



## Research Paper

# Investigating the Relationship between Emotion Regulation Strategies and Anxiety Caused by COVID-19 in Employees of Rehabilitation Centers



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## ABSTRACT

**Background and Objectives:** In the current situation, it is essential to determine the level of anxiety in medical and non-medical employees due to the pandemic. Therefore, this research aims to assess the relationship between corona anxiety, emotion regulation strategies, and stress tolerance among the staff of rehabilitation centers in Tehran Province, Iran.

**Methods:** This study was descriptive, cross-sectional, and correlational. The statistical population of the present study included the entire staff of rehabilitation centers served by the Welfare Organization of Tehran Province in 2022. Using simple random sampling, 10 rehabilitation centers were selected as study centers. Subsequently, 200 employees of these centers were selected and tested using Morgan's sampling table (the male age of the participants was 31.5 years). The data collection instruments included the corona disease anxiety scale, the emotional distress tolerance questionnaire (2005), and the March emotional self-regulation strategies scale (2007). Data were analyzed by SPSS software, version 26.

**Results:** The results showed that the mean of corona anxiety was 18.94 out of a maximum of 54 and the proportion of psychological symptoms of corona anxiety was higher than physical symptoms. The highest score from the participant's point of view from dimensions of distress tolerance was assigned to the subjective assessment of distress. The mean score for distress tolerance was 52.68 out of a maximum of 75 points and the mean score for employees' emotion regulation strategies was 134.37 points, which shows that the use of emotional self-regulation strategies is strong. The results of the current research showed that corona anxiety decreases significantly by increasing distress tolerance, absorption of negative emotions, regulation of efforts to relieve distress and distress tolerance, and corona anxiety also decreases significantly. Also, with the increase in the level of emotion regulation strategies, the anxiety of corona decreases significantly. Distress tolerance showed a negative correlation with corona anxiety, and with the improvement of distress tolerance, corona anxiety decreased ( $P=0.014$ ).

**Conclusion:** Based on the results, increasing and improving distress tolerance and emotional regulation strategies significantly reduced corona anxiety. Also, the experiences and work of experts with more work experience alongside the younger and less experienced forces and their cooperation prepared the ground to reduce the effects of corona anxiety, as well as to improve the level of stress tolerance and emotion regulation strategies of employees.

**Keywords:** Emotion regulation strategies, Corona anxiety, Distress tolerance, Social worker, Rehabilitation

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↑ *What is “already known” in this topic:*

*The strategy used for emotional regulation affects the level of anxiety. Considering the psychological problems caused by COVID-19, to reduce the anxiety of medical staff, the use of proper emotion regulation strategies has become more important.*

→ *What this article adds:*

*By improving distress tolerance and emotional regulation strategies, the COVID-19-related anxiety of medical staff in rehabilitation centers can be reduced. Using the experts with more work experience alongside the younger and less experienced staff can reduce the complications of COVID-19-related anxiety.*

## C Introduction

COVID-19 causes respiratory infections and the symptoms vary from mild to severe. The outbreak of the coronavirus began in December 2019 in Wuhan City, China [1]. Patients with chronic respiratory disorders experience a lot of anxiety throughout their lives, which can affect their quality of life. In the meantime, most studies that have evaluated anxiety have mostly been physical evaluations. [2]. Due to the pandemic situation, the [World Health Organization \(WHO\)](#) declared the current situation an emergency on February 4, 2019, and announced to the countries to refrain from the transmission as much as possible in compliance with health conditions and protocols [3].

Fear and stress by stimulating sympathetic nerves throughout the body are beneficial in the short term for the body to deal with stressful factors [4], but if this fear, stress, and the body's response means that the increase in cortisol level and sympathetic stimulation remain in the long term [5]. The wider the spread of the disease, the wider its social effects.

Coronavirus is associated with anxiety. Anxiety can be considered an adaptive and normal response to a threat that prepares the organism for flight or fights. The way of emotional regulation of people affects their level of anxiety [6]. Emotion regulation is a special form of emotional self-regulation through which people consciously or unconsciously regulate their emotions to properly respond to environmental demands [6].

