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A Comparative Study of the Effect of social media on the Reduction of Perceived Stress and Coronavirus Anxiety in Patients with and without Coronavirus in the COVID-19 Pandemic

Khosravy F.[1], Ghasemi M.,[2] Mollazadeh A.[3]

Abstract

Introduction: This study aimed to compare the effect of social media on the reduction of perceived stress and coronavirus anxiety in patients with and without COVID-19 disease during the COVID-19 pandemic in 2020.

Method: The present study was descriptive and correlational. The statistical population included all men and women in District 3 of Khorramabad in 2020. According to the type of study and the number of variables in regression analysis based on the Cochran's formula in an undefined population and finally, according to the above and considering the executive issues, cost and low number of subjects, the final sample size of 200 people was determined. Due to the prevalence of coronavirus and the limitations caused by this disease, non-random and convenience sampling method were performed. Cohen et al.'s Perceived Stress Scale, Cattell Anxiety Inventory and Sarmad et al.'s social media scale were used to collect data. Data were analyzed by regression test.

Results: The analysis of the results showed that the social media had a significant role in predicting coronavirus anxiety and perceived stress in patients with and without this virus during the COVID-19 pandemic ($p < 0.001$). Stress levels in people with coronavirus were higher than healthy people ($p < 0.001$). Anxiety was higher in people with COVID-19 than healthy ones ($p < 0.001$).

Conclusions: The results showed that social media played a key role in reducing or increasing public anxiety during the COVID-19 pandemic. Also, considering the relationship between social networks and anxiety, the relevant authorities are recommended to manage rumors about coronavirus by informing the public through the media. In this regard, the growth of collective rationality through raising public awareness is effective in reducing anxiety.

Keywords: social media, perceived stress, coronavirus anxiety, COVID-19 pandemic

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1 M.A. student of Clinical Psychology, Islamic Azad University, Arak Branch, Arak, Iran, ORCID:0000-0002-9876-9592, Email: maryamkh13821382@gmail.com

[2] - Assistant Professor in Health Care Services Management, Islamic Azad university, Arak Branch, Arak, Iran, ghasemimorteza32@yahoo.com

[3] - Assistant Professor in Psychology of Exceptional Children, Islamic Azad university, Arak Branch, Arak, Iran, alimollazade@yahoo.com

Introduction:

On December 31, 2019, China (Wuhan) reported to the WHO a new viral pneumonia called coronavirus, known as acute respiratory syndrome (1). Since March 23, 2020, the new coronavirus has spread rapidly worldwide, infecting more than 294,110 people in 187 countries resulting in the deaths of 12,944, a number that is growing rapidly (1). While the world is in a state of crisis caused by coronavirus, fear and anxiety pervades the world and seems to have brought the world to a standstill (2). On the other hand, collective tragedies, especially those involving infectious diseases, often increase the levels of fear and anxiety that seem to cause widespread disruption in the behavior and psychological well-being of many people (3). Anxiety is a common negative emotion experienced by individuals and medical staff during an outbreak of an infectious disease (4). Recent and extensive studies on people prone to coronavirus infection reported a prevalence of traumatic stress of 73.4%, depression 50.7%, general anxiety 44.7% and insomnia 36.1% (5). In the early stages of coronavirus outbreaks in China, more than half of respondents reported moderate to severe psychological impact and about one-third reported moderate to severe anxiety (6).

