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Occupational Therapy Management for Sleep Deprivation in Younger Adults

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Abstract: *Sleep is a major domain of quality of life and has an impact on our ability to carry out activities of daily living effectively. Although occasional sleep interruptions are generally no more than a nuisance, ongoing lack of sleep can lead to excessive daytime sleepiness, emotional difficulties, poor job performance, obesity and a lowered perception of quality of life. It has become a growing problem among teenagers and college-aged young adults which adversely affects their performance in school/ college, moods, and behaviors.*

Occupational therapy is primed to address sleep problems by targeting the context and environment, performance patterns, and limited engagement in evening activities that may contribute to poor sleep. This paper is designed to elicit the role of occupational therapy in younger adults in relation to their sleep problems. The paper emphasizes to discover various strategies which are significantly effective to cope up with the problem.

Keywords: *Sleep Deprivation, Occupational Therapy (OT), Rehabilitation, Sleep, Quality of life, Meditation, Cognitive, Anxiety.*

I. INTRODUCTION

Loss of sleep affects many individuals at some point in their lives in our modern day society. Sleep insufficiency, defined as not obtaining restorative sleep, is a public health problem (Centers for Disease Control & Prevention [CDC], 2015) that is linked to motor vehicle crashes, industrial accidents, increased health care utilization and decreased work productivity. Sleep insufficiency is also linked to chronic diseases such as hypertension, diabetes, depression, and obesity, along with cancer, early mortality, and reduced quality of life and productivity (CDC, 2015).

Sleep deprivation affects more than just busy, stressed adults. Some research suggests that college-aged individuals get on average about 6–7 hours of sleep per night. This is due to an “overload of activities” such as studying, socializing, working and staying up late using the internet.

According to work done by the University of Georgia, students who get six or fewer hours of sleep per night report feeling more tired, stressed and sad. They’re missing out on how adequate sleep “restores our energy, helps us think clearly and creatively, strengthens memory, and produces a more positive mood and better performance throughout the day.”

The National Institutes of Health suggests that school-age children need at least 10 hours of sleep daily, teens need 9-10 hours, and adults need 7-8 hours. The demands of modern living have a major negative impact on the area of sleep which has resulted in sleep deprivation now reaching the level of being a health crisis, certainly in the US. Due to the effects of both our health and well-being and our ability to function effectively. Occupational therapists have an important role to play to assist our clients to develop a healthy balanced lifestyle that will promote adequate, quality sleep. Wherever possible, lifestyle redesign, education and other techniques to promote health and prevent injury or other problems from arising are the primary focus of OT intervention. Where an underlying condition is involved or sleeps deprivation has already become chronic, rehabilitation will be indicated that will be specific to the diagnosis, age of the person, stage of development and effects to school, work, family and the community.

Sleep is important for a number of reasons. It restores our energy, fights off illness and fatigue by strengthening our immune system, helps us think more clearly and creatively, strengthens memory and produces a more positive mood and better performance throughout the day. Sleep isn’t just a passive activity and something to fill the time when we are inactive, but rather it is an active and dynamic process vital for normal motor and cognitive function.

On average, most college students get 6 - 7 hours of sleep per night, and the college years are notoriously sleep-deprived due to an overload of activities. Recent research on college students and sleep indicates that insufficient sleep impacts their health, moods, GPA, and safety.

Sleep deprivation increases the likelihood teens will suffer myriad negative consequences, including an inability to concentrate, poor grades, drowsy-driving incidents, anxiety, depression, thoughts of suicide and even suicide.

An important fact to take note of is that whether or not the hours of sleep were adequate and rejuvenating has a direct impact on our waking hours and our ability to effectively carry out our daily tasks. This is where occupational therapy (OT) has become recognized as having a major role to play in the area of sleep and wellness. OT is a holistic profession that is part of the medical team. The OT is concerned with assisting our clients to function to the optimum in all areas of daily living, taking into consideration their age, stage of development, state of their health, skills, weaknesses, life roles and what tasks are important for that person to carry out.

An OT will, therefore, 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.