After the pandemic, emotion regulation strategies as a crucial cognitive process should be paid more attention; because it is closely related to physical and mental health. On the other hand, the personnel of rehabilita-

tion centers are exposed to constant stress and anxiety due to continuous communication with people who are physically impaired and disabled. Considering the psychological problems caused by coronaviruses, to reduce the anxiety level in the medical staff, the use of emotion regulation strategies to apply them in their personal lives has been more and more noticed by managers and officials of the [Ministry of Health and Medical Education](#) in the current situation. Considering the importance of maintaining the healing force and keeping this group healthy as the people who protect the health and well-being of other members of the society, it is necessary to measure the level of anxiety in them so that based on the results obtained, steps can be taken to maintain and improve their mental health. Therefore, this research was conducted to assess the relationship between the anxiety of COVID-19 and emotion regulation strategies and distress tolerance in the employees of rehabilitation centers in Tehran Province.

## Materials and Methods

This study was descriptive cross-sectional, the participants of the present study included all personnel of rehabilitation centers (physical therapists, occupational therapists, speech therapists, audiologists, optometrists, orthotic and prosthetics, social workers, and psychologists) supported by the [Welfare Organization of Tehran Province](#) in 2022. Then the list of rehabilitation centers in Tehran Province was prepared and an integer number was assigned to each of the centers, then 10 rehabilitation centers were selected as study centers using a simple random sampling method and then 200 employees of these centers were selected according to the Morgan's table sampling, which was chosen as the study sample and tested. It should be mentioned that the desired conditions for the employees of the target population are to have at least two years of work experience as rehabilitation ther-

apists in medical centers, not have any physical illness or mental disorder, absence of any type of limiting factor, such as the presence of disability or drug addiction in the family, interest to participate in research and have at least a bachelor's degree in one of the fields of rehabilitation sciences. Since the coronavirus epidemic had decreased during the data collection, the therapists were asked to complete the questionnaires considering the conditions of the COVID-19 era.

### Assessment tools

Corona disease anxiety scale: Alipour et al. created corona disease anxiety scale questionnaire during the COVID-19 pandemic. This scale has 18 items that are scored based on a 4-point Likert scale (never=0 and always=3). The highest and lowest scores are between 0 and 54. High scores indicate a higher level of anxiety. Its reliability was confirmed with Cronbach's  $\alpha$  value of 0.919. Also, its validity has been confirmed using exploratory and confirmatory factor analysis [7].

Emotional distress tolerance scale (DTS): Simmons and Gaher developed an emotional distress tolerance scale (DTS). This scale has 15 items, and 4 subscales called tolerance (items 1, 3, and 5), absorption (items 2, 4, and 15), evaluation (6, 7, 9, 10, 11, and 12), and adjustment (item 8, 13, and 14). This questionnaire is scored on a five-point scale from (1- completely agree 5- completely disagree) and each of these options is 1, 2, and 3 respectively. They have 4 and 5 points. Statement 6 is scored in reverse. The  $\alpha$  coefficients for these subscales were 0.72, 0.82, 0.78, and 0.70 respectively and for the whole scale, it was 0.82. It was also found that this scale has good criterion validity and initial convergence. Alavi et al. translated this scale into Farsi and validated it in the Iranian population. The reliability of the total scale was 0.71 and the subscales ranged from 0.42 to 0.58 [8].

March emotional self-regulation strategies scale: Larsen and Priez Mike developed the March emotional self-regulation strategies scale. This questionnaire has 44 cognitive questions (questions 2, 3, 9, 10, 18, 19, 26 and 32), behavioral (questions 4, 7, 11, 12, 13, 14, 16, 22, 35 and 36), change of situation (questions 1, 6, 17, 21, 23 and 31), change of emotion (5, 8, 20, 28 and 42), reduction of negative mood (questions 15, 29, 30, 34, 38, 39 and 44) and increasing positive mood (questions 24, 25, 27, 33, 37, 40, 41 and 43). The March emotional self-regulation test is a type of closed-ended test with a seven-point Likert scale, which is formed from never to always and scored from 0 (never) to 6 (always). The lower limit, average limit, and upper limit of scores

are zero, 132, and 264, respectively. A score between 0 and 88 indicates the use of weak emotional self-regulation strategies. A score between 88 and 132 indicates the use of mean emotional self-regulation strategies. A score higher than 132 indicates the use of strong emotional self-regulation strategies. Salehi Morkani reported the reliability of this questionnaire to be 75% using the method of halving and 80% using Cronbach's  $\alpha$ . He also reported the validity of the emotional self-regulation strategies scale for each of the sub-components from 63% to 70%, which indicates the high validity of this scale in Iranian culture [9].

