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Original Article

Anxiety, Self-Compassion, Gender Differences and COVID-19: Predicting Self-Care Behaviors and Fear of COVID-19 Based on Anxiety and Self-Compassion with an Emphasis on Gender Differences

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Abstract

Objective: The outbreak of COVID-19 has different effects on people's psychological and social aspects. This study aimed to investigate the relationship between anxiety, self-compassion, and gender differences with self-care behaviors and fear of COVID-19 in Kermanshah.
Method: In the cross-sectional study, 403 people answered online questions on the Generalized Anxiety Disorder 7-Item (GAD-7) Scale, Self-Compassion Scale (SCS), Fear of COVID-19 Scale (FCV-19S), and a questionnaire focusing on COVID-19-related behavior. Pearson correlation coefficient and regression analysis were used for data analysis.
Results: There was a significant relationship between social distance and gender, and people who observed social distancing reported higher levels of fear of COVID-19 ($p < 0.001$). No significant relationship was found between handwashing behaviour and gender variables, marital status, and education ($p > 0.05$). There was a significant difference between those who answered yes to self-care behaviours related to washing and those who answered no in terms of variables of fear of COVID-19, the overall score of compassion, and subscales of compassion, including self-kindness and isolation ($p < 0.05$). In relation to fear of COVID-19, married status, anxiety, and common humanity had a positive relationship with fear of COVID-19. However, self-judgment was negatively related to fear of COVID-19 ($p < 0.05$).
Conclusion: According to the findings of the present study, men and people who are less afraid of COVID-19 are more likely not to observe self-care behaviors. Therefore, providing training about treatment protocols is necessary for these people. To reduce the fear of this disease in people with high levels of fear, psychologists, psychiatrists, and other medical staff can implement protocols to increase compassion.

Key words: *Anxiety; Coronavirus; Fear of COVID-19; Gender Differences; Self-Compassion; Self-Care Behaviors*

In early December 2019, Coronavirus (COVID-19) disease of unknown origin was identified in Wuhan, China, and has now spread worldwide (1). On January 30, 2020, the World Health Organization (WHO) stated that COVID-19 is an emergency that has caused international concern. One of the common recommendations in different countries is that people who show signs of COVID-19 should separate from others for 7-14 days, while people without symptoms Should practice social distancing and wash their hands regularly (1, 2, 3). The implementation of these health policies, despite the positive consequences, has caused adverse psychological effects (4). Fear of illness, fear of death, spreading false news and rumors, interfering in daily activities, restrictions on travel and transit restrictions reduced social status, jobs, financial problems, and dozens of other consequences (4).

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These conditions threaten the mental health of people in the community and lead to significant anxiety and worry (5).

Anxiety in the current situation is common due to this unknown disease and uncertainty about the future (1, 6). Also, people face chronic stress and ambiguity that goes beyond their control (7). In different countries, reports of anxiety, depression, and posttraumatic stress disorder have been reported among people in the community and health care workers (8-11). However, few studies have looked at how much of this anxiety and worry has been caused by Coronavirus fear and anxiety (12). Psychological studies of the Coronavirus have also shown women report more psychological consequences than men, such as anxiety and posttraumatic stress disorder (10, 11). Therefore, mental health professionals must pay attention to these differences and psychological challenges .

As a result of these psychological consequences, such as anxiety, and other outcomes such as job loss and unemployment, loneliness, decreased life expectancy, and lack of social support, people may blame themselves and others for not satisfying their own and their family's needs (1, 13-16). The COVID-19virus epidemic has also created challenges for leaders, government officials, and especially the medical staff (doctors and nurses) (7). In these challenging times, mental health professionals recommend psychological strategies, such as compassion for oneself and others (17-19). Compassion means sensitivity to the experience of suffering and is accompanied by a strong desire to relieve it (20). People treat themselves as an object of care and concern when faced with the experience of suffering (20). Components of self-compassion include self-kindness, self-judgment, mindfulness, overidentified, common humanity, isolation (20). Several meta-analyses have reported that self-compassion is associated with a decrease in psychological pathology and an increase in psychological well-being (21-24). A study on 67-90-year-olds also found that those in good physical health reported high psychological well-being, regardless of their level of self-compassion. However, for those with poor physical health, self-compassion was associated with greater psychological well-being (25). Gilbert and Iron believe that self-compassion benefits the threat system and activates its relaxation system (26). This finding suggests a protective role for compassion, which is of special importance in the current situation .

