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Anxiety, rumination and academic stress: Effects of COVID-19 on mental health

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Abstract--Background: The pandemic, caused by this new virus, has had an impact on various areas of health such as psychological well-being, since it generated fear of contagion of this disease, in addition to not having the necessary resources to face this new reality imposed by the covid-19; This caused another challenge to face in this pandemic. The effects of covid-19 on university students have brought out feelings and emotions that used to be regulated by thoughts; however, these are now affected by different situations. Objective of the study: The objective was to know the levels of anxiety, rumination and academic stress: effects of covid-19 of university students. Method: The methodology used consisted of a descriptive study with a non-experimental cross-sectional design; the sample was 660 students of the first cycle of the Health career of a private university; sampling was non-probabilistic for convenience; three instruments were used to measure the variables anxiety (STAI), academic stress (SISCO) and ruminative responses (RRS). Results: In the anxiety variable, 39.1% presented mild level; 8%, moderate level and 52.9%, serious level; Regarding ruminative responses, 18.9% presented a low

level; 28.2%, medium level and 52.9%, high level and, of the academic stress variable, 21.5% presented mild level; 65.8%, moderate level and 12.7%, acute level. Conclusion: Sufficient evidence was found to explain the effects of COVID-19 on the mental health of university students, such as fear, social isolation, worry and loss of family members, among others; these results triggered psychological effects such as anxiety, stress, rumination and depression.

Keywords---Anxiety, rumination, academic stress, COVID-19, mental health.

Introduction

Mental disorders have increased to 73.5% in older adults; the main cause is not knowing how to manage their emotions and face the various circumstances of life. Likewise, stress and anxiety, in recent years, have been proliferating to 47% in Latin America and the Caribbean and those who suffer from them have psychic and somatic changes that obstruct their behavior both in the school, academic, couple and social spheres. family making their days look cloudy and hopeless ¹. On the other hand, stress and anxiety continue to affect people globally; it is estimated that 25% of the university population suffers from them at high levels; No solutions were found to deal with this situation. Likewise, it is believed that the percentage will increase over the years, since university students are at the mercy of various stressors that are triggered by physical and psychological symptoms, affecting their mental and emotional health and harming their teaching process in the academic area ².

The way of transmitting knowledge through higher education is going through a process of change and adaptation, this as a consequence of the covid-19 pandemic, a situation that, in addition, has caused stress at the academic level, generating negative psychological effects in students. individuals because of the pressure to which they are subjected. This pandemic situation has wreaked havoc on university students at the mental level, where cognitive management has had a great influence, since the greater the domain, the less possibility of suffering from depressive symptoms ³.

The health provisions implemented by the Peruvian State, in order to stop the advance of covid-19, have been highly detrimental to mental health in the country, since both quarantine and isolation and social distancing have caused extensive damage to it. , because interpersonal relationships have been abruptly interrupted, leaving Peruvians emotionally and psychologically damaged; above all, in people with already diagnosed pathologies such as depression, anxiety or borderline ⁴; because the lack of social and emphatically emotional contact is highly detrimental in this type of case ⁵.

Likewise, it is important to present a psychological retrospective on how mental disorders during the pandemic are caused by different factors: economic, social,

vital, educational and occupational ⁴ . Analyzing in a generic way, it turned out to be more affected by this problem, women were the ones who suffered anxiety, stress, depression, rumination, denial, anger and fear. It is affirmed that, in the Peruvian population, great psychological problems were generated due to the relationship between isolation and the economic loss of the country; therefore, people experienced sensations such as boredom ⁶ .

The effect of this epidemic increased the frequency of mental disorders and emotional manifestations, despite the fact that the Peruvian Ministry of Health devised a protocol for the clinical management of patients, it did not take into account the intervention for mental health ⁷ . On the other hand, an investigation was carried out where it was discovered that one of the psychological conditions that isolation generates in individuals is social hypochondria, which is caused by different factors such as the excess of information found in the media or social networks ⁸ .

In addition, there are Peruvian scientific studies that corroborate the aforementioned: Peruvian university students, from various academic schools, are exposed to stimuli that are not favorable to their academic performance. Likewise, high percentages of anxiety and academic stress in the first years of study due to the fact that students do not have emotional strategies and tools that provide them with comfort in their transit through university life, attracting an imbalance in the body and unfavorable appearance physical and mental of young people ¹⁰ . Likewise, the consequences of stress are negative if there is not an adequate balance, such as changes in breathing, digestive problems, irritation, hopelessness, anger, lack of impulse control, etc. ^{eleven}

Mental health

It is defined as a situation of comfort in such a way that the person realizes their own abilities, then manages to face the usual tensions of life, and also manages to work in a beneficial and fruitful way; therefore, he is able to contribute to his community ² . It is argued that mental health is shown as a generic goal, under which a dispersed group of discourses and experiences on mental disorders, psychosocial difficulties and well-being take refuge; discourses and practices that comply with particular rationalities of different points of view of health and disease in the field of public health, philosophy, psychology, anthropology, psychiatry, etc.; therefore, conceptions of mental health recognize these approaches and the ideologies that underlie them ¹² .