After extracting the data, the data were analyzed by SPSS software, version 26. At the descriptive level, indicators, such as Mean $\pm$ SD and median were used, and in the analytical statistics section, Pearson's correlation coefficient test was used to check the relationship between research variables. A significance level of 0.05 was considered.

## Results

### Descriptive

In this research, 200 experts from Tehran rehabilitation centers participated in completing the questionnaires, of which 116 people (58%) were women and 84(42%) were men. The mean age of the participants was 31.5 years (Mean $\pm$ SD: 31.5 $\pm$ 3.84). Of most people participating in the research, 131 people (65.6%) had a bachelor's degree, 66 people (33%) had a master's degree and only 3 of them (1.5%) had a PhD.

In classifying the work experience of the studied experts, most of them (49.5%) had less than 5 years of work experience, 72 people (36%) had 10-5 years of work experience, 9.5% had 10 to 15 years of work experience, and 10 people (5%) had more than 15 years of work experience.

The mean score of corona anxiety was 18.94 out of the maximum of 54, and the minimum and maximum of this anxiety were 3 and 46, respectively, and the number of mental symptoms of corona anxiety was more than the physical symptoms. Among the dimensions of distress tolerance, the highest value was assigned to the subjective evaluation of distress with a Mean $\pm$ SD of 21.72 $\pm$ 2.31, followed by emotional tolerance of distress. The Mean $\pm$ SD of distress tolerance was 52.68 out of 75 points and 10.03, respectively. The Mean $\pm$ SD of employee emotion regulation were 134.37 and 33.01, respectively, with a minimum score of 72 and a maximum

**Table 1.** Quantitative characteristics of dimensions of corona anxiety, distress tolerance and emotion regulation strategies in participating employees

Variables	Dimensions	Mean±SD	%	Minimum	Maximum
Corona anxiety	Psychiatric symptoms	69.13±5.81	50.7	3	25
	Physical symptoms	5.42±5.01	19	0	21
	Corona anxiety	18.94±9.97	34.5	3	46
Tolerate distress	Emotional tolerance of distress	10.73±3.73	71.5	3	15
	Attraction by negative emotions	10.44±3.74	69.6	3	15
	Subjective assessment of distress	21.72±2.31	72.4	15	27
	Adjust efforts to relieve distress	9.79±3.25	65.3	4	15
	General distress tolerance	52.68±10.03	70.2	33	68
Emotion regulation strategies	Cognitive	25.82±9.16	53.8	10	45
	Behavioral	31.15±4.86	51.9	16	41
	Changing position	20.16±3.03	56	13	29
	Change of emotion	14.04±5.79	46.8	4	24
	Reducing negative mood	16.95±8.75	40.4	2	36
	Increasing positive mood	26.24±11.29	54.7	4	45
	General excitement setting	134.37±33.01	50.9	72	203

score of 203. Considering that the overall excitement score of the participants was more than 132, the use of emotional self-regulation strategies is strong. Among the dimensions of emotion regulation strategies, the strongest and weakest employee strategies are dedicated to changing the situation and reducing negative mood, respectively (Table 1).

The results of Kolmogorov-Smirnov tests showed that the data collected in this research was normally distributed and the significance level was greater than 0.05, therefore parametric tests were used to perform the analysis. Also, to check and confirm the validity of the normality findings, skewness and kurtosis were used, the data were between -2 and +2 and it showed the normal distribution of the data. The relationship between distress tolerance components and emotion regulation strategies with the variables and dimensions of corona anxiety in experts of rehabilitation centers in Tehran Province was analyzed using the Pearson correlation test. The results showed that psychological symptoms, physical symptoms, and corona anxiety have a significant inverse relationship and correlation with all dimensions of distress tolerance

except mental assessment of distress and all dimensions of emotion regulation strategies except behavioral dimension ( $P=0.000$ ) and with increasing emotional tolerance of distress, absorption of negative emotions, regulation of efforts to relieve distress and tolerance of distress, corona anxiety is significantly reduced (Table 2).