Previous results have shown clear links between pandemic diseases with anxiety and increased stress symptoms, infection concerns, health anxiety, post-traumatic stress, and suicide (7). In a study of health care workers, Lai et al. reported that the majority of participants showed symptoms of depression, anxiety, insomnia, and distress, and a large number of people experienced clinically significant fear and anxiety during the outbreak (8). These results are part of a worrying trend in coronavirus anxiety disorder among people in the United States, China (1) and, more recently, India, to the point that some people have committed suicide for fear of being infected with the virus (9). Although much attention has been paid to identification of people with coronavirus infection, identifying the mental health needs of people affected by the epidemic has been neglected (10). Because coronavirus is new and has no vaccine and is currently only symptomatically curable, it has become a stressor (11). Like other viruses, coronavirus infection induces cellular stress responses in infected host cells. The close association of coronavirus replication with the endoplasmic reticulum leads to a stress response that poses a challenge to viruses (12). Theoretical and empirical evidence shows that according to the stress process model, reactivity to perceived stress is related to some personality traits such as neuroticism. This concept implies the tendency of people to be anxious, hostile, depressed, impulsive and shy. The spread of the Internet and new ICT has presently led to the emergence of cyberspace alongside the real world, which has disrupted the equations and patterns of traditional communication, production, transmission and consumption of information. Such an environment, which is considered as an integrated virtual reality, has a transformed epistemology with features such as place lessness, super temporalism, pure industrialism, and not being limited to state and nation based civil laws (13). Today, the Internet has replaced friends and relatives in social life, and actually has replaced friendly and family relationships. People who spend hours on Internet violate many social values. Because he abandons his social activities and turns to individual activities. In contrast, users who

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Family and health

use the Internet less often have significantly more contact with their parents and friends. Some also believe that cyberspace produces depression by isolating people (14).

Scientists first used the term "virtual world" in the early 1980s. The virtual world has been described as a simulated computer environment in which people can interact (15). Nowadays, social networks such as the Internet and mobile phones have turned the world into a village, and this has made the various and diverse identities easily communicate with each other and influence each other (16). The use of this technology is inevitable and its absence makes life difficult for those who are accustomed to it (17). But the world today is facing a very fundamental problem in which the virtual world can play a very effective role; a new viral disease called COVID-19. The virus causing this disease is from a large family of viruses that may cause respiratory infections from colds to more severe diseases such as MERS and SARS (18).

By 2018, the World Health Organization had identified six types of coronaviruses in humans[1] (19). In late December 2019, the novel coronavirus[2] caused pneumonia to spread from Wuhan throughout China, which is now a major global public health threat. In January 2020, WHO stated that there was a high risk of COVID-19 spreading to other parts of the world (20). Because the virus is transmitted from person to person, the average incubation period is estimated at two to five hours, which allows air travelers to spread the disease worldwide. Evidence suggests that virus transmission can occur over a period of time. In the incubation period, patients are asymptomatic (21).

In March 2020, WHO described COVID-19 as an epidemic disease. COVID-19 pandemic is spreading worldwide and has affected 67 countries, including Iran, by March 1, 2020 (20). This form of epidemic is in fact a major social event that has been discussed all over the world (22). Now it is necessary to pay attention to its psychological effects.

In a study by Roy et al., in the Indian population, the level of anxiety about coronavirus disease was high in the study. More than 80% reported obsession over coronavirus and 72% reported the need to use gloves and disinfectant. In this study, sleep problems and paranoia in the field of coronavirus disease and the effect of social media on its anxiety were reported in 12.5%, 37.8% and 36.4%, respectively. More than 80% of participants reported the need for perceived health care (23). Due to the prevalence of this disease in these cases, people are looking for more information to relieve their anxiety. Anxiety makes a person not to recognize the right information from wrong, so he may be exposed to false news (18). This is where the role of the virtual world and the effects of its news in people's lives is highlighted, because in anxious situations, people use the Internet to manage mood, emotional and social conditions (24). Thus, uncontrolled use of the Internet puts a person at risk for harmful physical, social and mental health effects, which can include anxiety and stress problems, depression, physical signs and symptoms such as poor eyesight, skeletal system damage, obesity, and its effects on social skills, communication problems in the family and electronic addiction disorder (16). Anxiety is described as a severe negative

1. 1. HCOV229-E, 2. HCOV-IC43, 3. SARS-COV, 4. HCOV-NL63 5. HCOVHKU1, 6. MERS-COV
2. Severe acute respiratory syndrome coronavirus2 (SARS-COV2) or 2019 nCOVIR" novel coronavirus 2019

feeling of fear, and such fear has cognitive, neurological, and behavioral symptoms. These severe symptoms of anxiety may negatively carry a high risk of death (26). As a result, accident-driven anxiety can weaken the immune system and make them vulnerable to diseases such as coronavirus disease (18).

