

ABSTRACT

Brain is the most important organ of the human body that is the center of the nervous system. One of the activities that the brain regulates is sleep. Sleeping is a primary need for every individual. A person's condition can be affected by the quality of sleep. Maintaining quality sleep is important to decrease stress, increase mood and to focus. With the electroencephalogram (EEG) signal, we can find out important information about the state of a person's sleep quality. Most people believe that the provision of music stimulus can increase the comfort of sleep. Audio stimulation is one of the variables that can affect the presence of electric waves in the brain, and can help a person to feel more relaxed.

This research studied the influence of classical music and natural music on sleep quality from EEG signals, compared to sleep quality with stimulation of music and no stimulation based on total time in each stage of sleep, sleep latency, and sleep efficiency. Input system is a signal obtained from measurements using electrode sensor Mitsar EEG-202 which in its application will be placed at 19 point (multi channel) according to the international system 10-20. The initial stage of the system is the data acquisition to obtain the data, then the data visually read and verified by neurologist, after that the determination of sleep quality by looking at the influence of audio stimulus (music) to the condition without stimulus by two averages equality test and F-test statistic method.

The result of two averages equality test analysis show that there is an effect on NREM stage 3 with classical music. While the F-test analysis showed a significant difference in NREM stage 1 with classical music as well as natural music. Providing classical music stimulus can increase sleep efficiency up to 13,14% and natural music 14,17%.

Keywords: *Brain, EEG, Sleep Quality, Two Averages Equality Test, and F-test.*