

The Association between Fear of COVID-19 and the Level of Stress, Anxiety and Depression

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ABSTRACT

Introduction

Corona-virus has spread almost worldwide and the current situation from the spread of the virus in our country is quite worrying for health in general with a particular focus on mental health of the population.

Purpose

The purpose of this study is to identify the level of stress, anxiety, and depression in the general population during the COVID-19 pandemic.

Methods

The research was conducted through an online survey using the Depression, Anxiety and Stress Scale Questionnaire (DASS-21). The target population of the study is: people of at least 18 years of age and older and at the same time a citizen of Kosovo. In this research have participated 246 participants, 154 females and 92 males and was conducted in November- December 2020.

Results

Data analysis was performed through SPSS. Spearman correlation analysis shows that fear of COVID-19 has a significant positive correlation with stress, anxiety, and depression. So the correlation between fear of COVID-19 and stress is ($r = .773$; $p = 0.00$), the correlation between fear of COVID-19 and anxiety is ($r = .716$; $p = .000$), and the correlation between fear of COVID-19 and depression is ($r = .633$; $p = .000$), so as the fear of COVID-19 increases the level of stress, anxiety and depression also increases. As for the level of severity of stress, anxiety and depression, 38 people have severe anxiety and only 1 person has severe depression. Conclusion: From the results of the research we conclude that in Kosovo society the more fear of COVID-19 there is, the more the level of anxiety, stress, and depression will increase.

Keywords: Covid-19; Stress; Anxiety; Depression; General population; Pandemic; Kosovo; Mental health; Psychologist.

Introduction

On March 11, 2020, the World Health Organization (WHO) declared COVID - 19, a disease caused by the SARS -CoV-2 coronavirus, which is now a pandemic. At the time of writing, there are still significant eruptions in most of the world's countries with Europe identified as the epicenter. It is clear that the impact of the pandemic on psychological health plays an important role in understanding how people will respond and cope with the threat of COVID-19 and how they will cope and adapt to changes in their lives, risk for life, the impact on changing behaviors and the impact on their social life [1].

COVID-19 arrived in Kosovo on March 13, 2020. The government acted swiftly by adopting a series of measures designed to stop the spread of the virus, but our country still continues to have new cases of COVID-19. According to Open Data Kosovo statistics in Kosovo, the number of people currently infected with the virus is 9,492, and 234 deaths which are related to other diseases. According to current epidemiological research, the incubation period of Covid-19 ranged from one to fourteen days. The most common symptoms in patients include fever, dry cough and shortness of breath. People with chronic diseases such as diabetes, cardiovascular disease, kidney disease, overweight and lack of immunity are believed to be more vulnerable [2].

According to the American Psychiatric Association, depression is defined as feelings of sadness and / or loss of interest in pleasurable activities, which can lead to a range of emotional and physical problems and may reduce a person's ability to function at work or in home, with symptoms lasting at least two weeks necessary for a diagnosis. They describe anxiety disorders as fear or excessive anxiety and also mention that these are the most common of all mental disorders. Stress can be defined as a physical, mental or emotional factor that causes physical or mental tension [3].

Numerous studies have been done around the world to look at the relationship and impact of COVID-19 on many other aspects or variables. According to a study recently published in

the medical journal *The Lancet Psychiatry*, the 2019 coronavirus disease pandemic (COVID-19) [4].

It is having a profound effect on all aspects of society including mental and physical health. A study conducted by (Hidalgo) aimed to analyze the levels of fear of COVID-19 such as: stress, anxiety and depression during blockage among Ecuadorian students. A total of 640 students (72% female) between 18 and 47 years old were surveyed ($M = 21.69$; $S.D = 4,093$). The resulting average levels found for stress, anxiety, and depression were above the levels considered non-pathological. Women showed higher levels of fear of COVID-19 than men. The statistical prognosis for depression showed a good accuracy. This depression can be related both directly and positively from fear of COVID-19 and stress, and indirectly, as a result of these two factors, positively mediated by anxiety [5].

