

## Research Paper

## The Effectiveness of Cognitive Behavioral Therapy on Corona Anxiety and Quality of Life in Older People

Zohreh Esmaili<sup>1</sup>, Somaieh Salehi<sup>2\*</sup>

1. Department of Psychology, Faculty of Psychology and Educational Sciences, South Tehran Branch, Islamic Azad University, Tehran, Iran.

2. Department of Psychology and Counseling, Faculty of Psychology and Educational Sciences, South Tehran Branch, Islamic Azad University, Tehran, Iran.



**Citation** Esmaili Z, Salehi S. The Effectiveness of Cognitive Behavioral Therapy on Corona Anxiety and Quality of Life in Older People. *Iranian Rehabilitation Journal*. 2023; 21(4):731-742. <http://dx.doi.org/10.32598/irj.21.4.1940.1>

**doi** <http://dx.doi.org/10.32598/irj.21.4.1940.1>

**Article info:**

**Received:** 22 Oct 2022

**Accepted:** 16 Jan 2023

**Available Online:** 01 Dec 2023

**Keywords:**

Aging, Anxiety, Cognitive Behavioral therapy, Disease Outbreaks

**ABSTRACT**

**Objectives:** Aging is an inevitable period and the quality of life in older people has been a noteworthy issue for human societies. On the other hand, Coronavirus anxiety is one of the most important phenomena affecting the lives of older people during the Coronavirus outbreak. Therefore, the present study determined the effectiveness of cognitive-behavioral therapy on anxiety and quality of life in older people.

**Methods:** The statistical population of the present study included older people of the 3<sup>rd</sup> district of Tehran City, Iran, in the spring of 2022. The research method was quasi-experimental, which was carried out with a pre-test post-test, and one-month follow-up plan with the experimental and control groups. A total of 40 older people were selected by convenience sampling method. The experimental group participated in eight 90-minute sessions for two months and cognitive-behavioral training techniques were presented to them, and the control group did not receive any intervention. Older people responded to the Coronavirus anxiety scale and the quality-of-life questionnaire in three stages.

**Results:** The results of the analysis of variance test with repeated measurements showed that cognitive-behavioral therapy affects the anxiety of corona and the quality of life in older people ( $P < 0.05$ ), and this effect remained stable in the follow-up phase.

**Discussion:** According to the findings of the research, cognitive-behavioral therapy can be used to reduce the anxiety of Corona and increase the quality of life in older people. Cognitive behavioral therapy is a pragmatic approach that empowers people to manage their problems more effectively through psychological treatment. This is accomplished by the emotional development of older people and making them more open to options and possibilities. It is also suggested that future research investigate the preventive and effective impacts of this treatment on the health of older people. Long-term follow-up evaluations of cognitive-behavioral therapy can help in understanding the long-term effects of this treatment on the quality of life and Corona anxiety.

**\* Corresponding Author:**

**Somaieh Salehi, Assistant Professor.**

**Address:** Department of Psychology and Counseling, Faculty of Psychology and Educational Sciences, South Tehran Branch, Islamic Azad University, Tehran, Iran.

**Tel:** +98 (912) 6076770

**E-mail:** [2dr.salehi@gmail.com](mailto:2dr.salehi@gmail.com)

## Highlights

- The cognitive-behavioral therapy affects the quality of life in the older people.
- The older people are more vulnerable than others during the coronavirus pandemic and have a lot of anxiety. Cognitive-behavioral therapy reduces anxiety in older people.
- Cognitive-behavioral therapy, by using the techniques of cognitive-behavioral perspectives, helps older people to change their distorted patterns of dysfunctional behavior including behavioral and cognitive aspects of treatments.

## Plain Language Summary

The emergence of the coronavirus disease (COVID-19) has changed people's living conditions. This disease has caused destructive psychological effects such as anxiety and reduced quality of life. Therefore, interventions by psychologists and counselors seem necessary. Numerous studies have been conducted so far. The results of this research showed that cognitive-behavioral therapy led to the reduction of physical and mental symptoms of corona anxiety in older people, and cognitive-behavioral therapy increased the quality of life in older people and this effect was stable three months after the intervention.

## Introduction

**A**ging is one of the evolutionary stages of life which is an inevitable stage of human society. Due to the progress of society towards industrialization and the significant increase in health and medical facilities in advanced and developing countries, life expectancy has increased. So, it is expected that the population of older people will surpass 1900000000 by 2050 [1]. In general, aging brings about various consequences in physical, social, economic, family, psychological, and existential dimensions. After the coronavirus disease (COVID-19) pandemic, older people experienced the highest level of anxiety compared to other members of society [2].