The mean dimensions and components of corona anxiety, distress tolerance, and emotion regulation strategies according to the gender of the experts were compared using an independent t student test, and based on the results, a statistically significant difference was observed in corona anxiety according to gender, so that corona anxiety and its symptoms were significantly higher in female experts of rehabilitation centers in Tehran Province ( $P=0.000$ ). In distress tolerance, the components of emotional distress tolerance, absorption by negative emotions, and general distress tolerance were significantly higher in male experts ( $P=0.426$ ); however, in the mental assessment of distress ( $P=0.347$ ) and regulation of efforts to relieve, no significant difference was found in distress. In emotion regulation strategies, female experts scored higher in cognitive components and affect change

**Table 2.** Analyzing the relationship between corona anxiety and distress tolerance components and emotion regulation strategies in participating employees

Variables	Mental Symptoms		Physical Symptoms		Corona Anxiety	
	Correlation Coefficient	P	Correlation Coefficient	P	Correlation Coefficient	P
Emotional tolerance of distress	-0.668**	0.000	-0.635**	0.000	-0.708*	0.000
Attraction by negative emotions	-0.663**	0.000	-0.582**	0.000	-0.662**	0.000
Subjective assessment of distress	0.008 <sup>ns</sup>	0.911	0.035 <sup>ns</sup>	0.620	0.22	0.753
Adjust efforts to relieve distress	-0.745**	0.000	-0.630**	0.000	-0.751**	0.000
General distress tolerance	-0.742**	0.000	-0.649**	0.000	-0.748**	0.000
Cognitive	-0.788**	0.000	-0.663**	0.000	-0.792**	0.000
Behavioral	-0.034 <sup>ns</sup>	0.636	-0.041 <sup>ns</sup>	0.567	-0.040 <sup>ns</sup>	0.573
Changing Position	-0.346**	0.000	-0.333**	0.000	-0.369**	0.000
Change of emotion	-0.767**	0.000	-0.660**	0.000	-0.799**	0.000
Reducing negative mood	-0.812**	0.000	-0.653**	0.000	-0.802**	0.000
Increasing positive mood	-0.782**	0.000	-0.661**	0.000	-0.788**	0.000
General excitement setting	-0.845**	0.000	-0.700**	0.000	-0.844**	0.000

<sup>ns</sup>No significant difference, \*Significance at the 5% level, \*\*Significance at the 1% level.

( $P=0.000$ ); however, the decrease in negative mood and increase in positive mood were significantly higher for men. In behavioral components ( $P=0.400$ ) and change of position ( $P=0.324$ ), no significant statistical difference was observed according to gender. No statistically significant difference was observed in the emotion regulation strategy among male and female experts of Tehran rehabilitation centers ( $P=0.278$ ) (Table 3).

The relationship between corona anxieties, distress tolerance, and emotion regulation strategies with the age of the participants in the research was analyzed using the Pearson correlation test. The results showed a significant inverse relationship between age and corona anxiety ( $P<0.05$ ), so that as the age of experts increased, corona anxiety decreased significantly. No relationship was found between the age and the dimensions of absorption by negative emotions ( $P=0.241$ ) and mental evaluation of distress ( $P=0.412$ ), but a significant direct relationship was found between the components of emotional tolerance of distress ( $P=0.027$ ) and adjustment efforts to relieve distress ( $P=0.000$ ) with the age of experts in Tehran rehabilitation centers. Cognitive dimensions, change of emotion, and increase in positive mood from emotion regulation strategies had a significant relationship with the age of the studied subjects and showed a significant

increase with the age of the experts ( $P<0.05$ ); however, a change in position was observed between the age of the participants in the research and the behavioral dimensions. No significant relationship was observed with the reduction of negative mood ( $P<0.05$ ).

The mean dimensions and components of corona anxiety, distress tolerance, and emotion regulation strategies according to the level of education of the experts were compared using a one-way analysis of variance and based on the results of this study, no statistically significant difference was observed in any of the studied components according to education level ( $P<0.05$ ).

