

# Stress, Anxiety, and Depression among Teachers during the COVID-19 Pandemic

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## Abstract

**Background:** Mental disorders have become especially important in the current stressful world. Among these disorders, anxiety, and depression are highly prevalent. Stress is also a very common phenomenon. Given the teachers' prominent roles in the education department and the importance of their mental health, the present study aimed to determine stress, anxiety, and depression among teachers during the COVID-19 Pandemic in 2020.

**Methods:** This cross-sectional study examined 210 primary school teachers in district 3 of Isfahan province in Iran, using multi-stage random sampling. Data were collected by the Depression, Anxiety, and Stress Scale- 42 Items (DASS-42). Also, the obtained data were analyzed using SPSS Statistics 20 and conducting pearson test, t-test, ANOVA, and linear regression.

**Results:** The results indicated a high level of stress, anxiety, and depression among the teachers. Findings also showed that teachers' depression was significantly associated with their age, work experience, type of housing, and student behavior ( $P < 0.05$ ). Further, teachers' anxiety was significantly associated with their work experience and student behavior ( $P < 0.05$ ). Moreover, teachers' stress was significantly associated with their history of mental diseases ( $P < 0.05$ ). Teachers' depression, anxiety, and stress were not significantly correlated with their marital status, spouse's job, education level, and Relationship with other colleagues ( $P > 0.05$ ).

**Conclusion:** Given that stress, anxiety, and depression affect teachers' mental health, and consequently the quantity and quality of their work, holding training courses and sessions to discuss teachers' problems, provides practical and effective solutions, and offers them administrative and organizational support, can be an effective step towards improving their mental health.

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## Introduction

In recent decades, and with the modernization of society, the phenomenon of stress has shown itself as an important issue.<sup>1</sup> Stress is a part of people's daily lives with various sources.<sup>2</sup> Job is considered an important cause of stress in every individual's life. Today, job

stress is a common and costly problem at workplaces; therefore, the World Health Organization has announced it a common problem.<sup>1,2</sup>

Stress is increasingly affecting the health of working people, including teachers; The teaching profession is considered one of the most stressful occupations due to various stressful stimuli. Job stress not only threatens

the physical, welfare, and psychological well-being of teachers but also negatively affects students and the learning environment.<sup>1,3</sup>

Since the beginning of the new century AD, emerging diseases of the corona family have appeared intermittently, including corona COVID-19.<sup>4</sup> On March 12, 2020, the World Health Organization declared the covid-19 virus a pandemic.<sup>5</sup> In addition to physical health, this disease also affects people's mental health, with occupational, personal, and social consequences such as stress and anxiety. It should be noted that one of the consequences of severe stress is depression.<sup>6,7</sup> This stress and anxiety affect teachers' work and quality of life and weakens the teacher's ability to perform their job performance and daily affairs.<sup>8</sup>

Various studies have been conducted on stress, anxiety, and depression in different countries and Iran. One-third of teachers in developed countries such as the United States, Australia, New Zealand, and the United Kingdom called the teaching profession very stressful.<sup>9</sup> Various studies in Egypt, Malaysia, and Nigeria have also shown that the prevalence of stress, anxiety, and depression in teachers is high.<sup>8,10,11</sup>

In Iran, various studies have been conducted in different cities. In the Iranian capital, it was shown that 40.02% of teachers experienced moderate and high stress, and 75% of teachers experienced some degree of anxiety.<sup>12,13</sup> In another study, researchers reported that depression with a prevalence of 4.9% is one of the most common psychiatric symptoms in teachers.<sup>14</sup>

A study investigated 45 female primary school teachers in Lorestan province. It showed that all teachers experienced some stress. In addition they expressed responsibility, job security, marriage, economic problems, and work experience as causes of stress among teachers.<sup>15</sup> Another research that studied 200 primary school teachers in Bahmai (Iran) found that stress was moderate and high among teachers.<sup>16</sup> A group of researchers who investigated 100 primary school teachers in Hamadan, found that among all teachers, female teachers had mild depression and moderate anxiety; moreover, they found no significant relationship between depression and anxiety with age and teaching history.<sup>17</sup> Another study showed that 57.65% of teachers experienced anxiety.<sup>18</sup> In a study, researchers found that anxiety was significantly higher among teachers, and the rate of anxiety in male and female teachers was 86.3% and 13.7%, respectively. They also showed that less work experience and teaching in elementary school had a significant relationship with anxiety.<sup>19</sup> A study showed that 10 to 20% of teachers experienced moderate stress, anxiety and depression, 3 to 7% of teachers experienced severe stress, anxiety and depression, and the rate of stress and anxiety was higher in women

than men.<sup>20</sup> In a study, scholars found that anxiety and depression in teachers were 75% and 56.3%, respectively.<sup>21</sup> A group of scholars in a study on 444 public and private school teachers found that teacher anxiety and depression were significantly higher.<sup>22</sup>

