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Intervention of Sleep Quality in the Appearance of Concomitant Symptoms in Hospitalized Patients

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1. Summary

This document aims to fulfill the quality of sleep and the circadian cycles respect as important factors in the development of multiple diseases in various specialties, which affects therapeutic methods both in outpatients and in hospitalized ones, and the variety of symptoms, that can be observed, through a practical survey method, with the main objective of contributing to the awareness of treating physicians on the importance of sleep hygiene measures, and improving patients quality life.

2. Introduction

When trying to define sleep, it is inevitable to differentiate the physiological characteristics of good sleep quality depending on the species, where it is a little easier to list the behavioral characteristics that are associated with the aspect of sleep and try to define it appropriately, where can be associated with immobility and muscle relaxation, it is a reversible event (which differentiates it from other pathological states such as stupor and coma), decreased consciousness and reactivity to external stimuli and finally during sleep individuals acquire a stereotypical posture.

The absence of sleep induces different behavioral and physiological alterations in addition to generating a cumulative sleep debt that must eventually be recovered. A tool that has been of vital importance for the study of sleep physiology is the electroencephalogram (EEG), which is the graphic and digital representation of the oscillations that show the electrical activity of the brain, when recorded by electrodes placed in different places. regions of the head. During alert states while keeping the eyes closed in the EEG, oscillations of electrical activity are observed that are usually found between 8-13 cycles per second, mainly in occipital regions (alpha rhythm). Within sleep, characteristic changes in brain activity occur. which are the basis for dividing sleep into several phases, where it is usually divided into two phases: without rapid eye movements, and with rapid eye movements

NON-REM sleep: N1 phase corresponds to drowsiness or the beginning of light sleep, slight muscle jerks (acute vertex waves) are usually observed, N2 phase specific patterns of brain activity appear, called sleep spindle and k complex, heart and respiratory rate begins to gradually decrease, N3 phase or slow wave sleep is the deepest phase, very slow frequency activity (<2 Hz) is observed in the EEG.

REM sleep: now called the R phase and is characterized by the presence of rapid eye movements, physically all muscle tone decreases.

A young adult spends approximately between 70-100 minutes in non-REM sleep which can last between 5-30 minutes and this cycle repeats every hour and a half throughout the night, therefore throughout the night they can occur normally between 4 and 6 cycles of REM sleep.

3. Sleep Hygiene

Sleep hygiene measures are a series of recommendations about desirable behaviors and habits, as well as changes in environmental conditions and other related factors, aimed at improving the quality of sleep of people who already suffer from a sleep disorder such as insomnia, or that can be used as measures to prevent sleep dis-

turbance. Although there is no global consensus about what these sleep hygiene measures should be and some of these sleep hygiene measures are transplanted with some forms of non-pharmacological behavioral treatment, we can generally consider (avoiding prolonged naps >1 hr, lying down to sleep at the same time every day, wake up at the same time all day, sleep in a comfortable bed, sleep in a room with low lighting and little ambient noise).

4. Epidemiology

It is estimated that, in our country, around 45% of the adult population has poor sleep quality. The above is reflected in the difficulty that people have in getting up, as well as in constant drowsiness and fatigue during the first hours of the morning.

5. Method

The present study uses the referential method as a basis, mentioning descriptive surveys, and testing the Pittsburgh sleep quality scale where 20 patients hospitalized at the Regional Military Hospital of Guadalajara, Jalisco, are evaluated, assessing the level of quality of sleep and what concomitant symptoms are added by poor sleep hygiene, test period February-May.

6. Justification

The present research will focus on studying hygiene habits based on sleep quality in hospitalized patients, since due to work stress or in hospital instances it has been seen that patients have directly modified their sleep habits, worsening the quality of life and delaying recovery in the hospital by increasing concomitant symptoms, we then propose to investigate the evolution of pathological patterns and their aggregate symptoms; The reasons that led us to investigate the quality of sleep in hospitalized patients are due to the increase in discomfort or data of drowsiness reported by patients after being hospitalized for more than 2 days. We think that through detailed analysis we will be able to raise awareness among health personnel to improve sleep hygiene and thus help prompt recovery without the appearance of concomitant symptoms in patients who are hospitalized.

