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Effect of different levels of oral bovine lactoferrin from iron-fortified formula on iron metabolism of anemic infants

Ke Chen
Sichuan Medical Research foundation, China

Objective: To evaluate the effect of iron-fortified formula with different concentrations of bovine lactoferrin (bLF) on improvement of the anemic status in term infants who previously breast-fed.

Method: In this prospective multi-center controlled intervention study, a total of 108 infants aged 6-9 months who previously breast-fed but weaned were selected. All subjects were divided into three groups with the sequence of outpatient: fortified group 1(FG1) with a bLF concentration of 38 mg/100 g, FG2 with 76 mg/100 g, FG0 with free of bLF. The intervention duration were 3 months. The levels of weight, height and head circumference and the concentration of hemoglobin (Hb), serum ferritin (SF), serum transferring receptor (sTfR) were measured and sTfR-SF index (TFR-F index) and total body iron content (TBIC) were computed before and after intervention, respectively.

Result: The primary outcome measures were obtained from 96 infants (35, 33 and 28 for FG0, FG1 and FG2, respectively). After 1 mon intervention, the changes of Hb level showed no statistical difference [(113.18±10.2), (109.78±8.3) vs (111.83±8.6)g/L, for FG0,FG1 and FG2, respectively] among the three groups, however, the Hb level of infants in FG2 were significantly higher than those of infant in the other two groups after 3 mon intervention[(116.49±8.0), (116.58±6.4) vs (121.50±5.1)g/L, for FG0,FG1 and FG2, respectively] ($p<0.05$).

Conclusion: The present data indicated that the formula fortified with bLF by 76mg/100g formula positively and additionally affected the Hb of anemic infants who previously breastfed when compared with bLF fortified by 38 mg/100g formula and formula without bLF.

263662086@qq.com