







**Abstract**

## **Sleep parameters in postmenopausal women and their relationship with moderate-vigorous physical activity**

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Menopause is associated with decreased physical activity and sleep disturbances. Short sleep duration and poor sleep quality have been associated with an increased risk of falls, obesity, and type 2 diabetes. It's important to understand how physical activity influences sleep health in postmenopausal women. The purpose of this study was to analyse the variation of sleep duration and quality as a function of moderate-vigorous physical activity (*not recommended*, MVPA<150 min/week; *recommended*, MVPA between 150 and 300 min/week; *highly recommended*, AFM>300 min/week). The sample included 40 postmenopausal women (57.28±5.68 years) enrolled in the Meno(s)Pause+Movement, 85% documenting the use of hormone therapy. Sleep (TST, total sleep time; SOL, sleep

onset latency; SE, sleep efficiency; SFI, sleep fragmentation index) and physical activity were estimated using ActiGraph GT3X+ activity monitors. Physical activity was classified according to WHO (2020) guidelines and body composition was measured using bioimpedance (InBody 120). One-way ANOVA was used to compare the means of the variables in the MVPA groups being considered a 5% degree of statistical significance. Women taking medication that influenced sleep were eliminated from the analysis. The research was approved by the Ethics Committee of the UTAD (ref. Doc77-CE-UTAD-2022). Most of the sample showed fat mass  $\geq 35\%$  (65%) and visceral fat  $>9$  points (72.5%). The average MVPA was 299,05 min/week, with 30 women showing levels of at least 150 min/week. All participants presented SFI $>5$  number of events (25,66 $\pm$ 6,38 number of events) and SOL $\leq 30$  minutes (2.83 $\pm$ 1.29 min). The average TST was 7.38 ( $\pm 0.50$ ) min/day, with 75% showing recommended values. The MVPA groups did not produce a differentiated effect ( $p > 0.05$ ) on the parameters related to the duration and quality of sleep. There is no relationship between MVPA and sleep duration and quality in postmenopausal women. A replication study in a larger sample is suggested.

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## **References**

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