Marcadores Fisiológicos de Processamento Sensorial do Recém-Nascido

Results:

The main objective of this study was to identify physiological markers of the sensorial processing of the newborn and relation with behavioral measures. In order to accomplish this aim, we collected: a) EEG, physiological and neurobehavioral measures at 1-month-old; and 2) behavioral and cognitive measures at one-year old.

Results showed that when considering the visual and auditory evoked potentials, no statistically significant differences were found between the three intensities. However, when correlating the physiological data with the neurobehavioral assessment, we verified that higher ERP amplitudes (e.g. P100) were observed for higher stimuli intensities, which were further correlated with neurobehavioral domains that characterized more reactive infants. For the physiological measures, statistically significant differences were found in the Cardiac Frequency to visual stimuli, where higher frequencies were also observed for higher intensities. Moreover, these increased physiological reactivity was correlated with the neurobehavioral domain *Autonomic System*, suggesting that increased physiological response to higher intensity stimuli were observed in more reactive infants. With respect to auditory stimulus, we did not observed differences between intensities. Additionally, when Respiratory Frequency was analyzed, we did not observe differences between the three intensities for visual and auditory stimuli. Nevertheless, when correlating the physiological data with the neurobehavioral assessment, hyper-reactive domains were correlated with higher respiratory frequencies. These findings suggest that infants who presented more reactive neurobehavioral features tend to present a more reactive physiological pattern to external stimuli.

Published works:

Full papers

Infant Mental Health Journal: Góis-Eanes, M., Gonçalves, O., Caldeira-da-Silva, P., & Sampaio, A. (2012). Biological and Physiological Markers of the Tactile Sensorial Processing in Healthy Full-term Newborns, 33(5), 535–542.

Area(s) of interest:

Psychology, Neurodevelopment, Developmental Disorders; Psychophysiology; Event-Related Potentials

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