Most studies also found an association between fear of COVID-19 and anxiety (Mertens) and, to a lesser extent, depression, using the degree of anxiety and depression in the hospital (Ahorsu) and Depression and Anxiety Stress Rate (DASS-21). It has recently been observed that fear of COVID-19 is associated more with anxiety and stress and to a lesser extent with depression (Tzur Bitan). However, despite the fact that there appears to be a lesser extent between fear and depression, cases of suicide have been reported in the population due to fear of COVID-19 (Mamun and Griffiths).

The study by (Gallagher) examined what impact experiences of COVID-19 and stress, anxiety, depression, and functional impairment have on a sample of 565 American adults. Research has shown that COVID-19 experiences were consistently associated with a higher chance of possible diagnoses of anxiety and depression ($ORS \geq 3.0$). An online survey was created using the Depression, Anxiety, and Stress Scale during COVID-19. Finally, 1498 participants in Iran completed the questionnaire using snowball sampling. The findings showed that most participants had experienced a normal level of stress, anxiety and depression. 2.5% of respondents report an extremely severe level of stress (Khademian, Delavari, Koohjaani & Khademian).

Fear of COVID-19 has led to chaos in the population, causing people to face stress, anxiety, depression and even suicide. Considering that COVID-19 has greatly affected the well-being of individuals and taking into account studies conducted worldwide on the relationship of COVID-19 with stress, anxiety and depression, it is seen as reasonable for a study related to COVID-19 to be done in Kosovo [6].

Therefore, we aimed to assess the relationship between stress, anxiety, depression and fear of COVID-19 in the population of Kosovo, so our hypothesis is that there is a positive correlation between fear of COVID-19 and stress, anxiety, and depression.

Methodology

Participants and samples

The target population of the study are all residents of Kosovo, more specifically all citizens of the Republic of Kosovo. The criteria for the selection of participants was: (1) to be at least 18

years old, and at the same time to be a citizen of Kosovo. As a method for this research we used the quantitative method. The design of this study is of the correlational type. So the design used in this study is cross-sectorial, the type of non-probabilistic reasoned sample, intentional sample [7].

In this research participate 246 participants, of which 154 or 62.6% were female and 92 of them or 37.4% were male, starting from the age of 18 to the age of 60, of which 171 or (69.5%) were resident in city and 75 or (30.5%) of them were living in the countryside, 42 or (17%) of them were in high school, 102 or (41.5%) in the faculty, 18 or (7.3%) in specialization, 72 or (29.3%) in master and 12 or (4.9%) in doctorate. Below are tables presented in order to describe the distribution of respondents [8].

Instruments

For the realization of this research as self-administered, questionnaires were used as measuring instruments that measure the respective variables including some demographic questions. Previously, the first part contained demographic data, where participants provided data on their age, gender, course of study, place of residence (urban, rural), followed by questions about the fear of COVID-19 [9].

The COVID-19 variable was measured by the three questions about COVID-19 fear as such as: "How worried were you about the impact the pandemic might have on your psychological state", "How worried were you about happening to get infected with COVID-19", "How worried have you been that family members might get infected with COVID-19", rating one of the answers from: not at all with a value of 0, to extremely high with a value of 4.

The second questionnaire used is to measure the level of stress, anxiety and depression DASS-21 (Lovibond and Lovibond), this is a 21-item self-report questionnaire, which assesses recent experiences of stress (p. e.g., "I had difficulty relaxing"), anxiety (e.g., "I felt close to panic"), and depression (e.g., "I felt worthwhile as a person or felt hopeless"). Each subscale (stress, anxiety, depression) has 7 questions which are graded on a Likert scale with 4 points ranging from 0 (It was not like that at all) to 3 (It was like that most of the time). The lowest scores represent normal or mild levels while the higher scores represent higher or severe levels [10].

Organization and procedure of research

An online survey on Google was created using the Depression, Anxiety and Stress Scale Questionnaire (DASS-21) as well as the COVID-19 Fear Questionnaire. The questionnaire was translated into Albanian following the translation procedure. The translated version of each questionnaire was compared to the original by the appropriate team of researchers in order to resolve any discrepancies regarding the questions. Data collection was carried out at the end of November to the end of December in 2020, approximately about a month. The link to this survey was shared by all authors in the social media platform. All authors shared the online survey through their individual social media accounts in order to increase the

likelihood of recruiting respondents with diverse demographics. The online survey procedure was most suitable for collecting data and also suitable for the time our study was conducted [11].

