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Sleep hygiene aberrations among top Congolese athletes during the sports season

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Abstract

The sleep of the sportsman is the subject of our concern dot the objective is to evaluate the number of hours of sleep of the high level sportsman losing the sports season, this study concerned 125 athletes (footballers, handballers and volleyball players). Participants responded to a questionnaire (QAV) on sleep management and consequences of aberrations. From 27 items, we only retained 3items, The results obtained show that among the reasons mentioned for the delay in bed are cruelly individual spots, however the consequences are headache, thirst for water and exhaustion. Aberrations are related to the intellectual level. The results we have achieved show that Congolese athletes have little regard for the rules of sleep hygiene. This study considered as a practical guide will improve the quality of sports recovery of high level players and also allow provides to the user, in particular optimization of performance in athletes compared to the information given. This study suggests taking of conscience in the top Congolese athlete in the proper management of his physical capital and time.

Keywords: Aberrations, sleep, season, sportsmen and Congolese

Introduction

High performance sport these days essentially depends on many parameters, among which we mention the hygiene of the sportsman. In sports hygiene we have sleep hygiene. In the optimization of sports performance and the management of the athlete's physical potential, sleep is an inescapable element for high performance sport ^[1]. This is how sleep becomes a universal recovery strategy which is essential for physiological adaptation and the consolidation of skills development. It is recognized that a lack of sleep or disturbed sleep can impair mental and physical functioning and weaken the immune system and also affect other recovery processes important to athletes ^[2]. Athletes must ensure that they get enough sleep at night and they should take into account that naps can facilitate recovery. Sleep is made up of cycles that last from 90 to 100 minutes and it includes five stages: 1, 2, 3, 4 and paradoxical. In fact, it plays a dominant role in wakefulness, one of the main benefits of sleep and accounts for about half of the total sleep period. It is a critical period for the consolidation of physical capacity ^[3]. It is in this perspective that we are carrying out this study and this has prompted us to ask the following research question: do Congolese top athletes observe sleep hygiene rules to optimize their sports performance during the sports season ? To address this concern, we formulate the following hypothesis: top athletes observe less the rules of sleep hygiene according to the sport practiced. The general objective assigned to this study was to evaluate the number of hours of sleep per week on average of the athletes according to the sports, it was grafted there specific Objectives, such to appreciate in the players the reasons for their delay for falling asleep and assessing the consequences of lack of sleep for a top athlete. The purpose of this study is to understand and explain the causes of non-observance of the rules of sleep hygiene in athletes of Congolese level during the sports season.

Material and Methods

Type, setting and period of the study The prospective study was carried out during 2017-2018 in Brazzaville, capital of the Republic of Congo. It concerned the first teams at the various national championships. Top athletes, the choice of the three most representative disciplines in the number of licensed practitioners, disciplines.

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There are structures such as appropriate sports facilities. The choice of this setting can be explained by the proximity to our place of residence. This proximity made it possible to conduct our research effectively.

Target population and sample

Our study was based on footballers from black devils, Etoile du Congo handball and inter club volleyball. These young people play in the second division. The total of our subjects was 38 athletes whose ages vary between 18 and 32 years. From this target population we drew our sample from the study. A total of 125 subjects were selected as a sample for the study.

Sample selection procedure

The subjects who demonstrated discipline during our study and especially who answered our questionnaire completely were selected as part of our sample.

Procedure

Participants responded to a questionnaire (QAV) on sleep management. For quick selection, the questionnaire is made up of 27 items. We only retained 3 items. The individual sleep support was done in three stages. Before, during and after the activity. Strictly 45 minutes in duration, this educational session aimed to explain to athletes how biological sleep is regulated. A small 8-page notebook was specially designed for this study, mainly containing diagrams and figures explaining the functioning of the regulatory processes as well as the deleterious effects.

Table 2: Comparison of means and standard deviation of the number of hours of sleep after training according to PSA.

	handball $\bar{x} \pm s$ (n = 45)	volleyball $\bar{x} \pm s$ (n = 32)	football $\bar{x} \pm s$ (n = 48)	P
Number of hours of practice	7 ± 0,05	7,5±0,15*	6±25,05	< 0,05
Total	40	30	32	125

The results compared to the number of hours of sleep according to the disciplines of the athletes. These results show a significant difference among volleyball players.

Table 3: Different reasons for delay in bed

Causes	Number (n)	Percentage (%)
Displacement	25	20,49
Caring for coaches	30	24,59
Individual tasks	55	45,08 ***
Total	122	100

The results show that almost all of the reasons for the delay in bed are cruelly individual spots.

Table 4: Consequences of sleep aberrations after sports training

Causes	Number (n)	Percentage (%)
Headache	25	20,49
Save water	30	24,59
Feeling exhausted	55	45,08***
Total	122	100

Results show that almost all the consequences are related to headaches, except water

Discussion

The results we have obtained are in line with the studies carried out by Leger *et al.* (1999) [4] in relation to Table 1 The results of the classification of PSA according to the level of study and the number of hours show significant differences.

Data analysis by calculating a Sleep Management Index

The responses to the questionnaires and the units of value from the interviews identically enabled each theoretical athlete to determine a Theoretical Sleep Management Index ranging from 0 to 10 (steps 1 to 4) according to the following formula: $PC^2 \times I \cdot E$, $PC \times IE$

Statistical analysis

After verifying that the results followed a normal distribution, Fisher's F tests were applied to the IGF of each athlete under two evaluation conditions (questionnaire before training (QAV) and questionnaire after training (QAP)). A Student's t test for paired samples was applied to compare the means.

