

# SLEEP

## PROBLEMS

### Which occur to top level players in the night

#### BEFORE THE IMPORTANT COMPETITIONS

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#### Research Summary

*Sleep problems are considered from healthy problems that affect individual's performance and his ability of physical and mental performance, this topic has not gotten much concern from athletic field researchers; Few laboratory studies were carried out to identify sleep's importance and its effect on mental functions disorders, attention disturbance, vision and hearing disorders and worsening mood and neurological status, which negatively affect athlete's skill and physical performance. This study aims to identify problems associated with sleep behavior which face individual and team sports players at night of important competition or matches and identify difference in this affect as per gender and sport activity.*

*The study used descriptive approach on a sample of 50 top level players (50% males and 50% females), representing five activities namely athletics, gymnastics, rowing, volleyball and handball, the research tools contained a questionnaire prepared by the researchers, and results for applying this form revealed the availability of negative effect of players' sleep status on their performance and there was no significant differences of this effect as per gender or sport activity. Therefore researchers recommend more studies to be carried out on this phenomenon and to find a treatment solution for it.*

### *Introduction*

One of the topics which did not get much concern in sport studies and researches is sleep problem and its habits within athletes, and how it can be a serious problem affect their performance and injury passivity, some empirical studies performed in special laboratories (e.g. Walters & Peter (2002), Charles Samuels (2008)) to identify sleep importance, these studies concentrated on deprive the person under check from sleep for specific time and evaluate the effect of this deprivation, results of these studies revealed that sleep deprivation lead to mental function disturbance as concentration disturbance and disorder, headache, muscle pain, vision and hearing disorders and worse mood and neurological status which negatively affect performance (Thomas E., 2000, p. 230).

Researchers argue that sleep problems dominate athletes before impor-

tant competitions or matches is not in itself a disturbance, but it is a result of what athlete face from psychological stress and mental exhaustion. Gerald and John argue that healthy sleep habits are a good mean to get rid of disturbed sleep behavior. Behavior treatments for sleep disturbance concentrate on giving instructions help to develop healthy sleep habits (Gerald, and John, M., 2001, p. 48).

From what mentioned above about correlation between sleep and performance in general and specially sports performance; it is so important to study high level players in night of important competitions or matches where there achievement performance level is clear. Hence research problem can be defined in the following question: "Do high level players' performance affect with some sleep habits and problems at night of important competitions or matches"

## **Aim**

Identify problems associated with sleep behavior which face individual and team sports players at night of important competition or matches and identify difference in this affect as per gender and sport activity

## **Hypotheses**

There are statistically significant differences between athletes as per activity regards sleep problems they face at night of important competitions

There are statistically significant differences between athletes as per gender regards sleep problems they face at night of important competitions

## **Keywords**

### ***Sleep Behavior:***

It is a behavior conducted by the player just before deep sleep or during sleep, this behavior associates with player's personal nature, his periodic blood bio-rhythm, sleep behavior includes player sleep structure, type and response while sleeping. (Mahmoud, H. S, 2006, p7)

### ***Dreams:***

It is activity for sleep person seeks sleep reducing triggers which awake him; It is also for, the royal path to nonsense, disclosing hidden tendencies and motives. (Procedural definition by researchers)

### ***Nightmare (annoying dreams):***

It is a dream filled with fear and anxiety, followed by detailed recalling

for the dream content, this dream lived by the person and includes threats for his life or feeling safe. Nightmare cause severe annoyance and this increase with psychological and physical stress. (Yousuf, G. S. 2002, p8)

### ***Daydreams:***

Daydreaming is the spontaneous human activity of recalling or imagining personal or vicarious experiences in the past or future while awake (Mueller, E. T. and Dyer, M. G., 1985, p. 1).

It is series of thoughts and feelings which could distract mind from the present moment; using the most complex brain parts to jump to creative mental state enabling imaginary of things, hopes and ambitions in unusual positive manner. It happen while person half-awake (dreamed mood) and relaxed mid and that's why it looks like dream. (Procedural definition by researcher)

## **Sleep Habits**

It is a behavior practiced regularly by person before sleeping or awake up, characterized by relative stability. Sleep habits are acquired by simulation or social learning. (Mahmoud, H. S, 2006, p7)

## **Insomnia**

Miserable Quantitative and qualitative sleeping; with difficulty in start or continue sleeping and early awake up. Insomnia leads to fatigue during day; which in turn lead to disturbance in person's professional, social and psychological performance. (Abd Elkhalek A. M. 2001, p3,28)

## Literature review

It is clear that sleep behavior have been in focus since long and especially in recent eras. There are numerous definitions for sleep behavior, as per these literatures sleep behavior is a state of regular and repeated rest for human being, accompanied usually with lying and absence of movement, temporary unconsciousness, low sensory level for environment stimulus nervous system is less active especially brain coating layer; so lot of high mental processes stopped; little effect on Neurobiological processes, blood pressure reduced a bit, temperature regulating centers reduced, breathing slow down, muscles relax (Abd Elqawy, S., 1995, p. 259); (Eiswy, A., 1998, p. 169).

