



INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X

Impact factor: 4.295

(Volume3, Issue5)

Available online at www.ijariit.com

A Study on Sleep Deprivation in Young Adults

Dr. Amitabh Kishor Dwivedi

Maharaj Vinayak Global University

akdwivedi123@yahoo.com

Abstract: *Sleep deprivation is the condition of not having enough sleep and plays an important role in thinking and learning. Lack of sleep and sleep disorders can contribute to the symptoms of depression. Sleep loss also causes the body to release too little human growth hormone. According to a study, those who had cut their sleep from seven to five hours a night nearly doubled their risk of death from all causes.*

Present paper emphasizes on the study of symptoms and effects of sleep deprivation in young adults. The aim of the study was to examine the effects which the most frequent sleep disorders have on adults' health, knowing that at least 30% of the population suffers from some sort of sleep disturbance.

Keywords: *Sleep Deprivation, Occupational Therapy, Fatigue, Haemodialysis, Sleep Disorders, Adolescents.*

INTRODUCTION

Sleep is a basic and necessary biological process that demands to be satisfied as much as our need for food and drink. Inadequate sleep can occur if insufficient time is allowed for it or if a disorder is present that disturbs sleep quality. It is only recently that we have begun to understand the scale of the health and social consequences of insufficient sleep and sleep disorders. While there are numerous hypotheses regarding the precise purpose of sleep, much of what we understand comes from experimental and naturalistic studies of individuals who are subjected to, or subject themselves to, inadequate sleep.

Chronic sleep deficiency is believed to be widespread in Western societies. Sleep deficiency adversely affects alertness, cognition, productivity, safety, learning, and mood and is implicated in a raft of additional pathophysiological processes, leading to adverse metabolic, cardiovascular and mental health outcomes, and premature death. This demands programs to improve sleep habits of the community generally and to detect and treat sleep disorders where they exist.

The internal and external changes in adolescent sleep patterns lead to problems related to insufficient sleep, increased daytime sleepiness and complaints of fatigue. These problems, in turn, are associated with a variety of negative outcomes of safety, health, and performance. Drowsiness, fatigue, and lapses in attention are identified as contributing factors in teenage automobile crashes and as well as other non-traffic injuries, such as employment accidents (National Sleep Foundation, 2000). Study findings report shorter sleep times and irregular sleep schedules are associated with poor school performance in adolescents (Wolfson et al., 2003). In contrast, students who report better quality sleep and feeling more rested also report higher motivation and confidence to do well in school (Fredriksen, Rhodes, Reddy, & Way, 2004). Research findings have also associated insufficient sleep with mood disturbances, including depression, emotional lability, and inability to concentrate (Carskadon, Acebo, & Jenni, 2004; Wolfson & Carskadon, 1998).

The issue of sleep health is yet to be addressed in our national preventive health strategy. Diet and exercise are regarded as key components of a healthy lifestyle, yet despite compelling evidence, minimal attention has been given to healthy sleep. Sleep medicine and sleep science, which are relatively new fields, have much to do to deliver this message to community leaders. There is an urgent need to better educate adolescents and their parents about optimal sleep routines. Schools could be powerful allies in this effort.

Restful and adequate sleep provides the foundation for optimal occupational performance, participation, and engagement in daily life, a concept that is historically consistent with the development of occupational therapy. Attention to the impact of sleep is incorporated into the repertoire of occupational therapists and addressed across the lifespan. Prevention and intervention strategies to address individual, family and population-based sleep needs lie within the scope of practice for occupational therapy and represent another way in which the profession approaches clients from a holistic perspective to help them live life to its fullest.

There are several types of sleep disorders. Insomnia, sleep apnea, and restless leg syndrome are some examples of clinical sleep disorders that can affect adults and interfere with normal functioning. These sleep disorders can contribute to medical or emotional problems. This is a field where a vast body of knowledge exists.

REVIEW OF LITERATURE

In 1997, the National Institutes of Health called attention to the sleep problems of adolescents and summarized existing sleep research with adolescents in their Research Report, "Adolescent Sleep Needs and Patterns" (National Sleep Foundation, 2000). Adolescents show a marked decrease in the amount of REM sleep, REM density, and changes in REM patterns. Adolescent sleep also evidences less deep sleep in stages III and IV. It is possible that as a result of these changes, even when their nighttime sleep is optimal at the recommended nine hours per night, adolescents complain of increased daytime sleepiness and demonstrate an increased tendency to fall asleep during the day (Carskadon, Vieri, & Acebo, 1993; Carskadon, Wolfson, Acebo, Tzischinsky, & Seifer, 1998). Adolescents also appear to develop a phase delay in their circadian cycle toward a cycle that exceeds 24 hours, resulting in a shift toward later bedtimes (Wolfson & Carskadon, 1998).

