

Understanding The Academic Fears Caused By Covid-19 In Medical Students.

Pérez Padilla Elsy Arlene¹, Barrero Solís Claudia Lorena¹, Salgado Humberto²

¹(Faculty Of Medicine / Autonomous University Of Yucatán, México)

²(Centro De Investigaciones Regionales "Dr. Hideyo Noguchi" Universidad Autónoma De Yucatán, México)

Abstract:

Background: The COVID-19 pandemic has increased levels of stress, anxiety, sleep disorders, and psychological distress among medical students. This has had significant repercussions on his academic training. This study examines the perception of medical students about the fears that COVID-19 left in their personal and academic lives.

Materials and Methods: An online survey was conducted on 123 medical students. The survey consisted of a standardized scale applied online through the Microsoft365 FORMS platform on stressful factors for students facing COVID-19.

Results: The results show that medical students perceive the highest frequency of fear as I am afraid that a family member will get sick and die from COVID-19, and I am so scared that COVID-19 will affect my academic situation.

Conclusion: Students reported academic and health-related concerns caused by the pandemic. Fear and anguish are problems that must be taken seriously, and timely detection and follow-up of these cases are recommended

Key Word: COVID-19; Mental Health; Academic Fears; Medicine Students

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I. Introduction

On March 11, 2020, the world health organization declared the disease COVID-19 caused by SARS-CoV2 infection to have become a pandemic.¹ From the pandemic's beginning until November 22, 2022, 635.2 million people were sick with COVID-19, and 6.6 million deaths were reported.² Since the pandemic's start in Mexico, 7.19 million infections and 334,336 deaths have been reported from this disease.³ The speed with which the SARS-CoV-2 virus was transmitted caused the countries' governments to take preventive measures to prevent its spread. Among the actions carried out were using masks, forced quarantines, reduced mobility, and suspension of work, school, and social activities, among others.⁴ Each of the measures taken caused a radical change in the entire population, which required adaptation to new work, educational and social realities. In addition, the absence of social activities predominated.⁵ These sudden changes in daily activities generated psychological effects in the population, with significant repercussions on mental health and the subsequent appearance of symptoms of stress, anxiety, sleep problems, and depression.⁶⁻⁸

Many people were worried about being infected because of the pandemic, in case their work or studies would be affected, and the future would hold. The excess of information to which people were exposed made many people lose control. In addition, one of the most vulnerable groups is medical students, since some studies indicate that difficulties in academic activities and academic stress trigger symptoms of anxiety and depression.⁹⁻¹¹ Notably, some studies report that during the pandemic of COVID-19, the fear of students being infected or dying increased, generating stress and anxiety levels.¹²⁻¹⁵ The fear of contracting COVID-19 led to mental disorders such as anxiety, depression, and even suicide.¹⁶⁻¹⁹ That is why reducing and mitigating the consequences of the mental health of COVID-19 in medical students is essential.^{20,21}

In general, pandemic has generated a negative impact on the health of students. However, they have improved the competencies related to information and communications technologies (ICT) that allowed them to continue developing their school activities from home. In this study, a tool was used to detect the fear perception of COVID-19 in Medicine Students of the Autonomous University of Yucatan.²²

II. Material And Methods

This prospective comparative study was carried out on medicine students from Autonomous University of Yucatán, México. This study has a non-experimental qualitative design, with a descriptive, comparative, and correlational scope. In this study, the fear perception of COVID-19 was analyzed in students of Medicine Program