In our online survey, respondents were informed that their participation in the study was highly voluntary and they could choose not to participate at any point of the study. Confidentiality was also maintained throughout.

The chances of self-report bias were minimised by ensuring that no personally identifiable information of respondents was requested from them. Further, we structured our online survey to restrict access to respondents who had previously completed it; therefore, it was less likely that a respondent completed our survey more than once. The procedure for completing the questionnaires took approximately 15 minutes [12,13].

Data analysis

The obtained data were analyzed by the Statistical Package for Social Sciences (SPSS), version 20. After completing the procedure of placing the data in SPSS, the necessary analyzes

were made. The reliability or consistency of the proposed questionnaires was first observed through the level of the coefficient known as Cronbach's Alpha α , which measures the reliability of psychometric tests (Cronbach). The data normality test was first used to analyze the data, and since the data had abnormal distributions, Spearman correlation analysis was used to find the correlation between the variables, and descriptive analyzes were also used to find the mean and standard deviation of anxiety, stress, depression, and COVID-19 [14,15].

Result

Data analyzes were performed through the SPSS Statistical Package. In the beginning, descriptive statistics were performed, which show the total number, minimum, maximum, average and standard deviation of the main variables (see table 1 and 1a.) Spearman correlation was used in order to see the correlation between the variables. The average age of the participants in this study is 32.88 with DS = 10,487.

Table1: Descriptive statistics for all study variables.

	N	Minimum	Maximum	Mean	Std. Deviation
Gender	246	-	-	-	-
Age	246	18	60	32.8862	10.48747
Stress	246	0	21	10.7886	5.94155
Anxiety	246	0	19	8.3333	5.40546
Depression	246	0	21	7.9431	5.43503
The fear of COVID-19	246	-	-	-	-
Valid N (leastwise)	246	6	20	15.369	3.4257

Note. DS = standard deviation. N = number of participants. M = mean. Min=minimum. Max = maximum

Table1a: Demographic structure of the sample.

		N	Percent %
Gender	Female	154	62.60%
	Male	92	37.40%
Where do you live	City	171	69.50%
	Countryside	75	30.50%
Level of education	High school	42	17.00%
	Faculty	102	41.50%
	Specialization	18	7.30%
	Master	72	29.30%
	Doctoral	12	4.90%
Total		246	100.00%

Table2: Values of Cronbach's alpha coefficient.

Scales	Number of items	Cronbach's alpha (α)
Fear of COVID-19	3	0.855
Stress	7	0.925
Anxiety	7	0.904
Depression	7	0.92

As Table 2 shows, all values of Cronbach's alpha coefficient were greater than 0.700. Therefore, all scales could be considered internally consistent. Reliability for 246 participants for the questionnaires resulted in the following values: for stress

$\alpha = .925$ with 7 questions, for anxiety $\alpha = .904$ with 7 questions and for depression $\alpha = .920$ with 7 questions, while for Covid- 19 it is $\alpha = .855$ with 3 questions.

Table3: Statistics for conventional severity labels of DASS-21.

Variables		N	Percent %
Stress	Normal	153	62.20%
	Mild	82	33.33%
	Moderate	11	4.47%
	Severe		
	Extremely Severe		
Anxiety	Normal	106	43.09%
	Mild	30	12.20%
	Moderate	72	29.27%
	Severe	38	15.45%
	Extremely Severe		
Depression	Normal	148	60.16%
	Mild	41	16.67%
	Moderate	56	22.76%
	Severe	1	0.41%
	Extremely Severe		
Total	246	100%	

Table3 shows the distribution of participants depending on the level of severity of stress, anxiety and depression resulting in lower values lower levels of severity and vice versa. Depending on the severity values of the DASS-21 questionnaire, these are the levels of stress, anxiety and depression for participants: thus for stress it is seen that 153 (62.20%) persons are with normal stress, 82 (33.33%) persons have mild stress and 11 (4.47%) persons have moderate stress. Regarding anxiety, we have 106 (43.09%) persons with normal anxiety, 30 (12.20%) persons with mild anxiety, 72 (29.27%) persons with moderate anxiety, and 38 (15.45%) persons with severe anxiety. Whereas for depression,

148 (60.16%) persons have resulted in depression with values that are considered normal, 41 (16.67%) mild depression, 56 (22.76%) persons with moderate depression and with severe depression has resulted only 1 (0.41 %) person. The following table will present the Spearman correlation analysis. It includes the Spearman Correlation level which indicates the degree of correlation between the respective variables. The level of significance for this result is also presented.