Kathleen McCann, & Jennifer R.P. Boore (1999), Fatigue in persons with renal failure who require maintenance hemodialysis. This study examined the symptom of fatigue as experienced by a group of 39 adult hemodialysis patients. Data were collected using a structured self-report questionnaire and biochemical data from retrospective monthly blood tests. The results of the study indicated that high levels of fatigue are experienced with correspondingly low levels of vitality, in all the areas measured – general fatigue; physical fatigue; reduced motivation; reduced activity and mental fatigue by adult haemodialysis patients.

Cristovao, F. (1999) "Study on stress, coping and quality of life among chronic haemodialysis patients". This study identified the most significant stressors perceived by the individuals undergoing haemodialysis due to chronic renal failure, the coping methods used most often by the patients and their quality of life, 75 patients aged between 18 – 65 years old were taken for the study. Results showed that patients perceived a high level of stress and psychosocial stressors are as problematic as physiological ones.

Susanne Heiwe and Madeleine abrandt Dahlgren (1999), living with chronic renal failure: coping with physical activities of daily living. The aim of this study was to describe and analyze qualitatively different coping strategies used by these patients to be able to perform physical activities in their daily lives.

According to M P Walkera (2008), sleep plays an important role in homeostatic restoration, thermoregulation, tissue repair, immune control and memory processing.

J Orzel-Gryglewska (2010) presented a paper in which the history of research and the results of recent studies on the effects of sleep deprivation in animals and humans have been discussed. According to this paper sleep deprivation results in poor memorizing, schematic thinking, which yields wrong decisions, and emotional disturbances such as deteriorated interpersonal responses and increased aggressiveness. The research was done by Matthew Schumacher and Desmond Sipes (2015) aimed to assess the correlation if any, sleep deprivation had on critical thinking, problem-solving skills and short-term memory of college students. The main focus of this research was to obtain a deeper insight of the negative implications sleep deprivation had on particular cognitive functions.

METHODOLOGY

Lack of sleep symptoms tends to vary according to how long and how often we are sleep deprived within a certain period of time. In general, it is fair to say that sleep deprivation affects us on physical, mental and emotional levels. In the present paper, the symptoms and causes of sleep deprivation in the young adults of 18-24 years of age were studied. The research measure used was a questionnaire containing 20 questions in all related to their physical activity patterns, sleep quality and daytime sleepiness and the consequent effect on their sleep. In total around 400 adults were surveyed, expecting some of them to incompletely answer the questionnaire or not return it.

OBSERVATION AND RESULT

Sleep deprivation has been shown to have a significant impact on mood, alertness, cognitive functions, and motor activity. Young adults work for long hours daily, thus raising concerns about the severe effects of poor sleep quality in student training, medical errors, and patient safety. It has been reported that sleep quality affects young adult's physical and mental health, and consequently their working capacity. This, in turn, may influence the community in the form of accidents and medical error.

Many factors are responsible for altered sleep habits. In current times, use of the internet and social media is the most important cause for going to sleep late. Another cause of not going to sleep until late is the use of central nervous system stimulants such as caffeine, caffeinated drinks, and caffeinated cocktails with alcohol. Furthermore, certain medical problems including obstructive sleep apnoea, chronic sleep deprivation, narcolepsy, cataplexy, depression, and idiopathic hypersomnia disrupt sleep. It is also understood that many people are themselves unaware of their sleep deprivation or poor sleep quality. They may not seek counseling or advice regarding this important problem.

According to the present study, it was found that 13% of girls were not taking sufficient sleep whereas for boys it was 33%. The frequency of having inadequate sleep was high in 40% of girls and 30% of boys. 35% of both girls and boys used to feel grogginess in the morning. 25% of the girls and 38% of boys felt difficulty in concentrating in their work. 33% of girls and 40% of boys used to avoid social gathering due to fatigue most of the time. 20% of the girls and 38% of boys took much time to fall asleep. 40% of girls and 25% of boys were used to forget things easily. 20% of girls and 33% of boys had a habit of getting irritated most of the time while talking to others. 20% of girls and 40% of boys were usually unable to complete their task on time. 10% of girls and 33% of boys were having morning headaches. 38% of girls and 33% of boys felt sleepy during daytime activities. 47% of girls and

35% of boys had a habit of taking naps. 37% of girls and 44% of boys had interruptions to their sleep. 30% of girls and 33% of boys were feeling anxiety most of the time. 50% of girls and 30% of boys used to yawn constantly during the daytime. 27% of girls and 40% of boys used to feel sad or depressed most of the time. 53% of girls and 42% of boys tried to cope up with the problem. 10% of girls had a habit of smoking, consuming alcohol or taking medicine to fall asleep at night whereas 60% of boys used above methods to fall asleep.