Dream is psychological phenomena have meaning and appeared dream ambiguity could be solved by using scientific approach to understand and interpret it. Dreams are part of our life experience as anything else, it plays great role in our life, help us to understand ourselves and others, to solve our problems, and treat ourselves. So we should concern with dream interpretation as it the ideal method to understand human sole depth and understand facts which person is unaware about himself and others unaware about it (Kattan, S., 1980, p. 122).

## Research Methods

### *Experimental approach of Research:*

Researchers used descriptive approach with field scanning method as it suits research nature.

### *Research Society:*

High levels and first class male and female players in different (individual – team) sport activities.

### *Research sample:*

Research sample selected randomly and consisted of 50 players (25) male and (25) in athletic(15), gymnastics(10), rowing(5), volleyball (10) and handball (10).

### *Data collecting tools and statistical analysis:*

It was necessary to design a tool suits research nature and modernity to achieve research aims; hence researchers designed a questionnaire includes group id questions and statement to get sample responses which represent their opinion, preferences and attitude towards research topic.

Researchers followed the scientific steps to design the questionnaire including getting experts evaluation (appendix 1)

Due to research nature researchers uses both closed and open questions, and combining questions and opinion express as following:

- a- Questionnaire contained 6 questions personal and sport data: age, gender, training age, technical level, practiced sport activity, number of training sessions)
- b- Questionnaire also included 7 open questions allowing opinion express and increase sample interaction

c- Questionnaire included 24 closed questions to allow all questions to give equivalent responses

## Questionnaire standardization

### 1- Validity:

Researchers used content validation to ensure questionnaire really measures its aspects, and percentage of each of them to questionnaire as a whole. Researchers referred to literature review and previous studies; used

their experience in this field. And also take into consideration some psychological experts' opinion in the questionnaire (appendix 1)

### 2- Reliability:

Reliability has been calculated using sample of 21 players other than main sample, using split-half method Guttman test reliability factor was 0.715 and Cronbach Alfa reliability factor was 0.761 which are high enough to confirm test reliability.

## Results and Discussions

**Table (1):**  
**Comparison between sport activity and gender in questionnaire responses**

Question	Activities rank mean					Kruscal Wallis test between sport activities <sup>(a)</sup>	Gender rank mean		Man Whitney U	Test between gender(b) Z
	1	2	3	4	5		Female	Male		
<b>Aspect 1: Night of competition (NOC) sleep problems</b>										
Is your sleep normal at NOC	28.00	28.00	23.00	23.00	23.00	5.444	28.00	23.00	250.000**	-2.333
Is your sleep normal compared with other nights at NOC	25.50	25.50	25.50	25.50	25.50	0.000	25.50	25.50	312.500	0.000
I face difficulties in sleep start at NOC	27.50	25.00	22.50	25.00	25.00	2.397	26.50	24.50	287.500	-1.032
I face night anxiety with awakening at NOC	25.50	28.00	25.50	23.00	25.50	1.225	26.50	24.50	287.500	-0.700
I wake up early than normal at NOC	25.67	24.00	24.00	29.00	24.00	2.333	25.00	26.00	300.000	-0.403
I face annoying dreams at NOC	23.33	30.00	20.00	25.00	27.50	3.106	26.00	25.00	300.000	-0.288
At NOC I face sleep problems due to sleep in unfamiliar field	25.50	25.50	25.50	25.50	25.50	0.000	25.50	25.50	312.500	0.000
At NOC I face sleep problems due to feeling tension	27.50	27.50	27.50	17.50	27.50	17.043**	27.50	23.50	262.500**	-2.064

\* Significant at 0.05 level \*\* Significant at 0.01 level.

(a) Kruscal Wallis test for median differences between Athletics, gymnastics, rowing, volleyball, and handball.

(b) Man Whitney test between for gender differences between males and females.