The virus caused by COVID-19 spread quickly in some affected geographical areas in society. This localized spread means that people in a site have been infected with the virus, including unshures [3]. This contagious disease not only threatens the physical health of society and, in some cases death; but also, since pandemics often create uncertainty and confusion in people, it has brought unbearable psychological pressure to the communities involved, such as stress, anxiety, depression, unresolved grief, and post-traumatic stress disorder [4]. Among the consequences that threatened the mental health of people in society, especially older people, after the spread of the Corona pandemic was Corona anxiety. Anxiety is a common symptom in patients with chronic respiratory disorders and can significantly reduce the quality of life of patients. Anxiety affects about two-thirds of chronic

respiratory patients and decreases the quality of life and physical performance. Relatively little research has been conducted on anxiety experiences in patients with severe respiratory symptoms [5].

Another critical issue for the aging society is their quality of life [6]. Older people over 60 years old are increasingly faced with a decline in physical performance and chronic diseases, which are closely related to adverse mental health outcomes. Although this decline in mental health is often below the threshold of clinical diagnosis, it leads to severe risks for reducing their quality of life [7]. Considering that aging is a sensitive period of human life, paying attention to the issues and needs of this stage is a social necessity. Considering the unique needs of this age, paying attention to the quality of life in the aging period is also a fundamental matter that is mainly neglected. The most critical factor determining the quality of life of older people is health. Studies have shown that health declines with age [7].

One of the areas that give importance to the way of communicating with oneself knowing the inner dimensions of oneself and also focusing on improving the quality of people's lives is cognitive behavioral therapy. Inferring and drawing conclusions is one of the most essential human tasks. When there are many cognitive distortions, older people cannot do these things correctly. Cognitive therapists find cognitive distortions and help their clients understand their mistakes and change their thinking. The cognitive-behavioral approach emphasizes the role of belief systems and thinking in behavior

and feelings [8]. Also, the positive effect of psychological interventions in improving emotional problems and people's lives has been confirmed. With the increasing expansion of the field of health psychology, psychologists have assumed a more active role in the treatment process. The cognitive-behavioral approach is one of the approaches in psychology that has attracted the attention of scholars and psychologists in the last few decades. The cognitive-behavioral approach is primarily based on the assumption that reconstructing a person's statements will lead to an equivalent reconstruction of his behavior. Also, cognitions, emotions, and behaviors significantly affect each other and have a mutual cause-and-effect relationship [9]. The research results showed that the cognitive-behavioral therapy group increased the use of problem-oriented coping responses and decreased the use of emotion-oriented coping reactions [9]. Another study showed that a course of cognitive-behavioral group therapy in patients with anxiety significantly reduces the use of incompatible and ineffective coping strategies [10].

Considering the increase in the aging population in Iranian society and the change in the lifestyle of older people from the extension method to the nuclear process, many problems and dilemmas, such as psychological problems, social relations, physical health, etc, have arisen for the older people [11]. Also, the spread of COVID-19 has doubled the life problems of older people. Therefore, officials and experts are looking for factors related to influencing this phenomenon so that they can improve the quality of life of older people and reduce the problems of their lives in the era of Corona by discovering and investigating them. Because this research has not examined how to improve the quality of life and reduce the tensions caused by Corona in aging based on cognitive and behavioral therapy [4, 9], research in this field seems necessary. Therefore, the main research question is whether cognitive-behavioral therapy training can effectively improve Corona anxiety and the quality of life of older people.

## Materials and Methods

The research design employed in the study was quasi-experimental, carried out with a pre-test, post-test, and one-month follow-up plan with the experimental and control groups. The statistical population included all older people in District 3 of Tehran City, in the spring of 2022. The convenience sampling method was used in this study. Considering that the minimum sample in experimental and quasi-experimental studies is 30 people [12], 40 older people were selected, and 20 people

were randomly assigned to the experimental group and 20 people to the control group. The experimental group, which included 20 older people, participated in 8 sessions, 90 minutes for two months (one session per week) and cognitive-behavioral training techniques and methods were presented to them step by step through weekly assignments and regular exercises. The control group did not receive any intervention. At first, after obtaining permission from the [Islamic Azad University of Tehran, South Branch](#), we administered questionnaires to older people in District 3 of Tehran. Older people's homes in District 3 of Tehran were referred to identify the mentioned people. Then, the older people who were willing to participate in the research were identified, and the Corona anxiety scale [13] and the quality of life questionnaire ([World Health Organization \[WHO\], 1996](#)) [14] were distributed among them. Finally, the older people for whom the overall score of Corona anxiety (based on the questionnaire instructions) was greater than 27 and the overall quality of life score (based on the questionnaire instructions) was less than 70 were selected for the present study. Other inclusion criteria included age over 60 years, having reading and writing literacy to answer questionnaire items, and not suffering from Alzheimer's disease and psychological diseases. After selecting the subjects, research information, the type of intervention, how to attend the meeting, the number and time of the meetings, the number of materials, and the frequency of tool responding were provided to the participants. The experimental group underwent the cognitive and behavioral therapy sessions of Beck (1993) [15] and the educational package of Antoni, Lechner, Kazi, and Wimberly (2007) [16]. The description of the training provided in the meetings is as follows:

Cognitive-behavioral therapy is a type of psychotherapy that helps people understand the thoughts and feelings that affect their behavior. This short-term therapy focuses on assisting patients to deal with a specific problem. During the treatment period, the person learns how to identify and change destructive or disturbing thought patterns that negatively affect his/her behavior. This treatment lasted eight sessions of 90 minutes based on cognitive and behavioral techniques ([Table 1](#)) and was adjusted and taught to the subjects. Cognitive-behavioral therapy is a treatment method that occurs through talking with clients. In the first stage, the therapist tries to understand the patient's way of thinking about himself, his surroundings, and others [15].

In the second stage, the therapist examines the issues and problems that have caused mental disorders in the individual through challenging questions and provid-

**Table 1.** Summary of cognitive and behavioral therapy training sessions

Sessions	Techniques	Session Summary
1 <sup>st</sup>	Provide information about the A-B-C pattern	Introduction, establishing initial communication, conducting pre-tests, getting to know the principles and goals of the meeting, teaching the basics of cognitive and behavioral theory, getting to know the A-B-C model with examples, presenting assignments, and receiving feedback.
2 <sup>nd</sup>	How to identify mental errors	Asking challenging questions helping members to identify intellectual errors (criteria of being a saint), and providing alternative answers.
3 <sup>rd</sup>	Identify common cognitive errors	Reviewing the assignment of the previous session, projecting negative thoughts, discussing anxiety, and getting to know and identifying common cognitive errors
4 <sup>th</sup>	Thought injection technique	Thought injection (within the framework of Ellis's thinking cycle), thought injection exercise, and reversed attention technique
5 <sup>th</sup>	Grading of thoughts and emotions	The challenge with spontaneous thoughts based on the provided criteria, rating emotions, and spontaneous thoughts and logical answers on a scale of 1 to 100.
6 <sup>th</sup>	Jacobson relaxation technique	Jacobson (muscular) relaxation technique training and relaxation practice in a group counseling session with the participation of members
7 <sup>th</sup>	Problem-solving technique	Challenging oneself against hypothetical events, replacing inefficient assumptions with promising and effective ones, and teaching problem-solving techniques
8 <sup>th</sup>	Solving hypothetical problems through role-playing	Designing hypothetical or real problems and solving them using role-playing, identifying illogical cognitions, creating preparation for applying the learned methods in real-life conditions, and performing post-tests

Iranian Rehabilitation Journal

ing alternative answers. In fact, “cognitive behavior therapy” helps individuals to think differently, and as a result of this new way of thinking, they can deal with the unwanted and unfortunate events around them with healthier and more correct behaviors. In this treatment protocol, replacing uncomfortable thoughts with useful thoughts in CBT sessions will help individuals gain a more accurate understanding of their harmful behaviors and use helpful behaviors instead of these destructive behaviors. In each session, they will talk to their psychotherapist about their thoughts and behavior from last week to adopt a healthier attitude toward everyday issues. The therapist will never force them to do anything or ask them to do anything they do not like. The strength of cognitive behavioral therapy is improving an individual's ability to continue practicing and develop his/her skills even after the psychotherapy sessions are over. It can be a kind of barrier and protective method for the occurrence of psychological problems in the future [16].

The Coronavirus anxiety scale was prepared and validated by Alipour et al. (2018) to measure the anxiety caused by the spread of COVID-19 in Iran. The final version of this tool has 18 items and two components (factors). Items 1 to 9 measure psychological symptoms, and items 10 to 18 measure physical symptoms [13]. The reliability of this tool was determined using the Cronbach

$\alpha$  method for the first factor ( $\alpha=0.879$ ), the second factor ( $\alpha=0.861$ ), and the whole scale ( $\alpha=0.919$ ). To check the validity of correlation with the criteria of this scale, they used to correlate this tool with Goldberg's general health questionnaire (1979). The results showed that the correlation coefficient of the Corona anxiety scale with the total score of Goldberg's general health questionnaire (1979) and the anxiety component, symptoms of physical, social dysfunction, and depression were 0.483, 0.507, 0.418, 0.333, and 0.269, respectively. All these coefficients were significant at the 0.01 level [13]. In the present study, the Cronbach  $\alpha$  coefficient was 0.74 for the psychological symptoms subscale and 0.77 for the physical symptoms subscale. Two examples of this scale include ‘thinking about Corona makes me anxious, and I feel tense when I think about the threat of Corona’.