The study of Doost Mohammadi and Khojasteh shows that there is a significant relationship between the use of social media and anxiety and insomnia (27). Research by Shensa et al., also confirms a significant relationship between social media use and depression and anxiety. On the other hand, the relationship between presence in social media and changes related to people's lifestyles is a serious question for researchers (28).

A study by Zhang and Feei-Ma showed that people who received support from friends and family during the acute stages of coronavirus disease experienced less anxiety than others (29). Research by Chen et al., also showed that prolonged stay at home could lead to inactivity, anxiety and depression, which could lead to a sedentary lifestyle and endangered health (30). Maintaining regular physical activity and daily exercise in a safe home environment is an important strategy for a healthy life during the coronavirus crisis. At present, all over the world, instead of focusing only on treatment strategies, they are trying to promote health by planning and educating people in the community. Research has shown that the cause of many of these problems is lifestyle and type of health behaviors and health promoting behaviors is one of the ways in which people can maintain and control their health (31). Many young people currently use Internet relationships to build their lives. Activity in social networks covers all aspects of life and has a great effect on people's lifestyles, stress and anxiety.

Given the pandemic nature of the disease, which affects almost all important economic, political and social aspects of the country, the discussion of the psychological effects of this disease on the mental health of individuals at different levels of society is very important. Therefore, in the current high-risk situation, it is necessary to identify people prone to psychological disorders at different levels of society to maintain the health of these people with appropriate psychological strategies. On the one hand, the opportunities and challenges of the present report should be considered. On the other hand, due to its prevalence among women, men, children and adults, coronavirus anxiety can affect the mental health of people in the community, so it is necessary to identify the underlying causes and discover the direct and indirect relationships that these causes may have, and then find effective and new therapies based on these relationships and causes. Research has shown that people with high mental health show higher degrees of resilience. It can be concluded that providing supportive factors to increase mental health can potentially lead to increased resilience and make people more resilient to stress, anxiety and depression. Due to the lack of rich literature on the effect and role of mental health in resilience, the need for further research in this area is felt and thus this study and subsequent studies can pave the way to provide a preventive program to modify and standardize lifestyle and promote their health. This study aims to compare the effect of social media on the reduction of perceived stress and coronavirus anxiety in patients with and without coronavirus disease in the COVID-19 pandemic in 2020. To answer these questions whether social media affect the control of stress and anxiety in people with and

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Family and health

without coronavirus disease and if there is a difference between controlling stress and coronavirus anxiety in people with and without this disease?

Method:

The present study is applied research in terms of objective and non-experimental, descriptive and correlational research in terms of data collection method. The statistical population of the study include all men and women in the 3th district of Khorramabad in 2021. In order to achieve the research objectives, from among men and women in Khorramabad, according to the type of study and the number of variables in regression analysis based on Cochran's formula in the undefined population and finally, according to the above and considering executive issues, cost and lack of subjects, the final sample size of 200 people was determined. Due to the prevalence of coronavirus and the limitations caused by this disease, non-random and convenience sampling method was performed. The following questionnaires were used to collect data: The inclusion criteria were: 1) consent to participate in the project, 2) having no history of hospitalization in a mental hospital, 3) having no history of psychiatric medication use, 4) being physically healthy. It should be noted that the inclusion criteria were determined through the subjects' self-report. Unwillingness to continue participating in the study, such as incomplete questionnaire, was one of the exclusion criteria.

Cattell Anxiety Scale: The questionnaire consists of 40 questions that constitute the Cattell 16-factor anxiety scale. Each question is scored on a three-point scale (0, 1 and 2). The Cattell Anxiety Scale has the required validity. This questionnaire was standardized in an Iranian sample in 1988 including 977 students of the University of Tehran in the age range of 18 to 30 and has level or norm scores for trait anxiety (covert), state (overt) and general anxiety (32). In the study by Salarifard and Pouretemad, the validity of this questionnaire was calculated by Cronbach's alpha method. The alpha coefficient for the anxiety subscale was 0.59 and the state anxiety was 0.69 and for the whole scale was 0.77 and its validity was reported to be 0.68 (33).