Despite the emphasis on social distance and personal hygiene and warnings about the COVID-19, little attention has paid to its psychological aspects, which can affect adherence to self-care behaviours. Therefore, paying attention to the psychological effects of the COVID-19, such as fear and anxiety, and to observe health protocols and social distancing is of high importance. It is also useful to examine gender differences and psychological mechanisms, such as self-compassion, which can have a variety of effects. In this regard, the present study aims to investigate the relationship between anxiety, self-compassion, and gender differences with self-care behaviors and fear of COVID-19.

Materials and Methods

Procedure

This was a cross-sectional study. The study population included people over the age of 18 who were exposed to COVID-19 in Kermanshah, Iran. The study sample was 403, which was calculated based on the sample size formula for regression studies (27). After obtaining the approval of the ethics committee of Kermanshah University of Medical Sciences, the questions were designed online. Then, the link of the research questionnaires on the social website shared through WhatsApp software. The inclusion criteria were (1) age > 18 years, (2) ability to read, and (3) no cognitive impairment. The exclusion criterion included not answering 3 or more questions. Between May 2 and May 5, 2020, a total of 796 people viewed the questions online and 403 answered the questions. Participants initially provided their informed consent before entering their demographic information .

Materials

Questionnaire on COVID-19-Related Behavior: Two questions were designed based on a study by Carvalho et al to measure COVID-19-related behaviors, one focusing on social distancing (Do you think it is necessary to avoid approaching people as much as possible until the COVID-19 situation is controlled?) and another on hand-washing behaviors (Do you think it is necessary to wash your hands and/or use alcohol gel as many times a day as possible until the COVID-19 situation is controlled?). Participants responded to the questions with “Yes” or “No” (28).

COVID-19 Fear Scale: This scale was developed by Kwasi Ahorsu et al based on a 5-point Likert scale to assess people's fear of the COVID-19. The answers include “strongly disagree,” “disagree,” “neither agree nor disagree,” “agree,” and “strongly agree”. The minimum score for each question is 1, the maximum is 5, and the total score is 7 to 35. A higher score indicates more fear of COVID-19. This scale shows the internal consistency (0.82) and the reliability of the open test (0.72). It also has concurrent validity (29).

Generalized Anxiety Disorder 7-Item Scale: This scale was developed to diagnose anxiety disorder and to measure the severity of clinical symptoms. Items scored from 0 to 3, and the scale ranged from 0 to 21. Cronbach's alpha coefficient and retest coefficient were measured at 0.92 and 0.83, respectively, within 2 weeks (30). The Cronbach's alpha of this scale in Iran has reported to be 0.87 (31). Therefore, GAD-7 is a valid and efficient tool for screening GAD and assessing its severity in clinical practice and research.

Self-Compassion Scale (SCS): Self-Compassion Scale includes 26 phrases that measure 3 dual components in 6

subscales. These subscales include self-kindness, self-judgment, mindfulness, common humanity, isolation, and over-identified items (20). SCS has a 5-point Likert scale. Cronbach's alpha coefficient of this scale (0.92) shows the high internal consistency of its first version; also, acceptable convergent validity, divergent validity, and test-retest reliability have been reported for this scale (20). In a Persian student sample, the 6-element structure of SCS has been confirmed, and the calculated Cronbach's alpha coefficient in this study was 0.86. The range of Cronbach's alpha coefficient for each of the subscales was 0.79 to 0.85 (32).

Statistical Analysis

Data were analyzed using SPSS software (version 25). Descriptive statistics, Pearson correlation coefficient, and linear regression was used for data analysis.

Results

The study was performed on 403 people with an average age of 31.08 ± 9.75 years. Of them, 120 (29.8%) were male, and 283 (70.2%) female. Also, 219 people (54.3%) were single, and 184 (54.7%) married. Moreover, 36 people (8.9%) were high school dropouts, 69 (17.1%) had a high school diploma, 181 (44.9%) held a bachelor's degree, 52 (21.1%) a master's degree, and 32 (7%) were doctoral students.

In response to a question about social distancing, "Do you think it is necessary to avoid approaching people as much as possible until the COVID-19 situation is controlled?" 357 people (88.6%) answered yes. Among those who answered yes to this question and those who answered no, there was a significant relationship with gender ($p < 0.05$), but no significant relationship was found between the type of response and the level of education and marital status ($p > 0.05$) (Table 1). Also, there was a significant difference between those who answered positively to this question and those who answered negatively to the fear of COVID-19 scale, so that the common fear of people who answered positively was high ($p < 0.001$).

