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Lack of Sleep and its Repercussion on Rotating Medical Interns at the Pablo Arturo Suarez General Hospital 2017 and 2018

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Abstract

Sleep, rest, is a complex physiological process, but that, however, is extremely important for our body to function properly, both in structural and functional terms, as well as in our interaction with the environment Introduction: In Ecuador, as surely in many hospitals in Latin America, especially public, the demands on rotating inmates are extremely great. These demands lead to sleep deprivation and therefore sleep rest. This deprivation generates alterations in the correct functioning of the organism and also entails behavioral alterations that are detrimental to the attention of patients.

Materials and Methods: A descriptive study was carried out, using as a tool a questionnaire of 6 closed questions. This questionnaire was distributed and carried out digitally by 76 rotating inmates of the Pablo Arturo Suárez General Hospital between 2017 and 2018.

Results: It was evidenced that 70% of the rotating medical inmates felt more tired between 00:00-03:00 am, 15% between 03:00-04:00 am, 6% between 06:00 am and 12:00 pm and finally 6% responded between 12:00-18:00 pm. No inmates reported feeling affected between 04:00-06:00 am. When it was inquired about how many hours are necessary to partially recover, it was evident that 42.9% required at least 3 hours of sleep, 42.9% 2 hours, 3.6% 1 hour, 3.6% 45 minutes and finally 7.1% 30 minutes. According to the survey, the services where a greater affection was evidenced by lack of sleep were Neonatology with 42%, Emergency in 27% and Surgery in 24% and Internal Medicine in 6%. When it was indicated which services generated a greater time of diversified occupation per service, it was evident that emergency and gynecology were the least monotonous with 25% and 21%, while the most monotonous were surgery 14% and neonatology 4% respectively.

We also observed that theorization of mechanisms to reduce sleep during the guards were frequent, among them: Sweets: 27%, Music: 24%, Coffee: 24%, Drinks and stimulants other than coffee: 18%, medicine 3%, nothing: 3%; 48% answered that the various methods used partially help, 38.7% mentioned that they do not help and 12% answered that they do help

Conclusions: Lack of sleep and with it the lack of rest in rotating inmates affects their health, but also their action and behavior with patients. It is important to reduce the working day, improve the treatment of rotating inmates, diversify their tasks and perhaps, facilitate activities or resources that improve their status and performance.

Keywords: Lack of sleep; Impact; Internal doctors; Rotation

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Introduction

There is no doubt that scenarios such as intensive care, emergency, pediatrics, among others, are places where the dynamics, articulation and development of the operating personnel of the

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Pablo Arturo Suárez General Hospital is highly mobile, but above all, highly concentrated, so that the response that doctors, nurses, assistants, interns must give must be timely, scientific and, of course, affable; To this extent, these interventions, either due to the numerical product of the demand and its quality, require that the inmates and other medical personnel be in optimal physical, psychological and cognitive conditions.

The long periods of work without rest and without sleep, finally end up undermining the cognitive capacity of individuals, reducing the ability to function at an acceptable level and is incompatible with the expectation of the hospital patient. Under this premise, it is important to develop procedures that allow inmates and their leaders to obtain, in normal periods, the amount of rest and minimum sleep necessary to ensure that the response is concurrent to each of the scenarios to be confronted.

The difficulties that the state has to provide infrastructural responses and hospital services at the different levels of care, has determined that the existing ones assume and absorb the demand of users that apparently grow exponentially.

Precisely the Pablo Arturo Suárez General Hospital, after an important remodeling process in 2015, it is understood that it should serve approximately 300,000 users annually, "with an average of 850 people a day; 650 in the 33 specialties in 75 offices and 18 subspecialties, and 200 through emergency, since it increased from 20 to 60 attention posts" [1].

However, as of 2017, in this hospital, 149,111 patients were treated in the outpatient area, 85,379 in emergency; and, in part of 2018, in external consultation 98,861; 43,663 in emergency (August 2018) and 7,337 graduates. Definitely, public hospitals have become scenarios where the greatest contradictions of the entire public apparatus converge, in which affirmative action, timely, effective care, has a bloody struggle with the limitations of not having enough operating personnel, supplies physicians, and a high volume from users.

