

## THE MOTOR BEHAVIOR OF PRETERM VS FULL-TERM INFANTS TO EARLY IDENTIFY RISK FOR NEUROMOTOR DISORDERS – CROSS-SECTIONAL STUDY

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**Background:** Prematurity has a high incidence in Brazil and worldwide. It is an important risk factor for neuromotor disorders, such as cerebral palsy. Early detection may be performed by the assessment of *General Movements* (GMs) and the *Infant Motor Profile* (IMP), which have adequate psychometric properties. Early detection is essential to refer infants to early intervention as soon as possible so they may take advantage of their sensitive development period.

**Objective:** To compare the motor behavior of preterm vs full-term infants at 4 months of age to identify risks for neuromotor disorders early.

**Methods:** At 4 months of age, 5 preterm infants with corrected age ( $35.6 \pm 1.0$  weeks of gestational age [GA]) were evaluated, exposed group (EG); and 5 term infants ( $39.5 \pm 0.8$  weeks GA), comparison group (CG). The dependent variable was motor behavior, measured by the Assessment of the quality of GMs, Hadders-Algra classification, and the IMP. The assessment of GMs classifies motor behavior into normal optimal, normal suboptimal, moderately abnormal, and abnormal categories, according to the complexity, variation, and fluency of the GMs. The IMP evaluates variation, adaptability, fluency, symmetry, and performance. Assessments were scored independently by two physiotherapists who were blinded to the groups and had adequate inter- and intra-reliability. Descriptive analysis and comparison tests between groups were applied (independent samples *t*-test or *Mann-Whitney test*), significance level  $< 0.05$ , by the SPSS.

**Results:** The EG had significantly the lowest GA ( $p$ -value $<0.00$ ; Cohen's  $r=0.90$ ), weight ( $p$ -value $=0.05$ ; Cohen's  $r=0.57$ ), and head circumference at birth ( $p$ -value $=0.05$ ; Cohen's  $r=0.58$ ). The EG showed significantly less motor behavior variation in the IMP ( $p$ -value $=0.01$ ; Cohen's  $r=0.58$ ) in comparison with CG. The infants did not present a significant difference regarding the classifications of the GMs. However, it was observed that only one infant from the EG presented the definitely abnormal category, at 4 months of age.

**Conclusion:** Premature infants showed less variation in motor behavior. Drawing attention to preterm infants is needed, as the atypical variation may indicate a high risk for neuromotor disorders. All infants evaluated in the present study were born during social isolation, a strategy to contain the pandemic caused by COVID-19. This fact may reflect the lack of significant difference between the groups in the evaluation of the GMs and in domains of IMP, i.e., adaptability, fluency, symmetry, performance, and IMP total score. Thus, the importance of monitoring the development of infants with predictive tools for early detection is highlighted.

**Implications:** Deficits in motor behavior domains during the first months of life may be indicative of risks for neuromotor disorders. It may be used as a parameter to indicate alterations in the structures and functions of infants at risk. Infants in the first months of life must be evaluated and monitored since early detection is fundamental to individualized early intervention diagnosis, prematurity; child development.

**Keywords:** Infants, Neuromotor, Physical Therapy

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## IMPACT OF FIBROMYALGIA ON PHYSICAL ACTIVITY LEVEL AND HEALTH PERCEPTION IN WOMEN

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**Background:** Fibromyalgia is a disease characterized by diffuse and chronic musculoskeletal pain, which negatively affects multiple functional activities. There is evidence that women with fibromyalgia remain most of their waking time under sedentary behavior and reduced motor activity. Monitoring these variables in people with fibromyalgia becomes relevant because physical activity level and sitting time can be associated with perceived health.

**Objectives:** To assess the physical activity level, sitting time, and health perception in adult women with and without fibromyalgia.

**Methods:** The casuistry consisted of women aged between 18 and 50 years old with a diagnosis of fibromyalgia (fibromyalgia group, FG,  $n=22$ ) or without fibromyalgia or another painful fibromyalgia condition (control group, CG,  $n=19$ ). The short version of the International Physical Activity Questionnaire (IPAQ) was used to assess physical activity level, sitting time and health perception. Statistical analysis: Student's *t*-test or *Mann-Whitney test*, *Chi-square test* or *Fisher's exact test*, a significance level of 5%.

**Results:** The groups were homogeneous regarding age (FG,  $37.5 \pm 7.6$ ; CG,  $34.5 \pm 6.6$  years,  $p=0.182$ ). There was no difference between groups for sitting time (FG,  $438 \pm 196$ ; CG,  $322 \pm 208$  min/day;  $p=0.074$ ); the total energy expenditure with physical activity practice per week was greater in FG than in CG (FG,  $1429 \pm 1491$ ; CG,  $2010 \pm 3431$  MET-minutes/week;  $p=0.036$ ). In the FG group, there was a predominance of participants with a moderate level of physical activity (45.5%,  $n=10$ ), while in the CG the highest proportion was of a high level of physical activity (56.2%,  $n=10$ ), but there was no significant difference for these proportions ( $p=0.177$ ). Furthermore, in FG (59.1%,  $n=13$ ), the proportion of participants who reported poor-fair health perception was higher than in CG (5.3%;  $p<0.001$ ).

**Conclusion:** Adult women with fibromyalgia have lower energy expenditure related to the physical activity practice and worse health perception than women without fibromyalgia.

**Implications:** The results may contribute to developing strategies to encourage regular physical activity, reducing the adverse health effects associated with a sedentary lifestyle in people with fibromyalgia.

**Keywords:** Sedentary Behavior, Exercise, Fibromyalgia

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