Unfortunately, no study was conducted in Iran during the outbreak of covid-19, and we reviewed studies on this topic during the covid-19 outbreak abroad. A study on teachers during the covid-19 pandemic showed that stress and anxiety increased among teachers, and stress was higher among married teachers.<sup>23</sup>

According to a study, researchers found that anxiety increased among teachers and they considered virtual teaching and little experience in this type of teaching as its causes.<sup>24</sup> A group of researchers in a study found that 32% of teachers had depression; furthermore, female teachers who were older or had children were more affected by depression. Also, this study showed that 49.3% of teachers had anxiety, which was more in female teachers than men. About half of the teachers (50.4%) had stress, which 2.4% showed severe stress, which was higher among teachers with children.<sup>25</sup> According to a study, anxiety among teachers was from 10% to 49.4%, depression was from 15.9% to 28.9%, and the prevalence of stress was from 12.6% to 50.6%.<sup>26</sup> A research work showed anxiety, depression, and stress were high among teachers. Gender, age, job stability, and teaching level are among the factors influencing them. It was also found that more than half of the teachers suffer from stress and 18.6% of them had severe to very severe stress.<sup>27</sup>

Since statistics indicate that the levels of job stress, anxiety, and depression are high among teachers, it is important to pay attention to the factors causing such feelings in this job group. Teachers in the workplace encounter many stressful stimuli, some of which are as follows: students' impolite behavior, difficulty in establishing discipline in the classroom, the presence of noisy students, a curriculum with vague and inadequate details, lack of equipment, lack of effective communication with parents, dysfunctional job structure with limited opportunities for advancement and promotion, insufficient salary, and ineffective communication with colleagues.<sup>28</sup> According to a study, factors such as a sense of responsibility, poor planning, being married, financial problems, and young students are among the stressors.<sup>15</sup> Another study found that high stress levels were caused by disturbing students, overwork, and feelings of lack of support during class, which may lead the student to lose motivation and suffer from illness, the decision not to teach, and quit teaching prematurely.<sup>29</sup> A study found that workload and students' behavior were significant predictors of depression. According to this study, teachers' anxiety was significantly associated with workload, student behavior, and working

conditions.<sup>30</sup> Another study showed that anxiety and depression are significantly higher among teachers over 40, female teachers, primary school teachers, teachers with insufficient income, teachers with more years of experience, and teachers with a high workload.<sup>8</sup>

Due to the prevalence of coronavirus in Iran and the closure of schools for this epidemic, many teachers are forced to teach distance learning virtually.<sup>4, 31</sup> One of the actions of the Education Organization to continue teaching and learning was to create a student education network (Shad). In this educational network, students and teachers entered the virtual classroom and the teaching and learning process was done virtually. Teachers in this type of education were associated with several problems, including low experience of teachers in e-learning and additional responsibilities of teachers in cyberspace, which is itself a factor in increasing the workload of teachers as one of the causes of stress, anxiety and depression.<sup>32</sup>

Therefore, it is necessary to identify factors associated with teachers' mental health to provide necessary solutions for policymakers. Such solutions can affect not only teachers' health but also social health.<sup>3</sup> Given that teachers are the most important factor in the education process, with a superior role promoting student health, and given that stress, anxiety and depression have a significant percentage among teachers;<sup>3, 12-14</sup> examining teachers' mental health is of special importance. The present study aimed to determine stress, anxiety, and depression among teachers during the COVID-19 Pandemic in 2020.

## Methods

This cross-sectional study was conducted on primary school teachers in District 3 of Isfahan province in Iran in Autumn 2020. Multi-stage random sampling was performed in the present study so that a district was first selected from the six education districts; Then, in the selected district, 25 schools were chosen; Finally, after obtaining both permissions from the Department of Education and the schools' principals', the questionnaires were completed by teachers, who had been selected from among volunteers when they signed the informed consent form. It should be noted that the questionnaires were anonymous and participants were assured that the information obtained by the questionnaires would remain confidential to the researcher.

The number of samples, according to the following formula, was 190, which was considered 210 people with a 10% loss.

$$n = \frac{(Z_1 + Z_2)^2(1 - r^2)}{r^2} + 2$$

$Z_1$  95% confidence interval is 1.96.  $Z_2$  test power of 80% is 0/84.