In the present research, we have studied the impact of occupational therapy management on sleep deprived young adults falling in the age group of 18-24 years.

II. REVIEW OF LITERATURE

While studies show that both adults and teens in industrialized nations are becoming more sleep deprived, the problem is most acute among teens, said Nanci Yuan, MD, director of the Stanford Children's Health Sleep Center. In a detailed 2014 report, the American Academy of Pediatrics called the problem of tired teens a public health epidemic.

According to a health survey administered at UGA (University of Georgia) every two years, 1 in 4 UGA students indicates that lack of sleep has impacted their academic performance in a negative way. They have made lower grades, missed a paper or project deadline, or had to withdraw from a class. Some students rely on staying up most of the night to study, but pulling an all-nighter and cramming at the last minute can actually be counterproductive.

The very qualities you need to maximize in order to do well on tests, such as recall, concentration, and alertness, are decreased when you are sleep deprived. Research has shown that students who get 6 or fewer hours of sleep have a lower GPA (grade point average) than those who get 8 or more.

According to recent research done by the Centers for Disease Control and Prevention (CDC), between 7–19 percent of adults in the United States report regularly lacking sleep or not getting enough rest almost daily. And much more than this struggle with occasional sleep-related disorders or problems including sleep apnea, anxiety or night time pain that interferes with their overall quality of life.

Erin Hanlon, Ph.D., a research associate in endocrinology, diabetes and metabolism at the University of Chicago, IL, and colleagues may have shed light on why this is.

"We found that sleep restriction boosts a signal that may increase the hedonic aspect of food intake, the pleasure, and satisfaction gained from eating," says Hanlon. "Sleep restriction seems to augment the endocannabinoid system, the same system targeted by the active ingredient of marijuana, to enhance the desire for food intake."

The researchers have published their findings in the journal *Sleep*.

A report published in the "International Journal of Occupational Medicine & Environmental Health" even states that "The impairment of performance which is caused by 20–25 hours of sleeplessness is comparable to that after ethanol (alcohol) intoxication at the level of 0.10% blood alcohol concentration."

"More than 30 years since the discovery of the antidepressant effects of sleep deprivation, we still do not have an effective grasp on precisely how effective the treatment is and how to achieve the best clinical results," said study senior author Philip Gehrman, PhD, an associate professor of Psychiatry and member of the Penn Sleep Center, who also treats patients at the Cpl. Michael J. Crescenz VA Medical Center. "Our analysis precisely reports how effective sleep deprivation is and in which populations it should be administered."

III. METHODOLOGY

Sleep deprivation is when an individual gets less sleep than needed to feel awake and alert. People vary in how little sleep is needed to be considered sleep-deprived. Some people such as older adults seem to be more resistant to the effects of sleep deprivation, while others, especially children and young adults, are more vulnerable. The best treatment for both acute and chronic sleep deprivation is to get more sleep and for this reason, occupational therapists identify the reasons and suggest various management to the sleep deprived people in order to improve their sleep.

The present study was done in college going students who were showing various symptoms of sleep deprivation. In total around 200 young adults were suffering from sleep deprivation due to various reasons and they were suggested various strategies which are commonly used in occupational therapy treatment. They were asked to follow the treatment for one year. After that, they were

surveyed through a questionnaire in order to check for any improvement in their sleep. The questionnaire contained 10 questions in all which were related to their present and past sleep habits and the strategies they followed during the treatment period.

IV. OBSERVATION AND RESULT

People suffering from sleep deprivation are often subject to an underlying situation or condition that prevents the issue from being easily resolved. For example, modern economics and employer expectations have placed a premium on hours worked, tempting the public into skipping sleep for more money or greater recognition.

Psychological issues ranging from basic anxiety to complex disorders can have a negative impact on sleep and cause deprivation. The ideal form of treatment in these cases would be aimed at controlling the condition rather than the symptoms.

