

ASSOCIATION BETWEEN PRETERM BREASTMILK MELATONIN CONCENTRATION, MATERNAL NUTRITION AND PSYCHOSOCIAL FACTORS AT BIRTH (ProMote)

Theano Kokkinaki^a, Nicole Anagnostatou^b, Maria Markodimitraki^c, Theano Roumeliotaki^d, Manolis Tzatzarakis^e, Elena Vakonaki^e, Giorgos Giannakakis^{f,g}, Aristidis Tsatsakis^e, Eleftheria Hatzidaki^b

^a Child Development and Education Unit, Laboratory of Applied Psychology, Department of Psychology, University of Crete, contact: kokkinaki@uoc.gr; ^b Department of Neonatology/Neonatal Intensive Care Unit, University Hospital of Heraklion, School of Medicine, University of Crete; ^c Department of Preschool Education, University of Crete; ^dDepartment of Social Medicine, School of Medicine, University of Crete; ^e Laboratory of Toxicology, School of Medicine, University of Crete; ^fInstitute of Computer Science, Foundation for Research and Technology, Heraklion, Greece; ^gDepartment of Electronic Engineering, Hellenic Mediterranean University, Greece

Background and aims: Preterm birth leads to sudden interruption of transplacental transfer of melatonin that normally takes place during the last part of the pregnancy. Breastmilk is the only source of melatonin for the preterm neonate, during the first few months of life. Maternal nutrition and psychosocial factors have been associated with breastmilk melatonin. The main aim of this study is to explore the way maternal nutrition and psychosocial factors are associated with preterm breastmilk melatonin concentration.

Methods: The study population includes 50 mothers and their preterm neonates (<37 weeks) hospitalized in the Neonatology Department / NICU of the University Hospital of Heraklion. Mothers of preterm neonates were asked to collect 5-10ml of nighttime breastmilk with the use of an electrical pump between 01:00-05:00 a.m. The milk was collected in a sterile container and frozen immediately at -80°C until analysis. Within the first 3 days after birth, the following maternal psychosocial factors were assessed: Depressive symptoms (*Edinburgh Postnatal Depression Scale*); Anxiety (*The Spielberger State-Trait Anxiety Inventory for Adults*); Family functioning (*The Family Adaptability and Cohesion Evaluation Scales IV Package*). Maternal nutrition according to factors that may affect levels of breastmilk melatonin were assessed.

Results: Data collection is in progress. We expect variations of breastmilk melatonin according to maternal nutrition and psychosocial factors.

Conclusions: This study may extend our understanding about breastmilk melatonin and may support the promotion of exclusive breastfeeding of premature neonates in the first 6 months of their life and maternal-child health by nurse professionals.