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Stress Triggers and Coping Strategies of Medical Students

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Abstract*:* Stress types are usually classified based on the source of stress, this is because not all potential stressors have the same force of impact or duration. The study analyzed stress coping styles in medical students. The triggers of stress were: academic overload, emotional problems, illness, lack of social support and alterations of sleep patterns; women present higher frequency of academic stress, they identify more potential stressors than men and maintain lower percentiles in all coping responses, which in men are: Seek of alternative rewards -BR- and emotional discharge -DE-, being of behavioral avoidance, postpone a style of coping that can reduce the impact on stress triggers in the short-term, thus, stress becomes chronic, and they try to distract their attention with alternative rewards or relieve energy through emotional acting out. Women respond by seeking alternative rewards -BR-, positive re-evaluation -RP- and cognitive avoidance -EC-, which, although they immediately reduce the discomfort of stress, do not counteract the sources that originate it, constituting apparent escape routes for coping.

Keywords – *Coping strategies, Stress Triggers, Medical Students*

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I. INTRODUCTION

It has been observed over time and in different contexts the need to know and possess the strategies we employ to cope with stressful situations; no matter in what area we develop, the situations we face (either present or future situations) can generate stress and in most of these situations we have to act in that precise moment, or assume the effects if we do not act, therefore, it is important to know how and which daily situations affect, particularly in the academic life, to have a more peaceful life with emotional well-being. The objective of the present study was to analyze the coping strategies in Medical Students of the Autonomous University of Nayarit. The precise identification of stressors could help to understand stress and the damaging effects in university students [1]. Identifying the presence of stress-generating conditions promptly can prevent symptoms such as drowsiness, fatigue, migraine, truancy, restlessness, anxiety, or memory problems in students [2].

The design of this investigation is mixed, descriptive and cross-sectional. From the qualitative approach, data collection and analysis were used to refine the research question or propose new questions in the interpretation process. The quantitative approach used data collection to test hypotheses based on numerical measurement and statistical analysis, to establish patterns of behavior and test theories. The members of the sample were enrolled in the same generational cohort of the student population enrolled at the time of application, a voluntary sample of convenience was taken in October 2016; in this case, a sample of 145 participants (66 men and 79 women).

Academic stress is a type of stress whose source is in the educational field. In the past 10 years, it has been a research topic in clinical and educational psychology, and it has been related to variables such as gender, age, profession, etc.; However, it is still a new topic in the health sciences, and, therefore, its diagnosis has not yet been included in the DSM and ICD nosology. Finally, within the explanatory theories of stress that have been reviewed, the one that exposes elements of physiological, environmental, cognitive and emotional order, is the systemic cognitive model to explain the academic stress in university students. The systemic cognitive model of academic stress explains it as a series of evaluative processes in response to stressful stimuli from the environment, aiming to achieve a systemic balance of the person-environment relationship [3].

Considered a stimulus, situation or independent variable, stress is any circumstance that generates tension, and, in this case, it is usually called stressors. A stressor can be any stimulus that requires an adaptation

of the organism. From this perspective, the response to external events has been investigated and, in general, it is accepted that there are universally stressful situations which lead to pay less attention to individual differences in the perception of the experience. As a response or dependent variable, stress refers to the cognitive, emotional and behavioral manifestation of being tense. In other words, as a general response of the organism to any stressful stimulus or psychobiological reactions to stressors whose purpose is to achieve an adaptive response.

The third approach, rather than focusing on stressors or on responses aimed at achieving adaptation, considers that the essence of stress lies in the transaction between the individual and the environment. Thus, an event or circumstances will be stressful or not depending on the divergence between the response capacities that the subject believes to have to respond and the perception of the demands needed. The model of Lazarus and Folkman [4] is the basic reference of this perspective; it emphasizes the cognitive valuation of the subject on the situation that faces. Hence, facing the same stimulus, the reactions of different subjects can be diverse, as it can also vary the reactions that the same person exhibits at different times and circumstances [5].

Several studies confirm that the determinants that stimulate the stress response arise because of the inadequate assessment of the resources available to face situations that demand more effort to solve problems. Likewise, the evaluation of threatening events represents a substantial factor in the processing of emotional stimuli that trigger cognitive, physiological and behavioral responses that can compromise the health and performance of the individual.

Faced with this, the brain circuit is activated by an emotionally charged stimulus, which goes from the sensory thalamus to the cortex and the amygdala; from there, the information travels through different pathways (pituitary, brainstem and basal forebrain) that activate each one of the response mechanisms, such as: the release of stress hormones, activation of the autonomic system, emotional behavior, suppression of pain and excitement or attention. Like the amygdala, the cortex receives information from the sensory thalamus, to be later directed to the hippocampus, responsible for providing information related to the context [6].