Cohen et al., Standard Scale of Perceived Stress: The Perceived Stress Scale was developed by Cohen et al., in 1983. This scale has 14 items with a four-point Likert scale (never to very much) and each item has a value between 0 and 4. In the research by Saadat et al., the validity of the questionnaire was confirmed by professors and experts in this field and the reliability of the questionnaire was obtained 0.84 by Cronbach's alpha method (34).

Social Network Use Questionnaire: Questionnaire on the use of mobile social networks, by Sarmad, which was designed to measure the use of mobile social networks. This questionnaire has 13 questions and measures the use of mobile social networks based on a five-point Likert scale. Cronbach's alpha coefficient calculated in Rasoulabadi's study in 2015 for this questionnaire was estimated above 0.70 (35).

Pearson correlation coefficient, multiple regression analysis and independent t-test were used to analyze the data.

Results:

This study aimed to investigate the effect of social media on stress and anxiety in patients with and without coronavirus disease. To achieve the research objectives, the data were analyzed after collection using a hierarchical regression analysis approach. It should be noted that before testing the hypotheses, the mean, standard deviation and correlation coefficients of the variables were calculated. Findings from the study of age distribution of sample members showed that 63 people were up to 25 years old (25.2%), 94 were 26 to 30 (40%), 93 people were 31 to 40 (37.2%). 75 people had a diploma (25%), 100 people had an associate degree (50%) and 75 had a bachelor's degree and above (25%). Descriptive statistics information of the statistical sample is provided below.

Table 1. Descriptive data of variables

		Number	**Least**	**Most**	**Mean**	**SD**
Social network use	Infected	125	56	79	66.90	6.761
	Not-infected	125	48	80	69.32	7.552
	Total	250	48	80	67.98	6.761
Coronavirus anxiety	Infected	125	39	79	67.80	8.204
	Not-infected	125	34	74	60.32	9.790
	Total	250	34	79	59.060	9.075
Perceived stress	Infected	125	29	83	66.20	14.651
	Not-infected	125	29	86	62.40	16.40
	Total	250	29	86	59.30	15.782

Table 2. Kolmogorov-Smirnov test

Variables	**Sig**	**Test statistics k-s**	**Test result**
Social media	0.586	0.774	Normal
Coronavirus anxiety	0.332	0.986	Normal
perceived stress	0.523	0.813	Normal

Table 3. Correlation matrix of research variables

	1	2	3
1. social media	-		
6. Stress	0.323**	-	
7. Anxiety	0.348**	0.289**	-

***P<0.05 , **P<0.01**

As the table above shows, stress is positively correlated with the social network at the 0.01 level. Anxiety is also positively correlated with the social network at the 0.01 level.

Table 4 shows the kurtosis values, skewness of the variance inflation factor (VIF) and the tolerance coefficient of the variables of the present study.

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http://journals.iau-astara.ac.ir, D.O. R20.1001.1.23223065.1401.12.1.1.1

Table 4. Kurtosis, skewness, tolerance coefficient and inflation variance of variables

	Skewness	Kurtosis	Tolerable coefficient	Variance inflation (VIF)
Social media	-0.420	-0.256	0.732	1.365
Anxiety	-0.233	-0.354	Criterion variable	Criterion variable
Stress	-0.122	-0.488	Criterion variable	Criterion variable

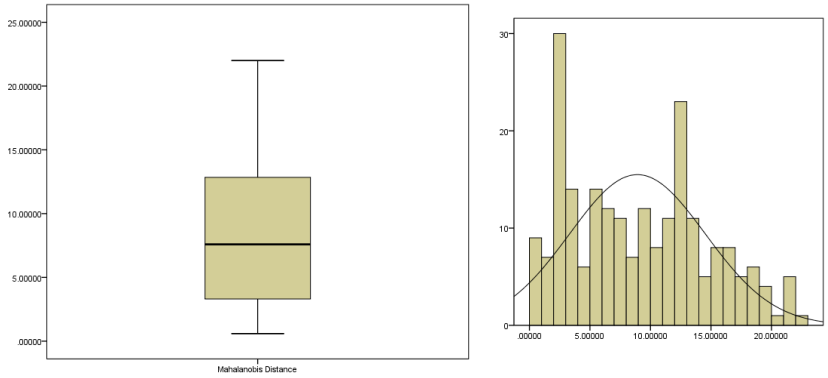

Figure 1. Histogram and box plot of the distribution of Mahalanobis distance data (D)