The WHO quality of life questionnaire is a 26-item questionnaire that measures a person's overall quality of life. This questionnaire has four subscales and a total score. These subscales are physical health, mental health, social relationships, the health of the surrounding environment, and a general score [17]. The WHO determined the reliability of the questionnaire using the Cronbach  $\alpha$  coefficient method for the physical health scale (0.83), mental health at (0.81), social relations (0.79), and the health of the surrounding environment (0.82). Its

validity was confirmed by the factor analysis method. In Iran, Nasiri and others (2005) translated this questionnaire into Farsi and reported its validity and reliability [18]. The Cronbach  $\alpha$  coefficient of 0.84 indicated its good internal consistency. On the other hand, the factor analysis of the 26 items of this scale revealed that there are four subscales in this scale (i.e. physical health, psychological health, social relations, and the health of the surrounding environment) indicating its structural validity. In the present study, the Cronbach  $\alpha$  coefficient was obtained for the subscale of physical health at 0.74, mental health at 0.78, social relations at 0.80, and the health of the surrounding environment at 0.76. Two examples of this scale include 'how do you evaluate the quality of your life?' and 'how satisfied are you with your health?'

In this study, descriptive statistics and inferential statistics were used to describe and analyze the data. In the descriptive section, the central tendency measures including Mean $\pm$ SD were reported. Due to the normality of the data, the repeated-measures analysis of variance (ANOVA) was used for additional assessments. All obtained data were analyzed in SPSS software, version 22.

## Results

The review of the descriptive findings related to the experimental and control group are shown in Table 2.

Table 3 shows the results of the Mean $\pm$ SD of the main variables of the research in terms of two groups among the three times of pre-test, post-test, and follow-up. As it is shown, regarding the components of Corona anxiety, the mean of the control group did not change during the three times. Still, it can be seen that in the experimental group, the mean of the components of Corona anxiety decreased after the educational intervention in the post-test and follow-up. Also, regarding the quality-of-life components, it is shown that the mean of these components in the control group has not changed during the three times. Still, in the experimental group, the mean of the quality-of-life components increased after the educational intervention and follow-up.

One of the assumptions of the ANOVA test is the normality of the research variables. This section investigates the normality of each research variable according to their time (pre-test, post-test, and follow-up) with the Shapiro-Wilk test. The results show that the significance level

**Table 2.** Demographic information of participants

Variables	No. (%)		
	Experimental Group	Control Group	
Gender	Men	9(45)	8(40)
	Women	11(55)	12(60)
	Total	20(100)	20(100)
Age (y)	60-65	4(20)	3(15)
	66-70	5(25)	5(25)
	71-75	6(30)	7(35)
	>76	5(25)	5(25)
	Total	20(100)	20(100)
Education	Under diploma	7(35)	8(40)
	Diploma	8(40)	8(40)
	Associate and bachelor	4(20)	4(20)
	Master and PhD	1(5)	0(0)
	Total	20(100)	20(100)

Table 3. Mean±SD of study variables

Group	Component	Time	Variables	Mean±SD
Control group	Corona anxiety	Pre-test	Psychological symptoms	22.75±2.31
			Physical symptoms	24.95±0.94
		Post-test	Psychological symptoms	22.15±2.03
			Physical symptoms	24.05±1.84
		Follow-up	Psychological symptoms	23.00±2.83
			Physical symptoms	24.75±1.20
	Quality of life	Pre-test	Physical health	19.80±3.38
			Mental health	14.40±2.78
			Community relations	5.85±1.72
		Post-test	The health of the surrounding environment	19.00±2.88
			Physical health	18.90±3.41
			Mental health	15.85±2.94
	Follow-up	Post-test	Community relations	6.80±1.60
			The health of the surrounding environment	18.50±3.23
			Physical health	19.45±3.10
		Follow-up	Mental health	14.05±3.53
			Community relations	7.85±1.15
			The health of the surrounding environment	18.95±3.08
Experimental group	Corona anxiety	Pre-test	Psychological symptoms	23.15±1.42
			Physical symptoms	22.85±1.46
		Post-test	Psychological symptoms	17.75±1.51
			Physical symptoms	17.55±1.23
		Follow up	Psychological symptoms	18.20±1.93
			Physical symptoms	19.25±1.71
	Quality of life	Pre-test	Physical health	20.65±3.37
			Mental health	15.40±2.01
			Community relations	5.85±1.53
		Post-test	The health of the surrounding environment	22.00±3.69
			Physical health	29.30±2.49
			Mental health	20.10±3.22
	Follow-up	Post-test	Community relations	8.35±1.72
			The health of the surrounding environment	23.95±5.17
			Physical health	29.55±1.73
		Follow-up	Mental health	21.50±2.78
			Community relations	9.90±2.53
			The health of the surrounding environment	26.00±5.96



