

Study of a Person's Sleep Quality Level in Physiology and Islamic Understanding

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ARTICLE INFO

Keywords:
Sleep Quality,
Physiology,
Islamic Understanding.

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ABSTRACT

Sleep is an unconscious state that can be awakened by giving sensory stimulation or by other stimuli. This research method refers to the development steps of Borg & Gall, this is only limited to a preliminary study (concept). Sleep functions to give the brain time to repair biochemical or physiological processes that progressively decrease when awake. The regulation of sleep cycles is centered on two specific areas in the brainstem. Sleep quality is a person's ability to maintain sleep to get the appropriate amount of NREM sleep and REM sleep. Sleep quality is a subjective description of one's sleep satisfaction. Adequate and quality sleep can be the foundation of how a person can live a healthy life by following the Prophet's way of sleeping is to tilt the body to the right, while praying to Allah until the eyes feel heavy and through audio, it is like listening to verses from the Koran.

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1. INTRODUCTION

Sleep is a sign of the greatness and power of Allah SWT, which should be grateful. Not a few people have difficulty sleeping, so they have to take medicine, and those who find it easy to sleep should be grateful. Sleep quality is a state of sleep experienced by a person consisting of sleep depth, ability to stay asleep, sleep duration, and ease of falling asleep. Sleep quality is classified into two, namely poor sleep quality and poor sleep quality. [1] The tool/instrument commonly used to assess sleep quality is *The Pittsburgh Sleep Quality Index (PSQI)*. [2]

Sleep is an active process, not just a loss of state during wakefulness. During sleep, there is no reduction in the level of brain activity. Sleep is defined as an unconscious state that can be awakened by giving sensory stimulation or by other stimuli. Sleep is different from a coma. A coma is a state of unconsciousness that cannot be awakened. Sleep is a state of physical and mental rest, in which a person becomes relatively inactive and unaware of his environment. [3] A third of human life is spent sleeping, but why sleep is necessary is still a mystery. Nervous activity is not reduced during sleep, but sleep causes changes in activity. Recent studies have shown that there are differences in function between Non-Rapid Eye Movement (NREM) sleep and Rapid Eye Movement (REM) sleep. [4]

Sleep can be defined based on behavioral and physiological criteria that are different from price. Behaviorally, normal sleep includes supine posture, reduced responsiveness to external stimuli, and reversible unconscious states. Normal sleep is also marked by a decrease in body temperature, blood pressure, respiration, and other body functions. Physiological criteria, sleep can be evaluated using polysomnography including electroencephalography (EEG) for electrical brain activity, electromyography (EMG) for measuring muscle tone, and electrooculography (EOG) for measuring eye pressure. The activity of these parameters determines NREM sleep and REM sleep. [5]

Several studies have shown that the pontomesencephalic region is an important area in regulating REM sleep. When the mesopontine area is connected to the rostral structures, there is the synchronization of EEG waves and there are Pontogeniculo Occipital (PGO) spikes are seen in the

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forebrain. PGO is a precursor to REM sleep produced by the mesopontine nucleus. When the mesopontine area connects with the medulla and spinal cord, signs of REM sleep will appear, such as the atony of the skeletal muscles. [6]

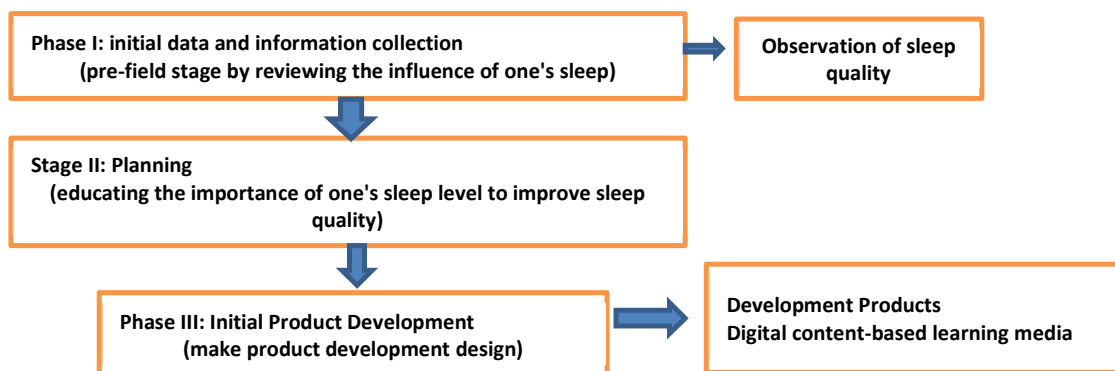
Experimental research conducted in 1896 by letting research subjects not sleep for 90 hours found a decrease in sensory acuity, reaction, motor speed, and memory in the subject. When sleep is limited to only 4 hours in 6 nights, changes in carbohydrate tolerance, increased sympathetic tone, increased cortisol secretion, and decreased thyrotropin levels are evident. Lack of sleep can also affect the cardiovascular system and blood pressure (BP) [7]. The results of Asmarita's cross-sectional study [8] found that those with poor sleep quality had a higher risk of developing hypertension compared to those with good sleep quality in hypertensive patients at the Karanganyar general hospital. The results of the study, from 88 respondents, found that good sleep quality was mostly found in normal blood pressure, namely 86.5%, pre-hypertension was 9.6% and stage 1 hypertension was 3.8%, while poor sleep quality many found in normal blood pressure that is equal to 77.8%, pre-hypertension of 8.3% and stage 1 hypertension of 13.9%. [9]