$r$  is an estimate of the correlation coefficient between the score of stress, anxiety, depression, and related factors, which is at least 0.2.

According to the information from the department of education, the number of female teachers in primary school was more than in men and the level of stress, anxiety and depression in female teachers was more than in men.<sup>20, 25</sup> Inclusion criteria were female teachers, teachers working in public schools, and teachers willing to participate in the research project. Exclusion criteria were not filling or incomplete completion of the questionnaire by teachers.

A two-part questionnaire collected the required data. The first part of the questionnaire included teachers' demographic characteristics, such as age, marital status, number of children, work experience, type of housing, number of students, second job, spouse's job, education level, income level, communication with colleagues, student behavior, maintaining classroom discipline, workload, history of diseases, and counseling experience, while its second part included the standard Depression, Anxiety and Stress Scale-42 Items (DASS-42).

The DASS has a four-choice Likert scale. The quantitative value of each item was from zero to 3. This questionnaire contained 14 stress-related items, 14 anxiety-related items, and 14 depression-related items. If the total score of the stress-related questions was between 15-18, 19-25, and 26-33, the individual would be prone to mild, moderate, and severe stress, respectively. A score of more than 34 indicates highly severe stress. On the other hand, if the total score of anxiety-related questions was between 8-9, 10-14, and 15-19, the individual would be prone to mild, moderate, and severe anxiety, respectively. A total score of more than 20 shows highly severe anxiety. Considering the depression-related items, if the total score was between 10-13, 14-20, and 21-27, the person would be susceptible to mild, moderate, and severe depression, respectively. A total depression score of more than 28 shows highly severe depression. It should also be noted that the approximate required time to complete each questionnaire was from 5 to 10 minutes.

The validity and reliability of the questionnaire had been previously confirmed in a study by Lovibond and Lovibond. The Cronbach's alpha coefficient was 0.90, 0.84, and 0.91 for stress, anxiety, and depression, respectively.<sup>33</sup> A group of scholars in a study have determined this questionnaire's validity and reliability, so its Cronbach's alpha coefficient was 0.92, 0.9, and 0.93 for stress, anxiety, and depression, respectively.<sup>34</sup>

To analyze the data, SPSS 20 was utilized. After determining the data normality, descriptive statistics (mean, standard deviation, frequency distribution, and percentage frequency calculations) and inferential statistics (Pearson, t-test, ANOVA, and linear regression if necessary) were used.

It should be noted that the current plan has been approved by the Research Council of Isfahan University of Medical Sciences before implementation and has the scientific code of 198318 and the ethics code of IR.MUI.RESEARCH.REC.1399.042. Also, different parts of the research were carefully designed to prevent any moral problems as much as possible.

## Results

The present study examined 210 female primary school teachers in the third district of Isfahan. The mean age of teachers was  $43.82 \pm 8.97$  years old (ranging from 24 to 69 years old), their mean number of children was  $1.57 \pm 1.04$  (ranging from 0 to 4 children), their mean years of experience was  $19.29 \pm 10.77$  years (ranging from 2 to 46 years), and their mean number of students was  $30.84 \pm 5.17$  (ranging from 20 to 48 students). Through examining the quality of teachers' communication with their colleagues, it was found that 202 teachers (96.2%) had good communication, while 8 of them (3.8%) had moderate communication with their colleagues. It was also noted that maintaining discipline in the classroom was difficult for 18 teachers (8.6%), whereas for 192 other teachers (91.4%), it was not. In terms of workload, 99 teachers (47.1%) had a moderate workload, while 111 (52.9%) had a high workload. Furthermore, 18 teachers (8.6%) had a history of mental illnesses, while 192 (91.4%) had no history. Finally, regarding the history of counseling, 48 teachers (22.9%) had visited counselors, while 162 teachers (77.1%) never had. Table 1 presents other demographic characteristics in terms of number

and percentage.

The results of the questionnaire indicated that 28 (13.3%) participants had mild, 29 (13.8%) had moderate, 16 (7.6%) had severe depression. Moreover, 6 (2.9%) were very depressed, and 131 (62.4%) were normal in terms of depression. The results of the anxiety test indicated that 18 (8.6%) participants had mild, 33 (15.7%) had moderate, 19 (9%) had severe, and 21 (10%) had very severe anxiety. At the same time, 119 (56.7%) were normal in terms of anxiety. The results also indicated that 35 (16.7%) participants had mild, 42 (20%) had moderate, 19 (9%) had severe, and 8 (3.8%) had very severe stress, while 106 (50.5%) were normal in terms of stress.