**Table 4.** Results of analysis of variance with repeated measures related to Corona anxiety

Variables	Source	Sum of Squares	Mean Squares	F	P	$\eta^2$
Psychological symptoms	The effect of time	199.267	99.633	28.191	0.000	0.426
	The interaction effect of time and group	167.467	83.733	23.692	0.000	0.382
	Error	268.600	3.534			
Physical symptoms	The effect of time	268.600	134.400	64.867	0.000	0.631
	The interaction effect of time and group	61.067	30.533	14.737	0.000	0.279
	Error	157.467	2.072			

Iranian Rehabilitation Journal

of all the variables is more than 0.05 and 0.01, therefore, all variables have been normally distributed. The skewness and kurtosis distribution of each research variable is in the range of -2 to 2, therefore, it can be said that all the research variables have a descriptive normal distribution. The results of the M-box test showed that the significance level of all variables was higher than 0.05. Therefore, the pre-assumption (homogeneity of variance-covariance matrices) was met. It shows the results of the homogeneity of variances regarding the research variables according to the three investigated times. As shown, the significance level of Lon's test for all variables is higher than the significance level of 0.05, so it can be said that the assumption of equality of error of variances is confirmed for all variables. Examining multiple tests based on the three times of pre-test, post-test, and follow-up showed that the significance of all these tests for both variables is 0.000, which is less than 0.05. As a result, there is a significant difference between the two groups.

The results of Mauchly's test showed that the significance level of this test for both variables is higher than 0.05, so the assumption of non-sphericity is rejected, and the assumption of sphericity is confirmed. Therefore, the sphericity part is used to check the results of repeated analysis of variance.

Table 4 shows the results of investigating the effect of cognitive behavioral therapy on the subscales of physical symptoms and psychological symptoms with repeated measures ANOVA.

Table 5 compares the mean of the two experimental and control groups according to the subscales of Corona anxiety with the Bonferroni test. As shown, regarding the variable of physical symptoms of Corona anxiety, there is a significant difference between the two groups in 5.033. In the case of psychological symptoms, there is a significant difference between the two groups in 2.933, in both variables. The value of symptoms of the test group is less than the control group.

The results of the examination of multiple tests regarding the effect of the educational intervention show that the significance level of the tests for the quality-of-life subscales including physical health, mental health, and social relations, is less than 0.05. As a result, it can be said that the intervention of education has a significant effect on these variables. The results of the Machli test showed that the significance level of this test is higher than 0.05; therefore, the assumption of non-sphericity is rejected, and the assumption of sphericity is confirmed. Therefore, the sphericity assumed part is used to check the results of repeated measures ANOVA. Table 6 shows

**Table 5.** Bonferroni test to compare means related to Corona anxiety

Variables	Group	Mean	Group	Mean Difference	P
Psychiatric symptoms	Experimental	22.633	Experimental	2.933	0.000
	Control	19.700	Control	-2.933	0.000
Physical symptoms	Experimental	24.917	Experimental	5.033	0.000
	Control	19.883	Control	-5.033	0.000

Iranian Rehabilitation Journal

**Table 6.** Results of analysis of variance with repeated measures related to quality of life

Variables	Source	Sum of Squares	Mean Square	F	P	$\eta^2$
Physical health	The effect of time	446.017	223.008	24.666	0.000	0.394
	The interaction effect of time and group	589.517	294.758	32.602	0.000	0.462
	Error	687.133	9.041			
Mental health	The effect of time	232.867	116.433	12.902	0.000	0.253
	The interaction effect of time and group	211.267	105.633	11.705	0.000	0.235
	Error	685.867	9.025			
Social relations	The effect of time	149.550	74.755	24.608	0.000	0.393
	The interaction effect of time and group	15.51	7.758	2.533	0.000	0.063
	Error	230.933	3.039			
The health of the surrounding environment	The effect of time	79.580	39.925	2.305	0.000	0.057
	The interaction effect of time and group	83.217	41.608	2.402	0.000	0.059
	Error	1316.267	17.319			

Iranian Rehabilitation Journal

the results of investigating the effect of cognitive behavioral therapy educational intervention on subscales of quality of life including physical health, mental health, social relations, and health of the surrounding environment. As shown, cognitive behavioral therapy has a significant effect on older people's physical health, mental health, and social relations because the significance of the time effect for these variables is less than 0.05.

Table 7 shows the comparison results of the mean subscales of the quality of life for experimental and control groups with the Bonferroni test. As shown, there is a significant mean difference between the experimental

group and the control group regarding the physical health variable at the rate of -7.117, the mental health variable at the rate of -4.217, and the social relations variable at the rate of -1.017 at the significance level of 0.05. The mean of these variables is higher than the mean of the experimental group.

## Discussion

The present study determined the effectiveness of cognitive-behavioral therapy on anxiety and quality of life among the elderly.