Within mental health, there are components that protect from danger, the main ones allude to conditions of different types, whether personal, friendly, community or environmental, which are made up of mechanisms that help the individual have a well-being according to your perspective ¹³ . Due to covid -19, the Peruvian government implemented total quarantine and social isolation for the entire country in order to protect the health of the population; however, while trying to solve one problem, many others began to emerge, one of the most

aggravating was the mental and emotional state of the people ¹⁴ because absolute importance was given to the physical and physiological conditions that caused and continue to cause now covid-19; Mental, emotional and psychological health problems increased to the point of going from something of little importance to a priority situation.

The most common conditions found in various people are depression, anxiety, stress, panic, among others ¹⁴ . Likewise, mental health problems in people who already suffered from these conditions were aggravated thanks to the aforementioned context, thus increasing the number of cases for the Ministry of Health. It is also mentioned that the most vulnerable people are both children and adolescents and older adults, since they are considered to still not understand the serious emergency situation that Peru is going through; For this reason, it is very difficult for them to stay inside their homes, thus generating psychosocial problems.

Anxiety

Anxiety is an emotional situation that occurs at the moment; it can be changeable over time and is characterized by a series of feelings: nervousness, tension, as well as worries and catastrophic thoughts that induce the person to present changes in the body, damaging their emotional balance ¹⁵ . They are also common sensations that individuals experience if they perceive threatening stimuli and allow them to respond in a better way to the context, for example, university students need a minimum activation of anxiety to achieve it in order to take an exam or subject; but, if the levels of anxiety are extreme, then it can cause a maladjustment in their academic and family life ¹⁶ .

Anxiety, due to the current pandemic, is presented by a misinterpretation of certain bodily sensations, which are led to a distressing emotional state, deciphering them as forceful signs of virus contagion; all of this is more frequent in people who have such anxious states as a characteristic of their personality, which prevents them from making rational decisions regarding their behavior in the face of the pandemic, presenting maladaptive, compulsive and extremist behaviors (hyperhygiene, compulsive purchases and visits attended health centers) ¹⁷ .

Dimensions of anxiety

There are two dimensions of anxiety that are predominant in people: 1) state anxiety (A/E) which is characterized by being a response or emotional state that is temporary or temporary, becoming changeable in space and time, distinguished by a mixed feelings, negative thoughts, fear and rigidity; that is to say, that, before an event that occurs in the present, anxious states can be triggered such as presenting in public, presenting exams, giving assignments to teachers, etc.; but later said state dissipates ¹⁷ . Likewise, 2) trait anxiety (A/R), which is an anxious predisposition and tends to make people stable since most stimuli are perceived as threatening, it is how the individual feels most of the time.

Ruminative responses

It refers to a series of ideas that are presented recurrently, repetitively and intrusively, in general, they are passive. On the other hand, these are not desired by the individual because they are related to sadness, causing psychological discomfort and generating various consequences, affecting all areas of functioning of the individual¹⁸. Ruminative thinking can occur when experiencing a stressful situation, as a coping strategy that is not always positive; therefore, it is maladaptive and inadequate, causing a great impact on an emotional level. It should be noted that, if this type of cognition is not treated, if it is recurrent, it can become chronic and generate serious consequences such as suicide¹⁹.

Rumination has been classified as a two-dimensional construct made up of two factors: first, it is an introspective process whose purpose is to intervene in the solution of cognitive problems seeking to improve or alleviate low moods²⁰. Secondly, reference is made to reproaches, associated with the tendency to blame or disapprove of oneself or better known as negative rumination, and situations when passively comparing the current situation with some unachieved standard²¹.

Dimensions of ruminative responses **Reproaches**

Whoever executes them initiates guilt processes, these ruminant thoughts have a high negative charge and melancholy. Similarly, it has been pointed out that these generate worries, anxiety disorders, depression and affect behavior²². These ruminant thoughts are considered negative since the subject is constantly imagining the situation and assumes it with sadness²³. Similarly, it has been pointed out that these generate worries, depression, anxiety disorders and affect eating behavior²⁰.