Table: Comparative Study of Sleep Deprivation Symptoms

| S. No | Symptoms | Girls (%) | Boys (%) |
|-------|--|-----------|----------|
| 1 | Taking insufficient sleep | 13 | 33 |
| 2 | Frequency of having inadequate sleep | 40 | 30 |
| 3 | Grogginess | 35 | 35 |
| 4 | Difficulty in concentrating in work | 25 | 38 |
| 5 | Avoiding social gathering due to fatigue | 33 | 40 |
| 6 | Taking much time to fall asleep | 20 | 38 |
| 7 | Forgetting things easily | 40 | 25 |
| 8 | Habit of getting irritated | 20 | 33 |
| 9 | Unable to complete task on time | 20 | 40 |
| 10 | Morning headaches | 10 | 33 |
| 11 | Feel sleepy during daytime | 38 | 33 |
| 12 | Having to take naps | 47 | 35 |
| 13 | Having interruptions to sleep | 37 | 44 |
| 14 | Feel anxiety | 30 | 33 |
| 15 | Yawn constantly during daytime | 50 | 30 |
| 16 | Feel sad or depressed | 27 | 40 |
| 17 | Try to cope up with the problem | 53 | 42 |
| 18 | Have a habit of smoking consuming alcohol or taking medicine | 10 | 60 |

DISCUSSION

Sleep is a biological necessity. It is important for maintaining good physical, mental, and emotional health and is one of the most important factors that establish the quality of life. Sleep is critical for memory consolidation, learning, decision making, and critical thinking. Sleep is thus necessary for the optimal operation of key cognitive functions related to academic success in higher education. Higher education forces students to shift to an irregular sleep-wake cycle influenced by their study and work schedules.

The current study revealed important information about the sleep habits and problems of an important group of young people falling in the age group of 18-24 years. The outstanding result of the present study was that almost half of the study group had poor sleep quality.

The study examined the consequences of sleep deprivation as loss of sleep is a common problem in our modern day society, affecting many individuals at some point in their lives. Some groups of people may consider sleep as wasted time and purposely deprive themselves of sleep in order to pursue other things such as entertainment, educational goals or money-making activities. This intentional sleep deprivation is most likely to be seen in teenagers and young adults.

It was found that the problem of sleep deprivation was more in girls than boys. Reasons behind it might be they are more emotional, follow more restrictions and take more stress. The influence of adopting an unhealthy way to deal with sleep deprivation was more in boys as compared to girls.

The study revealed that most of them were involved in the late night study and excessive internet use and some also consumed stimulants to stay awake at night. An important fact is that hours of sleep has a direct impact on our daily tasks.

It is important to pay attention to sleep disorders in young adults because of their negative impact on quality of life, cognitive performance, and other associated health disorders. These problems can be solved by carefully investigating the prevalence of such problems and finding a solution.

The results of this study demonstrate that most of them are usually not aware of the extent of their own problem. This has important implications, as sleep quality affects many aspects of physical and emotional health like cognition and memory, depression, irritability, and may also affect academic performance. Due to the growing concerns about the association of poor sleep quality with many physical and mental diseases, it is imperative to conduct additional research to examine potential causes and implement appropriate preventive measures and treatment when needed. Though this study provides important insights into the sleep habits one of the major limitations is that all components of sleep quality that were assessed rely on the respondent's self-assessment.

This study highlights a strong need for integrating sleep hygiene education for young adults, to improve their sleeping practices and consequent physical and mental health. This is where occupational therapy finds a role to play. An occupational therapist will use observation, evaluation, and interview in order to determine the factors that contribute to the sleep problem together with the impact that the sleep deprivation is having in the person's life as presented in this study.

REFERENCES

1. Agmon M, Shochat T and KizonyR; (2016) Sleep Quality is Associated with Walking Under Dual Task, but not Single Task, Gait Posture, June18,49; 127 – 131
2. Marger Picard M, (2012) Fact Sheet put out by the American Occupational Therapy Association (AOTA) on Occupational Therapy's Role in Sleep.
3. Thiart H, Ebert DD, Lehr D, Nobis S, Buntrock C, Berking M, Smit F, Riper H (2016) Internet-Based Cognitive Behavioural Therapy for Insomnia: A Health Economic Evaluation, July 19, pii: sp-00062-16. (Epub ahead of print)
4. von Rosen P, Frohm A, Kottorp A, Friden C, Heijne A, (2016) Too little sleep and an unhealthy diet could increase the risk of sustaining a new injury in adolescent elite athletes, Scandinavian Journal of Medicine and Science in Sports, Aug 19.
5. Oginska H, Pokorski J. Fatigue, and mood correlate of sleep length in three age-social groups: school children, students, and employees. *Chronobiol Int.* 2006; 23 (6):1317–1328.
6. Lund HG, Reider BD, Whiting AB, Prichard JR. Sleep patterns and predictors of disturbed sleep in a large population of college students. *J Adolesc Health.* 2010; 46 (2):124–132.