7. Goals

1. Clinically observe the behavior of hospitalized patients and their quality of sleep hygiene.

2. Intervene and prevent concomitant pathologies that are associated with poor hygienic sleep habits.

3. Improve the quality of life of hospitalized patients.

4. Raise awareness about the application of hygiene or good sleep habits to improve quality of life.

5. Reduce the percentage of aggregate symptoms due to a decrease in sleep schedules.

6. Locate key events or outstanding problems in sleep quality.

7.1. Statistical Population

A sampling was carried out where people of both sexes were chosen, who were subjected to a descriptive evaluation through direct surveys, where a sample of 20 people with characteristics was collected with a type of simple random choice, making a list of participants. hospitalized to form the sample that will be studied through questionnaires.

8. Results

A random sample is taken to carry out direct descriptive surveys at the Regional Military Hospital of Guadalajara, Jalisco, where 14 female people and 6 male people are taken, with a percentage of 70% female and 30% male. Regarding age, there is an ambiguous percentage where it is observed that 30% correspond to people aged between 21 and 30 years, followed proportionally by 15% patients aged between 31 and 73 years (Figure 1). In terms of marital status, 74% of the respondents are married, 11% are single, and 15% proportionally are divorced, widowed, and in a common law union (Figure 1, 2).

Within the descriptive surveys, the situations of entitlement in the institution were not taken into account, where the majority of those reported or interviewed were active entitlements, having the majority of the percentage with 60%, followed by military personnel in the active sector, where it was noted that most of the concomitant symptoms corresponded to anxiety and headache (Figure 3).

Among the key questions that are characterized in the Pittsburgh scale, bedtime manifests where literally 50% of the patients interviewed reiterated going to sleep around 10:00 pm and 11:00 pm, while the rest distributed with 25% who go to bed regularly from 08:00 pm to 09:00 pm and the other 25% after 12:00 pm (Figure 4).

Continuing with the variability of sleep habits, the question was specifically asked about the total time it takes to fall asleep indispensable, where a detailed variability between each point and constant resulted, resulting in 45% of the studied population falling asleep, sleep within the first 10 minutes, while 25% is distributed in patients who sleep within the first 30 minutes and an important fact is that 15% of the patient sample takes more than 60 minutes to fall asleep (Figure 5).

It is worth highlighting the relevance of the time it takes people to sleep and the time they have to get up, since it should be noted that within the quality of sleep it is known that a young adult should sleep an average of 7–8 hours, although This amount can vary because it depends on internal factors of the organism and external factors of society, which is why a preschool child can sleep between 11 or 12 hours and an older adult between 5 and 6 hours, not taking into account the periods they snooze during the day. , so the results that focus on the percentages of patients who wake up early and sleep late are of utmost importance since they begin to have functional and organic damage that is involved in their daily life. Within the Pittsburgh scale it is essential to highlight and highlight the following two patterns:

1. The time at which patients regularly wake up from their dreams
2. The total hours of sleep of a patient.

Where the results have as supremacy that 40% of the studied population wakes up at 7:00 am while the other 40% wakes up on average between 5:00 and 6:00 am to carry out their activities, finally 15% He has a short sleep average, waking up between 3:00 and 4:00 am (Figure 6).