One of the spiritual functions of sleep is the opportunity for the human soul to get closer to Allah, as revealed in the Qur'an that the soul of a sleeping person is in Allah's hands. Imam Abu Hamid al-Ghazali. Al-Ghazali was one of those who discussed the importance of the role of sleep in human life. This character who is commonly referred to as Hujjatul Islam uses a tasawuf approach to understanding the magnitude of the role of sleep in human life, one of which is conveyed in Ihya Ulumuddin. According to Al-Ghazali, night, when humans sleep, is a dangerous time for humans. The human self is in a weak, unconscious state, and Satan and his allies – as hinted at in Surat al-Naas and Surat al-Falaq – actively spread bad influence on humans. Therefore, the individual's task is to rely completely (tawakkal) on Allah SWT.

Based on the explanation above, the purpose of this paper is to collect information to educate about the importance of quality sleep in understanding the Koran so that it can minimize the right times for one's sleep quality, as a source of health knowledge. Sleep is proof of the power of Allah subhanahu wa ta'ala which still requires a lot of research to find out its essence. So that it answers the challenge of how education programs in health can encourage people to update information, perceive risk, maintain awareness in the future.

2. METHODS

This research is research and development which refers to the development steps of Borg & Gall. In this research method, it is only limited to a preliminary study (concept) which includes three initial steps, namely: (1) initial data and information collection (2) planning, and (3) initial product development, development of learning media based on digital content. The subject of this research is the assessment of the quality of a person's sleep with an understanding of the Koran. The following are the stages of this research;



3. RESULTS AND DISCUSSION

This research and development begin with the collection of initial data and information. The initial data and information collection stage is the pre-field stage by reviewing existing problems. Sleep is a vital activity for every human being as it is necessary to maintain proper mental and physical health. Despite uncertainty about the biological nature of sleep, research shows that poor sleep quality can directly affect the well-being of fundamental body parts such as the brain, heart, and lungs. So at this early stage, let's examine the classification of a person's sleep quality.

Sleep Quality Classification

Sleep quality is determined by how a person prepares his sleep patterns at night such as sleep depth, ability to sleep, and ease of falling asleep without medical assistance. Good quality sleep can give you a feeling of calm in the morning, feeling energetic, and not complaining of sleep disturbances. In other words, having good quality sleep is vital for everyone's healthy life, because the energy stored during sleep can be redirected to important cellular functions. [10] Sleep quality can be classified into two, namely:

a. Sleep quality is good

A person's sleep quality is said to be good if he does not show various signs of sleep deprivation and does not experience sleep disturbances. In addition, someone who has a regular pattern of waking up every day is said to have good-quality sleep. The following is a graph of average sleep per day.