**Table 7.** Bonferroni test to compare means related to quality of life

Variables	Group	Mean	Group	Mean Difference	P
Physical health	Experimental	1.3839	Experimental	-7.117	0.000
	Control	26.50	Control	7.117	0.000
Mental health	Experimental	141.783	Experimental	-4.217	0.000
	Test	19	Control	4.217	0.000
Social relations	Experimental	6.817	Experimental	-1.017	0.004
	Test	7.833	Control	1.017	0.004

Iranian Rehabilitation Journal



The results showed that cognitive-behavioral therapy reduced physical and mental symptoms of Corona anxiety in older people. The results of this hypothesis are in line with the research results of Cugmas, Ferligoj, Kogovšek, and Batagelj (2021), Rashidpour, Rashidpour, and Dashtbozorg (2021), and Zahoori (2021) [19-21]. Bandura considers cognitive processes critical in determining human behavior. According to his theory, if these processes do not reflect reality correctly, they cause inconsistent behavior. Bandura cites several reasons for the development of defective cognitive functions including evaluation by appearance, information from insufficient evidence, and faulty information processing [22]. Currently, at the height of the spread of COVID-19, people are experiencing strong negative emotions due to the closure of schools and businesses. Also, the limited knowledge of humanity about this disease and news and related rumors increase anxiety and fear, impatience, despair, etc. and this shows that only paying attention to the health measures of patients is not enough to deal with the disease. Psychological care is also necessary to reduce stress and mental pressure [19]. The elderly group is more vulnerable than others during this disease and has a lot of anxiety; it has been said that this disease targets mostly older people. Cognitive-behavioral therapy, by using the techniques of cognitive-behavioral perspectives, helps older people to change their distorted patterns of dysfunctional behavior. Some aspects of the treatment are mainly behavioral and others are cognitive [23]. In this treatment, the older person considers his anxiety as an unnecessary behavior and controls this anxiety suitably. Cognitive-behavioral therapy is a treatment method through talking to the patient. The therapist tries to find the issues and problems that have caused mental disorders in older people and minimize these problems in the eyes of the person. Also, this method of treatment helps the person to think differently. As a result of this new way of thinking, people can deal with more healthy and correct behaviors against unwanted and unfortunate events around them. Therefore, an older person forgets anxiety and lives more optimistically and hopefully [23].

The results showed that cognitive-behavioral therapy increased the quality of life in older people. The hypothesis's results align with the study by Tizdast and Ghafari Malabashi (2020), Firouzi and Beyranvandi (2019), Narimani and Razaghi (2019), and Ahmadi Tabar, Makundi, and Sudani [24-27]. To explain the results, it can be said that improving the quality of life of older people is one of the essential aspects of treatment, and the effort to improve the quality of life and create a suitable environment for older people has become a

common global concern. Therefore, with proper planning, older people can enjoy a happy and productive old age and be considered an integral part of society. Types of psychotherapy can be mentioned among these plans. The purpose of psychotherapy for older people is to provide support, reduce anxiety, and increase socialization. In group psychotherapy, people see how they deal with society, which increases their insight, and new experiences increase their ego [28]. Aging affects life and its quality due to the deterioration of the physical and mental powers of older people. The diversity and multiplicity of issues in old age seem to be quite natural, but the effect of other contextual variables should not be ignored in this reduction. Stress, anxiety, and psychological pressure caused by various factors in today's lives can have adverse effects on people's health, therefore, these underlying variables must be treated. Cognitive behavioral therapy is an active, directional, time-limited, and organized approach [26]. Considering that cognitive-behavioral therapy is based on therapeutic cooperation between the patient and the therapist, older people have a sense of collaboration in a group, and the patient can be helped to develop independent self-help skills. An older person learns to look at thoughts and beliefs as hypotheses, whose credibility must be tested, and if something is in vain in the person's mind, there is no more credibility left for him. In this treatment method, the emphasis is on the present; that is, the treatment of most patients requires a strong focus on current problems and unique situations that are saddening and uncomfortable for the patient and help to improve the spirit of the older people in the present. This treatment method uses different techniques to change thinking, mood, and behavior. The therapist shows his attention to the patient by expressing empathetic expressions, listening carefully, accurately summarizing the patient's thoughts and feelings, and being realistic and promising. At the end of each session, he asks for feedback from the client [23]. These things effectively improve social relations and the quality of life of older people. The older person has an active and guiding role in this treatment method. These issues are effective in improving the mental health and social relations of older persons and subsequently improving their quality of life.

In general, the results of the present study show that cognitive-behavioral intervention can effectively reduce Corona anxiety and improve the quality of life in older people through cognitive reconstruction, introducing support resources, providing information, and raising awareness. Cognitive behavioral therapy is a pragmatic approach that empowers people to manage their problems more effectively through psychological treatment.

This is due to the emotional development of older people, “here and now” views, and problem-solving orientation, making them more open to options and possibilities.

