

Sensory integration from an occupational therapy perspective

Abstract

An analysis of Sensory Integration in the view of Occupational Therapy (OT) in Neonatal Intensive Care Units (NICUs), which is important for the development of newborn babies, considering the medical and surgical involvement, and the excessive sensory stimuli to which these babies are subjected at a stage when they should be in an intrauterine environment. Occupational Therapy (OT) is fundamental to Sensory Integration as it combines theoretical concepts, the needs of preterm babies, their families and the environment, with practice. An interview script was used to gather information about the units, and nine health professionals who worked in the area, or in pediatrics with premature babies, took part. It was found that there is a great shortage of professionals in the NICU teams, essentially in rehabilitation, and that OT is proving to be an asset in the rehabilitation process of this population.

Keywords: neonatal intensive care units, preterm infant, occupational therapy, sensory integration, sensory modulation

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Introduction

Interesting to note that premature babies also need parental contact in their early days. While they are extremely vulnerable to environmental stimulation, intervention through continuous parental contact is a lifeline. It is therefore important for parents to be involved in their child's day-to-day life, which begins in the Neonatal Intensive Care Unit (NICU), taking into account their premature condition. This context, "surrounded by wires, monitors, devices, incubators and other materials", makes it difficult for the baby to start life, since the contact they have with the outside world is essentially through painful interventions, in the presence of almost constant noise. In addition, these newborns will remain in these units until they reach "a stability of development and maturation that allows them to grow up at home with their parents".¹ The professionals who work in these units must have training in the area of intervention, as they will have to face numerous barriers, both in terms of theory and practice and human contact. In this process, parents and children are separated after birth, and it is essential to understand that these babies also have to progressively reach the stages of their development but with some difficulties, taking into account the limitations of adaptation since the extra uterine environment was started earlier and, as a consequence, in an environment for which none of the participants were prepared. Thus, taking into account that premature babies have more vulnerable sensory processing thresholds (hypo- or hyperactivity), they may not be able to protect themselves from the intense stimuli that the environment provides. In Portugal, prematurity is around 8% and the prevalence of premature babies under 32 weeks is 1.2%. Portugal is ranked 9th out of 162 countries, which makes it a good place to be born and grow up, given that the neonatal mortality rate is 1.8/1000 live births. The risk of developing perinatal complications is directly proportional to the decline in gestational age and birth weight. Children born before the 25th gestational week have high mortality rates, around 50%, and in some units this gestational age is considered the limit of fetal viability.² It should be noted that Sensory Integration stands out for being a Framework of Reference conceptualized by Jean Ayres, addressing the principle of intersensory integration as being fundamental to the individual's function, while dysfunction at this level leads to alterations in development, learning and

emotional regulation.³ It is based on the concept of neuroplasticity, since the nervous system changes in response to experiences in the environment. Thus, intervention based on this framework involves guided involvement through sensorimotor activities incorporated into the baby and child's main occupation, i.e. playing, thus promoting neuroplastic changes leading to adaptive behaviors in relation to the experiences provoked during the intervention.³

Materials and methods

Nine female subjects were selected, aged between 28 and 64, eight of whom were Portuguese and one Brazilian.

Conclusion

According to the study, a fundamental aspect is the fact that the literature review is in line with the results obtained through the methods and methodology used. The Occupational Therapist makes an essential contribution to this population in terms of adapting the physical environment, feeding, positioning, sleep-wake cycles, sensory processing, making splints, as well as centralizing the role of parents in this process, providing them with strategies. Taking into account the reports made by the professionals surveyed, most of them described that it is not always possible to meet the needs of preterm babies, due to the lack of professionals, essentially rehabilitation professionals such as Occupational Therapy. As one of the main limitations, the group highlights the scarcity of rehabilitation professionals working in this area, making it impossible to conduct at least one interview with each professional area present in the NICUs. It is understood that the intervention of the multidisciplinary team is considered an essential requirement in the approach to the premature newborn. The compilation of all areas of intervention together with empathy and mutual respect lead to the promotion of an effective development process for the preterm newborn. However, it should be noted that the information gathered from nine interviews allowed us to reach conclusions that were elucidating according to the theme. It was felt that there is a shortage of occupational therapy professionals in Portugal in this area, and that they do not work full-time in these units. In short, the relevance of the Occupational Therapist's work within the thematic blocks addressed was highlighted.

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Conflicts of interest

The authors declare that there is no conflict of interest.

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