Table 5. Summary of regression of predictor variables on perceived stress

Model	**Correlation coefficient R**	**Coefficient of determination R2**	**Adjusted coefficient of determination** ΔR^2	**Standard error estimation SEE**
1	0.323	0.104	0.112	5.915

Table 6. Analysis of variance of regression test of stress and social network relationship

Model		**Sum of squares**	**DOF**	**Average sum of squares**	**F statistics**	**Significance level**
1	Regression	4138.246	1	4138.246	344.85	0.000
	Residual	2376.387	248	12.001		
	Total	6514.633	249			

Table 7. Results of stress regression analysis based on social network

Predictive variable	**B**	**SE. B**	β	**t**	**Sig**

Constant value	28.38	4.11		3.80	0.001
1. social media	0.09	0.03	0.25	3.43	0.001

In Table 7, the F ratio shows that the stress regression model based on the social network is significant ($p < 0.001$; $F = 28.38$). The results of regression coefficients also show that social network t ($p < 0.001$; $t = 3.43$) is significant, that is, this component significantly predicts anxiety. **Stress = 28.38 + 0.09 (social network)**

Table 8. Summary of predictor variable regression on anxiety

Model	**Correlation coefficient R**	**Coefficient of determination R2**	**Adjusted coefficient of determination ΔR^2**	**Standard error estimation SEE**
1	0.348	0.121	0.135	3.341

As can be seen in Table 8, the correlation coefficient between the variables is equal to 0.348 and the coefficient of determination is equal to 0.135, which indicates that 13.5% of the variance of anxiety is explained by the predictor variable.

Table 9. Analysis of variance of regression test of anxiety relationship with social network

Model		**Sum of squares**	**DOF**	**Average sum of squares**	**F statistics**	**Significance level**
1	Regression	5362.974	1	5362.974	494.374	0.000
	Residual	2147.936	248	10.848		
	Total	7510.910	249			

As can be seen from Table 9, the obtained F indicates that the step-by-step correlation coefficient between the variables as well as the regression of the predictive variables on anxiety is statistically significant ($p< 0.05$, $F (1, 248) = 494/374$).

Table 10. Results of anxiety regression analysis based on social network

Predictive variable	**B**	**SE.B**	β	**t**	**Sig**
Constant value	47.28	6.16		7.46	0.001
1. social media	0.17	0.125	2.58	6.29	0.001

In Table 10, the F ratio shows that the anxiety regression model based on the social network is significant ($p < 0.001$; $F = 10.13$). The results of regression coefficients also show that social network t ($p < 0.001$; $t = 6.29$) is significant, that is this component significantly predicts anxiety.

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Family and health

Anxiety = 47.28 + 0.17 (social network)

Table 11 shows the independent t-test to assess stress levels in people with coronavirus disease and healthy people.

Table 11. Independent t-test to assess stress levels in people with and without coronavirus

		Levene's test		**T test to check the equality of means**				
		Levene's test statistics	**Signifcance level**	**T test statistics**	**DOF**	**Significance level**	**Mean deviation**	**Standard error deviation**
percieved stress	Equality of variance	2.589	0.111	4.375	248	0.000	3.80	1.6431
	Inequality of variances			4.375	246.909	0.000	3.80	1.6431

Then, independent t-test to evaluate the equality of mean stress in the two groups of people with and without coronavirus disease was significant at the level of 0.05. As a result, the degree of stress in people with coronavirus is different from that of healthy ones. Stress levels are higher in people with coronavirus disease than normal people.

Table 12. Independent t-test to assess anxiety in people with and without coronavirus

		Levene's test		**T test to check the equality of means**				
		Levene's test statistics	**Signifcance level**	**T test statistics**	**DOF**	**Significance level**	**Mean deviation**	**Standard error deviation**
percieved stress	Equality of variance	0.000	0.206	-5.282	248	0.000	-7.48	2.3761
	Inequality of variances			-5.282	246.909	0.000	-7.48	2.3761

Then, independent t-test to evaluate the equality of the mean anxiety in the two groups of people with and without coronavirus disease was significant at the level of 0.05. As a result, the degree of anxiety in people with coronavirus disease is different from that of healthy ones. Anxiety is higher in people with coronavirus disease than in normal people.

