



RESEARCH

Perception of academic stress in Health Sciences students from Maule, Chile Percepción del estrés-académico en estudiantes de Ciencias de la Salud del Maule, Chile

Percepção do estresse acadêmico em estudantes de Ciências da Saúde de Maule, Chile

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Abstract

Introduction: The perception of academic stress in students of health careers has repercussions at physical, emotional and psychological levels. Objective: Analyze the perception of academic stress among students of Health Sciences at a university in the Maule region of Chile. **Methodology:** Qualitative study, hermeneutic phenomenological approach by Max Van Manen,



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composed of 9 regular students of the Faculty of Health who had studied for at least 2 years; those who interrupted their studies and presented mental health pathology were excluded. Testimonies were analyzed by means of an in-depth individual interview, 9 topics were identified with their respective sub-topics, and the ethical aspects proposed by Ezekiel Emanuel were considered. **Results:** Their ages ranged from 20 to 23 years old and they lived in different cities in the Maule region. Topics and sub-topics were found such as academic stressors including evaluations and clinical practices; non-academic stressors including pandemic; physical symptoms including fatigue, hair loss; eating symptoms including weight variation; symptoms of mental health impairment including mood, sleep disorder; academic adaptation strategies including time management; support network including friends and family; poor habits including smoking; adaptation alternatives including sports and distraction. The participants agreed that the main causes of academic stress were the accumulation of evaluations and clinical practices, and they stated that they were able to adapt to the stress, in most cases in a positive manner. Conclusion: Stressful events were not only specific situations in the health area, but were related to evaluations, clinical practices, social outburst and pandemic, which were associated with the appearance of various physical symptoms.

Key words: Academic stress, University students, Health faculty. Perception (DeCS).

Resumen

Introducción: La percepción del estrés académico en estudiantes de carreras pertenecientes a la Salud, repercute a nivel físico, emocional y psicológico. Objetivo: Analizar la percepción del estrés académico de los estudiantes de carreras de Ciencias de la Salud de una universidad en la región del Maule en Chile. Metodología: Estudio cualitativo, aproximación fenomenológica hermenéutica de Max Van Manen, conformado por 9 estudiantes regulares de carreras de la Facultad de Salud que habían cursado al menos 2 años, se excluyeron quienes interrumpieron sus estudios y presentaban patología de salud mental. Se analizaron testimonios mediante entrevista individual en profundidad, se identificaron 9 temas con respectivos subtemas, se consideraron los aspectos éticos propuestos por Ezekiel Emanuel. Resultados: La edad fluctuó entre 20 y 23 años, habitaban en distintas ciudades de la región del Maule. Se encontraron estresores, académicos: evaluaciones y prácticas clínicas; no académicos: pandemia; síntomas físicos: cansancio, caída de cabello; Síntomas alimentarios: variación de peso; Síntomas de afectación de salud mental: estado del ánimo, trastorno del sueño; Estrategias de adaptación académica: organización de tiempo; Red de apoyo: amigos y familiares; Hábitos nocivos: fumar; Alternativas de adaptación: deporte y distracción. Los participantes coincidieron que las principales causas de estrés académico fueron acumulación de evaluaciones y prácticas clínicas, manifestaron adaptarse al estrés, en la mayoría de los casos positivamente. Conclusiones: Los eventos estresantes no son solo situaciones específicas del área salud, sino que se relacionaron con evaluaciones, prácticas clínicas, estallido social y pandemia; lo que se asoció a la aparición de diversos síntomas físicos.

Palabras clave: Estrés académico; Estudiantes universitarios, Facultad de salud; Percepción (DeCS).



