

LONG CHAIN FATTY ACIDS IN BREAST MILK OF THE MOTHER'S OF PRETERM AND TERM NEWBORNS

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Background. The supply of polyunsaturated fatty acids (LCP) with human milk is of great importance for development of the infant. The supply may be influenced by mother's diet. Objective of the study was to detect the composition of fatty acids in the colostrum and mature milk after term and preterm delivery. Subjects and methods: Milk samples were obtained at day 3-4 after term delivery (n=15) and at day 14 after preterm (n=20) and term delivery (n=92). 94 mothers were questioned about different foods used during one month before the breast milk sample was collected. The fatty acid composition was analysed by high resolution gas liquid chromatography. SAS system was used for statistical analysis, differences were evaluated by Student's t-test and Mann-Whitney U-test. Results. No significant differences were detected in the content of total n-6 and n-3 LCP in breast milk after term and premature delivery. Significant differences occurred between colostrum and mature milk. α -linolenic acid was higher in breast milk (respectively $1,44\pm 0,09\%$ and $0,93\pm 0,04\%$; $p<0,0001$). Arachidonic acid (AA) and docosahexaenoic acid (DHA) were significantly higher in colostrum (AA respectively $0,72\pm 0,03\%$ and $0,50\pm 0,02\%$ $p<0,0001$; DHA respectively $0,81\pm 0,05\%$ and $0,63\pm 0,02\%$ $p<0,0001$). n-6/n-3 LCP ratio occurred to be similar in both milks. Most mothers reporting fish consumption showed lower arachidonic ($p=0,046$) and higher docosahexaenoic acid ($p=0,005$) in breast milk. Conclusions. LCP did not differ in the mature milk after preterm and term delivery. The study highlighted the importance of colostrum and exact recommendations in mother's diet after birth.

