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RESEARCH ARTICLE

THE EFFECT OF FARA DARMANI ON SLEEP QUALITY IN STUDENTS OF AZAD UNIVERSITY,
ISLAMSHAHR BRANCH

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ABSTRACT

The present study aims at investigating the effect of Faradarmani (ultra therapy) on sleep quality in students of Azad University, Islamshahr Branch. In so doing, 30 students voluntarily participated in the study and they were randomly divided into experimental and control groups – 15 people in each group. First of all, the two groups were asked to fill out the personal information questionnaire and Petersburg sleep quality questionnaire which incorporates 18 questions about sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication. Then, ultra therapy method was applied to the experimental group for 6 months –15 to 30 min per night – whereas the control group received no treatment. Afterward, the two groups filled out the same questionnaires. As the last phase of the study, descriptive statistics was used to determine central tendency, and the validity of the questionnaires was tested through Cronbach's alpha test. As for normal distribution of data and comparison of sleep quality of the two groups Kolmogorov-Smirnov test and dependent T-test (SPSS 21) were used, respectively. The study yielded the result that 2-month ultra therapy program impacts on participants' subjective sleep quality (P=0/000), sleep latency (P=0/001), sleep duration (P=0/005), habitual sleep efficiency (P=0/003), sleep disturbances (P=0/000), use of sleep medication (P=0/001), and daytime dysfunction (P=0/000).

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INTRODUCTION

Sleep is a complicated physiological state which is divided into two types: rapid eye movement (REM sleep) and non-rapid eye movement (NREM or non-REM sleep). Electroencephalography (EEG) is used to recognize the two states. There are four phases of REM sleep through which depth of sleep can be measured (Sadeghi *et al.*, 2011). In REM sleep, rapid eye movement occurs and most muscles are paralyzed, i. e. brain is active whereas body does not move. It has been recently proved that slow-wave sleep (SWS), often referred to as deep sleep is necessary for athletes to restore their power. In SWS, more growth hormone is secreted and body recovers faster from weakness. Researchers examined sleep pattern in 6 runners of 42 km marathon. The results of their study proved a considerable increase in their sleep duration 4 nights after the marathon. At the night after marathon, runners revealed more weakness which was due to pain in muscles. In the first and second nights after marathon, the percentage of SWS was recorded to be higher, which

indicates that sleep is necessary for people in general and athletes in particular to restore their power. Regarding the significance of sleep, its control is an important part of clinical practice since sleep disturbances is often initial symptoms of a mental disease. Some mental disorders are associated with certain changes in sleep physiology. Sleep is one of the most important circadian cycles leading to physical and mental refreshment. Given that humans spend one third of their lives in sleep, over 30% of people all over the world suffer sleep disorders. Sleep disorders can be claimed to be one of the most serious mental disorders. Moreover, sleep disorders may lead to daytime dysfunction in people's lives. The need to sleep varies in different people. Some people are afflicted with hypersomnia and in a dire need of 9 to 10-hour nighttime sleep while some need less sleep. However, sleep duration is not always linked to sleep disorders. A research conducted in 2002 investigating over one million men and women showed that people who sleep more than 8.5 hours or less than 3.5 hours are 15% more exposed to the risk of death, in comparison to those who sleep the average 7 hours at night (Williams and Wilkins, 2003). Regarding the high prevalence of the diseases and disorders associated with sleep (almost 20 %), sleep therapy has occupied an influential position in modern therapy

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so that most hospitals and generally, cities in the developed countries have seriously considered this issue (Dement, 2006). One third of adults' population suffers from sleep disorders and sleep-wake cycle disorder and 5% of the people in society are afflicted with daily snooze (Jewett, 1997). Insomnia and sleep disorder are the main causes of deadly road, railway, and aviation accidents as well as occupational ones which decrease the quality of life, jeopardize health, and triggers memory disorders (Sayar *et al.*, 2002). 60% of people who work at night or flight across the latitude would suffer from sleep disorders (Hsu *et al.*, 2005). University students due to high level of stress or overload of activities are also exposed to sleep disorders. Furthermore, dorm life may lead to a decrease in students' sleep quality (Rosen *et al.*, 2006). Therefore, researchers are always seeking for a reliable way to evaluate and improve the quality of sleep. In this regard, two methods, that is Actigraphy and Poly somnography have been applied to measure sleep. Actigraphy is a method of monitoring human sleep using an actigraph which is a watch-shaped unit worn on the wrist. The unit records body movements and determines the time, date, and duration of sleep; it also shows the time a person wakes up as well as the sleep time. Taking drugs is the commonest way to overcome sleep disorders.