Table4: Correlation analysis between fear of Covid-19 and DASS-21.

Spearman's rho		The fear of COVID-19
Stress	Correlation Coefficient	.753**
	Sig. (2-tailed)	0

	N	246
Anxiety	Correlation Coefficient	.716**
	Sig. (2-tailed)	0
	N	246
Depression	Correlation Coefficient	.633**
	Sig. (2-tailed)	0
	N	246

From the Spearman correlation analysis, it is seen that stress and fear of COVID-19 have a significant positive correlation ($r = .773$; $p = 0.00$), so with the increase fear of COVID-19 the other variable, in this case stress, will increase. Anxiety and fear of COVID-19 also have significant positive correlations ($r = .716$; $p = .000$), depression and fear of COVID-19 show significant positive correlations ($r = .633$, $p = .000$). Among all of these, stress shows the strongest correlation with fear of COVID-19 compared to anxiety and depression.

Discussion

The COVID-19 pandemic has had a profound impact on health and well-being worldwide and there is a growing recognition of the need to understand the psychological impact of COVID-19 experiences and stress in addition to the physical health consequences. Beyond the impact on physical health, the ongoing uncertainty about the pandemic and the dramatic behavioral changes required by social distance efforts can have a unique and profound impact on mental health. The prevalence of anxiety and depressive disorders may increase due to the worsening and persistent stress associated with COVID-19 given the role of stress in the etiology of these disorders.

The findings of this research provide new insights into the effect of fear of COVID-19 in Kosovo. The peculiarity of this research has to do with that is the first research in Kosovo that aims to study the relationship between fear of COVID-19 and stress, anxiety and depression. These obtained results can serve as recommendations for state leaders regarding the management of the situation based on the analysis obtained. These results should be considered in programs aimed at preventing or reducing fear of COVID-19 which then automatically degrades into a reduction in stress, anxiety and depression. So, the strategic planning for the protection of mental health by the Ministry of Health, the creation of a multidisciplinary team for professional interventions during the pandemics, as well as the provision of psycho-social services during and after COVID-19 (although there was but should be an additional team), are some of the recommendations we gain after finding these results, if only these recommendations are applied.

Conclusion

Based on our results, our conclusions show that our hypothesis that fear of COVID-19 has a positive correlation with

stress, anxiety and depression in the citizens of Kosovo is accepted, so there is a positive correlation between DASS21 and COVID-19. From the correlation analysis it results that stress, anxiety and depression have a high positive correlation but above all, stress has the highest correlation continuing later with anxiety and depression. This correlation was tested for the total number of participants. From this we understand that the alternative hypothesis is accepted. From this we conclude that for the population of Kosovo, the more they fear about COVID-19 the more the level of stress, anxiety and depression will increase.

Regarding the recommendations, we recommend that next time the distribution be done physically. The second recommendation is to do it with separate regions in Kosovo which means to look at the relationship between COVID-19 and DASS-21 depending on all the cities of Kosovo.

Limits

This study has brought new results in the current context, Kosovar, but it does not mean that the study had no limitations. Regarding the limitations of this research we can mention the way of filling in the questionnaires online, this can probably affect the answer wrong, as we were not present (physically) while completing the questionnaire. Mail and internet surveys are less costly but have much lower response rates which is a limitation. But, given the situation we are in then this was the best way to collect data. Another limitation is the way the questionnaires were distributed, which was on social networks. Due to the nature of the study which is an internet-based internet survey, potential respondents who did not have internet access during the data collection phase could have been left out whose perspective would have been relevant to study.

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