## Conclusion

In general, the results of this research showed that cognitive-behavioral therapy reduced physical and mental symptoms of Corona anxiety in older people, and cognitive-behavioral therapy has also increased the quality of life in older people. Therefore, it is suggested that cognitive-behavioral therapy should be included in the agenda of rehabilitation centers the older people and centers of mental health assistants in holding educational workshops.

This study had some limitations. This study was only conducted on all the older people in District 3 of Tehran in the spring of 2022, and its generalization to other ages and other cities should be made with caution. The generalizability of the results requires more research in this field. Therefore, it is suggested that the current study be done in other cities with random sampling methods. It is also suggested that this treatment on the health of older people should be carried out, and long-term follow-up evaluations of cognitive-behavioral therapy can help understand the long-term effects of this treatment on quality of life and anxiety of Corona. Therefore, it is suggested to conduct follow-up courses on subsequent studies.

## Ethical Considerations

### Compliance with ethical guidelines

This article was approved by [South Tehran Branch, Islamic Azad University](#) (Code: IR.IAU.CTB.REC.1401.067).

### Funding

This research was extracted from a Master’s thesis of Zohreh Esmaeili, approved by Department of Clinical Psychology, Faculty of Psychology and Educational Sciences, [South Tehran Branch, Islamic Azad University](#).

### Authors' contributions

All authors equally contributed to preparing this article.

### Conflict of interest

The authors declared no conflict of interest.

## Acknowledgments

The authors thank all study participants and the Older Care Department of the Third District Nursing Home in Tehran for contributing to this work.

## References

- [1] Kamioka H, Tsutani K, Katsumata Y, Yoshizaki T, Okuizumi H, Okada S, et al. Effectiveness of pilates exercise: A quality evaluation and summary of systematic reviews based on randomized controlled trials. *Complementary Therapies in Medicine*. 2016; 25:1-19. [DOI:10.1016/j.ctim.2015.12.018] [PMID]
- [2] Bavardi Moghadam E, Shojaedin SS, Radfar H. [Effect of Pilates training on functional balance of elderly men (Persian)]. *Journal of Gorgan University of Medical Sciences*. 2018; 20(3):64-9. [Link]
- [3] Rana Bhat D. Novel coronavirus (2019-nCoV): A pandemic situation in Nepal. *Europasian Journal of Medical Sciences*. 2020; 2(2):142-4. [DOI:10.46405/ejms.v2i2.101]
- [4] Wu Z, McGoogan JM. Characteristics of and important lessons from the Coronavirus disease 2019 (COVID-19) outbreak in China: Summary of a report of 72 314 cases from the Chinese Center for Disease Control and Prevention. *JAMA*. 2020; 323(13):1239-42. [DOI:10.1001/jama.2020.2648] [PMID]
- [5] Parry J. China coronavirus: Cases surge as official admits human to human transmission. *BMJ*. 2020; 368:m236. [DOI:10.1136/bmj.m236] [PMID]
- [6] Saeid M, Makarem A, Khanjani S, Bakhtyari V. [Comparison of social health and quality of life between the elderlies resident at nursing homes with non-resident counterparts in Tehran City, Iran (Persian)]. *Salmand*. 2019; 14(2):178-87. [DOI:10.32598/sija.13.10.150]
- [7] Carreira H, Williams R, Dempsey H, Stanway S, Smeeth L, Bhaskaran K. Quality of life and mental health in breast cancer survivors compared with non-cancer controls: A study of patient-reported outcomes in the United Kingdom. *Journal of Cancer Survivorship*. 2021; 15(4):564-75. [DOI:10.1007/s11764-020-00950-3] [PMID]
- [8] Hayes SC, Hofmann SG. *Process-based CBT: The science and core clinical competencies of cognitive behavioral therapy*. California: New Harbinger Publications; 2018. [Link]
- [9] Qabel S, Arvand J. [The effectiveness of cognitive-behavioral training on perfectionism and psychological well-being of mothers with autistic children in District 3 of Tehran (Persian)]. Paper presented at: The 8<sup>th</sup> Scientific Conference on Educational Sciences and Psychology, Social and Cultural Injuries Iran. 5 July 2020; Tehran, Iran. [Link]
- [10] Wesner AC, Gomes JB, Detzel T, Blaya C, Manfro GG, Heldt E. Effect of cognitive-behavioral group therapy for panic disorder in changing coping strategies. *Comprehensive Psychiatry*. 2014; 55(1):87-92. [DOI:10.1016/j.comppsy.2013.06.008] [PMID]