Studying a profession, particularly those related to medical sciences, can become a source of stress, and studying dentistry can be 'extremely stressful.' Different studies report specific academic stress situations among dental students: strenuous exams, care of patients with low incomes to pay for their own dental treatments, overload of work in their clinical practice, high costs of dental materials and lack of time to rest. If to the burden of academic stress, we also add a hostile family environment, parents' separation and family conflicts, the time and quality spent on academic activities will lose priority, affecting the resilience of the student and favoring the desertion. Many times, these students do not have adequate spaces in their homes where they can study, they lack of moral, emotional and financial support from their parents due to dysfunctional situations between the parents or parents and children, and a few moments to share time and experiences that provide feedback and education.

Among the coping strategies of the student against academic stress, the family appears as a group that influences the physical and mental well-being of its members and functions as a mediator of the human health-disease process. It has been studied and it has been proven that the family acts as a barrier against adversity and stress and could become a social ally in facing university student retention [7].

The study of Mafla-Chamorro, Timarán-Delgado, Bastidas-Eraso and Zambrano-Muñoz [8] aimed to investigate the clicking or 'joint noises': it is the articular rumor during the mandibular movement of opening, closing or both. It can be called 'clicks' and is due to the lack of coordination between the mandibular condyle and the articular meniscus. In individuals with stress and different psychopathological symptoms, stress was weakly associated with the presence of clicking. Being an individual with stress and depression may increase the risk of clicking. In addition, depression and anxiety adjusted for pain symptoms seem important to some people. The risk of clicking on students with comorbidity of depression, anxiety and stress was higher. On the other hand, there was a different risk when this comorbidity, stress and the symptom of pain were present.

II. STRESS AND DISTRESS

Regardless of the vision that is often given to stress, not all stress is negative and should be avoided, but a certain level encourages us to exceed our limits and leads to superior performance although if it goes too far, our level of performance deteriorates. Thus, the execution is superior when a moderate degree of pressure is experienced, while it deteriorates with higher or lower stress levels, which are the ones that should be avoided.

Focusing on academic stress, when the student estimates that the requirements of a situation exceed their resources and abilities, they begin to feel stressed. If the gap is sharper, their thoughts will be hopeless, and the emotions will be negative, consequently, the effort and productivity will decrease. There is also another perspective, which focuses on the quality or nature of stress, distinguishing if it is negative, called distress, or positive, called eustress. When the responses to stressors are performed in harmony, respecting the physiological and psychological parameters of the individual, they are adequate in relation to the demand and the energy disposed by the general system of adaptation is consumed biologically and physically; we speak of eustress

when the student trusts to respond effectively, the probability of reaching his goal will increase, then his thoughts and emotions will be more positive during the entire coping process.
Inversely, when the responses have been insufficient or exaggerated in relation to the demand, whether at the biological, physical or psychological level, and the energy mentioned is not consumed, distress occurs, intense anxiety hinders concentration, memory and other processes that reduce performance, but also, if the state of alert is prolonged, the body will show it in the form of psychosomatic problems and disorders [3].

III. RESULTS

The stress triggers referred by medical students are an academic overload, emotional problems, illness in themselves or in relatives, grief, economic difficulties, lack of social support and alterations in pattern of sleep. Academic overload was the only category with the same number of mentions on both men and women; men mentioned more frequently economic problems and grief, while in the other categories predominated the women.

Table 1. Descriptive statistics of coping responses in men, reported in percentiles

Coping strategy			Mean	Standard Deviation	Mode	Range
Behavioral	Avoidance	BR	73.75	22.64	98	10 – 99
		DE	70.30	27.36	90	15 – 99
	Approximation	BG	61.86	29.34	75	5 – 99
		SP	61.69	23.45	75	10 – 99
Cognitive	Avoidance	EC	67.64	28.47	99	0 – 99
		AR	59.01	28.71	50	5 – 99
	Approximation	AL	51.51	25.99	30	4 – 98
		RP	58.30	25.55	50	3 – 99

In coping strategies, male students report higher percentiles in Search of alternative rewards and Emotional discharge, while women obtain higher percentiles in Search of alternative rewards, Positive reevaluation and Cognitive avoidance. The coping strategies with lower percentiles were Logical Analysis in men and Emotional discharge in women.

In both men and women, the category of analysis evaluated as the main source of stress was the academic overload, and the lack of time this generates, although expressing it as the failure to pass an exam or a subject, they comment that 'the lack of time I have when doing my jobs and tasks; I usually do not have time to finish my homework or to be able to study the topics of the next day, I am often late with the topics assigned and my performance is not so good'; another student describes 'I get stressed by school work, or the little time I have to do something.'.

