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Anxiety Prevalence among Albanian Medical Students during Quarantine Period of COVID-19

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Abstract

Aim: This study aimed to assess the prevalence of anxiety among healthcare students at the Medical University of Tirana during the 2020 quarantine period (March-May 2020). It also sought to explore the relationship between anxiety levels and factors such as chronic diseases, information obtained about Covid-19 through doctor consultations, and information acquired from media sources.

Methods: A cross-sectional study was conducted via an online survey completed by 412 students studying a healthcare-oriented degree at the Medical University of Tirana. Participants were recruited through e-mail. The validated Beck Anxiety Inventory (BAI; Beck et al., 1988) was used to assess student's anxiety levels. Statistical analysis was performed using SPSS Statistics 23.0.

Results: The sample consisted of 412 medical students, with the majority being female 85.9% (n=354) and 14.1% (n=58) male. The BAI assessment revealed that 31.31% (n=129) of students experienced minimal anxiety level, 55.57% (n=229) had a moderate anxiety level, and 13.1% (n=54) had a severe anxiety level. Chronic diseases ($r = .475$, $p < .05$), information on COVID-19 from media ($r = .385$, $p < .05$), were positively associated with higher anxiety scores. Primary care consultation ($r = -.650$, $p<.01$) was associated with lower anxiety scores. Chronic illnesses and other mental health disorders were significant predictors of anxiety, with chronic illnesses explaining 9.5% of the variance ($R^2= .095$) and other psychological/emotional disorders explaining 9.8 % of variance ($R^2= .098$) ($F (3,216) = 22.956$, $p < .001$).

Conclusions: Anxiety levels among university healthcare students at the Medical University of Tirana during the COVID-19 quarantine on March-May 2020 were found to be high. Chronic diseases and other mental disorders have played an important role in increasing anxiety symptoms during quarantine. Implementing psychological interventions for healthcare students during pandemics is strongly recommended to optimize their mental health.

Keywords: anxiety, healthcare students, quarantine, COVID-19

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1.Introduction

The outbreak of the novel coronavirus disease (COVID-19) in Wuhan, China, in December 2019 became a global health crisis and was declared a pandemic by the World Health Organization (WHO) on March 11, 2020. The number of new cases and deaths was increasing, the disease was unknown, and the heath system resulted unprepared for its emergence. As a result, some countries began quarantining the population to prevent the spread of the disease. While such restrictive measures can be effective in slowing down virus transmission, concern has arisen about the possible physical and mental well-being of the general population. According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) (American Psychiatric Association, 2013), anxiety disorders include those that are characterized by excessive fear and anxiety, accompanied by behavioural disturbances. Medical students are recognized as an at-risk group for developing anxiety disorders, with significantly larger rates than the general population, even under normal circumstances. In Albania on 10 March all citizens were alerted about the new lockdown with strict rules, and the army was

mobilized across the country to ensure compliance with the new requirements. Medical students were not allowed in hospitals for practical training and were not part of the healthcare system's response to the COVID-19 crisis. Online lessons became the new normal for a year and a half.

2.Literature Review

Several studies conducted before the pandemic have described the factors that increase anxiety levels in medical students. An international study analyzed data pooled from sixty-nine studies that included 40,438 medical students. The prevalence of anxiety among medical students globally was found to be 33.8%, which is substantially higher than that of the general population (Quek et al., 2019).

One study that described the prevalence of anxiety in medical students during the COVID-19 pandemic included data from eight studies as part of a rapid systematic review with meta-analysis, estimated the prevalence of anxiety among medical students during the COVID-19 pandemic to be 28%. Regarding the students' location, no differences were found between those living inside or outside Hubei, the epicenter of the pandemic. The study identified other stressors in the medical student population, including concerns about economic influences, academic delays, and impacts on their daily lives (Lasheras et al., 2020).

A similar study regarding to anxiety prevalence in medical students during quarantine period at a university in Greece, involved 2,009 students who completed questionnaires. The prevalence of anxiety, whether classified as doubtful or definite cases, was reported to be 35.8%, while the corresponding prevalence of depression was 51.2%. The lockdown due to the COVID-19 pandemic and the transition to distance learning were associated with an increased psychological burden on the students at the University of Patras, Greece. Interestingly, medical students appeared to cope better with anxiety and depression during the pandemic compared to their colleagues in other fields (Sazakli et al., 2021).

