

Thesis Title Relationship between Macronutrients in Serum and
Milk in Diabetic Mothers
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Abstract

Thirty-two non insulin dependent diabetic and 64 normal mothers from Rajavithi and Siriraj Hospitals during August 1992-January 1993 were recruited to be subjects for this study. The aim of this study was to compare the macronutrients level in serum and milk of diabetic and normal mothers. The study also investigated the relationship between macronutrients in colostrum and mature milk of diabetic and normal mothers.

Fasting blood of each subject was taken at the 3rd day and milk was collected both at the 3rd and 30th day after delivery. Dietary assessment was carried out by using 24 hr. recall technique. Other information was obtained by interviewing the subjects.

The results showed that the concentration of fat in colostrum in diabetic mothers were significantly higher than normal mothers at $P\text{-Value} = 0.0134$. There were no significant differences in the concentration of lactose and protein in colostrum in diabetic and normal mothers. The concentration of glucose in serum at the third day after delivery from diabetic mothers was significantly higher than normal mothers at $P\text{-value} < 0.0001$. There were no

significant differences in the concentration of serum protein and triglyceride in diabetic and normal mothers. There was a positive correlation between macronutrients in serum and milk of diabetic and normal mothers. There was a significant relationship between the concentration of fat in colostrum and the concentration of triglyceride in serum in diabetic mothers ($r=0.8370$, $P\text{-Value} < 0.0001$). Comparison of macronutrients in colostrum and mature milk showed that the concentration of lactose, protein, and fat in colostrum was higher than mature milk in both groups. Only the concentration of fat in colostrum was significantly higher than in mature milk at $P\text{-Value} = 0.029$.

The recommendation was that diabetogenic state effected the concentration of fat in milk in diabetic mothers higher than normal mothers. It also had higher energy too. So we should promote the breast feeding because the baby from diabetic mothers had more weight than the baby from normal mothers.