

Effects of pasteurization and refrigerated storage on human milk neurobiomarkers concentrations

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Proposition accompanying the dissertation

EFFECTS OF PASTEURIZATION AND REFRIGERATED STORAGE ON HUMAN MILK NEUROBIOMARKERS CONCENTRATIONS

Chiara Peila

Maastricht, September 12th, 2018

1. Fresh own mother's breast milk is the first choice in preterm infant feeding, and provides significant health benefits. When mother's own milk is not available, the use of donor milk is highly recommended since it retains most of these benefits. *This thesis*
2. Storage and processing of donor milk require a pasteurization step (Holder Pasteurization) and refrigerated storage. These processes can potentially reduce some of the biological components of human milk, thus resulting in a partial loss of its health benefits. *This thesis*
3. Results reported that donor milk treatments can affect, to some extent, the milk components. *This thesis*
4. Although Holder Pasteurization affected about 30% of protein profile no significant changes in the concentration of neuroprotein activin A and antioxidant HO-1 were observed in mother milk of preterm and term newborns at different stages of maturation. *This thesis*
5. Holder Pasteurization significantly decreased the concentration of a well-established neurotrophic factor namely S100B protein. *This thesis*
6. Refrigeration procedures showed to degrade adrenomedullin levels up to 98% of the total peptide at 96 hours from storage. *This thesis*
7. Further data concerning the metabolic fate of milk biomarkers in the gastro-enteric tract are needed to corroborate the hypothesis that these participate in the nutritional effects of milk and in its immuno-regulatory and trophic roles. *This thesis*
8. The purpose of human life is to serve, and to show compassion and the will to help others. *Albert Schweitzer*
9. The true delight is in the finding out rather than in the knowing. *Isaac Asimov*
10. They say a little knowledge is a dangerous thing, but it is not one half so bad as a lot of ignorance. *Terry Pratchett*