The impact of media during the COVID-19 quarantine, particularly the effects of social media, has been well-studied in a sample of 512 Chinese college students (62.5% women; mean age = 22.12 years, SD = 2.47) who participated in this study from March 24 to April 1, 2020, via an online questionnaire. As expected, the results from regression analyses indicated that a higher level of social media use was associated with worse mental health. Increased exposure to disaster news via social media correlated with greater depression among participants with high (but not low) levels of disaster stressors, measured using a 5-point Likert-type scale (1 = not at all, 5 = very strongly). Total scores were calculated for analysis, with higher scores indicating more negative affect experienced (Cronbach's α = .91). Furthermore, path analysis showed that negative affect mediated the relationship between social media use and mental health (Zhao et al., 2020).

Telehealth services played a key role during the COVID-19 outbreak, especially in the quarantine months. A recent article reviewed eight studies from a total of 142 search results, concluding that telehealth can mobilize all aspects of healthcare to reduce disease transmission, guide individuals to the appropriate level of health care, ensure safety in the provision of online health services, protect patients, clinicians, and the community from exposure to infection, and ultimately alleviate the burden on healthcare providers and the health system. Some examples of telehealth usage for patients included health monitoring and triage during the outbreak (Monaghesh and Hajizadeh, 2020).

3.Methodology

The methodology refers to the entire framework or model of the research which includes the choice of methods, tools and techniques to be applied in the study. It is important to ensure that the study can be carried out and functions as planned. The research was developed in several phases:

1) The purpose and objectives of the study were defined, and a literature review on the subject was conducted
2) In the second phase, a questionnaire was designed with simple and easily understandable questions.
3) In the final phase, the extraction and processing of data were completed, followed by the compilation o the results. In the end, conclusions from the study were drawn.

This is a cross-sectional study to identify the prevalence of anxiety in medical students at Medical University of Tirana during the quarantine period from April-May, 2020.

3.1. Questionnaire: Beck Anxiety Inventory

A short questionnaire was distributed online in March 2020. Students were recruited via list serves and the questionnaire was sent out using social media. Anonymity and confidentiality of the responses were ensured by the author of the study.

The survey consisted of three parts. The first one included basic demographic questions such as age, gender, location, year of study, and whether they had a mental health problem, relatives with mental health issues, or a chronic disease. In addition, it included questions concerning personal or close social network exposure to Covid-19, the fear of infection, media impact on coping with the novel coronavirus situation. The survey included questions regarding online health consulting with medical doctors, the use of medications and activities to relieve anxiety.

Anxiety symptoms were assessed with validated mental health instruments Beck Anxiety Inventory (BAI; (Beck et al., 1988). This scale is a self-report measure of anxiety with 21 items. The reliability coefficient for the BAI was reported as (Cronbach's α=0.92). The total score was calculated by finding the sum of the 21 items. More specifically:

- Score of 0 – 21 = low anxiety
- Score of 22 – 35 = moderate anxiety
- Score of 36 and above = potentially concerning levels of anxiety.

Categorical variables were calculated using absolute values and percentages. Statistical analyses for testing the hypotheses were conducted using correlational analysis (Pearson Correlation) and regression analysis performed with Statistical Package for Social Sciences (SPSS) version 23.

