ORIGINAL ARTICLE

Profiles of mood states, depression, sleep quality, sleepiness, and anxiety of the Paralympic athletics team: A longitudinal study

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Abstract
Introduction: Determining the psychobiological profile of a team sport is important for defining the work to be performed in each phase, as well as in preparation for future competitions. The aim of this study was to draw a profile of mood states, depression, sleep quality, sleepiness and anxiety, of a Paralympic athletics team over a seven-month period.

Materials and methods: An assessment was made of 19 athletes from the Brazilian athletics team at the end of season, beginning of season, and pre-competition. The assessments were performed using following questionnaires: profile of mood states, Beck Depression Inventory, Pittsburgh Sleep Quality Index, Epworth Sleepiness Scale, and the State-Trait Anxiety Inventory. The results were expressed as the mean and standard deviation, and the significance level was set at $p < 0.05$.

Results: Most of the athletes exhibited a median level of trait-state anxiety at the end and at the beginning of the season. There was difference between: pre-competition and the end of season in the vigor domain, which was increased in the pre-competition; pre-competition and the beginning of the season in the total duration of sleep, with an increase in the pre-competition; the beginning and the end of the season, in sleep latency, with a decrease at the beginning of the season.

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Conclusions: The period during the sport season can alter psychobiological variables, such as low vigor, daytime sleepiness, with greater sleep latency at the end of the season, and poor sleep quality at the beginning of the season. On the other hand, there is good sleep quality and high vigor in the pre-competition stage, which favors a better sport performance.

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Introduction

The growth of Paralympic sports in the past decades has led to increased competitiveness among the athletes and the search for satisfying results. Several elements and feelings that compose the sports scene can help or hamper the athlete’s performance, such as, mood, depression, sleep, sleepiness and anxiety. The profile of mood state is considered a decisive factor in sports performance including Paralympic athletes. The evaluation of mood states can contribute to the detection of overtraining, allowing for interventions in the athlete’s training to prevent him/her from reaching this stage.

Depression is one of the most common mental disorders and athletes does not free or resistant to this mood disorder. In college athletes, the prevalence rate of depression ranges from as low as 15.6% to as high as 21%. A recent review published by Wolanin et al. explored the rate of depression among athletes and discussed relevant factors such as decline or catastrophic performance, injuries and career termination as potential risk factors that may lead depression among athletes.

The wheelchair basketball players have indicated that a source of stress was sleep related, before competition. Sleep is another very important factor for the athlete’s ideal performance in the process of post-exercise recovery. Muscle recovery can be potentially compromised by sleep debt, given that this process is highly regulated by anabolic and catabolic hormones. Further, sleep debt reduces the activity of protein synthesis pathways and increases the activity of degradation pathways, thereby promoting muscular atrophy.

Silva et al.1 evaluated Brazilian Paralympic athletes before the Peking Paralympic Games (2008), observing that 83.3% of the athletes exhibited excessive sleepiness in the morning and poor sleep quality. In addition, athletes who presented excessive daytime sleepiness presented lower sleep efficiency compared to non sleepy athletes. As a consequence, the process of physical and mental recovery, as well as the athletic performance during training and competition can be significantly reduced.

The capacity to handle the pressure and anxiety is an integral part of sports, especially among elite athletes. In the same study cited above, athletes who exhibited...
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