Based on the results of this research and comparing the mean dimensions and components of corona anxiety, distress tolerance, and emotion regulation strategies according to the work experience of the experts, a significant statistical difference was observed in the corona anxiety and its components according to the work experience of the experts, and with the increase of the work experience, the corona anxiety significantly decreased ( $P<0.05$ ). Absorption by negative emotions ( $P=0.278$ ) and mental evaluation of distress ( $P=0.185$ ) of experts with different work experience had no statistically significant difference; however, a significant difference was observed in



**Table 3.** Comparing the mean dimensions and components of corona anxiety, distress tolerance and emotion regulation strategies according to experts' gender

Dimensions	Mean±SD		t	P
	Male	Female		
Psychiatric symptoms	11±4.88	15.65±5.67	-6.056**	0.000
Physical symptoms	3.24±3.66	6.69±5.36	-5.421**	0.000
Corona anxiety	14.24±7.26	22.34±10.31	-6.254**	000.0
Emotional tolerance of distress	12.03±2.26	9.78±4.28	-4.816**	000.0
Attraction by negative emotions	11.76±2.54	9.48±4.16	-4.793**	000.0
Subjective assessment of distress	21.57±2.42	21.83±2.24	-0.798 <sup>ns</sup>	0.426
Adjust efforts to relieve distress	10.11±2.51	9.89±3.33	-0.852 <sup>ns</sup>	0.347
General distress tolerance	55.48±7.06	50.96±10.90	4.281**	0.000
Cognitive	22.90±9.27	29.87±7.32	5.983**	000.0
Behavioral	30.81±4.47	31.40±5.12	-0.843 <sup>ns</sup>	0.400
Changing Position	20.52±3.06	20.01±2.91	-0.901 <sup>ns</sup>	0.324
Change of emotion	12.46±5.83	16.25±4.90	5.109**	0.000
Reducing negative mood	18.25±7.50	16.81±8.35	3.311**	000.0
Increasing positive mood	30.89±7.17	22.87±12.49	5.733**	0.000
General excitement setting	136.24±25.98	136.81±33.03	0.938 <sup>ns</sup>	0.287

<sup>ns</sup>No significant difference, \*\*Significance at the 1% level.

emotional tolerance of distress, regulation of efforts to relieve distress and tolerance of total distress according to the work experience of the experts ( $P=0.000$ ), so that the distress tolerance score in these components was the highest in people with more than 15 years of work experience and the lowest mean value in people with less than 5 years of work experience. In all dimensions of emotion regulation strategies, except behavioral dimensions ( $P=0.682$ ) and change of position ( $P=0.054$ ), a significant difference was observed according to the work experience of the participants in the research ( $P<0.05$ ) and people with more work experience had a higher mean value in emotion regulation strategies (Table 4).

## Discussion

In this study, 200 experts from Tehran rehabilitation centers participated in the research, 58% were women.

According to the results, the mean of corona anxiety was 18.94 out of a maximum of 54 and the number of mental symptoms of corona anxiety was more than physical symptoms. The highest score from the participant's point of view of distress tolerance was assigned to the mental assessment of distress and then emotional tolerance of distress. The mean distress tolerance score was 52.68 out of the maximum score of 75 and the mean score of emotional regulation strategies of employees was 134.37, which showed that the use of emotional self-regulation strategies is strong. Among the dimensions of emotion regulation strategies, the strongest and weakest strategies of employees are dedicated to changing the situation and reducing negative moods, respectively.

As a result of this study, by increasing the emotional tolerance of distress, absorption of negative emotions, regulation of efforts to relieve distress, and tolerance

**Table 4.** Comparing the mean dimensions and components of corona anxiety, distress tolerance and emotion regulation strategies according to experts' work experience