By carrying out and observing an average of the patients' sleep habits and sleep quality, a question is asked to evaluate the approximate number of hours that people sleep per day, taking into account their underlying pathologies (post-operative, chronic pathologies). degenerative diseases, concomitant pathologies), resulting in 45% of patients only sleeping 5 to 6 hours in a row compared to the schedule that a person should really sleep to report adequate sleep quality and hygiene, which is actually below established parameters, while Around 15% of the patients who were taken as a sample sleep an average of between 10 and 15 hours a day. It should be noted that these patients mentioned having psychological and psychiatric problems such as depression. If we recapitulate the concepts offered by the National Sleep Foundation, 85% of the patients interviewed do not meet the criteria to define that they maintain adequate sleep health, while only 5% of the patients could meet the criteria already established and mentioned (the following graph represents the number of patients and the total hours of sleep maintained during a day) the Pittsburgh scale shows questions which it is worth mentioning are subjective processes that become relevant in the last 4 weeks, about falling asleep where 45% of hospitalized patients answered that Approximately three times a week they are prevented from falling asleep properly.

And evaluating the number of people and how many times they get up approximately during the night, results were obtained that 14 people interviewed get up between 2 to 3 times a week, which is around 70% of patients surveyed with these bad sleeping habits. Regarding the reasons why patients wake up, the following result was obtained (Figure 7 and 8).

Where 65% of those surveyed in the last month would not have suffered from sensations of lack of air, while the number of 6 people reported that approximately three times a week they wake up due to feeling a sensation of lack of air that corresponds to a 30% of the investigated sample (Figure 9).

When asking indirect questions about whether their family member snored, 40% answered that they did not notice these events in the last 4 weeks, while 45% responded that on an average of 1-2 times a week they snored at night, which made them the patient will wake up during the night (Figure 10), 50% of the patients have not woken up during the night due to cold in the last 4 weeks, and with a total of 5 patients it results in 25% who woke up at least once a week due to feeling cold.

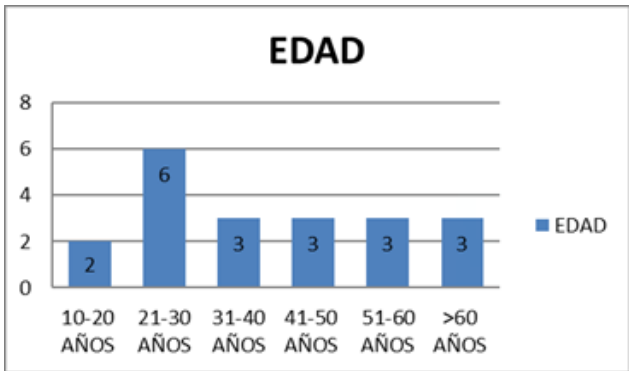


Figure 1: Age of the patients in the sample.

Figure 2: Marital Status.

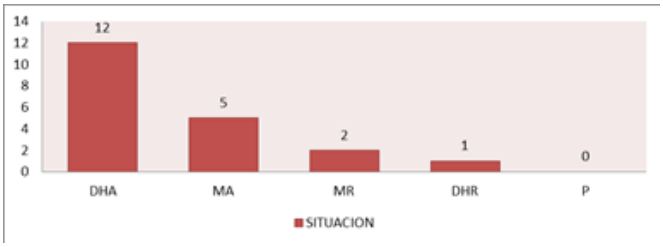


Figure 3: Social security situation.

Figure 4: Bedtime.

Figure 5: Time to fall asleep (sleep latency).

Figure 6: Average wake-up time.

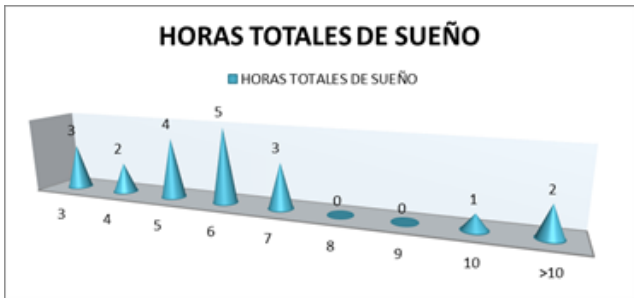


Figure 7:

Figure 8:

Figure 9:

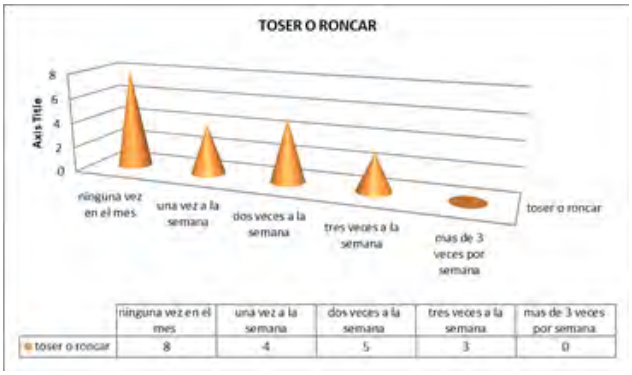


Figure 10:

In the opposite case, 70% of the patients used to wake up during the night due to a feeling of heat (Figure 11 and 12).

35% of the patients surveyed found that they have not had problems such as nightmares at bedtime, while the other 35% have nightmares 1 or 2 times a week, 30% 3 times a week; The following graph is representative of the results that were obtained when applying that question to the sample that was investigated (Figure 13).

Among the data that we want to highlight in this study is the presence of pain and what type in the last 4 weeks, referring to pain as some event that keeps them awake or that wakes them up during the night, with the conclusion that 30 % of the patients interviewed answered affirmatively that approximately once a week they felt pain, and 35% mentioned that approximately twice a week they felt some type of pain (Figure 14).

By gradually evaluating the data provided by the patients, the result was that 70% of hospitalized patients have presented tension headaches caused by bad habits or sleep hygiene, adding low back pain and even anxiety in a total number of 5 more patients who correspond. another 25% more of the sample studied (Figure 15).

50% of patients rated their sleep quality as poor while 35% rated it as good sleep (Figure 16).

They were asked if they took any medication or took it in the last 4 weeks to help them fall asleep, where 75% denied having taken medication to fall asleep. While the other 25% accepted having taken medication to sleep either 1 to 3 times a week (Figure 17).

The unanimous medication that 25% of patients used is clonazepam, which is a benzodiazepine that acts directly on the central nervous system, which can create drowsiness and fatigue (Figure 18).

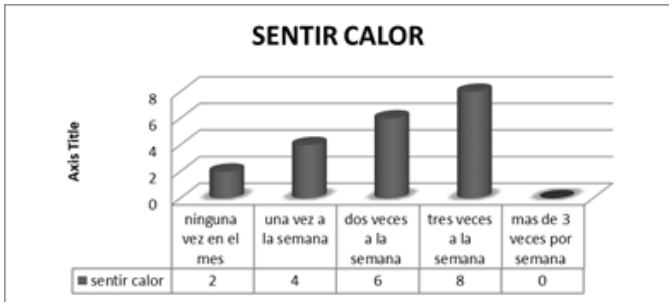
Within the study of sleep hygiene, there is variability where it focuses directly on factors such as drowsiness that is directly caused by poor sleep hygiene habits. Based on the Pittsburgh scale, there is a direct section where it asks questions about the drowsiness that the patient could suffer and finally if that drowsiness or fatigue could prevent the performance of any daily or executive activity on a day-to-day basis (Figure 19).

As a result, 65% of patients have been in a state of drowsiness or have felt tired in a period of approximately two to three times a week, while only 25% of patients have drowsiness due to at least once a week, preventing your speedy recovery or reducing your resistance in daily life.

Taking into account the number of patients who answered affirmatively to the question about drowsiness, a graph was obtained that showed the results showing the inability or problem caused by maintaining that state of drowsiness, obtaining that 35% of the patients do not have no problem when carrying out their daily activities, while another 35% of the people surveyed indicated their concern and described maintaining drowsiness as a slight problem

in daily life, which can cause difficulties in their daily life; Finally, 25% classified their level of sleepiness as a moderate problem, defining that in daily activities it does cause them conflict to be able to perform them with the greatest aptitude and energy (Figure 20).