Abstrato

Introdução: A percepção do estresse acadêmico em estudantes de carreiras da área de saúde tem repercussões nos níveis físico, emocional e psicológico. Objetivo: Analisar a percepção do estresse acadêmico entre os alunos de Ciências da Saúde de uma universidade na região de Maule, no Chile. Metodologia: Estudo qualitativo, abordagem fenomenológica hermenêutica de Max Van Manen, composto por 9 alunos regulares da Faculdade de Saúde que estudaram por pelo menos 2 anos; foram excluídos aqueles que interromperam seus estudos e apresentaram patologia de saúde mental. Os depoimentos foram analisados por meio de uma entrevista individual em profundidade, 9 tópicos foram identificados com seus respectivos subtópicos e os aspectos éticos propostos por Ezequiel Emanuel foram considerados. Resultados: Suas idades variavam de 20 a 23 anos e eles moravam em diferentes cidades da região do Maule. Foram encontrados tópicos e subtópicos, como estressores acadêmicos, incluindo avaliações e práticas clínicas; estressores não acadêmicos, incluindo a pandemia; sintomas físicos, incluindo fadiga, queda de cabelo; sintomas alimentares, incluindo variação de peso; sintomas de problemas de saúde mental, incluindo humor, distúrbio do sono; estratégias de adaptação acadêmica, incluindo gerenciamento de tempo; rede de apoio, incluindo amigos e familiares; maus hábitos, incluindo tabagismo; alternativas de adaptação, incluindo esportes e distração. Os participantes concordaram que as principais causas do estresse acadêmico eram o acúmulo de avaliações e práticas clínicas, e afirmaram que conseguiram se adaptar ao estresse, na maioria dos casos de forma positiva. Conclusão: Os eventos estressantes não eram apenas situações específicas da área de saúde, mas estavam relacionados a avaliações, práticas clínicas, explosões sociais e pandemia, que estavam associadas ao aparecimento de vários sintomas físicos.

Palavras-chave: Estresse acadêmico, estudantes universitários, docentes da saúde; Percepção (DeCS).

Introduction

University institutions have introduced potentially stress-generating effects such as competitiveness, one of the most relevant examples. Throughout university life, students are constantly exposed to academic demands and pressure regarding responsibility. The COVID-19 pandemic imposed new challenges and transformations on society, from which university students are not excluded ⁽¹⁾, in addition to workload, social expectations, competition between peers and economic differences, which generates an extra effort to respond, thus triggering stress ⁽²⁾, being considered as a predisposing factor for multiple diseases. Considering the effects caused by the pandemic on students, connectivity problems are associated, followed by lack of motivation to study and poor knowledge of virtual educational platforms ⁽³⁾.



Likewise, what is considered stressful for some is not for others, causing students in an attempt to adapt to these situations to seek a series of coping strategies to successfully overcome the demands placed on them, otherwise, it may impact on their physical and psychological well-being as well healthy behaviors ⁽⁴⁾. As for the imminent need to meet high levels of demand in the health area careers, it implies that students are constantly exposed to stressful situations, which if not tolerated, can affect with their academic performance ⁽⁵⁾. However, a large part of university students lack strategies and adopt habits to prevent academic stress ⁽⁶⁾.

The model of Sister Callista Roy is based on the adaptation of the person to changes in his environment, established as a system theory with a significant analysis of the interactions, which is related to the student need to adapt to the demands and new responsibilities, thus contributing to the integrity of the person in various aspects such as survival, growth, reproduction and dominance, and at the same time, facilitate the understanding of the role of the nurse and his intervention ⁽⁷⁾. The adaptation processes in a person are mediated by the coping mechanisms as a response to stimuli, which can be: Focal (immediate response stimulus), Contextual (stimulus found in the environment) and Residual (stimulus product of experiences) ⁽⁸⁾.

The process of interaction between stimuli and the coping processes results in four possible forms of adaptation, adaptive responses that manifest themselves as physiological characteristics, in the self-concept-self-perception of each person ⁽⁹⁾. Students are increasingly faced with demands, challenges that require a large amount of physical and psychological resources of different kinds, and cognitive and behavioral efforts that are used to meet high demands ⁽¹⁰⁾.

The role of the nurse includes the management of care in relation to the promotion, maintenance and restoration of health, the prevention of illness or injury, and the execution of actions resulting from medical diagnosis and treatment ⁽¹¹⁾; therefore, academic stress can be prevented or treated in a timely manner, otherwise this situation can trigger complications such as physical or mental



illnesses. In addition, it is important to have health support during the treatment or while coping with stressful experiences.

Therefore, the following research question is raised: What is the perception of academic stress in university students of careers belonging to the Faculty of Health Sciences of a university in the Maule Region? This question is related to the objective of the study to analyze the perception of academic stress of students studying at the School of Health Sciences of the Maule region, in Chile, where the specific objectives were to know the perception of stressful situations or contexts of university life, explore symptoms that produce academic stress and describe coping strategies in stressful academic situations..

