We studied 414 newborns, of whom 107 (25.8%) had excessive weight loss. Through the univariate regression, risk factors associated with weight loss $> 8\%$ were cesarean delivery and older maternal age. At the adjusted multiple regression analysis, the model to explain the weight loss was cesarean delivery (Relative risk 2.27, 95% of Confidence Interval 1.54–3.35).

Conclusions: The independent predictor for weight loss $> 8\%$ in exclusively breastfed full-term newborns in a Baby-Friendly Hospital was the cesarean delivery. It is possible to reduce the number of cesarean sections to minimize neonatal excessive weight loss and the resulting use of infant formula during the first week of life.

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PALAVRAS-CHAVE

Recém-nascido;
Amamentação;
Perda de peso;
Cesárea

Perda de peso excessiva em recém-nascidos a termo amamentados exclusivamente ao seio materno em um Hospital Amigo da Criança

Resumo

Objetivo: Determinar os fatores de risco para perda de peso acima de 8% em recém-nascido a termo por ocasião da alta pós-parto de um Hospital Amigo da Criança.

Métodos: Os casos foram selecionados de uma coorte de recém-nascido, pertencentes a um estudo prévio. Foram incluídos recém-nascidos a termo com peso ao nascer ≥ 2.000 g, saudáveis e amamentados exclusivamente, excluídos os gemelares, os recém-nascidos que usaram fototerapia e aqueles com alta hospitalar após 96 horas de vida. As variáveis maternas e neonatais estudadas foram idade materna, paridade, raça, tipo de parto, diabetes materna, sexo, idade gestacional e adequação do peso para idade. Foram usadas as análises de regressão de Cox univariada e múltipla ajustadas e foi considerado significativo $p < 0,05$.

Resultados: Foram estudados 414 recém-nascidos dos quais 107 (25,8%) tiveram perda excessiva de peso. Pela regressão univariada, os fatores de risco associados à perda de peso >8% foram parto cesárea e maior idade materna. Pela análise de regressão múltipla ajustada, o modelo para explicar a perda de peso foi o parto cesárea (Risco Relativo: 2,27 e Intervalo de Confiança 95%: 1,54–3,35).

Conclusões: O preditor independente para perda de peso maior do que 8% em recém-nascidos a termo amamentados exclusivamente em um Hospital Amigo da Criança foi a cesárea. É possível que a redução do número de cesáreas possa minimizar a perda de peso neonatal excessiva e o consequente uso de fórmula láctea na primeira semana de vida.

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Introduction

Almost all newborns lose weight on the first days of life.¹ Given this high frequency, the authors call it physiological weight loss.² Most studies suggest that the loss corresponds mainly to fluid reduction,¹ but it is also a consequence of the use of adipose tissue as a source of energy by the newborns.²

On the first 2–3 days of life,³ newborns that are exclusively breastfed lose on average between 5% and 7% of their birth weight.¹ The maximum physiological limits of weight loss for newborns that are exclusively breastfed are controversial. Thus, a weight loss of 10% can be considered normal or acceptable,^{4–6} although there have been references about 7% values.⁷

The evolution of the newborn's weight on the first days of life is used as an indicator of breastfeeding adequacy.⁷ Thus, the percentage of weight reduction in relation to birth weight can be one of the parameters used for the introduction of formula.⁸

The subject has attracted increasing interest due to the large number of aspects with low levels of evidence. However, the percentage of weight loss that indicates formula supplementation, the decrease in weight compatible with safe hospital discharge and the time required for weight recovery remain to be defined.⁹

UNICEF's Baby Friendly Hospital initiative¹⁰ recommends exclusive breastfeeding, but the short-term impact of this practice on weight evolution is little known.

Regarding the possible markers associated with weight loss, there are publications involving infants with partial feeding, i.e., babies that are breastfed and also receive

formula supplementation.^{11,12} In these studies, the factors associated with weight loss are multiple and among them is the cesarean delivery. On the other hand, there have been few studies in newborns that are exclusively breastfed^{3,13} and in Baby-Friendly Hospitals.^{14,15} The aim of this study was to determine the risk factors for weight loss greater than 8% in full-term newborns that are exclusively breastfed in a Baby-Friendly Hospital.

Method

A secondary analysis was performed on data from a previously published study ($n=608$) carried out from 06/2008 to 10/2008.¹⁶ The weight gain of a cohort of full-term newborns with birth weight ≥ 2.000 g and ≥ 37 weeks gestational age was prospectively assessed at birth and at hospital discharge. Newborns that received formula supplementation or exclusive formula, twins, newborns whose discharge occurred after 96h of life and those submitted to phototherapy during hospitalization after birth were excluded.

The newborns were weighed at birth and on the day of discharge, without clothes, using a Filizola™ scale, with a sensitivity of 5g. The study site is a public, tertiary hospital, which has adhered to the 10 recommended steps and received the title of a Baby-Friendly Hospital 12 years ago.¹⁰

Hospital discharge at this service routinely occurred after 48h of life in cases of vaginal delivery and 72h after cesarean delivery. The mean length of stay in this cohort of newborns was 58.9 ± 9.9 h, with a minimum of 41 and maximum of 96h, according to the exclusion criterion.

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