Various strategies suggested in the present research work were as follows:

- ❖ Minimizing noise, light, and temperature at the time of sleep
- ❖ Adequate Exercise
- ❖ Meditation
- ❖ Yoga
- ❖ Setting a consistent bed time and wake time
- ❖ Reduced intake of fluid after 8 pm
- ❖ Having balance diet
- ❖ Spending time with friends or family

According to the present study, it was found that almost all of them were benefited by the management and were able to increase their sleep duration as well as their quality of sleep. Amongst the various strategies suggested to manage the problem around 90% adopted meditation, 87% practiced yoga on regular basis to get more sleep, 82% started following a routine for bed and wake-up times, 73% started regular exercise during the day, 68% followed spending quality time with their friends and family members, 65% maintained their bedroom quiet, dark and at a comfortable temperature and 63% started having a balanced diet with reduced intake of fluid after 8 pm.

The study revealed that the most of the negative effects of sleep deprivation such as morning headaches, grogginess, and constant yawning were reversed when sufficient sleep was obtained while poor concentration, irritation, and anxiety still persisted in some of them. Hence symptoms showing sleep deprivation were greatly reduced.

Although some of them even quit the consumption of nicotine, caffeine, and alcohol which they earlier used to fall asleep almost every day which ultimately improved their overall health and work efficiency as well.

Most of them agreed that this technique is far better than the other treatments as it has no side effects and also helps to improve their behavior and simultaneously enhances their relationships with others. They not only practiced these strategies to overcome sleep deprivation but have also adopted them as their daily routine in order to keep themselves fit and healthy. Hence the overall impact of occupational therapy techniques was found to be positive to solve the problem of sleep deprivation in young adults.

V. DISCUSSION

Disturbance in sleep plays a major role in increasing stress in day to day life hence affects the Quality of Life (QOL). Its leads to a decrease in working potential, abnormal behavior, change in lifestyle and may induce some mental abnormalities. College-aged individuals are more affected due to an "overload of activities" such as studying, socializing, working and staying awake late at night.

Insomnia is often a symptom of another medical condition. To provide insomnia relief, remedies must address the underlying causes of the disorder. When a clear cause isn't evident, insomnia treatments attempt to reduce sleep disruption as much as possible. There is no questioning the importance of restorative sleep and a certain amount of attention is necessary to both manage and prevent sleep deprivation.

Studies have increasingly documented the health implications of insufficient sleep, which include increased the risk of diabetes, depression, cardiovascular disease, and obesity. But despite such findings, most of us still fail to get the recommended 7-8 hours of sleep each night. Getting more sleep sounds simple in theory, but unfortunately, this goal can be quite difficult to achieve. It's important for people to be realistic about the amount of sleep they need though. If it comes to it, they may need to cut back on other commitments to allow themselves time to sleep.

Though it's tempting to use caffeine and other stimulants to get through periods of sleep deprivation as was noticed in many of the college-aged adults in the present study, it's important to remember that this may help you through the day, but won't stop the problem.

The present study highlights the impact of various occupational therapy techniques in the treatment of sleep deprivation among young adults belonging to the age group of 18-24 yrs. Among various strategies suggested in OT management to increase sleep the most adopted strategy was meditation followed by yoga, exercise, imagery, etc. As meditation and yoga are most common exercise in Indian culture and it also helps in the release of melatonin and serotonin which improve the sleep cycle. According to the present

study, the problem of sleep deprivation was well coped up by the girls than boys. This may be because girls are more conscious about their health and are more sincere to follow a routine. An important fact is that hours of sleep has a direct impact on our daily tasks. Hence OT treatment emphasizes on improving their daily routine in order to keep them healthy which in turn enhances their working capacity.

VI. LIMITATIONS AND RECOMMENDATIONS

The present research work was conducted on 200 college-aged students. The sample size could be increased by including people belonging to different age groups and involved in different professions.

If sleep deprivation is ongoing and negative symptoms persist despite practicing good sleep hygiene measures, consultation with a health care provider is recommended. Because sometimes a multidisciplinary approach that includes medication along with the suggested techniques is often necessary. In the present study, we limited our research to students of Medical College who might be more conscious about their health and besides that, the treatment methods used were much dependent on the willingness of volunteers. This might be the reason to get the desired result in almost all of them.

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