Quantification of Colostrum's Proteins and Fats from Women with Different Body Mass Index

Sales, M.F.; Alves, R.R.; Melo, S.B.O.; Pizzi, V.L.M.; Oliveira-Neto, O.B.; Vasconcelos, E.A.R.

Departamento de Enfermagem, Faculdades Integradas da União Educacional do Planalto Central – FACIPLAC, DF. Brasil.

INTRODUCTION. The physical and physiological features of the pregnant woman can cause variations in the composition of mammary secretions, including colostrum, which could affect some biological properties of such secretion, as immunological and nutritional features. Aiming to characterize the protein and fats content of colostrums, a quantitative analysis of total proteins, triglycerides and cholesterol were performed in three groups of women, accompanied at Hospital Regional do Gama, and which were classified according to the body mass index (BMI).

MATERIAL AND METHODS: Colostrum was collected from puerperal women and then stored at -20 °C in 15 ml corning tubes to the quantification of proteins, triglycerides and cholesterol. The samples were classified into three groups according to BMI (low; normal and high), and then combined and homogenized. Proteins were measured according to the Bradford method, and then analyzed by electrophoresis. Triglycerides and cholesterol content were estimated through enzymatic assay (Doles Reag. Equip. LTDA). DISCUSSION AND RESULTS: The results showed that as high is the women BMI, lower is the protein content in the colostrum. This relation is not observed when the fats content is evaluated. Triglycerides and cholesterol content increase according to the increase of women BMI. The electrophoretic assay showed a high proportion of albumin in all groups, and the Immunoglobulin content is significantly lower. The volume of albumin and immunoglobulin bands does not change when the BMI is considered. CONCLUSION: The women BMI is related to biochemical variations in the colostrum. As higher is the women BMI, higher is the fats content in such secretion, in the other hand, lower is the protein content. The lower protein content in high BMI women could lead to a deficient immunological property of this mammary secretion.

Keywords: colostrum, proteins, triglycerides, cholesterol, BMI