Discussion and conclusion:

Critical conditions of the epidemic can cause positive and negative effects on the mind and society, which in some way affect the mental health of people in society. According to the new perspectives, health means a high level of physical, mental and social health, so that a deficiency in each lead to shortcomings in other dimensions and the influential factors in each case will have a significant effect on other dimensions. Therefore, it is necessary to study and explain the changes in mental health according to psychological and social factors.

The results showed that the social network significantly predicts stress and anxiety. The results of the present study are consistent with the research of Zhang and Feei-Ma (29), Chen et al. (30), Doost Mohammadi and Khojasteh (27) and Kalateh Sadati (36).

In times of crisis, the social and individual structures of life are disrupted. Disturbance of individual structures means a decrease in the power of individual control and a decrease in the predictability of the flow of life. For example, during home quarantine, a person's lifestyle is disrupted and as a result he is less able to predict and plan for his future. People feel that their control over the flow of life is reduced and this situation makes them feel insecure. Abraham Maslow considers security as one of the basic human needs and defines it as the power of predicting the future. This insecurity will cause anxiety. Anxiety is the most fundamental characteristic of crisis and the unpredictability of the future has the greatest share in creating it.

Cyberspace, like any other technology, with its many benefits to the development of societies, also has adverse consequences and effects, each person may be exposed to a variety of harms caused by cyberspace. Undoubtedly, social media play a very effective role in the development of specialized and public education. Although due to the impossibility of scientific supervision, many online contents have not yet reached an acceptable level of scientific credibility, but at the same time the process of using social media affected the people’s lifestyle. In a study conducted by Sood, the results showed that during the COVID-19 epidemic, incorrect information on social media, financial insecurity, family distance, loneliness and uncertainty of the disease were predictors of rapid increase in fear and anxiety among individuals (37). In a study conducted by Naeinian et al., it has been emphasized that useful internet strengthens youth and reduces their stress (24).

According to a study by Joseph-Shehu et al., Internet information has been shown to be useful, because it has made access to health information easily possible (38). Given the prevalence of COVID-19 and the resulting mortality, quoted by Alizadefard and Safarrian, Fischhof said “most research focuses on patients’ stress, but the fact is that during an epidemic like COVID-19, fear of disease and death, along with the disruption of daily activities, cause healthy people to become anxious about the disease. Under these circumstances, home quarantine also disrupts a person's

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Family and health

lifestyle and, as a result, he cannot predict and plan for his future (22). According to research conducted by Lima T. et al., COVID-19 pandemic creates potential gaps in mental health services in emergencies. According to this study, most health professionals working in specialized departments and hospitals do not receive any training to provide mental health services and anxiety and stress seem to be the result of collective quarantine (39). According to the Iranian Journal of Epidemiology, the outbreak of coronavirus in the world has caused the loss of many jobs around the world. This in itself will lead to a lot of anxiety and psychological burden in society. Lack of information about the novel coronavirus also increases the anxiety of a new infectious disease. Fear of the unknown reduces the perception of immunity in humans and has always been stressful for humans. Internet communication, especially social networks in cyberspace, has greatly increased the access and dissemination of knowledge (20). But despite all the positive features of the Internet, there are serious concerns about the use and effects of this technology on human health, and studies confirm this (22). This is because the platform still has the potential to spread false information or fake news, which adds to the anxiety caused by the unknown coronavirus disease. However, according to the results of the present study, as the use of the virtual world aims at providing useful scientific information rather than mere entertainment, the stress caused by coronavirus is reduced.

The results also showed that the stress level in people with coronavirus is different from that in healthy people and the stress level in people with coronavirus is higher than in healthy people. The results of the present study are consistent with the results of Corman et al. (19), Alizadeh Fard and Saffarinia (22) and Al-Rabiah et al. (40).