The new hospital system has been redirected on its true objectives. It aims to provide greater care coverage, but this, to some extent, ignores quality by improving numerical indicators. Quantity for quality and the results can often be disastrous. In philosophical terms, the quantitative vision of any phenomenon, whether natural or social, and in this case, an eminently social phenomenon is biased, unilateral and even mechanistic; On the other hand, a purely qualitative view of the same phenomenon can have the same bias, and even become exclusive. Not understanding that the leaps in quality are necessarily linked to those in quantity will keep us tied to constantly replicating the error that does not match the requirements of our people. It must be recognized that political clientelism also interacts behind this quantitative phenomenon, opening up public services on the same infrastructural base, generating hospital congestion and with it, weakness in the quality of care. The institutional response is not isolated; it is supported by certain state policies. For example, setting care quotas, a number of patients seen by a doctor on a given day; or, the other, the incorporation of nursing and medical students to public hospitals under the figure of pre-professional practices to support a system that is weak,

anemic. Pre-professional practices, community practice and later rural, would seem to be a euphemism for labor exploitation that contains a series of contradictions that the state cannot solve. Although it is true that it is fundamental in the process of training a doctor to carry out their pre-professional practices in real conditions, limited to the strengths and weaknesses of the health system offered by the state, the design of how to do it and under what conditions should change., and in a dramatic way, so that this process is instructive, formative, that strengthens the student, but not that it weakens him in his vocation or the methodological process of approaching the patient.

And of course, this is not just a problem for students, but also for a certain level of doctors, nurses, administrative staff and others, who are subjected to high workloads, with exhausting guards, which in many cases humanly cannot be dealt with efficiently. In the case of the students who carry out the rotating internship at the Pablo Arturo Suárez General Hospital, which is practically identical to what happens in the other hospitals and public care centers in the country-, they are subjected to long hours of work, especially all those that compromise the guards whose days go from 24 to 28 hours (not infrequently they extend a couple of hours more) of service in which they put in tension the knowledge acquired in the classroom, in addition, they incorporate their own knowledge of the daily life of a hospital, whether in objective aspects such as the scientific treatment of patients, clinical and medical procedures; as well as in subjective aspects that go from the interaction with administrative and operational personnel of the Hospital, the same that is not necessarily affable, cordial, on the contrary, they exercise a behavioral, vertical relationship, which often acquires aggressive, imperative and deeply subjective characteristics., which regularly, instead of forming, deform the future doctor's personality. As Machado would say, "with the thread they give us, we weave, when we weave" helps to better describe what happens with the interns and their stay in their practices (internship) at the Hospital General Pablo Arturo Suárez, and perhaps, the thread that rotating interns have in their hands is precisely the limitations in means added to the high workload that is evident, qualitatively and quantitatively, in the care they give to patients [2].

Materials And Methods

A descriptive study was carried out, using as a tool a questionnaire elaborated through "Google Forms", which consisted of 6 closed questions. Said questionnaire was distributed through an instant messaging service "Whatsapp", which was carried out digitally by 76 rotating interns of the Pablo Arturo Suárez General Hospital between 2017 and 2018.

Results

It was found that 70% of the rotating medicine interns felt more tired between midnight and three in the morning, followed by 15% who felt more tired between three and four in the morning, approximately. 6% between six in the morning and twelve in the afternoon and another 6% between twelve in the afternoon and six at night. No rotating intern felt particularly affected between 4 and 6 in the morning (**Figure 1**).