The results of univariate regression analysis, according to Table 2, indicated that higher depression had a significant relationship with older age ( $P=0.01$ ), higher work experience ( $P=0.01$ ), having a rented or state house ( $P=0.046$ ), and students' impolite behavior ( $P<0.001$ ). Furthermore, a higher anxiety score significantly correlated with higher work experience ( $P=0.04$ ) and students' impolite behavior ( $P=0.01$ ). According to the table, only a history of mental illness was significantly associated with an increase in stress score ( $P=0.01$ ).

The analysis of research data further indicated no statistically significant relationship between teachers' depression, anxiety, and stress and their demographic information, such as marital status, number of children, number of students, second job, spouse's job, education level, income level, communication

**Table 1:** Frequency of participants in the study in terms of marital status, education level, spouse's job, income level, housing, the way most student behave, age, and job (s) other than teaching

Characteristics	Variable	Number	Percentage
Marital status	Single	31	14.8
	Married	179	85.2
Education level	High school diploma	3	1.4
	Associate degree	40	19
	Bachelor's degree	134	63.9
	Master's degree	33	15.7
Spouse's job	Single	31	14.7
	Self-employed	59	28.1
	Government employee	102	48.6
	Unemployed	9	4.3
	Retired	9	4.3
Income level	Less than 1500000 Toman	59	28.1
	1500000 to 2500000 Toman	79	37.6
	More than 2500000 Toman	72	34.3
Housing	Private house	165	78.6
	Rented house	40	19.0
	Organizational house	5	2.4
the way most student behave.	Polite	194	92.4
	Impolite	16	7.6
Age	Under 30	20	9.5
	30-50	139	66.2
	Over 50	51	24.3
Job(s) other than teaching	Yes	12	5.7
	No	198	94.3

**Table 2:** Results of univariate regression analysis

	Depression			Anxiety			Stress			
	Beta coefficient	Standard error	Significance level	Beta coefficient	Standard error	Significance level	Beta coefficient	Standard error	Significance level	
Age	0.17	0.06	0.01	0.10	0.06	0.07	0.07	0.06	0.25	
Work experience	0.13	0.05	0.01	0.1	0.05	0.04	0.06	0.05	0.3	
Type of housing (rented)	2.72	1.35	0.046	2.32	1.23	0.06	2.68	1.4	0.06	
Students' behavior (polite)	6.34	2.14	<0.001	5.46	1.94	0.01	3.35	2.25	0.14	
History of mental illness (Yes)	-3.23	1.99	0.11	-2.81	1.81	0.12	-5.11	2.04	0.01	
Number of children	0.38	0.54	0.48	0.42	0.49	0.39	0.52	0.56	0.36	
Marital status (married)	-0.09	1.58	0.96	-0.38	1.43	0.79	-0.58	1.64	0.73	
Number of students	0.13	0.11	0.24	0.12	0.1	0.21	0.2	0.11	0.08	
Second job	2.94	2.41	0.22	2.87	2.18	0.19	3.17	2.49	0.2	
Education level (bachelor and higher)	-0.07	1.39	0.96	-0.78	1.26	0.54	-1.2	1.44	0.4	
Good communication with colleagues	1.06	2.93	0.72	0.3	2.66	0.91	1.05	3.03	0.73	
Maintaining classroom discipline (difficulty in maintaining classroom discipline)	3.34	1.99	0.1	1.32	1.81	0.47	3.45	2.06	0.1	
Counselor visiting background (yes)	-0.57	1.34	0.67	-1.02	1.21	0.4	-1.82	1.38	0.19	
Workload	-1.06	1.12	0.35	-0.85	1.02	0.41	-2.04	1.15	0.08	
Income level (less than 1500000)	1500000-2500000	1.51	1.40	0.28	1.55	1.27	0.22	1.86	1.44	0.20
	Higher than 2500000	0.87	1.43	0.54	0.32	1.29	0.81	0.53	1.47	0.72
Spouse's job	0.144	0.596	0.809	0.343	0.54	0.526	0.183	0.617	0.766	

with other colleagues, workload, the experience of visiting a counselor and maintenance of classroom discipline ( $P>0.05$ ).