In response to a question about handwashing, "Do you think it is necessary to wash your hands and/or use alcohol gel as many times a day as possible until the COVID-19 situation is controlled?" 376 people (93.3%) answered, yes. There was no significant relationship between those who answered yes in terms of gender, marital status, and education ($p > 0.05$). However, there was a significant difference between them on the FCV-19S, the overall score of compassion, and subscales of compassion, including kindness to self and isolation ($p < 0.05$).

In this study, the factors affecting fear of COVID-19 were also examined. The results of linear regression in a step-by-step style showed the variables included in the model were age, sex, education, marital status, anxiety, and compassion subscales. Only the variables of self-judgment, marital status, anxiety, and common humanity remained in the model. Together, these 4 variables explain the 20.8 variances of the dependent variable variance (Adjusted R Square = 20.8). Among these variables, self-judgment was negatively related to fear of COVID-19, but marital status, anxiety, and common humanity were positively associated with it (Table 2).

In the first step, the self-judgment variable was entered into the regression equation because of its highest correlation with the COVID-19 fear variable, with multiple correlation coefficient of 0.31 and adjusted R square of 0.09, and F of 44.68, this variance was significant in the first step ($P < 0.001$). In other words, self-judgment can explain or predict 9% of fear of the COVID-19. In the next step, the marital status variable was entered into the regression equation due to its highest correlation with fear of the virus. Marital status, along with self-judgment, accounted for 16% of the COVID-19 fear variable ($F = 38.55$, $P < 0.001$). In the next step, the anxiety variable was entered into the regression equation because of its highest correlation with fear of the virus. Anxiety combined with marital status and self-judgment accounted for 19% of the COVID-19 fear variable ($F = 33.16$, $P < 0.001$). Finally, in the last step, human commonalities were entered into the regression equation and together with marital status, self-judgment, and anxiety explained 20% of the variance of fear of the COVID-19. ($F = 27.08$, $P < 0.001$) (Table 2).

Discussion

The world is facing the COVID-19 pandemic, which has caused widespread fear among communities. Protocols, such as social distancing and handwashing recommended prevent the spread of the virus (33, 34). Therefore, this study was conducted to investigate the relationship between anxiety, self-compassion, and gender differences with self-care behaviors and fear of COVID-19. The findings of this study are consistent with those of other studies that have examined other psychological aspects of people with the disease (16, 35, 36).

About the fear of COVID-19, the variables of marital status, anxiety, and the component of common humanity positively correlated with the degree of fear of COVID-19. On the other hand, the component of self-judgment was negatively related to this fear. To explain the findings, it can be stated that in this time, people's worries naturally increase, and in the meantime, people are more concerned about the effects of quarantine on health and educational status of their family members (35, 37, 38). Also, because this disease has spread worldwide and people are exposed to a common virus and have not yet been able to find a vaccine, it has caused a general fear of the disease. People showed more negative emotions (anxiety, depression, and anger) and less positive emotions after COVID-19 was announced as a pandemic by the World Health Organization (WHO) (1, 39-42). Therefore, fear and anxiety play a functional role in this situation. These

findings are consistent with those of previous studies showing that epidemics, such as SARS and COVID-19) have caused negative emotional responses such as fear (43, 44). The findings are also in line with Taylor's study, which found a large number of people tend to experience significant clinical fear and anxiety when an infectious disease spreads (45). On the other hand, the component of self-judgment was negatively related with the level of fear of COVID-19. People who blame themselves too much will ignore their needs and will not be afraid of epidemics. This finding is consistent with the negative aspects of self-compassion that cause a person to be vulnerable to mental health problems (23). Therefore, due to the importance of self-compassion in the current situation, self-compassion program training will be useful for improving resilience and coping strategies and reducing anxiety and stress in people who face stressful situations (46).

Regarding self-care behaviors, the findings showed a significant difference between gender and fear of COVID-19 about adherence to social distancing. Women are more likely than men to observe the social distancing, which can be due to a variety of reasons, such as women's greater responsibility or more significant concern about the disease and its transmission to family members (39, 47). Also, people who were more afraid of the disease were more likely to observe social distancing (1).

Concerning handwashing behaviors, the findings showed a significant difference between those who answered yes and no in terms of fear of COVID-19 variable, overall compassion score, and compassion subscales, including self-kindness and isolation. The findings showed people who were more afraid of the disease and those who were more compassionate and kind were more likely to wash their hands regularly and use alcohol gel (1, 23, 48, 49). Also, regarding the variable of isolation, people who answered yes distinguished between themselves and others (23). These people observe these behaviours regardless of others' actions.