Dimensions	Mean±SD				F	P
	<5 y	5-10 y	10-15 y	>15		
Psychiatric symptoms	12.57±4.67 <sup>a</sup>	11.95±4.96 <sup>a</sup>	9.89±6.76 <sup>b</sup>	7.30±4.11 <sup>c</sup>	9.916	0.000
Physical symptoms	5.04±5.18 <sup>a</sup>	4.43±4.60 <sup>a</sup>	3.8957±4.61 <sup>b</sup>	2.10±3.84 <sup>b</sup>	4.380	0.019
Corona anxiety	17.61±7.93 <sup>a</sup>	16.37±7.68 <sup>a</sup>	13.64±9.80 <sup>b</sup>	9.40±7.48 <sup>b</sup>	12.097	0.000
Emotional tolerance of distress	9.98±3.74 <sup>b</sup>	10.66±3.51 <sup>b</sup>	13.04±3.60 <sup>a</sup>	14.20±1.23 <sup>a</sup>	7.299	0.000
Attraction by negative emotions	11.20±3.86 <sup>a</sup>	11.27±3.52 <sup>a</sup>	12.0±2.21 <sup>a</sup>	11.00±3.68 <sup>a</sup>	1.915 <sup>ns</sup>	0.278
Subjective assessment of distress	21.52±2.49 <sup>a</sup>	21.65±2.34 <sup>a</sup>	22.60±1.26 <sup>a</sup>	22.58±1.17 <sup>a</sup>	1.623 <sup>ns</sup>	0.185
Adjust efforts to relieve distress	9.02±3.05 <sup>b</sup>	9.26±2.84 <sup>b</sup>	12±3.63 <sup>a</sup>	14.40±0.96 <sup>a</sup>	13.826	0.000
General distress tolerance	51.72±9.53 <sup>b</sup>	52.84±9.23 <sup>b</sup>	59.71±10.57 <sup>a</sup>	62.18±5.19 <sup>a</sup>	10.131	0.000
Cognitive	28.36±6.07 <sup>b</sup>	27.90±6.92 <sup>b</sup>	31.31±9.46 <sup>a</sup>	35.70±3.94 <sup>a</sup>	11.412	0.000
Behavioral	31.19±5.09 <sup>a</sup>	32.16±3.54 <sup>a</sup>	30.92±4.84 <sup>a</sup>	32.20±4.18 <sup>a</sup>	0.502 <sup>ns</sup>	0.682
Changing position	20.60±3.02 <sup>a</sup>	20.42±3.31 <sup>a</sup>	21.21±1.99 <sup>a</sup>	20.80±0.63 <sup>a</sup>	2.041 <sup>ns</sup>	0.054
Change of emotion	14.47±4.88 <sup>b</sup>	15.64±5.36 <sup>b</sup>	18.21±6.53 <sup>a</sup>	19.60±2.01 <sup>a</sup>	8.211	0.000
Reducing negative mood	18.05±7.14 <sup>b</sup>	23.21±7.64 <sup>a</sup>	21.87±10.13 <sup>a</sup>	23.80±5.61 <sup>a</sup>	7.314	0.000
Increasing positive mood	25.14±10.37 <sup>d</sup>	27.67±10.13 <sup>c</sup>	31.37±12.11 <sup>b</sup>	36.60±5.89 <sup>a</sup>	11.577	0.000
General excitement setting	137.81±24.52 <sup>c</sup>	148±25.99 <sup>b</sup>	155.25±37.12 <sup>b</sup>	168.7±21.01 <sup>a</sup>	14.145	0.000

<sup>a, b, c, d</sup>Statistically significant differences between the classes and classes of work experience studied in each variable, <sup>ns</sup>Non significant.

of distress, the corona anxiety significantly decreases. Also, by increasing the level of emotion regulation strategies, such as cognitive dimensions, change of situation, change of emotion, reduction of negative and positive mood, and emotion regulation, corona anxiety decreases significantly. Compared to other variables, the emotion regulation strategy has had a greater effect in predicting corona anxiety.

In a study, Domaradzka and Fajkowska concluded that positive strategies had a negative relationship with anxiety and negative strategies of cognitive regulation of emotion had a positive relationship with anxiety [10]. Azizi-Aram and Beshrpour showed that emotion regulation plays an effective role in predicting corona anxiety [11]. Ezazi Bojnordi et al. showed that positive strategies for cognitive emotion regulation had a negative and significant relationship with corona anxiety in diabetic patients [12]. The results of Maleki's research on Sanandj's elderly were consistent with our result [13].

Also, consistent with the confirmation of the results of our study, the study of Badan Firouz et al. has pointed out the significant relationship between emotion regulation and students' anxiety [14]. The use of incompatible strategies makes a person prone to anxiety, and as a result, instead of reacting properly to stressful events, such as corona anxiety, he reacts to them with confusion and anxiety. Regarding the inability to predict coronavirus anxiety based on other cognitive emotion regulation strategies, the heterogeneity of the research sample and the wide age range of the participants in the research, and the variety of strategies used in different age groups have achieved a result.