### Discussion

The present study aimed to determine stress, anxiety, and depression among teachers during the COVID-19 pandemic. According to the results, more than one-third of teachers suffer from some degree of stress, anxiety and depression. The rates of depression, stress, and anxiety in teachers were 37.5%, 49.5%, and 43.3%, respectively, which is consistent with various foreign and internal studies.<sup>8, 18, 21, 25, 35, 36</sup> In these studies, the cause of this level of depression was higher workload, increasing age, female gender, and having children, and the cause of anxiety was parental issues, administrative problems, and spending too much time on educational activities.<sup>8, 25, 35</sup>

Various internal research are also consistent with the findings of the present study. For example, a study on teachers in Iran's capital showed that 40.02% of teachers had moderate and high stress.<sup>12</sup> Scholars also found that 44.8 of teachers had mild anxiety, 22% had moderate anxiety, and 8.2% had severe anxiety; They also stated that this rate of anxiety is probably due to the economic problems of living in large cities and the nature of teaching jobs.<sup>13</sup> A group of researchers found that the prevalence of depression in teachers was 4.9%, which was reported as one of the most common psychiatric symptoms.<sup>14</sup> Researchers stated that 57.65% of teachers experienced some anxiety.<sup>18</sup>

In the present study, it seems that the cause of this level of depression is increasing age of teachers, inappropriate behavior of students in the classroom and teachers' housing concerns, while impolite behavior of students and increased teaching experience are among the causes of anxiety. According to the participant and previous studies, the reason for more stress in teachers is their unfavorable economic and social conditions, having children, getting married, and some teaching-related issues, such as a strong sense of responsibility, young students, and lack of proper planning.<sup>15, 23, 27</sup>

According to the results, there was a significant relationship between teachers' age, depression, and anxiety, which is similar to studies performed in Egypt, Nigeria, Malaysia, and Spain.<sup>8, 11, 25, 27, 35</sup> On the contrary, the study in Turkey showed no significant correlation between teachers' age and their depression.<sup>37</sup>

In addition, we found a significant correlation between teachers' age and stress, which is consistent with different studies<sup>8, 27</sup> and inconsistent with studies in Nigeria and Malaysia.<sup>11, 36</sup> It seems that the reason for the relationship between age and stress could be explained by the fact that many teachers in the present study were in the age group of 30-50 years. In this age range, teachers are involved with stressful issues, such as continuing their education, their children's education, and their children's job selection.

Depression and anxiety displayed a significantly positive correlation with teachers' work experience, which has been proven in other studies.<sup>8, 18, 35</sup> The reason

for such correlation could be that experienced teachers (as veterans and experts) have higher expectations of themselves, which could, in turn, lead to higher susceptibility, higher anxiety, and more depression.

The results of this study indicated that depression was significantly correlated with the type of housing; so that, depression was higher in people living in a rented house which is consistent with a study in Malaysia.<sup>35</sup> It seems that the reason for the relationship can be attributed to teachers' economic problems, which can cause more intellectual tension and discomfort among this group.

Consistent with a Canadian study,<sup>30</sup> we noticed that depression and anxiety were significantly correlated with students' behavior. This relationship can be rooted in teachers' direct contact with impolite, irresponsible, neglectful, and uninterested students, who can discourage teachers and make them feel ineffective, depressed, and anxious. Unlike depression and anxiety, there was not any significant relationship between student behavior and stress; However, a study in Malaysia considered the students' impolite behavior as a stressor.<sup>36</sup>

Additionally, considering the teachers' history of mental illness, it was found that this demographic characteristic can significantly affect their stress. This could also be due to the fact that many mental illnesses are the causes of stress and teaching is particularly stressful. Therefore, a significant relationship can be observed between stress and mental illness.

It should be noted that in the present study, there was not any significant relationship between stress, anxiety and depression with marital status, number of children, number of students, having a second job, spouse job, education level, income level, communication with other colleagues, workload, counselor visiting background and maintaining the classroom discipline. However, one of the limitations of this study was the use of a long questionnaire, which led to fatigue while filling out the questionnaire. As a result, it is recommended to use short questionnaires in such studies.

## Conclusion

According to the results, a significant percentage of teachers had different levels of stress, anxiety, and depression; different personal and occupational factors were associated with their mental health. Therefore, to improve teachers' mental health, we suggest school principals consult with their staff and hold problem-solving meetings to manage schools more effectively. Furthermore, administrative support and awareness-raising to help teachers manage their workload as well as teacher support at school, school-based solutions, and student-parent cooperation to deal with students' impolite behavior, can be effective. We also suggest taking

measures to screen teachers' mental health annually. Eventually, education officials and policymakers are recommended to take effective steps toward resolving teachers' livelihood and economic problems due to the teachers' large workload and different expectations from them.

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## Ethical Permission

The present study results from a research project with the ethical code IR.MUI.RESEARCH.REC.1399.042.

**Conflict of interest:** None declared.

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