of the Autonomous University of Yucatán, Mexico. Participants comprised 123 undergraduate students, 48.7% were women, and 51.3% were men (see graph 1), aged between 18-23 years (19.02 ± 1.16 years). Participating students come, 61% from urban areas and 39% from rural areas. The sampling method used in this study was non-probabilistic for convenience with inclusion criteria. These criteria included: 1. Voluntary participation in the study, 2. Being in a suitable physical and mental state to carry out the evaluation, and 3. Agreeing with the dissemination of the research results. The instrument for the fear evaluation in students was carried out using the scale to measure fear and behaviors during COVID-19 pandemic. Which has eight multiple-choice questions to evaluate sociodemographic data, nine reagents to evaluate fears of getting sick or dying during COVID-19 pandemic, including: I'm afraid of getting infected, I'm afraid of getting sick, I'm afraid to die, I'm afraid that a family member will get infected, I am afraid that a family member will get sick, I am afraid that a family member will die, I am afraid that it will affect my economic situation, I am afraid that it will affect my academic situation, I am afraid that it will affect my relationship with my partner; and nine reagents to measure fear due to school impacts by COVID-19, including: Failing to satisfactorily complete the semester, not passing all courses, not handing in homework, not being able to work as a team, my study plan is extended, failure to comply in social service, professional practices, and thesis, my grades drop, not complying with laboratory practices, and loss effective communication with the school administrative system and teachers. These 18 items were measured on a 5-Likert scale ranging from nothing (1) to a lot of fear (5). Regarding the interpretation of the test, there are no specific normative tables, but a significant presence of fear can be considered with total values greater than 4 points. Process data collection was carried out between August 16, 2021, and January 14, 2022. Data collection was virtually performed through the Microsoft 365 Forms Platform due to the sanitary confinement generated by the COVID-19 pandemic. The participants had to give their authorization and respective informed consent to fill out the questionnaire. It is essential to highlight that the criteria established for collecting, safeguarding, and protecting data were respected, following the ethical guidelines of the Declaration of Helsinki (2003) and compilation with the General Regulations of the General Health Law on Health Research in Mexico (RLGS), 1987). (10)

Statistical analysis

We developed a descriptive statistical analyzes of the values obtained in the evaluations about fear in medicine students., and parametric or non-parametric analyses for comparison of the mean values obtained with the cut-off points of the scale. For qualitative data comparisons, the chi-square test was used. For the comparison of age and total score of the scale, the U-Mann Whitney test or not paired t-test was used after checking the normal distribution of the data. Subsequently, a correlation analysis was carried out between the fear of getting sick or dying and the fear of school affectations by COVID-19, using the Pearson Correlation Coefficient test to determine the degree of association between the study variables. Statistical analysis was performed with the PAST Statics Software (University of Oslo).

III. Result

One hundred twenty-three students were included in the study, of which 60 (48.7%) were female and 63 (51.3%) male (Figure 1). The average age of the participants was 19.01 ± 0.1 years. The mean age of women was 18.95 ± 0.11 years, and for men, 19.07 ± 0.17 years ($p=0.9683$, U-Mann-Whitney test). The average age of the participants ranged from 18 to 23 years.

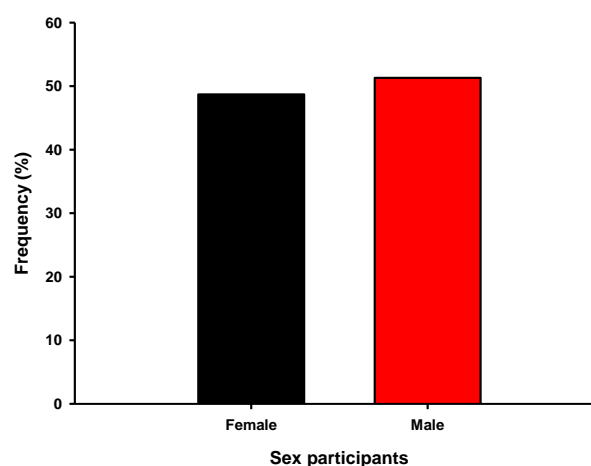


Figure 1. Frequency of females and males participating in the study.

Table 1 shows the results of the means obtained by the participants in evaluating fears of COVID- 19 concerning their health and family members. On this scale, it stands out that the fear of a family member getting infected, sick, or dead was the primary concern presented by the students. In contrast, the variables that students could get sick, die, or that COVID-19 affects their relationship were the ones that received the lowest scores. These last variables were below the cut-off point (<4 points), which shows that students' fear of getting sick or dying was not widely generalized.