3.2.Sample of the Study

The methodology is the whole framework or model of the research which includes the choice of methods, tools and techniques to be applied in the study. It is important to ensure that the study can be carried out and function as planned.
The research was developed in several phases:
1) There was conducted and defined the purpose and objectives of this study and there was done a literature review on our subject.
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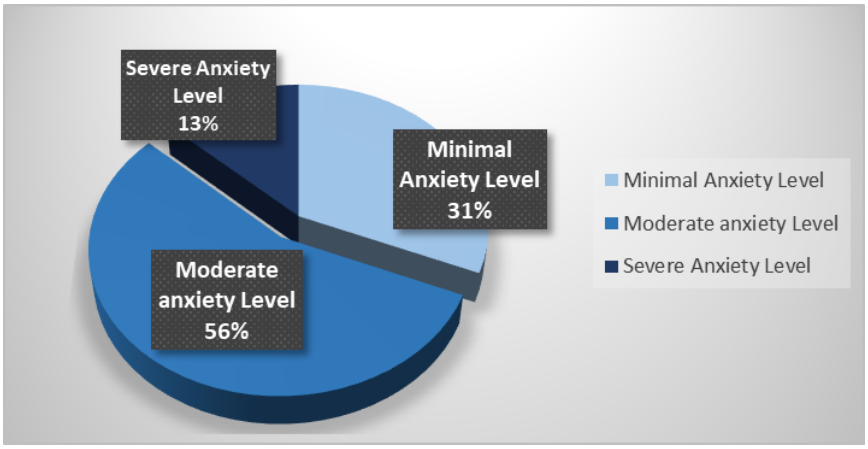
The sample of this study was of a convenience type, including students, aged 18 to 30 years from the Medical University of Tirana. Participants were selected regardless their gender, marital status, or whether they had mental health issues or family members with mental health problems.

4. Results

Among the 412 participants in our study, 85.9% (n = 354) were female, and 14.1% (n = 58) were male. Regarding academic year distribution, the largest group comprised sixth-year students (30.8%; n = 127), followed by second year students (26.0%; n = 107), with the remaining 43.2% (n = 178) being distributed across other academic years. The majority of participants were aged 21-23 years, accounting for 47.3% (n = 195) of the sample.

The BAI assessment revealed that 31.31% of students (n=129) had minimal anxiety level, 55.57% of students (n=229) had a moderate anxiety level, and 13.1% of them (n=54) had a severe anxiety level.

Figure 3. Distribution of students regarding the anxiety level



Students with moderate and severe anxiety levels represent the group requiring medical or psychological treatment. Based on the criteria, students classified as having an anxiety disorder were those with the highest levels of anxiety according to BAI. Thus, the prevalence of anxiety (severe level) was 13.1%. In a cross-tabulation analysis, 12.9% of female students report high anxiety, while 10.3% of male students reported symptoms of high anxiety.

In this study, Pearson correlation analysis was utilized to evaluate the relationships between variables, providing a basis for testing the hypothesis:

I. Hypothesis 1: People suffering from chronic diseases experience higher levels of anxiety.
II. Hypothesis 2: Talking to the doctor about Covid-19 and getting information from safe sources reduces anxiety levels during the quarantine period.

Table 1. Correlations between chronic diseases, consultation with a doctor and media information on COVID-19 with anxiety level

	Anxiety level	**P value**
Chronic disease	.475*	p < 05
Consultation with a doctor on COVID-19	-.650**	p < 01
Media information on COVID-19	.385*	p < 05

*Correlation is significant in level 0.05
**Correlation is significant in level 0.01

Table 1 indicated that chronic diseases (r= .475, p< .05) and obtaining information about COVID-19 from media (r= .385, p< .05), were positively associated with higher anxiety scores. Conversely, consultation a doctor (r= -.650, p<.01) was negatively associated with anxiety scores, indicating lower anxiety levels.

Additional correlations were also examined within this sample (Table 2). A positive correlation was observed between students fear of infection with coronavirus and their anxiety levels (r=.783, p<01), indicating that anxiety levels were higher among those who have fear of infections. Staying alone also showed a positive correlation with anxiety levels (r=.520, p<01), suggesting an increase in anxiety for individuals living alone.

During the quarantine period, certain activities such as physical activity and listening to music were negatively correlated with anxiety levels, indicating a reduction in anxiety. Physical activity was negatively associated with anxiety (r=-.360, p<05), as well as listening to music (r=-.468, p<05).

Table 2. Correlations between fear of infection with coronavirus, staying alone during quarantine period, physical activity and listening to music with anxiety level.

	Anxiety level	**p-value**
Fear of infection with coronavirus	.783**	p < 01
Staying alone during quarantine period	.520**	p < 01
Physical activity during quarantine	-.360*	p < 05
Listening to music	-.468*	p < 05

*Correlation is significant in level 0.05
**Correlation is significant in level 0.01

Regarding the regression analyses, these were performed to examine the relationship between students suffering from chronic diseases and their level of anxiety, with the variable "chronic diseases" serving as a predictor of anxiety. The same analysis was also conducted to evaluate the relationship between "conversation with the doctor", "information from the media" and the level of anxiety. The results of these analyzes are presented in Table 3.