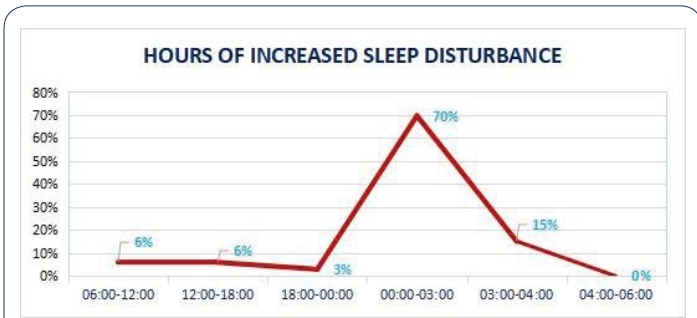


Figure 1 Hours of increased sleep disturbance.

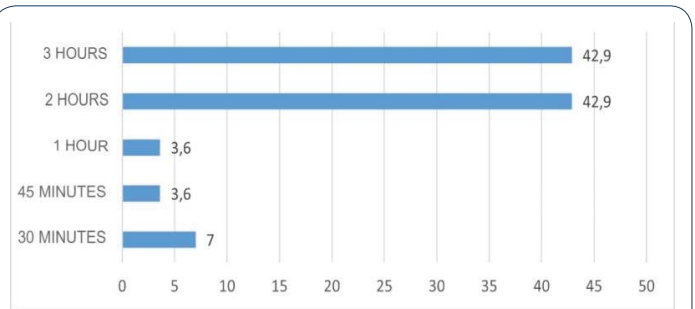


Figure 2 How Much Time Is Required To Rest At Least During The Guard To Feel Recovered?

Now, the issue is how much sleep is required to be able to recover in an elementally operational way? In one of the questions that were asked to the rotating medical interns of the Pablo Arturo Suárez General Hospital, they state that the minimum rest should be between 2-3 hours, with 3 hours of sleep being prevalent; that, with that time, efforts can be renewed to sustain the long journey. As we observed, 42.9% mentioned requiring at least 3 hours of sleep to feel rested, 42.9% referred requiring at least 2 hours, 3.6% 1 hour, 3.6% 45 minutes and only 7.1% mentioned 30 minutes as the time needed to feel moderately recovered (Figure 2).

When the students are asked in which service they feel more affected by the lack of rest, they all agree that in those where the activities are monotonous, repetitive that, however, in those services where there is more activity, more movement, but more diversity of activities, sleep can be better managed. As we observed in the results of our survey, the services where the greatest affection was evidenced by lack of sleep were neonatology with 42%, followed by emergency with 27%, surgery with 24% and finally internal medicine with 6% (Figure 3).

On the other hand, the longest occupancy time diversified by service and that had the least impact due to sleep deprivation were emergency with 25%, gynecology 21%, pediatrics 19%, internal medicine: 17% while the most monotonous were surgery 14% and neonatology 4% (Figure 4).

On the other hand, it was intended to investigate what mechanisms the rotating medicine interns used to reduce sleep and therefore fatigue while they were active in each of the services. It was observed, within the hospital population, especially among rotating interns, the consumption of sweets, chocolates and the like are the most used, music is another element that helps to stay active despite fatigue and, obviously, the use of stimulating drinks other than coffee, such as 220V, Red Bull and others. As we can see, the rotating medicine interns at Pablo Arturo Suárez General Hospital mention the use of sweets by 27%, music by 24%, coffee by 24%, stimulating drinks other than coffee by 18%, medicine by 3% and nothing at 3% (Figure 5).

However, the consumption of these substances or the use of music to try to stay awake is not necessarily presented as definitive solutions. As we evidenced, 48% responded that the various methods used help partially, 38.7% mentioned that they do not help and 12% answered that they do help (Figure 6).

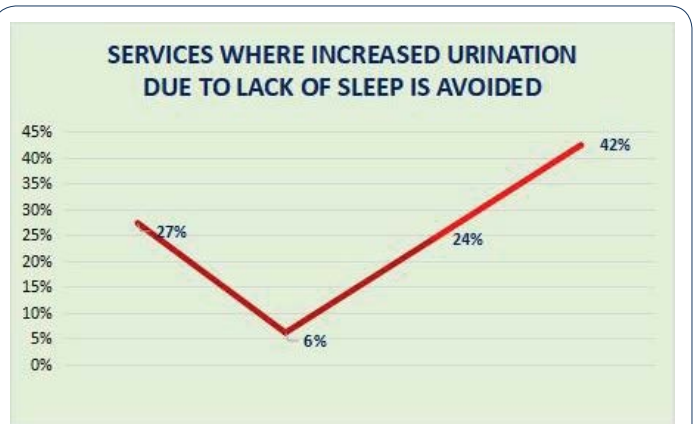


Figure 3 Service where increased urination due to lack of sleep is avoided.

