

THE INFLUENCE OF SLEEP DURATION AND QUALITY ON ATHLETES: A SYSTEMATIC LITERATURE REVIEW

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INTRODUCTION

Sleep is an integral part of recovery and adaptation processes, and its prolonged duration and improved quality are associated with improved athlete performance and more successful competition in their field [5,11]. Longer and better sleep can reduce athletes' risk of injury and illness and help them participate more effectively in training and competition. Nevertheless, many studies show that athletes do not get enough recommended sleep, thus putting their health and sports performance at risk [4].

METHODS

Systematic literature review was performed in PubMed databases published between years 2010 and 2021. During this period, interest in the subject grew and more research was made. MeSH was used for indexing articles with these keywords: Sleep deprivation+athletes. This systematic analysis reporting was adhered to the PRISMA Statement. 260 potentially important articles were identified and reviewed. Unavailable full articles were rejected, as well as those that investigated the effects of sleep deprivation on athletes only as one of the many factors influencing performance. After evaluating the titles and summaries of the articles, 11 articles were included in this study.

CONCLUSIONS

Prolonging sleep and optimizing its quality improves reaction time, accuracy, endurance. The effects on anaerobic capacity, strength, and sprint speed are less clear and remain an important area for future research. Sports medicine physicians and training staff should prioritize proper scheduling, travel protocols, sleep hygiene, as this improves the overall health and performance of athletes.

AIM

To review the most relevant publications on the effects of sleep duration and quality on athletes.

RESULTS

The sleep requirement of adults is 7-9 hours, but 9-10 hours of sleep is recommended for athletes due to the need for complete recovery after training [3]. However, research reveals that the sleep of professional athletes is shorter and of poorer quality compared to the general population [1,9]. Lack of sleep causes the production of anti-inflammatory cytokines, which impairs the function of the immune system, prevents muscle recovery, leads to autonomic imbalance, resulting in slower and less accurate cognitive function as a decision-making [2,5]. Impaired neurocognitive function is perhaps the most important effect of poor sleep on an athlete's performance in competitions where quick decisions must be made. Impairment of response time and cognitive function after lack of sleep may predispose to acute injury [7].

Simple sleep hygiene can prolong the sleep time of athletes and increase sleep productivity [6,10]. If the athlete is unable to get enough sleep at night, a changeover sleep the next day may be helpful [7]. If sleep deprivation is anticipated, "sleep accumulation" (intentional prolongation of sleep due to anticipated sleep deprivation) is recommended to improve an athlete's performance [8]. Based on current research, most agree that an optimal sleep prolongation is 2 hours [9].