Table 3. Regression analysis between chronic disease, information received from a doctor and from media sources on Covid-19, and anxiety level

	B	***SE B***	***β***	***R^2***	***P***
Chronic disease	.868	.183	.306	.095	p < .001
Doctor Consultation	.961	.201	.309	.094	p < .001
Information from media sources	.731	.201	.239	.057	p < .001

Dependent variable: Anxiety level
Predictors: People suffering from chronic diseases; Doctor consultation about Covid-19; Information received from media sources.

From these results it was observed that: Chronic diseases had the greatest and statistically significant predictive power for anxiety (F (3,216) = 22.956, p < .001), explaining 9.5% of the variance (R^2=.095). Doctor consultation (F (3,216) = 22.513, p < .001) explained 9.4% of the variance (R^2=.094), while information from the media (F (3,216) = 13.184, p < .001) accounted for 5.7% of the variance in anxiety levels among students during the quarantine period.

5. Discussion

In our study, the anxiety among healthcare students during COVID-19 quarantine was found to be high. Approximately 31% of students did not report anxiety, while 69% of them reported varying levels of anxiety. This result is consistent with other similar studies on the prevalence of psychiatric disorders in general student population, where 56,1% suffer from anxiety and 46.3% from depression (Center for Collegiate Mental Health, 2022).

During the quarantine period in Albania, the number of new coronavirus cases and deaths was relatively low. However, the high level of anxiety can be attributed to the fear of what the situation might bring and the lack of information. If we consider this as situational anxiety, isolation emerges as the main factor. Our medical students were further compounded by concerns of exposure and separation from everyday activities. Previous studies (Zhu et al., 2021) have shown that medical students experience elevated levels of anxiety and depression during their studies. Furthermore, healthcare students have more information regarding medical topics, which may affect their anxiety levels

Anxiety level resulted higher in female than male. Based on epidemiological investigations, women are more prone to anxiety than men due to their thought (cognitive) control strategies and metacognitive beliefs, which lead them to emotional and neurotic problems (Bahrami and Yousefi, 2011). Moreover, the results are explained due to the higher proportion of female participants in our sample. News from different media sources on Covid-19 has increased the anxiety level.

In addition, another study (Nakhostin-Ansari et al., 2020) found that Facebook was the most popular platform, with more than a third of those surveyed spending two to four hours each day on it. According to the current study, false news about the COVID-19 outbreak is the most common type of content used to generate panic about the disease. The current findings also suggest that participants believe that spreading of more COVID-19–related news on social media has promoted fear and terror among the respondents.

As we mentioned earlier, anxiety levels could result from a combination of many different factors. It is almost impossible to determine the exact contribution of quarantine to the anxiety levels. For instance, worries about potential infection or financial problems could also elevate anxiety scores.

Limitations

Our study may have some limitations. One of the main limitations of this study is the fact that lockdown period made it difficult to directly interact with students and collect data in systematic manner. This could lead to bias in the evaluation of the student's emotional reaction. In addition to the variables we addressed, there may be other factors that were related to the panic among respondents, which require further investigation. Another limitation is our sample size, which is small because we were not able to reach a larger number of students due to the circumstances.

6. Conclusions

In this cross-sectional study in healthcare students during COVID-19 pandemic, we found high levels of anxiety. Despite the importance of measures during pandemic, they have both long- and short-term consequences for the mental health of students. Healthcare students require mental health support, through which monitoring and control can be performed in our population. Our results can be used to develop psychological interventions, as well as to guide further studies on the recent mental health status.

Conflict of interest

The authors declare that they have no conflicts of interest.

Author contribution

The authors' contributions are as follows: Esilda Trushaj conceived and developed the idea for the paper and revised the manuscript; Bylyre Serjanaj contributed to data analysis, interpretation of the data and provided advice and assistance with statistical operations and translation. All authors read and approved the final manuscript.

Ethical statements

The authors assert that all procedures contributing to this work comply with all the ethical standards. Questionnaires were collected anonymously to ensure that personal privacy was not disclosed.

Data availability statement

The data used in this study are available on request from the corresponding author.

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