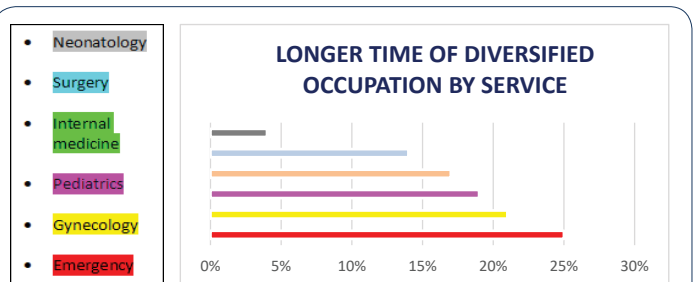


Figure 4 Longer time of diversified occupation by service.

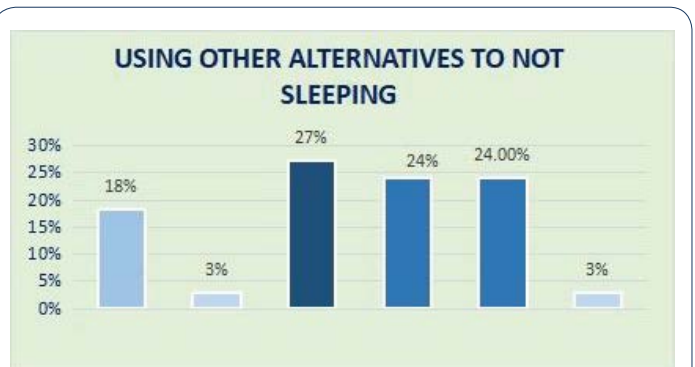
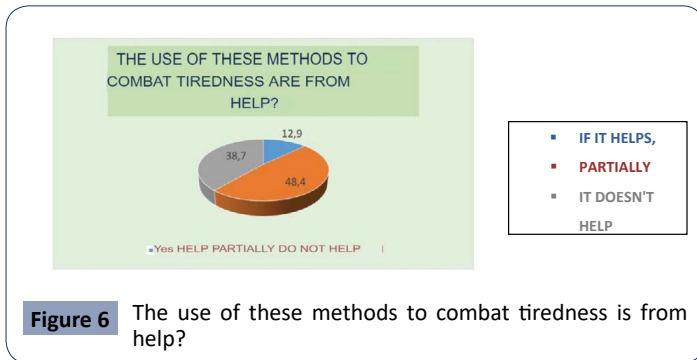


Figure 5 Stimulant Medicine Sweets Music Coffee Nothing.



Discussion

It is very important to mention that, like all factors in the human body, sleep is closely related to the general state of physical, emotional and psychological health [3, 4]. The amount of hours that should be dedicated to sleep will depend on the organism, the environment and the behavior, since this can have considerable variations in each person. So we can talk about 3 sleep cycles, short, intermediate and long sleep cycle [5]. In this way, we speak of efficient and good quality dream cycles. An alteration in a person's sleep cycle can greatly affect their health and psychological state, making them more prone to making mistakes at work and generating high stress loads [6].

One of the professions most affected by lack of sleep and which are exposed to long working hours are the medical professions, especially when they complete their year of internship at the end of their academic period, which causes many of these professions to suffer from burnout syndrome, this is characterized by symptoms such as fatigue, irritability, both mental and physical exhaustion, which generates consequences such as medical errors, misdiagnosis, wrong procedures, among others, where the safety of both the patient and the patient would be exposed. Of the same professional [7, 8]. Due to extreme fatigue, skills such as critical analysis and correct decision making are lost, which would directly affect patients [9].