Methodology

The research is qualitative in approach through the hermeneutic phenomenological method, which is based on life experiences, regarding an event, from the person's perspective. The study population were university students of careers in the School of Sciences of the Catholic University of Maule, Chile. The sample size was 9 students, which follows from the recommendation in phenomenology where a size of 3 to 10 participants is estimated ⁽¹²⁾. The selection of participants was carried out through a non-probabilistic snowball sampling. As an inclusion criterion, it was considered that the subject of the study should be a regular student of one of the careers in the School of Health Sciences such as kinesiology, nursing, medical technology, nutrition and dietetics and psychology, and to have completed 2 academic years. The data collection was carried out through individual and in-depth interviews, online through the Microsoft Teams platform, with an approximate duration of 30 minutes. The instrument used was a script of open and semi-structured questions in relation to the perception: What are the situations or contexts that have triggered stress for you during your university life? From your experience, what symptoms has academic stress

produced in you, what coping or adaptive strategies have you used in stressful academic situations, and how have you coped?

To respond to the proposed objectives, a data collection instrument validated by a committee of academic researchers from the University was used, (Table 1).

Table 1. Instrument for data collection, 2023

- To know the perception of stressful situations or contexts of university life in students of the School of Health Sciences
- To explore symptoms that academic stress produces in students of the School of Health Sciences
- To describe the coping strategies or adaptation actions in stressful academic situations in students of the School of Health Sciences
- According to your perception, what are the situations or contexts that have caused you stress during your university life?
- From your experience, what symptoms has academic stress produced in you?
- Can you tell me, what coping or adaptation strategies have you used in stressful academic situations? How have you dealt with them?

Source: Own-development

The research was carried out under the ethical aspects in human beings proposed by Emanuel ⁽¹³⁾ and had the approval of a Scientific Ethics Committee of the University with Law 149/21.

Data analysis was carried out in 3 steps: a) Description: Transcription, codes and coding, b) Analysis with authors and literature, and c) Interpretation and triangulation of 9 Topics were identified with their respective sub-topics. The identified topics were: Academic stressors, Non-academic stressors, physical symptoms, eating disorder symptoms, mental health symptoms, academic adaptation strategies, support networks, harmful habits, and holistic adaptation alternatives.

Results

With respect the general characteristics of the participants in the study, their age ranged between 20 and 23 years, they lived in different cities in the Maule region of Chile, and only 2 participants had children. Only one student was working, and another had studied another career before the current one, (Table 2).



Table 2. General characteristics of the participants, 2023 (n= 9)

Age	City	Children	Career	Year of the course	Currently	First time
				in which they are	working	students
				in		
22	Molina	No	Kinesiology	4th year	No	Yes
22	Pelluhue	No	Kinesiology	4th year	No	Yes
20	Hualañé	No	Medical	3rd year	No	Yes
			technology			
20	Talca	1	Medical	3rd year	No	Yes
			technology			
20	Cauquenes	No	Nursing	3rd year	No	Yes
23	San Clemente	1	Nursing	3rd year	Yes, own	No, civil
					business	construction
						was studied
						for two years
21	Curicó	No	Nutrition	4to	No	Yes
			and			
			dietetics			
23	Curicó	No	Nutrition	4to	No	Yes
			and			
			dietetics			
20	Copihue	No	Psychology	3ro	No	Yes

Source: Own development

Regarding the topics resulting from the texts collected from the participants, the following surfaced: Academic stressors, non-academic stressors, physical symptoms, eating disorder symptoms, mental health disorder symptoms, academic adaptation strategies, support network, harmful habits and holistic adaptation disorder; and in turn, each topic was subdivided into subtopics, (Table 3).

