

Conclusion: The results showed poor sleep quality by PSQI, moderate sleep efficiency, lower sleep latency and good total sleep time. Regarding the level of physical activity, it was demonstrated that most of these patients were insufficiently active.

Implications: Identifying these changes in these patients will imply the structuring of measures to prevent further complications of the disease and rehabilitation of these repercussions in clinical practice.

Keywords: COVID-19, Sleep parameters, Level of Physical Activity

Conflict of interest: The authors declare no conflict of interest.

Acknowledgment: Not applicable.

Ethics committee approval: Ethics and Research Committee of the Federal University of Pernambuco CAEE: 59828622.0.0000.5208 Notion of number: 5.536.992.

<https://doi.org/10.1016/j.bjpt.2024.100693>

97

CAN MUSCLE POWER TRAINING AID THE BIOMECHANICAL AND PHYSIOLOGICAL ADAPTATIONS IN ENDURANCE RUNNERS?

Danilo Fonseca Leonel¹, Jonatas Ferreira Silva Santos¹,

Alysson Afonso Nadalin Enes², Gustavo Oneda³,

Walter Luiz Arcanjo Júnior¹, Fernando Joaquim Gripp Lopes¹

¹ Universidade Federal dos Vales do Jequitinhonha e Mucuri (UFVJM), Juiz de Fora, Minas Gerais, Brasil

² Universidade Federal do Paraná (UFPR), Curitiba, Paraná, Brasil

³ Universidade Federal de Santa Catarina (UFSC), Florianópolis, Santa Catarina, Brasil

Background: The performance of long-distance runners is predicted by the interaction between physical variables, and plyometric and endurance training can change the interaction between these variables. In this way, it becomes necessary to investigate these promoted adaptations and how their transfer to performance occurs.

Objectives: The study aimed to verify the combined effect of plyometric and endurance training on performance variables in long-distance runners.

Methods: The sample consisted of 23 male runners between 18 and 50 years old, athletes of 10km races and divided into two experimental groups: combined training (CT; Plyometric + endurance training; n = 11) and isolated training (ET; endurance training only; n = 12). The volunteers were submitted to two moments of evaluation, performed before and after the experimental protocol, consisting of anthropometric evaluations, muscle power, running economy, biomechanical test, maximum progressive test, and 10-km performance. For the experimental protocol, the volunteers were divided into pairs into the ET or CT groups according to the result obtained in the 10-kilometer test performed before the start of training. At the end of the experimental protocol (8 weeks), the athletes were reassessed, and the tests used were the same as those used in the initial assessment.

Results: In muscle power tests, a significant increase in jumps (CMJ and SJ) was reported at the end of training, regardless of the evaluated group. In the biomechanical variables, an increase in contact time with the ground and vertical oscillation was found, in addition to a decrease in stride frequency and leg stiffness at the end of the training protocol, in both analyzed groups. Regarding the physiological variables, an increase in running economy, respiratory compensation points and peak velocity on treadmill was found, but $\dot{V}O_{2max}$ remained stable after the experimental protocol. Finally, the final performance in the 10km did not show a significant effect, but the race strategy (initial phase) and peak velocity increased in both groups.

Conclusion: CT (endurance + plyometrics) elicited similar changes in muscle power, biomechanical, physiological and performance variables, when compared to runners who performed ET.

Implications: Even with the lowest volume of running in the CT group, the effects were similar to the group that only performed ET, a relevant finding when considering that a high volume of running training can lead to injuries due to stress or repetition. Based on our findings, it is recommended to include neuromuscular training in weekly training routines, with the insertion of activities aimed at improving contact with the ground, technical efficiency and energy use of the muscle stretching-shortening cycle. It is also suggested that the neuromuscular training load is established according to the periodization and is frequently controlled from the optimal height of the vertical jump. Finally, plyometric activities should be included in specific periods of the training routine, in which the main objective is to improve muscular power.

Keywords: Sport, Strength training, Runners, Performance

Conflict of interest: The authors declare no conflict of interest.

Acknowledgment: Not applicable.

Ethics committee approval: Universidade Federal do Paraná (UFPR). (02487418.8.0000.0102).

<https://doi.org/10.1016/j.bjpt.2024.100694>

98

WORK-RELATED INJURIES AND PHYSIOTHERAPIES: A BIBLIOMETRIC ANALYSIS

Danilo Silva Barbosa¹, Eduarda Elisa Martins Amaral¹,

Naicha Stefanie Félix Souza¹, Lucas Fernando Alves e Silva¹,

Alex Harley Crisp¹

¹ Universidade Federal do Pará (UFPA), Instituto de Ciências da Saúde, Belém, Pará, Brasil

Background: Every year, millions of workers are affected by repetitive strain injury (RSI) and work-related musculoskeletal disorders (WMSDs), which affect muscles, nerves, ligaments, and tendons due to repetitive strain and overuse. Through bibliometric analysis on RSI/WMSD, it is possible to identify knowledge gaps, expanding areas of research, and emerging trends that may guide future studies and contribute to the advancement of the field.

Objective: Conduct a bibliometric analysis of primary studies on RSI/WMSDs at work and physiotherapies.

Methods: The Boolean search strategy ("Occupational Repetitive Strain Injuries" OR "Work-related Musculoskeletal Disorders" OR "WMSDs" OR "work-related injuries" OR "Occupational injuries" OR "Repetitive Strain Injury" AND "Physiotherapy" OR "Physiotherapy") was performed in March and May 2023 in the Web of Science and Scopus databases, applying a filter for original articles. The records were saved in Plain Text and BibTeX format and analyzed in R (version 4.2.2) using the "bibliometrix" package (version 4.1.2).

Results: We identified 4.543 articles in the Web of Science and 634 articles in Scopus, with a total of 12.041 authors involved, published between 1952 and 2023. The growth rate was 6,53% per year, with an exponential increase from 1994 onward. The studies were published in 1093 scientific journals, with *American Journal of Industrial Medicine* magazine standing out (n = 368). Barbara Silverstein, from the University of Michigan, EUA, had the highest number of publications (n=37), being recognized as a reference in the areas of worker health and work safety. The article entitled "*Comparison of Selfreport Video Observation and Direct Measurement Methods for Upper Extremity Musculoskeletal Disorder Physical Risk Factors*" by Silverstein et al. (2001) had the highest number of citations (n = 213). The study compared three methods of assessing exposure