Table 1. Comparison of Demographic Characteristics and Pervasive Anxiety and Self-Compassion Subscales between Positive and Negative Answers to Questions about Social Distancing and Handwashing

	Social Distancing			**p-value**	**Handwashing Behaviors**			**p-value**
	Yes(n=357) Frequency (%)	No(n=46) Frequency (%)	χ^2		Yes(n=376) Frequency (%)	No(n=27) Frequency (%)	χ^2	p-value
Sex								
Male	100(83.3%)	20(16.7%)	4.66	0.03	113(94.2)	7(5.8)	0.20	0.65
Female	257(90.8%)	26(9.2%)			263(92.9)	20(7.1)		
Education								
High school incomplete	32(88.9%)	4(11.1%)	1.46	0.83	33(91.7)	3(8.3)	6.37	0.17
High school complete	60(87%)	9(13%)						
University—Bachelors	158(87.3%)	23(12.7%)			171(94.5)	10(5.5)		
University—Masters	78(91.8%)	7(8.2)			82(96.5)	3(3.5)		
University—Doctorate	29(90.6)	3(9.4)			30(93.8)	2(6.3)		
marital status								
Single	189(86.3)	30(13.7)	2.47	0.12	203(92.7)	16(7.3)	0.28	0.59
Married	168(91.3)	16(8.7)			173(94)	11(6)		
	M±SD	**M±SD**	**T*(df)**		**M±SD**	**M±SD**	**T(df)**	
Age	31.35±10.01	28.93±7.24	1.58(401)	0.11	31.33±9.83	27.52±7.93	1.96(401)	0.05
Fear	16.68±6.23	12.34±4.57	4.56(397)	P<0.001	16.47±6.21	12.14±4.72	3.54(397)	P<0.001
Anxiety	6.09±5.41	6.26±5.53	0.19(399)	0.84	5.98±5.32	7.96±6.47	1.84(399)	0.06
Self-compassion total	78.79±14.87	77.58±15.82	0.51(401)	0.60	79.09±14.72	72.51±17.14	2.21(401)	0.02
			F**(df=1)				F(df=1)	
self-kindness	16.99±4.31	16.04±4.54	2.12	0.14	17.01±4.28	15.07±4.88	5.33	0.02
self-judgment	12.96±3.53	12.97±3.21	0.001	0.98	13.01±3.47	12.29±3.81	1.15	0.28
common humanity	14.04±2.92	13.15±3.33	3.76	0.053	13.99±2.93	13.22±3.57	1.74	0.18
Isolation	10.96±3.49	11.80±3.74	2.22	0.13	11.15±3.46	9.74±4.18	4.29	0.039
mindfulness	13.93±2.72	13.23±2.77	2.62	0.10	13.88±2.72	13.37±2.84	0.90	0.34
over-identified	9.93±3.57	10.36±3.76	0.54	0.46	10.06±3.56	8.81±3.80	3.22	0.07

*Independent Sample T- Test, ** Multivariable Analyze of Variance

Table 2. Results of the Linear Regression Analysis for Fear of COVID-19

	Model	R	Adjusted R Square	f	p-value	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
						B	Std. Error	Beta		
1	self-judgment	0.31	0.09	44.68	P<0.001	-0.575	0.086	-0.318	-6.684	P<0.001
2	self-judgment	0.40	0.16	38.55	P<0.001	-0.568	0.083	-0.315	-6.835	P<0.001
	Marital status					3.103	0.574	0.249	5.407	P<0.001
3	self-judgment	0.44	0.19	33.16	P<0.001	-0.419	0.088	-0.232	-4.759	P<0.001
	Marital status					2.997	0.562	0.240	5.333	P<0.001
	Anxiety					0.244	0.056	0.212	4.347	P<0.001
4	self-judgment	0.46	0.20	27.08	P<0.001	-0.424	0.087	-0.235	-4.845	P<0.001
	Marital status					2.823	0.561	0.226	5.030	P<0.001
	Anxiety					0.268	0.056	0.234	4.761	P<0.001
	common humanity					0.259	0.096	0.123	2.693	0.007

Limitation

The study had some limitations. First, the study was based on self-report questionnaires and a rapid review via WhatsApp. Second, many people who did not have access to virtual networks such as WhatsApp could not participate in the study. Also, the dynamic nature and variability of research variables in the epidemic was an essential limitation of this study.

Conclusion

Eventually, the findings of this study can be effective in providing accurate interventions, such as increasing self-compassion, to reduce anxiety and fear of COVID-19 and other possible epidemics in the future.

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Conflict of Interest

Authors have no conflict of interests.

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