Table 3. Topics and sub-topics resulting from the analysis of interviews, 2023

	Topic	Sub-topic
a.	Academic stressors	 Assessments
		 Clinical practices
b.	Non-academic stressors	Pandemic
c.	Physical symptoms	Fatigue
		 Hair loss and dandruff
d.	Eating disorder symptoms	Weight changes
e.	Mental health symptoms	Mood
		 Sleep disorders
		Anxiety
f.	Academic coping strategies	 Time management
g.	Support networks	 Colleagues and friends
_		 Family members
h.	Harmful habits	Smoking
i.	Holistic coping alternatives	Sports
		 Alternative ways of distraction

Source: Own development



The Topics and sub-topics evidenced in the study through the text were (Table 4):

a) In academic stressors, participants reported that tests and clinical practices required academic overload and generated stress.; b) In non-academic stressors, it was found that students stated that there were situations or activities that caused them stress, even though these were not related to their academic training; c) In physical symptoms, the stress perceived by students was evidenced by presenting physical symptoms during the academic period, such as fatigue, hair loss or dandruff; d) In eating disorder symptoms, weight variation was another consequence of showing stress that students mentioned; e) In symptoms of mental health conditions, it was seen that the student was also affected during the period of academic stress, mood disorders, sleep disorders and anxiety were evident; f) In academic adaptation strategies, the students stated that despite feeling stress during the academic course, they resorted to certain adaptation strategies such as organizing their time; g) In support networks, the students indicated that it was important to have support networks to be able to cope with periods of academic stress; h) In harmful habits, students indicated that there were some habits that turned out not to be favorable for their health such as smoking, and yet they helped them reduce their stress, although momentarily, in different situation, and finally; i) Holistic adaptation alternatives, the participants stated that they looked for several alternatives to adapt to stressful situations, such as taking a deep breath and practice sports.

Table 4. Topics and sub-topics, evidence and argumentation, 2023

Academic Stressors (Topic and subtopics)	Evidence
Assessments	" I'm always stressed, it's just with the tests and sometimes not having enough time to study a specific subject because I have to do something else immediately, let's see, last semester, no, the semester before that, I had to defend the thesis project and that had me
	really crazy, and now, now at the end of the month, that is, in November, I have to defend the thesis too, it also stresses me out too much because we haven't even finished it and it's super complicated because the time with my classmates" Interview #2; lines 50-56.
Clinical practices	"I haven't been able to do the internship, so, anyway, I feel, very, I don't know, very tired, nervous, because next year I have to start the internship and practically all I have done has been theoretical only." Interview #2; lines 43-46.

Source: Own development



Table 4. Topics and sub-topics, evidence and argumentation, 2023

	ab-topics, evidence and argumentation, 2023				
Academic Stressors	Evidence				
(Topic and subtopics)					
The pandemic Physical symptoms	"Now more than anything the pandemic, because before it wasn't so stressful, but now studying for a degree is too tiring, just like spending so much time on the computer is super tiring in every mental and physical area as well" Interview #2; lines 39-41. "Yes, always, I mean, I'm already tired, but now it's twice as much" Interview #2;				
	lines 63-64.				
Fatigue	" I looked at her and I said: what am I reading? She said, I don't know! So we were so				
Hair loss and dandruff	tired that we didn't know what we were doing" Interview #9 lines 78-79. " In the last two years, I have experienced a lot from hair loss, I'm a person who has a lot of hair and let's say that it was reduced in half, this happened especially in the moments when we have more things to do, I noticed that because I spend most of the time in my room and when I clean or sweep it, a lot of hairballs came out, so is easy to notice it." Interview #1; lines 74-80.				
Symptoms of eating disor	rders				
Weight variation	"In my case, obesity, I went from being a person with normal weight to obesity type I, right now I am with a nutritionist trying to get back to my normal weight" Interview #1; lines 73-75.				
Symptoms of mental heal	1				
Mood	"I felt like I was so distressed when I thought about how many jobs I had to do or else there were times when I would tell myself I would make a list of all the things I had to do and in the end I would not do anything because there were so many that I would collapse and not know where to start." Interview #1; lines 84-88.				
Sleep disorders	"and sometimes I can't sleep that much either because I have to do a lot of things, mostly sleep" Interview #2; lines 64-65.				
Anxiety	"anxiety is terrible, like eating all day" Interview #4; line 78.				
Academic adaptation stra	itegies				
Time management	"I try more than anything to get my work done on time so I have a little free time to relax" Interview #2; lines 73-74.				
Support networks					
Colleagues and Friends	"Sharing opinions with my colleagues, I feel that they support me a lot in stressful moments, because I start to tell them what is happening and how they are experiencing a similar situation, as if we compare it" Interview #1; lines 92-95.				
Family	"My family always tell me to calm down, that it will pass, that I can do it, little messages of support that sometimes help me to see things differently because sometimes you see it like how am I going to do this and I won't be able to do it or why and of course those are little messages of support from the family that always help me out, they help a lot" Interview #5; lines 167-172.				
Bad habits					
Smoking	"when I had to give a presentation at university, I smoked a lot, a lot, a lot, and now at home, it's the same thing, I have to give a presentation and I smoke, and I start to get very nervous" Interview #9 lines 135-138.				
Holistic adaptation alternatives					
Distraction alternatives	"also in those moments I try to get some fresh air, try not to be indoors all the time, and clear my mind, think about other things, do other types of things and dedicate some time only to university and dedicate some time to myself as well." Interview #1; lines 95-98.				
Sports	"I was stressed, I was already out of focus on a subject and I knew I wasn't making progress. I took my bike out for a ride, I put on sports clothes and went out to the countryside. There is a hill behind my house, where I can go for a walk" Interview #3; lines 164-166.				
Source: Own development					