However, the efficiency of treatment without medication is much more than that of hypnotic drugs; the former way is more sustainable and does not have the side effects of drugs such as addiction. Doing regular physical activity is one of such methods leading to more comfort and increase in core body temperature. This method is the best one for start and efficient sleep (Ghandiyan *et al.*, 2010). It is worth mentioning that researchers of medical sciences stated the elderly women's insomnia can be treated through doing yoga (Sadeghi *et al.*, 2011). The other way of treatment without medication is ultra therapy, an Iranian method of complementary medicine which is mystical by nature. Ultra therapy is based on the theory of "Unity of Consciousness" or "The consciousness bond of the parts". According to this theory, whenever a link is formed between the whole consciousness and the parts, the mental consciousness will automatically self-recover and subsequently mental or physical healing will take place (Taheri, 2007).

According to the US National Center for Complementary and Alternative Medicine (NCCAM) which is affiliated with the ministry of Health and Social Services (HSS) and National Institutes of Health (NIH) and cooperates with The United Nations World Health Organization (WHO), complementary therapy is divided into some subdivisions and ultra therapy is placed in the branch of treating physical diseases through mind, i. e. Mind-Body Interventions. In Interuniversalism, any deficiency in each of the infinite parts of human existence is regarded as disease. From another point of view, different subtle bodies of humans (e.g. physical, mental, spiritual, etheric, and astral bodies) must be linked to each other, different centres for Energy transformers, called "Chakras" should be in a right position and away from any disorders or obstruction, *14 acupuncture energy channels must be balanced, the surrounding fields of energy (Polarity Field and field of Bio-plasma) should be in the right position, cellular intelligence should not be defected, cell's molecule frequency should not deviate the real one, and in this way, illness is*

prevented. Ultra therapy is so significant that a great bulk of studies have been so far carried out. Some of such studies are as follows:

Sang Sefidi (2014) investigated the effect of Faradarmani on the level of the anxiety of female swimming coaches in Tehran. She came to the result that ultra therapy decreases female swimming coaches' anxiety which has a negative effect on their performance; thus, ultra therapy can be regarded as a complementary therapy. Aazemikhah (2009) applied ultra therapy on 84 patients with asthma in Mostafa Khomani Hospital. The results of the study confirmed the significant short-term effect of ultra therapy on the severity and number of asthma attacks. In this line, Saeidi *et al.* (2011) investigated sleep disorders in patients with End-Stage Renal Disease (ESRD) using progressive relaxation techniques. The results revealed that post-relaxation mean score of sleep quality of the samples was significantly lower than their mean score before relaxation ($p < 0.001$). Furthermore, the score of each aspects of sleep quality (except from taking hypnotic drugs) was significantly lower than the pre-relaxation period ($p < 0.001$). According to the results of this study, progressive muscle relaxation technique has a positive effect on the sleep quality of patients undergoing hemodialysis. Also, this technique, as a fruitful method of improving patients' sleep quality, can be both applied and taught in hemodialysis sections of hospitals. As for the effect on ultra therapy on university students' sleep quality, to the best of the author's knowledge, no research was conducted in Iran. Therefore, on the one hand, given the importance of sleep in life and on the other hand, regarding the importance of students' health, the present study seeks to find an answer to the following question:

Does ultra therapy improve students' sleep quality?

In this way, the study tried to shed light on the useful techniques and methods of improving people's health in general and university students' health in particular.

METHODS

This is an applied research and all data were gathered through field method and questionnaire. The statistical population of the study incorporated all athlete students of Azad University, Islamshahr Branch in the academic year 2013-14, from among which 30 students were voluntarily selected as participants of the study and randomly divided into experimental group and control group. The former received ultra therapy treatment while no treatment was given to the latter. Then, both groups were asked to fill out two questionnaires, i. e. personal information questionnaire which was about age, background of physical activities, level of championship, ... as well as Petersburg sleep quality questionnaire which incorporates 18 questions about sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication. In the former one, the answers to the question were presented in a range of *nothing (zero), less than once a week (1), once or twice a week (2), and three times a week (3)*. The total score above 5 was indicative of low quality sleep. Bartouzi *et al* (2011) and Afkham Ebrahimi *et al* (2008) reported the reliability coefficient of the questionnaire equal to

0.82 and 0.72, respectively. In line with the goal of the study, ultra therapy method was applied to the experimental group for 6 months –15 to 30 min per night –whereas the control group received no treatment. Finally, the two groups filled out the same questionnaires. As the last phase of the study, descriptive statistics was used to determine central tendency and diagrams; validity of the questionnaires was tested through Cronbach's alpha test. As for normal distribution of data and comparison of sleep quality of the two groups, Kolmogorov-Smirnov test and dependent T-test (SPSS 21) were used, respectively.

RESULTS

According to the statistical analysis, participants were in the age range 20 to 3, with the average age $27/6\pm 3.5$ and the average experience of physical activities $10/34\pm 2.89$ years. 70.24% of the participants were MA students and the rest were BA students with sleep quality $6.78\pm .3.21$.