1- Athletics, 2- gymnastics, 3- rowing, 4-volleyball, 5-Handball

Table (1) results revealed that 90% of participants in activities under research and from both genders facing bad sleep at night of competitions comparing with other nights, namely difficulty in sleep, interrupted sleep periods, there were significant differences in Man Whitney U test in favor of females (250.000); this could be interpreted by high psychological stress on female athletes which lead to night sleep disorder; this results is consistent with results of Abd Elghany, K.M. (1998), Abd ELkhalek, A. M. (2001), Andrade Miriam and Menna Barretes (2003) Who concluded that females are suffering sleep problems more than males, also with Atia, S.I (2001) who confirmed that female athlete face lot of psychological stresses represent conflict states affecting her sleep quality.

High performance level and achievement motivation within athletes in study sample may cause sleep habits disorder, prevent good sleep. This because they look to the important competition as a fight to get the first position and supersede others in order to get care and appreciation from coach and country senior leaders who concern with sport competitions results, attending it specially international ones, and also what associate with this from appreciation and bonuses to players specially in case of winning. This in turn affects emotion responses from sleep start to actual performance. This result is consistent with Alawy, M. H. (2002) who argued that sport competition may have

some negative affects due to achievement motivation, so it is characterized by violence, intolerance, athletes' emotion disorders, fighting to be the best, which in turn cause tension, anxiety and negatively affect player or sport team behavior and performance.

- Feeling tension was one of main reasons of bad sleep at night of competition, Kruscal Wallis test revealed significant difference (17.043) between different activities' players, also feeling tension were more within females than males as Man Whitney U test revealed significant difference (265.500). These results are in consistent with what concluded by Ghanem, M.H. (2000) who stated that sleep habits for players are important and significantly related with achievement performance; and [layers should adopt sleep habits help them to reduce their tension and make them more relax; sleep habits may be good tool to start good sleep or a tool preventing it.

- Bad sleep affected performance level, there were significant difference between sport activities (Kruscal Wallis = 12.820) reasons were none availability of specific strategy for good sleep with significant difference between sport activities (Kruscal Wallis – 19.883) and between genders in favor of females (Man Whitney U = 125.000). some taken reading as a method for getting good sleep with no significant difference between sport activities while there were significant differences in favor of males (Man Whitney U = 250.000), there

were also significant differences in using TV between sport activities players (Kruskal Wallis= 12.544) and between genders in favor of males (Man Whitney U = 225.000).

- Results revealed that top level players in sport activities under research participated in competition last season as per following descending order (volleyball – handball – rowing – athletic – gymnastics); differences were significant (Kruskal Wallis = 43.114), with significant differences in favor of male (Man Whitney U = 23.000), they faced bad sleep state in most of these competitions with significant difference between activities (Kruskal Wallis = 37.366) and significant difference in favor of males (Man Whitney U = 59.500). Sleep at night of competition was net better than other days with significant differences between activities (Kruskal Wallis = 23.685) and significant difference in favor of males (Man Whitney U = 147.500 ); also their sleep was not usual like other days with significant difference between activities (Kruskal Wallis = 32.748) and significant difference in favor of male (Man Whitney U = 69.000). This results could be interpreted for differences between sport activities player by that players in team sports may follow or compulsory follow unified sleep habits, as well as the player get psychological support and cooperation from his team fellows which contribute in reducing psychological stresses and even physical injuries, while individual sports players follow

individual or specific module of sleeping which may be affected by player's tension and anxiety which in turn cause sleep habits disorder, so sleep problems within team sports player are lesser than those within individual sports players. These results are in consistent with Abd Elmohsen, Y. (2009) confirmation that sleep problems have various complications, e.g. tension, anxiety, nervousness, slow response for environmental stimulus, and giddiness, and there are individual differences between persons due to the biological clock which give alarm at sleep time and after get sleep and rest required and more important than sleep hours is sleep depth and the quietness and rest extent it gives to the sleeper.

- Results also revealed significant differences between sport activities players in facing dreams related to fear from injury between sport activities players (Kruskal Wallis = 35.411), and significant differences in favor of males (Man Whitney U = 124.000), and in remembering dreams there were significant differences between sport activities players (Kruskal Wallis = 12.571) and in favor of males (Man Whitney U = 160.500)

- There were significant differences between sport activities players in facing nightmares (Kruskal Wallis = 25.187)

- There were significant differences in facing dreams related to specialized sport activity between sport activities players (Kruskal Wallis = 22.842) and in favor of males (Man Whitney U = 86.500)

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- There were significant differences in increased dreams related to specialized sport activity in high intensity training period between sport activities players (Kruskal Wallis = 29.400) and in favor of males (Man Whitney U = 125.000). This could be interpreted by explaining nightmares reasons, which usually happen due to the effect of physical and psychological stress, and there are many psychological stresses rest on shoulders of top level athlete. Yousof, G. S. (2002) argue that nightmares increase during physical and psychological fatigue. These results also in consistence with Krakow-Barry et al (1999) results who concluded direct and significant correlation between changing sleep habits and nightmare occurrence.