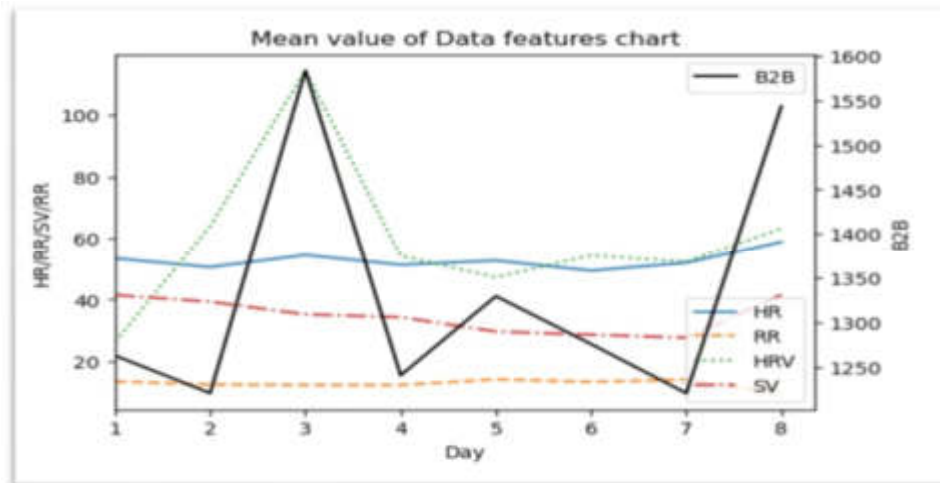


Figure 1. Average Sleep Per Day [11]

b. Poor sleep quality

Poor sleep quality is characterized by physiological and psychological balance disturbances. Physiological disturbances that can occur include decreased daily activities, feeling tired and weak, decreased endurance, vital signs becoming unstable, and increased BMI. Psychological impacts can be in the form of anxiety, depression, and decreased levels of concentration. Poor sleep quality is associated with worse health conditions, increased health care costs, and increased risk of psychiatric disorders. [11], [12]

The next stage after analyzing the potential and problems is the planning stage, as for what can be done to improve one's sleep quality, namely by educating the factors that affect sleep quality in human physiology lectures. so that the Indonesian people, especially the people of Aceh, know the level of quality of sleep every day so that they can avoid various diseases in their youth and later in their old age. The following are factors that affect sleep quality:

Factors Affecting Sleep Quality

Sleep quality is influenced by several factors. Sleep quality refers to an individual's ability to stay asleep and get the appropriate amount of REM and NREM sleep. [13]

a. Sick

Sleep problems can be caused by pain or physical disturbances due to illness. Sick people need more sleep than normal and there are disturbances in REM sleep rhythms that result in spending more time sleeping than normal people.

b. Environment

The environment can speed up or slow down sleep. Any changes such as noise in the environment can interfere with sleep. Noise can cause various disturbances such as physiological disorders and psychological disorders. Noise can delay sleep and can wake someone up from sleep. Another inconvenience that can disturb one's sleep is ambient temperature and lack of ventilation. Light levels can be another influential factor.

c. Tired

A person's sleep patterns are also affected by fatigue. The more tired a person is, the shorter the first REM sleep period.

d. Lifestyle

The change in working hours of a person also affects his sleep time. Someone who often changes working hours must arrange activities to be able to fall asleep at the right time. A person's ability to relax before bed is an important factor affecting the ability to fall asleep.

e. Emotional Stress

Anxiety and depression often interfere with sleep. Anxiety increases blood levels of norepinephrine through stimulation of the sympathetic nervous system. These chemical changes lead to reduced stage IV NREM sleep and REM sleep and more frequent awakenings.

f. Alcohol

Excessive alcohol consumption disrupts REM sleep and often leads to nightmares. People who are tolerant of alcohol may not be able to sleep well and become irritable as a result.

g. Smoke

Nicotine is known to have a stimulant effect on the body. Smokers are usually light sleepers and often describe themselves as sleepers at dawn. Smokers' sleep patterns will improve after quitting smoking.

h. Drugs

Some medications affect sleep quality. Hypnotic drugs can affect stages III and IV NREM sleep stages and suppress REM sleep. Beta-blockers are known to cause insomnia and nightmares. Narcotics are known to suppress REM sleep causing frequent awakenings and drowsiness.

The final stage after analyzing the potential and problems is the initial product development stage, as for what can be done to improve one's sleep quality, namely the use of learning media with digital content with an understanding of the Koran.

Because the Province of Aceh is one of the regions that implement Islamic law, in learning, both from the elementary to higher education levels, it also requires provision regarding understanding in the Koran regarding the material to be conveyed in lectures. The Aceh curriculum is structured as an actualization of Aceh Qanun Number 9 of 2015 concerning Amendments to Aceh Qanun Number 11 of 2014 concerning the Implementation of Education giving authority to the Provincial Government of Aceh. The Aceh curriculum is an innovative curriculum from the 2013 curriculum which is only implemented in the province of Aceh. The curriculum is structured to create young Acehnese who are competent and uphold Islamic Acehnese values. [14]

