

**Natureza do trabalho:** Resumo

TÍTULO

*SLEEP AND LEARNING*

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RESUMO

**Introduction:** Sleep is of utmost importance in quality of life. It is known that it differs from individuals in neonate, infant and adult states, in quantity and proportion, REM sleep and slow wave sleep. **Literature Review:** Neonates have a sleep pattern, which is distinct from adults, with longer lasting and divided into several parts. Moreover, it can be observed distinct patterns of sleep, classifying them in neonates as quiet (similar to non-REM except for interleaved patterns of high and low amplitude EEG) and active (similar movements to REM, but with differences in EEG patterns). It is not precisely known how sleep is related to memory consolidation. However, it was observed that the shape newborns take while fall asleep may be conducive for learning, as any stimulus received during wakefulness will have benefited consolidation by the subsequent sleep. The active sleep presented by neonates is vital for neuroplasticity because it provides endogenous stimuli for synapses' formation. Thus, there is a prevalence for this kind of sleep in infancy. The slow-wave sleep is related to the repetition of neural patterns acquired during wakefulness. In this kind of sleep there are sleep spindles, which are originated in the hippocampus and possibly affect the memory consolidation, taking the information from the hippocampus to the neocortex. **Conclusion:** There are several studies demonstrating the importance of sleep for learning and memory consolidation. The processes that occur in this physiological state are especially relevant in infancy period, which is characterized by high levels of neuroplasticity and ease of synaptic consolidation.