Results

Table 1: Classification according to PSA as a percentage according to the number of hours of sleep and by level of study

	Primary n (%)	Secondary n (%)	Higher n (%)	P
Volleyball	7h (5%)	7h (10%)	8h (100%)*	< 0,05
Football	6h (5%)	6h (6,66%)	7h (100%)*	< 0,05
Handball	7h (90%)	7h (83,34%)	7h (100%)*	< 0,05
Total	48	32	45	125

The results of the classification of PSAs according to the level of study and the number of hits identified significant differences. However, no difference was observed in handball, in particular the number of hours of sleep.

Indeed ; lack of sleep or interrupted hinders motor learning during which the neurons associated with a particular skill connect. Stages 3 and 4 (deep sleep). The metabolism slows down, the cortisol level decreases and the body secretes growth hormones. This sleep period is important for ensuring rest, regenerating the body and replenishing energy. REM sleep: Body temperature drops, blood circulation in the brain increases by 50% compared to circulation in a waking state, neurons operate at full capacity, the eyeballs move from left to right (rapid eye movement) and the body is paralyzed. This is when clear dreams appear. At this point, memory is improved by transferring information from short-term memory. So ideally the sleep needs, the athletes in training should sleep 10 hours per night, according to experts. Teen athletes may need more sleep. Interestingly, a recent study by Barger *et al.* (2004) [5] reported that the majority of high performance athletes slept less than 8 hours per night. Sleep quality is very important. Many athletes sleep enough hours, but their sleep is poor because they wake up often or suffer from an injury. It is possible not to go through all stages of sleep in hyper-stimulated or awake individuals. Table 2 shows that individual activities presented the highest percentages, in the reasons for this reduction in hours of sleep, we note, card games, games with telephones, proliferation of homosexuality in certain sports. especially handball l'épuisement. At sleep time each athlete has his or her own schedule, some are morning, others are night owls. This classification of an

individual's daily biorhythm (the circadian rhythm) is known as a chronotype. If the athlete's sleep needs are out of sync with his circadian rhythms due to his training schedule, this could affect the quantity and quality of his sleep. For example, the recovery of night birds could be compromised if they have to get up early in the morning to train. On the other hand, athletes who like to get up early and train in the morning will need to plan to go to bed early to meet their sleep needs. The results compared to the number of hours of sleep according to the disciplines of the athletes. Furthermore, the results in Table 2 reveal a significant difference among volleyball players, according to whether the intellectual level would influence awareness in the athlete and the interest given to his task these data are corollary to the study of Barger., Al (2004) [5] indicates that most athletes are of the "morning" or "semi-morning" chronotype and only 10% would be considered night birds. Indeed, their sleep habits, it is important that athletes adopt good sleep habits and behaviors that will help them fall asleep and very often, sleep disorders are due to inadequate routines during the day and during hours before bedtime. Indeed, some factors to take into account if you want to improve the quality of your sleep, get up and go to bed at regular times this will establish your circadian rhythm and improve the quality of your sleep. For this purpose, be sure to expose yourself to the sun and light during the day. Relax 1-2 hours before bedtime with calm activities like reading or listening to soft music. As for Table 3, they show us that almost all of the reasons for the delay in bed are cruelly individual spots. Indeed, the Congolese athletes not the knowledge of the high level in sport, the delay in bed through dynamic activities such as video games, listening to rock music or exercising to take a heavy meal before bedtime, because digestion is slowed down during sleep; a pre-bedtime snack, a low glycemic carbohydrate. Indeed, many athletes focus on hydration. This is why during the night to urinate, intake of fluids after 8 p.m., caffeine in the 4 hours before bedtime, they do not ensure having an optimal sleep environment, that is to say very dark, calm and comfortable. The wish is to have earplugs if there is noise from the bars around us, the public power very weak to repress this, the rough of the churches, or blinds if the room is too bright. Effect, the alarm clock so that you cannot see the time. Ignorance of using relaxation techniques like progressive muscle relaxation, meditation, breathing, or centering before going to bed. The absence of the sports psychologist in the clubs depends on the lack of information on different techniques that will help you relax on the keep your room cool. Body temperature drops during the night; a cool room will facilitate this and help you sleep, a fan or air conditioning could mask unwanted noise and keep you cool, buy a comfortable mattress. It should be noted the lack of information from the sportsman even during the trip for acclimatization, that they must adapt and buy a foaming mattress, or even put the mattress on the floor, not to consume prescription drugs or natural medicines like melatonin without consulting a doctor. To find it difficult to fall asleep because you are in pain due to an injury, ask your doctor what medications can be used safely. At the same time, it seems common sense to admit that physical exercise influences sleep, and recent review reviews have echoed it [6]

Conclusion

Our results show that Congolese athletes do not observe the rules of sleep hygiene well. This confirms our hypothesis that: "top athletes do not observe the rules of sleep hygiene

according to sport and intellectual level". This study considered as a practical guide will improve the quality of sports recovery of high level players and also allow the user, in particular optimization of performance in athletes compared to the information given as to regulatory obligations and principles. that fall to them. It is also about promoting shared knowledge of sleep regulations that have an impact on life. This study suggests awareness among the top Congolese athlete in the proper management of his physical capital and time. In summary, sleep is an essential element in the athletic performance of elite athletes

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