With the improvement of distress tolerance, corona anxiety decreases. The results are consistent with the studies of Ghasemi et al. [15] and Alizadeh and Mansouri [16]. In this regard, Moghbeli-Hanzaii et al. showed that anxiety can be predicted by the distress tolerance variable [17]. Omid and Zanjani showed in their

research that health anxiety can be predicted by the two variables of distress tolerance and experience avoidance [18]. Intolerance of distress strengthens avoidance and escape behaviors in dealing with emotions and physical symptoms in people with health anxiety [19]. In the research of Haver et al., the moderating role of emotion regulation regarding corona anxiety and mental distress is mentioned [20]. It can be said that people with low distress tolerance engage in behavioral disorders in a wrong attempt to deal with their negative emotions. It seems that the low tolerance of these people forces them to find an immediate way to get rid of their emotions. The role of distress tolerance has been clarified in eating disorders, substance abuse disorders, post-traumatic stress disorder, anxiety disorders, obsessive-compulsive disorders, depression, etc. [21].

According to the results, corona anxiety and its symptoms were significantly higher in female experts of rehabilitation centers in Tehran Province. The components of emotional tolerance of distress, absorption by negative emotions, and tolerance of general distress were significantly higher in male experts. Female experts scored higher in cognitive components and emotional change, but the decrease in negative mood and increase in positive mood were significantly higher for men. Lai et al. reported more corona anxiety and distress in female nurses and medical staff compared to men in Wuhan City, China during the COVID-19 pandemic [22], which is consistent with the results of our study. In the studies of Huang et al., Shrestha et al., and Wang et al., the prevalence of corona anxiety in women in hospitals and patient care centers was significantly higher than in male employees [23-25]. Also, in the research of Ghasemi et al., young Iranian women experience more anxiety about corona than their male counterparts [15], which is consistent with the results of the present study. In Karimi-Zarchi's research, the anxiety and psychological distress of female medical staff in Yazd hospitals during the COVID-19 epidemic was significantly higher compared to male staff [21], which is consistent with the results of the present study. In the research of Ariapour and Amiri Manesh, the anxiety of female nurses was significantly higher than males [26], which is consistent with the results of our study. Women are more affected by the psychological pressure of risking corona disease and fatigue or other factors, and the reason for this can be the crucial and influential role of women in the family, also women's society is more vulnerable to disorders due to psychological biological factors in the form of stress, anxiety, and depression.

Corona anxiety, distress tolerance, and emotion regulation strategies did not show a significant relationship with the level of education of Tehran rehabilitation center experts. In the research of Ariapour and Amiri Manesh, the anxiety of nurses did not show a significant difference according to the level of education [26], which is consistent with the results of our study. In the study of Shrestha et al. on the residents of Nepal, the anxiety about COVID-19 was lower in people with lower education [24], which is inconsistent with the results of our study, and this difference is probably due to the difference in educational levels and the type of communities, so that in the current study, at least, a bachelor's degree is considered as the basis for the respondents' participation.

Based on the results, as the age of the experts increased, the coronal anxiety decreased significantly. Also, with increasing age, distress tolerance and emotion regulation strategies showed a significant increase. Also, with the increase in the work experience of Tehran rehabilitation center experts, the corona anxiety decreased significantly. Emotional tolerance of distress, regulation of efforts to relieve distress, and distress tolerance increased significantly with increasing work experience. Also, emotion regulation strategies, apart from behavioral dimensions and change of position of people with more work experience, increased significantly. Younger age and experience, which results in less work experience and presence in less critical situations, is effective in the occurrence of psychological disorders in such a way that people at younger ages are more involved with psychological distress because they have to do things, which require spending more energy. Also, special economic conditions at a younger age and lack of stability in their job status at a younger age make them more vulnerable in situations of psychological symptoms, so they need more support and attention.

When regulating emotions, people try to influence the way they experience and express their emotions in a way that leads to positive and optimal experiences [9, 27], and effectively regulating emotions and using positive strategies reduces negative emotions and improves well-being. It raises the psyche; in other words, actively controlling one's emotions, such as paying attention to emotions and actively looking for ways to improve them, leads to positive psychological results [28].

In a study of Portuguese nurses during the coronavirus outbreak, healthy lifestyles were correlated with better mental health status [29]. People who, when faced with negative life events, consider the events to be temporary and transitory and caused by the external environment



and do not blame themselves, can more efficiently manage their unpleasant emotions, such as the anxiety of the coronavirus; because in this state, people believe that the problems can be solved by changing their behavior and external conditions, and they try to solve problems, but in the state of self-blame, which is the exact opposite of acceptance and means blaming oneself for a negative experience [30]. People consider the experience of negative events, for example (being infected with the COVID-19 disease) as an unsolvable disaster, that they are the center of the issue, and if they are infected with this disease even despite following the protocols and due to uncontrollable conditions; they blame themselves again and in this way increase the level of their negative emotions, such as anxiety [31].