The analysis category Emotional problems obtained second place as a source of stress in students (men and women), describing the event as 'only emotional changes are the most I have suffered', 'a breakup', 'problems of confrontation to myself', 'emotional instability', where they already show opinions regarding a deficient employment of coping strategies.

Table 2. Descriptive statistics of coping responses in women, reported in percentiles

Coping strategy			Mean	Standard Deviation	Mode	Range
Behavioral	Avoidance	BR	69.27	25.75	80	1 – 99
		DE	45.61	31.88	20	1 – 99
	Approximation	BG	49.44	28.19	30	0 – 98
		SP	49.09	28.33	50	0 – 99
Cognitive	Avoidance	EC	58.63	32.14	80	0 – 99
		AR	55.44	28.52	35	0 – 99
	Approximation	AL	47.49	28.57	60	0 – 99
		RP	59.96	28.52	75	0 – 99

The category of analysis that continues as a source of stress, in the same way in both men and women was disease or physical problem, in which they expressed simply as 'disease', a student describes it as 'health problems (they had Polyuria and had fasciculations) which were not resolved and so far, it has been reduced but not completely. I went to general doctors but never with a specialist because of lack of time.'

The fourth category of analysis in relation to the number of mentions in both men and women was the Grief, which was described as 'The death of a close relative', 'The most difficult situation I have lived in these last 12 months, was a very important loss that generated severe depression.'.

The fifth stress trigger that the male students presented was Economic difficulties in which they expressed the lack of resources for the essential materials for their academic work, commenting: 'Not having money to buy my materials for my school activities', 'My family went through a very strong economic crisis, for which I was sentenced to obliterate my studies for a while', 'economic conflicts', 'economic instability.' For women, the fifth stressor was Lack of social support, describing it as 'living alone', and 'family distance', frequent expressions used to describe this factor.

The last two factors had the same number of mentions in men, which were Alterations in sleep and lack of social support, 'problems to sleep 8 hours without interruptions' and 'feel that my friends are never there when I need them', are the expressions said by the students that best describe the stressful event. Also, for women the last two factors had the same number of mentions, in their case they are Alterations in sleep and economic difficulties, the expressions they used to describe these factors are 'can't fall asleep' and 'economic instability.'

IV. CONCLUSION

The main stress triggers referred by medical students are the academic overload, emotional problems and illness. Women identify more potential stressors than men. In coping strategies, male students report higher percentiles than women in all the strategies investigated. The most used by male students are Search for alternative rewards

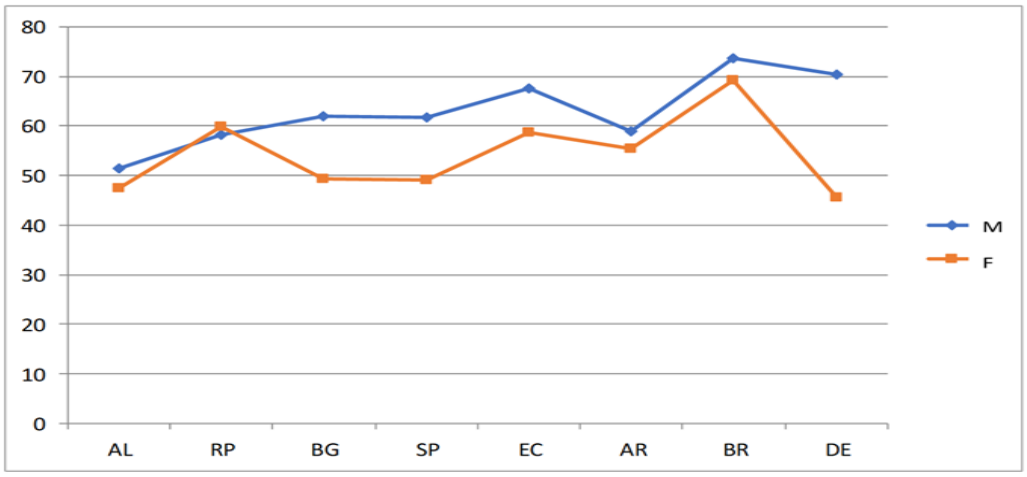

figura 1. comparative graph of the mean between men and women by coping strategy

and Emotional download, while women search for alternative rewards, Positive reassessment and Cognitive avoidance.

The fact that the behavioral and avoidance strategy 'Search for alternative rewards' in both men and women is predominant and that the main trigger of stress is the academic overload, shows the lack of proposal of the student in coping with the situation or stressful event and seek compliance in other actions or simply decline the present event and choose to start new events perceived as less demanding.

Although the process of adaptation to the university environment increases stress in medical students, as part of personal growth it is important that educational institutions provide space for the development of habits and coping mechanisms to stress. Initially, they should focus on the management of academic stress, but, afterwards, it is expected that they will be reflected in competencies for professional and personal life.

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