Figure 11:



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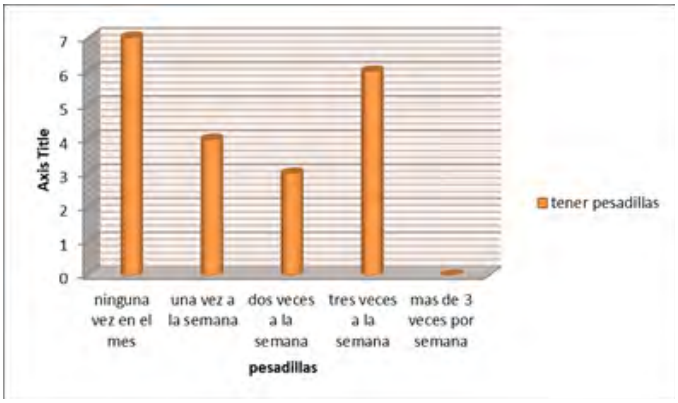

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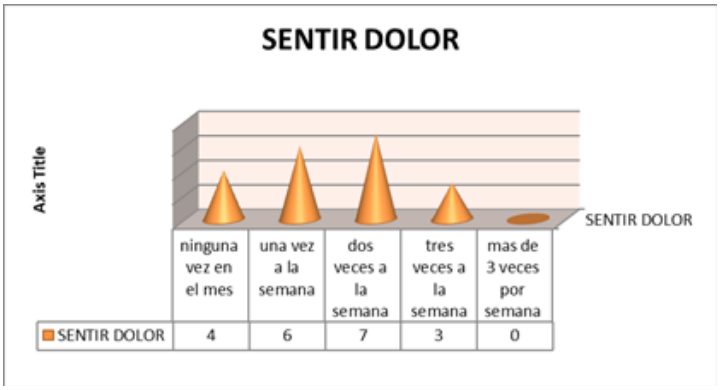

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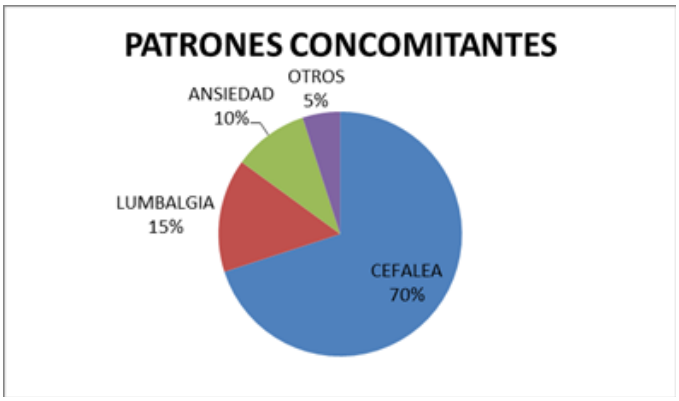

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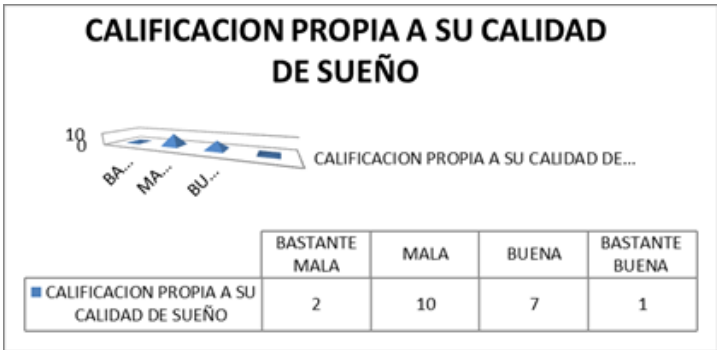