Reflection

It is part of rumination and is the process by which the person focuses on reevaluating and considering the positive aspects of the situation. Similarly, it has been established that, in the reflective process, the subject deals with finding possible solutions to the problem already. who is able to concentrate and look for different alternatives. It is considered an act that allows the subject to analyze the positive aspects of the problematic situation in which he finds himself submerged, through which some thoughts considered negative can be channeled²².

Academic stress

It is a psychological and adaptive process that manifests itself when the student is exposed to stressful stimuli such as school demands and that, in their perception, are considered stressors; Under these demands, the student manifests physical and psychological symptoms that lead the student to seek strategies in order to return to an adequate emotional balance²⁴. On the other hand, academic stress is a maladaptive confusion or malaise experienced by university students due to organic or physical, emotional causes, problems in the

academic context, poor interpersonal relationships, and all of this has a negative impact on young people being able to develop. Optimize their skills due to the pressure and academic load, finding themselves immersed in an environment without a route due to lack of coping strategies²⁵.

Dimensions of stress

It distinguishes three dimensions that are the following: a) stressors that will allow to recognize how often the external stimuli of the environment are considered under the perception of the individual as stressors; b) the symptoms are presented in physical, psychological and behavioral terms that occur in the face of some external stressor stimulus and that will allow us to know how often they arise in the individual's organism and c) coping strategies allow us to know how often the individual uses the various strategies to cope with stressors and return to their emotional balance²⁴.

Methodology

The study was carried out under the quantitative approach, descriptive cross-sectional non-experimental design; the sample was 660 students of the first cycle of the Health career of a private university; sampling was non-probabilistic for convenience. The students signed the informed consent, of which they were women (72%) and men (28%) between 17 and 24 years of age. The instruments used were:

State-Trait Anxiety Questionnaire (STAI)

This questionnaire is adapted and validated for the Latino community by Villarroel et al. (2007) with adequate validity and reliability. This instrument will be used to assess anxiety in students; It is divided into two dimensions, such as anxiety / trait and anxiety / state, with each dimension having 20 items that the student will answer according to their emotional state. Likewise, it has a measurement scale (Likert) that corresponds to anxiety/state: not at all: 0, somewhat: 1, quite a lot: 2 and a lot: 3 and to anxiety/trait: almost never: 0, sometimes: 1, often : 2 and almost always: 3, the highest score is 60 points for both dimensions, its levels are high = 20-60, above average = 20 -32, average = 19 - 25, average trend = 14 - 23 and low 0-16.

Ruminative Responses Inventory

The Ruminative Responses Scale (RRS) was used, which consists of 12 questions and was initially proposed by Hervás (2008) that was adapted to Spanish, it is already predesigned and has been applied in other investigations of the same tenor. When consulting the use of this instrument, it has been observed that it has been widely used by different researchers both at a Latin American and European level²⁶. Academic Stress Inventory (SISCO)

The SISCO inventory of academic stress was adapted and validated for the Latino community by Malo et al. (2010), having optimal reliability and validity. This instrument will be used to identify the characteristics of academic stress that university and postgraduate students have, characterized by three dimensions

that are stressors (8 items), symptoms (15 items) and coping strategies (6 items). Likewise, it presents a Likert scale that includes never: 1, rarely: 2, sometimes: 3, almost always: 4 and always: 5. On the other hand, its levels are mild: 0 – 33%, moderate: 34 – 66% and depth of 67 – 100% ²⁷ .

Results

Table 1. Levels of the anxiety variable and its dimensions

levels	Anxiety		trait anxiety		state anxiety	
	F	%	F	%	F	%
Mild	258	39.1	253	38.3	249	37.7
Moderate	53	8.0	57	8.6	62	9.4
Serious	349	52.9	350	53.0	349	52.9
Total	660	100.0	660	100.0	660	100.0

Regarding the anxiety variable, 39.1% presented a mild level; 8%, moderate level and 52.9%, severe level. Regarding the trait anxiety dimension, 38.3% presented a mild level; 8.6% , moderate level; 53%, serious level. Regarding the state anxiety dimension, 37.7% presented a mild level; 9.4%, moderate level and 52.9%, serious level.