- [11] Alavi M, Molavi H, Molavi R. The impact of cognitive behavioral therapy on self-esteem and quality of life of hospitalized amputee elderly patients. *Nursing and Midwifery Studies*. 2017; 6(4):162-7. [DOI:10.4103/nms.nms\_46\_17]
- [12] Delavar A. [Theoretical and practical foundations of research in humanities and social sciences (Persian)]. Tehran: Roshd Publication; 2001. [Link]
- [13] Alipour A, Gadami A, Alipour Z, Abdullahzadeh H. [Preliminary validation of the Corona Disease Anxiety Scale (CDAS) in the Iranian sample (Persian)]. *Health Psychology*. 2020; 8(32):163-75. [DOI:10.30473/hpj.2020.52023.4756]
- [14] WHO. WHOQOL: Measuring quality of life. Geneva: WHO; 1996. [Link]
- [15] Beck AT. Cognitive therapy: Past, present, and future. *Journal of Consulting and Clinical Psychology*. 1993; 61(2):194-8. [DOI:10.1037/0022-006X.61.2.194] [PMID]
- [16] Sepehrinasab Z, Sohrabi F. [Effectiveness of stress management based on cognitive-behavioral method on impulsivity and mental health of addicted people (Persian)]. *Journal of Applied Psychology*. 2016; 1(37):1-19. [Link]
- [17] Nejat S, Montazeri A, Holakouie Naieni K, Mohammad K, Majdzadeh S. [The World Health Organization quality of Life (WHOQOL-BREF) questionnaire: Translation and validation study of the Iranian version (Persian)]. *Journal of School of Public Health and Institute of Public Health Research*. 2006; 4(4):1-12. [Link]
- [18] Nasiri H. [Checking the validity and reliability of the short scale of the quality of life of the World Health Organization (Persian)]. Paper presented at: Third National Seminar on Mental Health of Students of Medical Sciences Universities all over Iran. 2006. [Link]
- [19] Cugmas M, Ferligoj A, Kogovšek T, Batagelj Z. The social support networks of elderly people in Slovenia during the COVID-19 pandemic. *PLoS One*. 2021; 16(3):e0247993. [DOI:10.1371/journal.pone.0247993] [PMID]
- [20] Rashidpour M, Rashidpour M, Dashtbozorg Z. [Predicting Corona anxiety based on media literacy and quality of work life (Study Case: Ahvaz Azad University Employees) (Persian)]. Paper presented at: The 7<sup>th</sup> International Conference on Knowledge and Technology of Educational Sciences, Social Studies and Psychology of Iran. 20 May 2021; Tehran, Iran. [Link]
- [21] Zohoori S. [Examining the relationship between Corona anxiety and practical obsession with depression and quality of life in the nurses of Ayatollah Rouhani Hospital, Babol city (Persian)]. Paper presented at: The 2<sup>nd</sup> National Conference of Research and Innovation in Psychology, with a Special Focus on Cognitive Behavioral Therapy. 2 September 2021; Babol, Iran. [Link]
- [22] David D, Cristea I, Hofmann SG. Why cognitive behavioral therapy is the current gold standard of psychotherapy. *Frontiers in Psychiatry*. 2018; 9:4. [DOI:10.3389/fpsy.2018.00004] [PMID]
- [23] Carpenter JK, Andrews LA, Witcraft SM, Powers MB, Smits JA, Hofmann SG. Cognitive behavioral therapy for anxiety and related disorders: A meta-analysis of randomized placebo-controlled trials. *Depression and Anxiety*. 2018; 35(6):502-14. [DOI:10.1002/da.22728] [PMID]
- [24] Tizdast F, Ghafari Molabashi M. [Investigating the symptoms of Attention Deficit Disorder/hyperactivity and improvement of quality of life (Emphasis on Cognitive -Therapeutic Behavior "CBT") (Persian)]. Paper presented at: The 7<sup>th</sup> International Conference on Science and Technology of Educational Sciences, Social Studies and Psychology of Iran. 20 May 2021; Tehran, Iran. [Link]
- [25] Firoozi M, and Biranvandi M. [The effectiveness CBT based on positive thinking using computer program and virtual social networks on improving quality of life in patients with chronic low back pain (Persian)]. *Journal of Anesthesiology and Pain*. 2020; 11(3):66-76. [Link]
- [26] Narimani M, Razaghi A. [Comparsson the effect of Cognitive-Behavioral Therapy (CBT) and Acceptance and Commitment Therapy (ACT) on the life quality of women with type 2 Diabetes (Persian)]. Paper presented at: The 1<sup>st</sup> National Conference on Psychopathology. 16 December 2020; Ardabil, Iran. [Link]
- [27] Ahmaditar S, Makvandi B, Sodani M. [The effectiveness of family education in cognitive-behavioral approach on marital adjustment, resilience and quality of life in couples (Persian)]. *Women and Family Studies*. 2018; 11(41):23-41. [Link]
- [28] Irie T, Yokomitsu K, Sakano Y. Relationship between cognitive behavioral variables and mental health status among university students: A meta-analysis. *PLoS One*. 2019; 14(9):e0223310. [DOI:10.1371/journal.pone.0223310] [PMID]

This Page Intentionally Left Blank