Source: Own development



Discussion

According to the results presented, there were academic stressors that were the main source of stress in students; there are situations that, when repeated, cannot be faced in an ideal way, all this tends to contribute to the appearance of interpersonal difficulties and symptoms of psychological distress, such as depression, this report helps to understand how difficult health careers can be for students (14). The situations that generated the most stress were evaluations such as exams, essays and research papers, among others, homework overload, and the limited time to do the work (4). A study indicated that students presented moderate stress caused by situations of clinical practice, with predominant factors related to lack of competence and work overload (16). Clinical practices are essential, since they give the possibility of applying theoretical knowledge and acquiring essential skills to provide care to the patient. However, they are often a stress factor for nursing students, mainly due to close contact with suffering, death and, in general, the human treatment that comes from the care act itself (4). Another study indicated that students with high levels of academic stress had a negative influence on their teaching performance (17).

It should be noted that non-academic stressors, found in this case, such as the COVID-19 pandemic, affected university life because there were fortuitous situations that forced them to restructure their entire life routine. Therefore, they became another acute source of stress in their university work, which is necessary to consider that the problem of academic stress could have worsened due to the confinement caused by the pandemic, as well as the impact on the health of students and their families, and the economic problems that it brought with it ⁽¹⁸⁾. The COVID-19 pandemic caused a change of scenario, rapidly implementing virtual teaching, transforming the educational dynamics in an unexpected and challenging way, using technological resources and virtual learning ⁽¹⁾. The academic stress construct is made up of four structural dimensions generated by demands of the



academic context; these dimensions are: mandatory work, academic overload, perception of the teacher and perception of the course (20).

Stress occurs in all environments and settings, including education. It generates alterations in the individual's responses at a cognitive, motor and physiological level. The alteration in these three levels of responses negatively influences academic performance ⁽⁴⁾. Regarding the physical symptoms that were found, such as the feeling of tiredness, hair loss and back pain resulting from long hours sitting in front of the computer, the students faced a situation that was not only stressful but also unhealthy. Academic stress is a state that occurs when the student perceives the demands of their environment negatively (distress). This causes distress in the situations that they face during their training process and they lose control to face them and sometimes physical symptoms such as anxiety, tiredness or insomnia manifest ⁽²¹⁾. A study found that students who had a moderate level of stress due to experiencing various stressful events had physical, psychological and behavioral reactions that impacted their health ⁽²²⁾. When a high or moderate level of academic stress is reached, it can trigger somatic reactions such as headaches, tension, fatigue, concentration difficulties, as well as emotional and sleep problems ⁽²³⁾.