- There were significant differences in facing daydreams between sport activities players (Kruskal Wallis = 13.261) and in favor of males (Man Whitney U = 152.000)

- There were significant differences in facing bad daydreams between sport activities players (Kruskal Wallis = 10.392) and in favor of females (Man Whitney U = 212.500)

- There were significant differences in availability of directed specialized exercises to improve performance between sport activities players (Kruskal Wallis = 23.239) and in favor of females (Man Whitney U = 112.500)

- There were significant differences in benefiting from media as guide to possibility of training during daydreams between sport activities players (Kruskal Wallis = 19632) and in favor of males (Man Whitney U = 150.000)

These results could be interpreted by ignoring using daydreams in training. Daydreams is mental psychological skill need training and teaching through practice under psychological specialist supervision, Brain could use daydreams for repeat, amend and display motor skill, which increase athlete's concentration and good performance. This result is in consistent with Khatab, A.A. (2009) who argued that daydreams help to athlete to control his negative emotions and turn it to positive ones. It also prevents attention dispersion and increase concentration on motor skill and helps athlete to build self trust through concentrating on motor skills and repeats it so many times without errors, the relation between daydreams, intention concentration, skill performance and cognitive achievement.

Researchers in the opinion that positive daydreams are lead to creativity and solve problems faced by athletes. It also helps to get psychological comfort, get off anxiety and tension. Hence enforce neural links, develop memory and attention concentration on distinct performance.



### *Conclusions*

- ✓ Females were exposed more to sleep problems disorder at night of important competitions.
- ✓ Sleep disorder are more within individual sports players than team sport players
- ✓ 90% of study sample were suffering from sleep problems comparing their usual sleep in other days.
- ✓ Tension is one of the most important problems faced by top players at night of important competitions.
- ✓ There is no specific strategy adopted by players to get good sleep at night of important competitions and this was more in females.
- ✓ Dreams related to fear from injury was more in athlete males than females.
- ✓ Dreams about specialized sport increased within males.
- ✓ Bad daydreams faced more by athlete males.
- ✓ There was little usage of media to indicate possibility of using daydreams in training and this is more in males

### *Recommendations*

- ✓ 1- Using the designed questionnaire to identify sleep problems faced by athletes at night of important competitions or matches.
- ✓ 2- Designing a guiding rule to follow healthy sleep habits in order to get good sleep.
- ✓ 3- Preparing treating programs for correcting sleep behavior disorders within athletes with concentrating on female athletes before important competitions or matches.
- ✓ 4- Creating healthy sleep environment.
- ✓ 5- Giving more concern to relaxations and breathing exercises, autosuggestion and mental training and to overcome athletes sleep problems like tension or anxiety at night of important competitions or matches.
- ✓ 6- Giving the athlete the real self-concept, ability to self-talk in order to give self achievement motivation and getting benefit from daydream stage.
- ✓ 7- Introducing guiding programs in reading, audio and visual media to teach healthy habits and behaviors in sleep for athletes.
- ✓ 8- Using directed training during daydream with help from coach and psychological specialist
- ✓ 9- More studies to be conducted in sport field about sleep behavior and its relation with: sport injuries, physical efficiency, psychological skills, achievement level for different age stages.

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## Appendix 1

### List of Experts

(Alphabetically arranged)

- 1 **Dr. Ahmed Elcentrecy** Sport psychology emeritus professor, Faculty of physical education for men, Helwan University
- 2 **Dr. Mohammed Hassan Alawy** Sport psychology non-emeritus professor, Faculty of physical education, Helwan University
- 5 **Dr. Muhsen-Al-Nahriry** Sport psychology emeritus professor, Faculty of physical education for girls, Alexandria University
- 3 **Dr. Mustafa Bahy** Sport psychology emeritus professor, Faculty of physical education for men, Menia University
- 4 **Dr. Riyad Al-Menshawy** Sport psychology emeritus professor, Faculty of physical education, Tanta University