Sudden events that threaten public health, cause many changes in the moods and lives of different people. The psychological effects of epidemics have always been the focus of various researchers. The same psychological problems became apparent in the new epidemic that began in Wuhan, China in late 2019. In the present study, the results showed that the average stress level in people with coronavirus was higher than in healthy people. Similar to the present study, the majority of participants in Al-Rabiah et al.'s study also experienced mild stress and anxiety because fear of an epidemic infection is a common and understandable phenomenon that can affect anyone in any social class and gender (40). By explaining these results, we can say that anxiety and fear for one’s and his family health, stress, changes in sleep and nutrition patterns, impaired concentration, fear of worsening physical condition and chronic health, anxiety and restlessness and even depression during quarantine at home or in the hospital are common symptoms of infectious diseases, including COVID-19. People with coronavirus are concerned about the stigma of an infected patient and the rejection and distancing of family and others. To avoid stress and anxiety, we need to know that the coronavirus is like many other viruses.

The results also showed that the anxiety level in people with coronavirus is different from that of non-affected people and the stress level in people with coronavirus is higher than non-affected people. The results of the present study are consistent with the results of Corman et al. (19), Alizadeh Fard and Saffarinia (22) and Al-Rabiah et al. (40).

The unknown nature of COVID-19 and its resulting mortality, even among young people can be a trigger for anxiety in people or, conversely, fear of death in people can be associated with increased coronavirus anxiety. Coronaviruses, first identified in 1943, are a large family of viruses that infect a wide range of domestic animals and pets, as well as bats. Anxiety is a common symptom in patients with chronic respiratory disorders and can significantly reduce patients' quality of life. Almost all cases of anxiety assessment include physical cases that can overlap with the symptoms of chronic respiratory disease and side effects of medications (41). Anxiety about COVID-19 is common and seems to be more due to its unknown nature and cognitive ambiguity of the virus. Fear of the unknown reduces the perception of safety in humans. It has always been anxious for humans. The lack of scientific information also exacerbates this anxiety (42). At this time, people are looking for more information to relieve their anxiety. Anxiety can cause people to not be able to distinguish between right and wrong information, so they may be exposed to false news (43). Fear and anxiety can weaken the immune system and make them vulnerable to diseases such as coronavirus. As a result, people need to learn strategies to cope with anxiety. In the present study, there were some limitations as follows: In this study, an online questionnaire was used to provide background, as a result, some people may have refused to provide a real answer. This research has been done cross-sectionally. Because of this, it makes it difficult to draw conclusions about causality.

Limitations

The large number of questions in the questionnaires led to the prolongation of its implementation time, which has affected the accuracy of the participants' answers. The results of the present study can be generalized to quarantined people in District 3 of Khorramabad. If generalization to other cities is required, this should be done with caution and sufficient knowledge.

Research applications

It is also suggested to follow-up studies of this research that, if necessary, they use complementary methods of data collection, including interviews, in order to be more confident in the results. It is suggested that other possible sampling methods be used in future research. The effect of mediating variables such as metacognitive beliefs and emotion regulation and self-efficacy strategies as modulatory variables between social media and stress and anxiety should be investigated and the results should be compared with the results of the present study. Given the relationship between social media and anxiety, it is suggested that relevant authorities manage to counter coronavirus rumors by informing the public through the media. In this regard, the growth of collective rationality through raising public awareness is effective in reducing anxiety. Broadcasting executives and all those who work in the field of social networks should have well-codified programs with the correct transmission of news in the field of coronavirus, and in this way the rumor network can be confronted and public stress and anxiety can be reduced. While adhering to health protocols such as physical distance, mask use and personal hygiene, aware of the dangerous consequences of this virus, people change their lifestyle in accordance with the most effective

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Family and health

ways to deal with this virus. Social and formal media as well as internal networks have short-term, medium-term and long-term plans to facilitate changes in lifestyle, to re-socialize people and to create socializing conditions for different social groups.

Ethical considerations

The present study has the code of ethics IR.IAU.B.REC.1400.001 issued by the ethics committee of Islamic Azad University, Boroujerd Branch.

Conflict of interest

The authors declare that there is no conflict of interest.

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