Table no1. Students' perception of fear regarding health during the COVID-19 pandemic

Variable	N	Mean	CI 95%		SD
			Inferior	Superior	
Getting infected	123	3.41	3.18	3.63	1.247
Getting sick	123	3.33	3.11	3.56	1.252
I'm afraid to die	123	2.76	2.44	3.09	1.811
Family member will get infected	123	4.46	4.30	4.61	0.861
Family member will get sick	123	4.45	4.30	4.60	0.832
Family member will die	123	4.65	4.50	4.80	0.849
Affect my economic situation	123	3.33	3.09	3.58	1.377
Affect my academic situation	123	3.62	3.37	3.86	1.376
Affect my relationship with my partner	123	2.81	2.51	3.11	1.671

The answers average to the nine items of the fears by the covid-19 concerning their health and family members were 32.82 ± 7.89 . The fear average of women was 34.02 ± 7.02 , and for men, 31.68 ± 8.53 ($p=0.16498$ U-Mann-Whitney test). The frequency of students who experienced fear of covid-19 showed that 39.02% of women and 38.1% of men reported being afraid of their health or their relatives. ($p=0.55439$, χ^2 test).

Table 2 shows the results of the means obtained by the participants in evaluating their fears of COVID 19 concerning their academic situation. On this scale, it stands out that the fear of failing to satisfactorily complete the semester, not passing all courses and grades drop, and not having laboratory practices were the primary concerns presented by the students. In contrast, the variables that students could Failure to finish social service, professional practices, and thesis, not being able to work as a team, and losing effective communication with the school administrative system were the ones that received the lowest scores. The answers average to the nine items of the fears by the covid-19 concerning their academic situation were 32.69 ± 8.18 . The fear average for women was 32.97 ± 8.1 , and for men, 32.43 ± 8.3 ($p=0.7168$ Unpaired T- test). The frequency of students who experienced fear of covid-19 showed that 69.4% of women and 73.4% of men reported being afraid of their academic situation ($p=0.5506$, χ^2 test).

Table no2. Students' perception of fear regarding academic situation during the COVID-19 pandemic

Variable	N	Mean	CI 95%		DE
			Inferior	Superior	
Failing to satisfactorily complete the semester	123	3.89	3.67	4.12	1.260
Not handing in homework	123	3.37	3.10	3.63	1.478
Not passing all courses	123	3.92	3.69	4.14	1.258
Not being able to work as a team	123	3.08	2.82	3.35	1.480
My study program is extended	123	3.26	3.02	3.51	1.372
Failure to finish social service, professional practices, and t	123	3.04	2.72	3.36	1.790
my grades drop	123	3.95	3.75	4.15	1.115
Not having laboratory practices	123	4.22	4.05	4.39	0.946
Loss effective communication with the school administrative sy	123	3.96	3.77	4.14	1.035

Finally, Figure 2 shows the relationship between fears that students or family members will get sick or die in their academic situation. It can be observed that both variables are positively correlated and with moderate intensity ($r=0.658$, $p=0.0403$, Pearson correlation test). These results suggest that worries about family members getting sick or dying significantly impact their academic concerns.

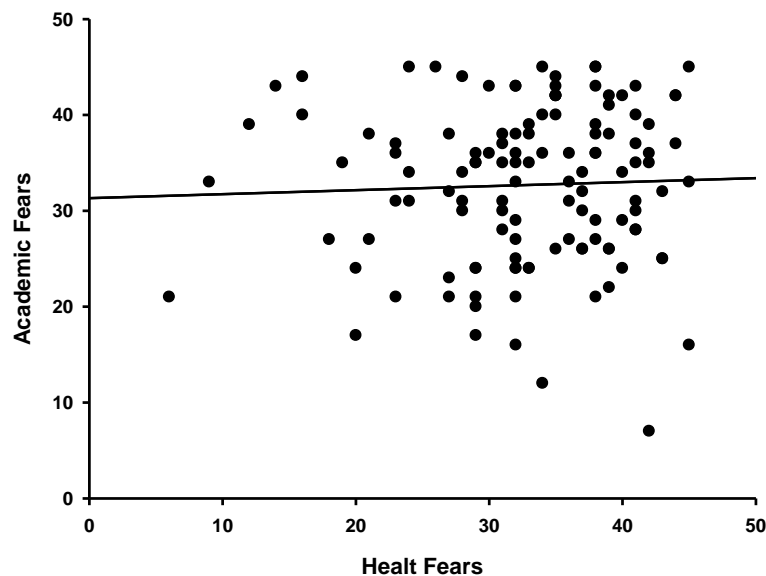


Figure 2. Relationship of students' perception of fear between health variables and academic situation during the COVID-19 pandemic. Note that there is a moderate significant correlation ($p=0.04$).

