The Effects of a 16-Week Exercising Program on Inflammatory

Markers in Human Milk

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Exercising during pregnancy is prominent for lowering systemic inflammation. Information on the effects that exercise has on human milk inflammatory markers is limited. The purpose of this study is to determine the effects of a 16-week exercise program on inflammatory cytokines in human milk. The human milk samples were collected from 2003-2010 during two postpartum breastfeeding exercise interventions, the Breastfeeding for Healthy Infants and Postpartum (Be HIP) and Be HIP Too. The exercise protocol for both studies included an in home 60-minute aerobic exercise with strength training three days per week. The human milk was collected by participants during the first or second feed of the morning. Aliquot 1- ml samples tubes and stored (never thawed) in a -80. Human milk samples will be analyzed using the MILLIPLEX MAP Human High Sensitivity T Cell Panel - Immunology Multiplex Assay (HSTCMAG-28SK) for nine analytes: IL-1β,IL-2,IL-4,IL-6,IL-8/CXCL8,IL-10,IFN-γ,TNF-α,Fractalkine/CX3CL1. A chronic exercise routine has the potential to lower pro-inflammatory cytokines. Additionally, exercise may increase the fractalkine concentrations within human milk, which may foster neurodevelopment and neuroprotection in newborns.