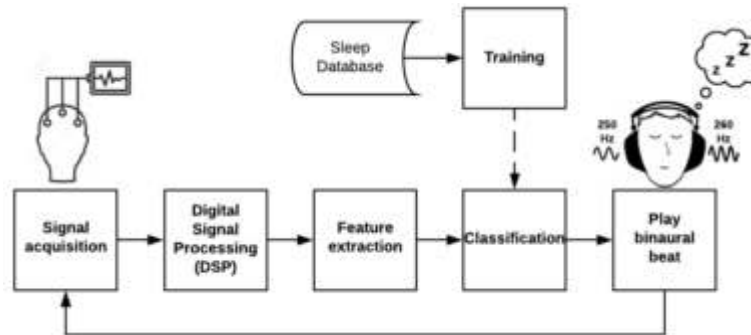


Figure 2. The sleep cycle in training the brain with verses from the Koran

Sleep is one of the most important human activities. A quarter to a third of human life is spent sleeping. If this activity can be carried out by a person well, then the effect will affect various dimensions of one's life while awake. Allah 'Azza wa jalla said that the point is that sleep is beneficial to take a person to rest so that he can reap peace. Here are some verses of the Al-Quran that explain how important it is to maintain quality sleep, according to the word of Allah SWT

" And We made your sleep for rest, and We made the night for clothing, and We made the day to earn a living " (An-Naba'/78: 9-11).

" (Remember), when Allah makes you sleepy as a reassurance from Him " (Al-Anfal/8:11).

There is a positive influence of sleep through opinions and research results that good sleep is the key to achieving a feeling of comfort and happiness. The time to sleep is at night, while the time not to sleep is during the day. At night, humans tend not to have excess activity, and also silence is the reason that makes the night the right time to rest. In the Qur'an, it has been explained that this sleep is an act made by Allah SWT. At night is a break to unwind during the day and evening, as the word of Allah SWT in Al-Furqan: 47.

"He is the one who made for you the night (as) clothing, and sleeps to rest, and He made the day to wake up trying".

Sunnatullah regarding the cycle of alternating day and night is the best means of maintaining health while avoiding various diseases. However, it cannot be denied that even this sleeping phenomenon is mostly practiced by some people during the day and evening. At certain times it may be permissible to sleep, but there are also certain times it is forbidden to sleep, both according to Islamic views and according to health. the time when it is forbidden to sleep according to Islam and health, of course, there are certain reasons why it is forbidden to sleep at that time. Allah SWT said in the letter Al-An'aam: 60

"And He is the one who puts you to sleep at night and He knows what you do during the day, then He wakes you up during the day to perfect (your) age which has been determined, then to Allah you will return, then He will tell you what what you used to do."

Adequate and quality sleep can be the foundation of how one can live a healthy life. Rasulullah saw has invited his people how to sleep quality and healthily. The way Rasulullah SAW slept was by tilting his body to the right, while dhikr to Allah until his eyes felt heavy. He tilted his body to the left for a moment, to return to the right. Sleep like this is the most efficient sleep, namely food is in a position that is for the stomach so that it can settle according to the rules. Then switch to the left for a while so that the process of digesting food is faster because the stomach leads to the liver, then turn again to the right until the end of sleep so that food breaks down faster in the stomach. Another lesson, sleeping on his right side made it easier for him to get up for the night prayers.

In addition to sleep patterns that must be maintained properly and regularly, there is also a way to improve sleep quality, namely by listening to "recitation of the holy verses of the Qur'an" in the form of murottal [15]. Murottal is one of the Al-Qur'an therapies that can give a feeling of calm and relaxation to individuals who listen to it. With so this research is expected to help determine the impact of murottal Al-Qur'an on the quality of sleep in college students. It can be seen from the Encephalograph (EEG) recording which shows that the average Al-Quran murottal therapy is dominated by the appearance of delta waves of 63.11% in the human brain, these waves arise in the left and right frontal areas of the brain. This shows that someone who listens to murottal Al-Quran is in a very calm condition, even like the image of someone who is sleeping deeply (deep sleep). [16].

4. CONCLUSION

Sleep quality is a person's ability to maintain sleep to get the appropriate amount of NREM sleep and REM sleep. Someone who has insufficient NREM sleep will experience some disturbances in physical activity, experience immunosuppression, and be more sensitive to feeling pain. Quality of sleep is a subjective description of a person's satisfaction with his sleep so that a person does not show fatigue, anxiety, irritability and apathy, fragmented attention, headaches, frequent yawning and drowsiness, and there is no blackness in the eyes, eyelids are not swollen and the conjunctiva is not anemic. Adequate and quality sleep can be the foundation of how one can live a healthy life. The way Rasulullah SAW slept was by tilting his body to the right, while dhikr to Allah until his eyes felt heavy.

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