Table 2. Levels of the ruminative responses variable and their dimensions

levels	ruminative thinking		reflective		reproaches	
	F	%	F	%	F	%
Bass	125	18.9	249	37.7	257	38.9
Medium	186	28.2	143	21.7	122	18.5
Tall	349	52.9	268	40.6	281	42.6
Total	660	100.0	660	100.0	660	100.0

In table 1, it was observed of ruminative responses that 18.9% presented a low level; 28.2%, medium level and 52.9%, high level. Regarding reflexive rumination, 37.7% presented a low level; 21.7%, medium level and 40.6%, high level. In relation to reproachful rumination, 38.9% presented a low level; 18.5%, medium level and 42.6%, high level.

Table 3. Description of the dimensions of the academic stress variable

levels	academic stress		stressors		Symptoms		coping strategies	
	F	%	F	%	F	%	F	%
Mild	142	21.5	248	37.6	161	24.4	181	27.4
Moderate	434	65.8	217	32.9	385	58.3	368	55.8
Sharp	84	12.7	195	29.5	114	17.3	111	16.8
Total	660	100.0	660	100.0	660	100.0	660	100.0

Regarding the academic stress variable, 21.5% presented a mild level; 65.8%, moderate level and 12.7%, acute level. In the stressors dimension, 37.6% presented a mild level; 32.9%, moderate level and 29.5%, acute level. In relation to the symptoms dimension, 24.4% presented a mild level; 58.3%, moderate level and 17.3%, acute level. Regarding the dimensions of coping strategies, 27.4% presented a mild level; 55.8%, moderate level and 16.8%, acute level.

Discussion

The descriptive results show that university students presented a severe level of anxiety with 52.9%, which shows that, in this pandemic, the population is faced with threatening situations, in these cases, anxiety can result in excessive fear. and cause a panic in the person. Authors concluded that both anxiety and stress are related, recognizing the alternative hypothesis, where a large percentage of students show that they are under the effects of stress and anxiety within the context of education ²⁸ .

As for ruminative responses, they were found at a high level with 52.9%; therefore, university students have negative thoughts that have an emotional impact, which triggers frequent unpleasant experiences and emotions such as fear, anger and shame, leading to rumination . Likewise, in an article related to the mental health of children, adolescents and caregivers, it mentions the instability in families by its members after covid-19, a survey is carried out on 546 people, obtaining as a result that, indeed, there are behavioral changes, presenting anxiety, irritability, nervousness, restlessness, difficulty concentrating among others, both parents and young people are affected by the environment, this being regulated by isolation and, at the same time, being suffocating because of the interaction between people with emotional problems such as negative mood becomes a stressor for daily life ²⁹ .

Ruminative responses in university students in times of covid-19 manifested themselves at the high level with 52.9%; a study whose objective was to establish the incidence of rumination in the anxiety of university students. The findings demonstrated the incidence of rumination regarding the anxiety presented by higher education students, because the proposed model explains that 93.5% of the dependent variable anxiety of students and reflective thinking, with Wald =796.558 better predicts anxiety ³⁰ .

The descriptive results of stress showed that 65.8% presented a moderate level; therefore, it was concluded that stress levels are at a midpoint; but that can trigger high levels if stressful stimuli are not adequately addressed. Academic stress is essentially psychological and requires students to show some coping responses to the conditions of academic life and that favor the appearance of symptoms of imbalance ³¹ .

Regarding the trait anxiety dimension, it was shown that university students were found to be at a serious level with 53%. In this regard, in a study, authors concluded that there are high levels of anxiety and depression in university

students, with anxiety covering half of the sample and depression in 8 out of 10 young people ³² .

It is evident that, in the state anxiety dimension, university students presented high levels of 42.6%; the results differ from another that concludes that gentlemen show a greater predisposition to anxiety; but there are no significant differences with women; in coping strategies and styles, men and women choose to use the same strategies. On the other hand, females are more predisposed to meaningfully use seek-and-succeed strategies and put effort into every activity that comes their way ³³ .

Conclusions

The main effects at the level of physical and psychological health in the Peruvian population due to covid-19 have been diverse: at the physical level, its effects are evident, so it is almost frivolous to mention them since they are the most studied, emphatic and of which more information has been had; however, the psychological factor, although with silent mentions and with a lesser degree of importance for epidemiology, has been one of the hardest hit, since it ranges from symptoms to more imperative pathologies such as depression, anxiety, academic stress, attacks of panic, acute stress, sleep problems, rumination, violence, unstable affectivity, etc. This has affected the majority of the population, from children, health professionals, university students and even older adults who have suffered from the presence of these clinical states, each with their respective symptoms, impacting their lifestyles and having as aggravating factors the current situation that is happening worldwide. Likewise, people who had a medical condition have also been violated in terms of their mental health care and how precarious it is in times of covid-19.

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