In the state of mindful attention [mindfulness] which can be reached during therapy, information transfers from defective [distractive] experience to the present experience. In this type of therapy, the patient becomes connected (Etesal) to the Interuniversal Consciousness so that it contributes to overcoming disorders and illness in different parts of body; in this way, patient undergoes different levels of the therapy (Mohamedi, 2010). Therefore, ultra therapy may improve sleep quality and its components through treating patients' psyche.

The other notable issue in ultra therapy is connection (Etesal), a link to an intelligent network, which does not have a clear-cut definition since it is done in without any instruments and we can simply examine its results rather than the Etesal. In ultra therapy, ultra therapist and patient will take advantage of God's mercy [Rahmat] and experience the process of treatment through connecting to the Interuniversal Consciousness; here, the patient is simply an observer. Interuniversal Consciousness is the network of awareness and consciousness governing the

Table 1. The Mean and Standard Deviation of Sleep Quality Values of Both Groups in Pre-test and Post-test

Variable	Level	Statistical Indicators	Mean	sd	Least	Most	No
Sleep Quality	Pre-test	Experimental	9.42	3.56	6	16	15
		Control	8.42	2.20	6	12	15
	Post-test	Experimental	4.58	1.97	1	8	15
		Control	7.83	2.41	4	12	15

The results of the study revealed that there is a significant difference between the experimental group and control group in terms of subjective sleep quality ($P\leq 0/05$), sleep latency ($P\leq 0/05$), sleep duration ($P\leq 0/05$), habitual sleep efficiency ($P\leq 0/05$), sleep disturbances ($P\leq 0/05$), use of sleep medication ($P\leq 0/05$), and daytime dysfunction ($P\leq 0/05$).

Table 2. The Comparison of Sleep Components in the Experimental and Control Groups

Group	Statistical Indicator	Mean	Sd	df	T Value	P Value
Subjective Sleep Quality in Experimental Group	Subjective Sleep Quality in Experimental Group	1.45	0.75	28	3.47	0.000
	Subjective Sleep Quality in Control Group	1.03	0.64			
	sleep latency in Experimental Group	1.48	0.63	28	2.91	0.001
	sleep latency in Control Group	2.27	1.02			
	sleep duration in Experimental Group	1.93	0.70	28	3.07	0.005
	sleep duration in Control Group	0.26	0.45			
	habitual sleep efficiency in Experimental Group	1.61	0.99	28	2.24	0.003
	habitual sleep efficiency in Control Group	0.48	0.93			
	sleep disturbances in Experimental Group	1.30	0.58	28	5.98	0.000
	sleep disturbances in Control Group	2.60	1.88			
	use of sleep medication in Experimental Group	-0.60	0.91	28	-3.55	0.001
	daytime dysfunction in Experimental Group	0.53	0.83			
	daytime dysfunction in Control Group	-2.13	0.99	28	-6.17	0.000

DISCUSSION AND CONCLUSION

The results of statistical analysis conformed that 6-months ultra therapy treatment has a significant effect on sleep quality and its components, i. e. subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication, and daytime dysfunction. In line with the purpose of the study, that is examining the effect of ultra therapy on students' sleep quality, it has been revealed that this therapy is effective in increasing sleep quality. In other words, ultra therapy improved sleep quality of the experimental group in post-test. This is in line with the findings of the studies done by Angel *et al.* (2008), Youk *et al.* (2008), and Gross and Kraiters (2007). Segal *et al.* (2002) stated that eliminating defective behavior such as getting used to a specific environment or place for sleeping or certain sleeping time are the most critical components in treating sleep disorders.

universe. It is the awareness about the three major parts of existence of man, i. e. Consciousness part, Metal part and Energy part; and given that it is neither metal nor energy, the matter of time and place has no role in therapy, that is to say treatment can be given from far and near (Taheri, 2007). Thus, improvement in the components of sleep quality is quite rational. On the other hand, ultra therapy tells people to stop their attempt to control sleep and just observe the process of treatment. People with poor sleep quality tend to associate all problems, e. g. fatigue, lethargy, weak performance, and mood disorder with sleep. Connecting to the Divine Intelligence, ultra therapy reveals and eliminates all such symptoms and the healing process initiates. University students often due to experiencing competitive situations with their classmates, collective life, and difficulty of learning a great bulk of material in one semester, would feel fatigue or suffer from

insomnia; therefore, ultra therapy can improve their concentration as well as the level of sleep health. On the one hand, regarding the impact of ultra therapy on sleep quality and on the other hand, given the importance of sleep in life and achievements, it is suggested that people, especially students use ultra therapy in their lives to enjoy an efficient sleep.

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