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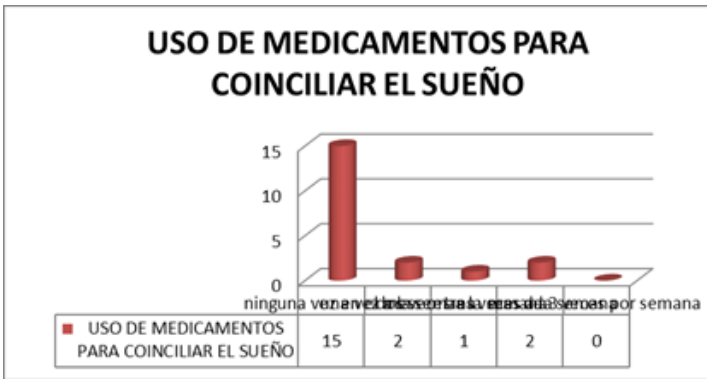

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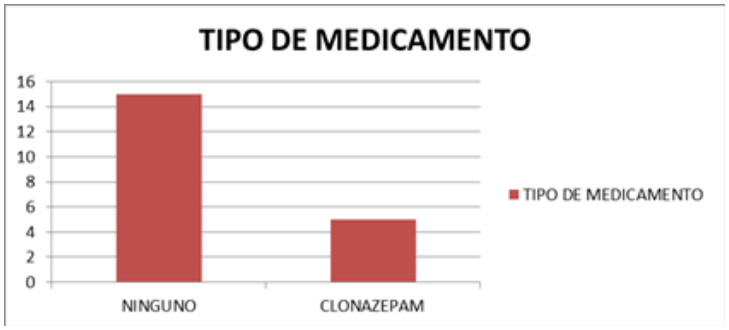

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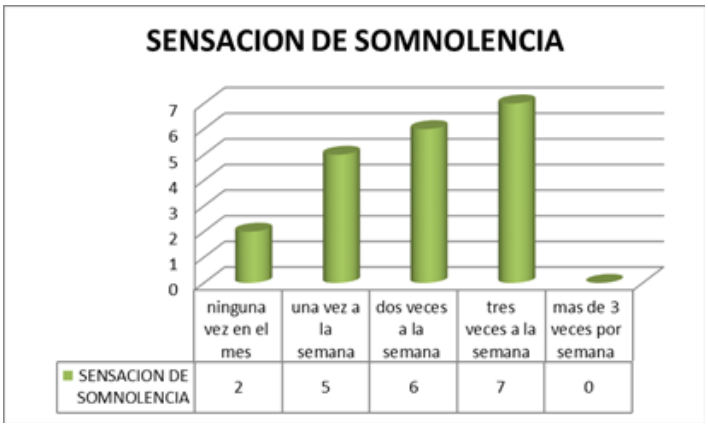

Figure 19:

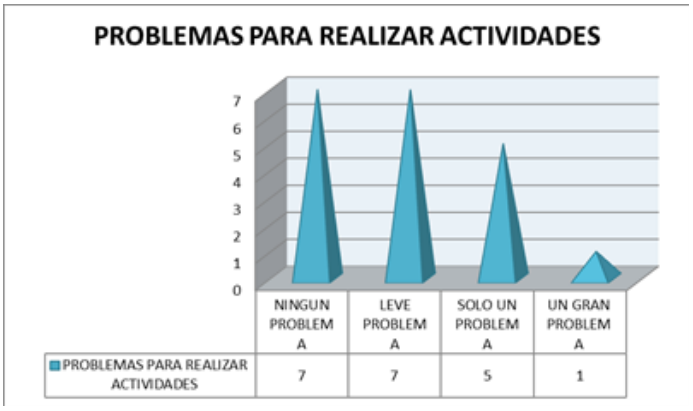

Figure 20:

9. Conclusion

Definitely, the great health problem to be solved in our country necessarily has to do with habits and because, by not respecting the hours of sleep, biorhythms are altered, which translates into clinical problems such as: headache, nervous colitis, depression. , anxiety, metabolic and systemic problems. It is important to understand the reeducation of our patients in each consultation and health step, since the installation of an adequate diet and weight control, as well as a healthy and aerobic sport along with sleep hygiene measures will be the main weapons to attack various diseases in our times.

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