IV. Discussion

During the COVID-19 pandemic, university students have presented negative perceptions and family and social stressors that trigger stress, fear, and anxiety. As a result, students are at risk of mental health issues, especially issues related to quarantine and lockdown. This study aimed to identify the prevalence of fears among medicine students during the COVID-19 pandemic. The results show that the highest frequency of fear perceived by students is due to the following variables: I am afraid that a family member will get infected by SARS-COV-2, I am afraid that a family member will die, and I am afraid that it will affect my academic formation. Especially fear of not having practice, grades dropping, not passing courses, and failing to complete their studies. Interestingly, 40% of the students presented fear of a family getting infected or dying. Furthermore, 42% of the students feel afraid the pandemic affects their academic formation. In this study, we did not find differences in the perceptions between men and women in health and academic variables. Although the data collection was carried out one year after the start of the COVID-19 pandemic, many countries, including Mexico, still have many infections and deaths. Notably, many mental health problems emerged in the population.²³ Regarding mental health problems in undergraduate students, an increase in fear, stress, anxiety, and depression was observed during the COVID-19 pandemic.²³⁻²⁹ Additionally, about 60% of the students surveyed indicated they were not very concerned about their academic situation. However, educational institutions should consider that these students have lower levels of concern that can impact their mental health and academic situation.⁹

In the case of medical students, starting their clinical practices generated uncertainty aggravated by the fact that they were in contact with diagnosed and undiagnosed cases of COVID-19. Our study oversaw studying the mental well-being of future health professionals, similar to what was reported by Sani et al. in 2020, where they showed that the COVID-19 pandemic impacted their academic progression, competence in skills, and professional commitment. The COVID-19 pandemic affected the population's general health, and women and students are among the most affected.³⁰ The source of this higher level of psychological distress was related to the fear of becoming infected and infecting others, such as family members, cohabiting partners, or vulnerable people in general. Specifically, in the case of students, the fear of academic delay and loss of learning opportunities could be added, as shown in this and other studies.^{31,32} As reported in another study, most nursing students feared SARS-COV-2 infection and worried about their families.³³ Another study found that university students presented a slight fear of COVID-19, showing that students with the lowest and highest grades were the most fearful.³⁴

On the other hand, this study showed that medicine students feared that the COVID-19 pandemic affected their academic training, especially the practical clinical part. Similar results were found in medical students, who found that those in the initial part of their medical education were more likely to present mental distress.³⁵ A

possible explanation is that the students had difficulties adapting to the new ways of conducting classes and new modes of online learning during the COVID-19 pandemic.³⁶ Also this study is similar to the reported in another study that showed that more than 50% of medical students agreed that the pandemic hindered practical/clinical work. In many cases, the COVID-19 pandemic caused people to lose interest in continuing to study medicine.¹⁰

In this study, no differences were reported between women and men regarding fear risk factors in students. Contrary to other studies that suggest that women may have greater fear, anguish, and anxiety, which could lead to more significant mental health problems during the pandemic.³⁷⁻³⁹ On the other hand, in this study, a moderate correlation was found between students' fears regarding health (fear of getting sick, dying, or that their relatives will get sick) and their academic situation. This suggests that students' fears of a sick family member may cause additional stress that affects their academic situation. Similarly, medical students' main fears are difficulties continuing their education, poor communication with their professors, and developing practical skills.⁴⁰⁻⁴² However, more studies are required to confirm the results about the relationship between fears concerning health and academic fears of students during the COVID-19 pandemic.

V. Conclusion

Students reported academic and health-related concerns caused by the pandemic. Fear and anguish are problems that must be taken seriously, and timely detection and follow-up of these cases are recommended.

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