## Conclusion

The results showed that by increasing and promoting distress tolerance, the level of corona anxiety can be significantly reduced, and accordingly, the services better and better care for patients during the outbreak of COVID-19. Also, using the experiences and work of experts with more work experience alongside the younger and less experienced forces and their cooperation prepared the ground to reduce the effects of corona anxiety.

## Ethical Considerations

### Compliance with ethical guidelines

There were no ethical considerations to be considered in this research.

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### Authors' contributions

All authors equally contribute to preparing all parts of the research.

### Conflict of interest

The authors declared no conflict of interest.

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## مقاله پژوهشی



# بررسی رابطه بین راهبردهای تنظیم شناختی هیجان با اضطراب ناشی از کرونا (مطالعه موردی، کارکنان مراکز توانبخشی شهر تهران)

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## چکیده

**مقدمه:** اهداف در وضعیت فعلی، شناسایی و به دست آوردن میزان اضطراب در سطوح مختلف کادر درمانی و غیردرمانی در مواجهه و عدم مواجهه با اپیدمی‌ها، امری ضروری است. لذا هدف این پژوهش بررسی رابطه‌ای بین اضطراب کرونا و راهبردهای تنظیم هیجان و تحمل پریشانی در کارکنان مراکز توانبخشی شهر تهران است.

**مواد و روش‌ها:** روش بررسی مطالعه‌ی حاضر از نوع توصیفی-مقطعی می‌باشد. با روش نمونه‌گیری تصادفی ساده، ۱۰ مرکز توانبخشی تحت پوشش سازمان بهزیستی شهر تهران در سال ۱۴۰۱ به عنوان مراکز مورد مطالعه انتخاب و سپس تعداد ۲۰۰ نفر از کارکنان این مراکز بر اساس جدول نمونه‌گیری مورگان به‌عنوان نمونه مورد مطالعه انتخاب و مورد آزمون قرار گرفتند. ابزارهای گردآوری داده شامل مقیاس اضطراب بیماری کرونا، پرسشنامه تحمل پریشانی هیجانی سیمونز و گاهر (۲۰۰۵) و مقیاس راهبردهای خود-تنظیمی عاطفی (مارس، ۲۰۰۷) بود. داده‌های جمع‌آوری شده با استفاده از نرم‌افزار SPSS ورژن ۲۶ تحلیل شدند. تحلیل توصیفی انجام شده شامل شاخص‌هایی مانند میانگین، میانه و انحراف معیار بوده و همچنین از آزمون ضریب همبستگی پیرسون برای بررسی ارتباط بین متغیرهای پژوهش استفاده شد. میانگین سن افراد مورد مطالعه ۳۱/۵ سال بود.

**یافته‌ها:** بر اساس یافته‌های پژوهش حاضر، با افزایش تحمل هیجانی پریشانی، جذب هیجانات منفی، تنظیم تلاش برای تسکین پریشانی و تحمل پریشانی، اضطراب کرونا به‌طور معناداری کاهش می‌یابد. ( $P=0/347$ ). همچنین، با افزایش سطح ابعاد راهبردهای تنظیم هیجان، اضطراب کرونا به‌طور قابل توجهی کاهش می‌یابد. تحمل پریشانی با اضطراب کرونا همبستگی منفی داشته و با بهبود تحمل پریشانی، اضطراب کرونا کاهش می‌یابد ( $P=0/014$ ).

**نتیجه‌گیری:** یافته‌های این مطالعه حاکی از آن است که با افزایش و ارتقای تحمل پریشانی و راهبردهای تنظیم هیجان میتوان میزان اضطراب کرونا را به‌طور قابل توجهی کاهش داد. همچنین با استفاده از تجربیات و کارکرد کارشناسان با سابقه کار بیشتر در کنار نیروهای دارای سن و تجربه کمتر و همکاری آن‌ها، زمینه کاهش اثرات اضطراب کرونا و همچنین بهبود سطح تحمل پریشانی و راهبردهای تنظیم هیجان کارکنان را مهیا کرد.

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## کلیدواژه‌ها:

راهبردهای تنظیم هیجان، اضطراب کرونا، تحمل پریشانی، کادر درمان، توانبخشی

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