The symptoms that can affect students range from headaches or migraines (physical), concentration problems, feelings of depression and restlessness (psychological), as well as a lack of desire to do schoolwork and the consumption or reduction of food (behavioral) (10). Some factors causing stress are related to the mental health of students, which in recent years has gained greater relevance. This phenomenon emerges mainly due to economic inequalities, differences in learning strategies and social factors (1). A study indicated that the psychological reactions that occurred due to academic stress were found in a higher percentage of drowsiness or the need to sleep, and as behavioral reactions, the highest percentage was the increase or reduction of food consumption (24). Another

study suggested that low intake of fatty acids and minerals was related to higher levels of anxiety (25)

In order to know the quality of life of an individual it is important to point out that it is necessary to identify the concepts of coping and adaptation, since they are dynamic processes in which the integration between the person and the environment occurs, where styles and strategies are developed to face a particular situation (8). The strategies of academic adaptation mentioned by the participants together with the support networks they managed to identify, added to the fact that the organization of the time they had to perform their activities, and the emotional support they received from their loved ones, were of utmost importance in this university stage (26). The adaptation process of each person will be different depending on the circumstances that exist in their environment, which leads to human beings becoming more complex and having greater growth ⁽⁸⁾, and with this achieving adaptation to the initial problem situation, which corresponds to stress, as Roy pointed out in his adaptation model (27), where he specified problems, levels and modes of adaptation to certain stimuli through innate or acquired coping processes in people whom he considers as holistic beings (28). In his adaptation model, he states that human beings are capable of continuously adapting in their health-illness process, but it is necessary to find the correct tools to use all the capacities that persons can display in stressful situations. There are adaptation and coping processes (29), contextual stimuli that help improve or worsen the situation and residual stimuli, environmental factors inside and outside the human adaptive systems, which contribute to their ability to adjust to the changes that occur in the level of adaptation (30). A study indicated that, in situations of academic stress, students developed more the intrapersonal and adaptability dimensions, and the dimensions of interpersonal intelligence and mood. The five dimensions of emotional intelligence are related to episodes of stress in students who have ever presented this situation (31).



The set of effects caused by stress, influence academic performance and can encourage harmful habits such as drug use, sleep disturbance, evade responsibility and other situations that negatively impact the performance of their work as future health professionals and the achievement of their personal goals ⁽¹⁰⁾.

The main limitation for the work team during the research was the past context of the health contingency due to the COVID-19 pandemic. Because of this, the interviews had to be conducted online through the Microsoft Teams platform, which presented some difficulties in interpreting non-verbal signals through a screen.

Conclusions

Despite the students belonging to different careers in the health area, the stressful contexts were similar. By disclosing stressful situations that affected the students, regardless of how similar or different they are, since these situations are not specific to the health area, but there are situations that are related to university life in general, such as evaluation periods, and the consequences of the changes resulting from the COVID-19 pandemic. Situations experienced in clinical practices stand out are the most stressful context related to the health area. This is consistent with the great importance of not making mistakes when caring for and/or working with people, which makes the student overexert themselves to achieve everything necessary both in theory and practice, and thus provide better care.

Regarding the symptoms that caused academic stress, participants expressed that they had experienced hair loss and the appearance of dandruff, and that, in addition, they experienced changes in mood such as irritability, anger, avoidance, sleep disorders, and anxiety. Finally, other symptoms caused by stress were also mentioned, such as fatigue, weight changes such as obesity, nausea, loss of appetite, acne, itching, back pain, and the appearance of cold sores.

In response to the adaptation strategies in stressful academic situations that students used to face the various difficulties present in their training, and thus be able to fulfill all their obligations, among them it can be highlighted the organization of time, the application of study methods, relying on close networks such as family and colleagues, distraction alternatives, taking time to connect with oneself, and practicing sports. However, the smoking habit which is used as coping method is not recommended because the damage it causes to health.

Consequently, the nurse must have the ability to provide care to all people, regardless of their condition, this care must guarantee well-being and safety, preserving their health. To do this, it is necessary to be able to maintain constant development, strengthening attitudes and values that allow humanization in their daily work. It is important to understand the theory of adaptation and the effect it has on the body, to know how stress shows up at an organic level, to recognize the positive and negative factors that generate and increase in stress, and thus, to define a plan and put it into action, designing specific actions to reduce it, such as using relaxation methods, exercise, breathing and other alternative therapies. It is relevant to offer an action plan for the individual under stress, educating them on how to control, modify or change the stressors in university life. It is recommended to continue with the line of research respect to university stress that occur in health career students, mainly due to the high academic overload that is included in their training programs. To complement this study, it is suggested to address the subject from a quantitative approach.

Conflicts of interest

The authors stated that there was no conflict of interest.

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