In a study carried out by the researcher Karen Cecilia Chacaltana Linares et al, worrying figures were obtained on the frequency with which burnout syndrome occurred in interns during their year of internship in several hospitals in Lima, where they participated in the study 165 medical interns: 52% (85 people) of the internship, from the year 2017; and 48% (80 people) of the boarding school, from the year 2018. The participants were on average between 22 and 25 years old, female and male, single and without children. It was found that 81.3% of the interns of the year 2018 described their sleep cycle from "fair to very bad", while more than half of the interns of the year 2017 described their sleep cycle "very good and good" in a 55.3%. The frequency of burnout syndrome in medical interns was 33% and 35%, for the year 2017 and 2018, respectively. All this related to the increase in the working day and a decrease in recreational activities by intern doctors [10].

Cognitive skills are essential for all the daily activities carried out by interns, multiple studies confirm that doctors and personnel in the health area are vulnerable to problems related to cognitive

deterioration, this generated by long hours in those who stay awake, extended and repetitive 24-hour shifts. Factors such as tiredness and lack of sleep can develop major problems, such as high levels of stress, depression, obesity, cardiovascular diseases, hypertension, psychological disorders, among other pathologies. The most likely to suffer from these conditions are the young population between 22 at 30 years of age, in addition to that, their basic skills, concentration, and techniques that are used at the time of patient care decrease, they also slow down, when responding to an emergency [11]. Due to the fact that internal doctors play a double role during their internship year, since they provide hospital care and at the same time they are finishing their academic training process, it generates greater pressure and quite high stress levels. Likewise, as affirmed by Dr. Sánchez-Amo L et al., in his study on the influence of stress and long working hours, which are related to high levels of incidence of errors committed during patient care. In his research, he affirms that excessive hours and work overload generate emotional stress and fatigue, which affects the performance of doctors and the management of patients. In this study, an investigation was carried out in the existing medical bibliography, where a data collection was made in order to generate improvement in the quality of patient care. Several studies conducted in New Zealand, the United States, Canada, among others, were found, where a large percentage of professionals acknowledged being exposed to long working hours, which greatly alters their sleep cycle, especially doctors in training where Due to the high levels of fatigue, their incidence of error was 36% and self-injury with sharp objects was 61% [12].

Conclusions

It is evident that the incidence of lack of sleep in the rotating interns of the Pablo Arturo Suárez General Hospital is important. That this incidence varies depending on the service, despite the shifts or occupational time being the same. The greater the monotony, the greater the affection, the greater the diversification of activities, the conditions change notably. For the purpose of this study, there is full agreement with the studies cited and that are related to the fact that the time of greatest physical, psychological and cognitive depression due to lack of sleep is at 03:00 am, a space in which it is important to consider countermeasures, one of them being the use of micro-sleep to be able to recover the inmate in relatively acceptable operating conditions. It is conclusive the fact that the management of the fatigue of the rotating interns of the Pablo Arturo Suárez General Hospital depends a lot on the capacities, creativity and good judgment of the leaders. The correct dosage of time, tasks and how to carry out the different activities will pay the students so that they can better manage their fatigue, sleep, and the predisposition to be able to fulfill the assigned tasks.

In any case, it could be concluded that:

- The academic/operational performance of rotating interns is lower in individuals who have greater difficulties in managing sleep deprivation.
- That the greatest condition resulting from lack of sleep is physical, however, the most dangerous in operational terms is the loss of cognitive abilities.

- That the use of stimulant beverages other than coffee may eventually help to manage the lack of rest/sleep, however the subsequent consequences may be detrimental to the apparent benefit they provide.
- That the correct leadership of those responsible (heads) of the floor or service, can achieve, with appropriate

countermeasures, that the rotating interns and other hospital personnel dose their rest in such a way that their responses to the requirements of the hospital and of the patients Be as objective and optimal as possible.

- That generating affable, friendly interpersonal relationship spaces help to better manage the stages of exhaustion.

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