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The effect of dignity therapy on anxiety and depression in patients with chronic obstructive pulmonary disease: A randomized clinical trial

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Abstract:

BACKGROUND: Anxiety and depression can prolong the treatment process and impose financial burdens on the health system in chronic obstructive pulmonary disease. Dignity therapy is one of the methods of eliminating these symptoms. The present study was conducted to investigate the effect of dignity therapy on the severity of anxiety and depression in patients with chronic obstructive pulmonary disease.

MATERIALS AND METHODS: This clinical trial was conducted on 62 patients with chronic obstructive pulmonary disease, referring to the comprehensive respiratory clinic of Khorshid Hospital (Isfahan, Iran) in 2021. The patients were randomly allocated to intervention and control groups. Each patient of the intervention group underwent dignity therapy for four 45–60-min sessions, whereas no intervention was performed in the control group. Data were collected using demographic information questionnaire and Hospital Anxiety and Depression Scale (HADS), before the intervention and one month after the completion of the intervention in two groups. Data were analyzed using SPSS version 18 (SPSS Inc., Chicago, IL, USA) as well as descriptive (mean, standard deviation, frequency, and percentage) and inferential (Chi-square, independent *t*-test, and paired *t*-test) statistics.

RESULTS: The mean score of anxiety of the patients before the intervention was not significantly different between the two groups ($P = 0.18$); but one month after the intervention, it was significantly lower in the intervention group than in the control group ($P = 0.05$). Also, the score of depression was not significantly different between the two groups before ($P = 0.68$) and one month after the intervention ($P > 0.05$).

CONCLUSION: Dignity therapy could reduce anxiety in patients with chronic obstructive pulmonary disease; thus, it could be used as a nonpharmacological, cost-effective and probably without side effects method.

Keywords:

Anxiety, chronic obstructive pulmonary disease, depression, dignity, therapy

Introduction

Today, chronic obstructive pulmonary disease is one of the most prevalent lung diseases and one of the leading causes of death in the elderly.[1] The characteristic of such diseases is the progressive limitation in air flow, which is caused by chronic inflammation in the airways, parenchyma, and vascular network of the lung; this inflammation is usually not fully reversible and manifests itself with symptoms such as shortness of breath, cough, and phlegm.[2,3]

Chronic obstructive pulmonary disease is the fourth cause of death in the world.

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According to the World Health Organization, it will become the third cause of death by 2030.[4] Currently, 9%-10% of adults, that is, about 80 million people, are suffering from this disease all around the world.[2] While there is no exact statistic of the prevalence of this disease in Iran, a survey in Isfahan estimated the prevalence of the disease to be 5.7%.[5] This disease constitutes a big portion of patients admitted to emergency rooms and hospital wards, and imposes a great financial and social burden on the society, family, and healthcare system.[6]

Given the progressive and chronic process of lung dysfunction caused by the disease and the exacerbation of respiratory symptoms, about 36% of these patients experience psychological disorders such as anxiety and depression.[7] Moreover, it is estimated that 25% of these patients has symptoms of depression and anxiety, and it has been proven that the more advanced this disease is, the higher will be the risk of depression.[8] Although there are no accurate statistics of the anxiety and depression of these patients in Iran, the prevalence of their depression was reported in a cohort study to be 17.6%.[9] While causing shortness of breath and restlessness, anxiety and depression increase the hospitalization time of these patients, worsen their symptoms, and even increase mortality rate in patients with respiratory problems.[10]

Palliative care is one of the ways of controlling the psychological symptoms of patients with chronic obstructive pulmonary disease.[11] Preventing the suffering of patients and identifying the treatment of pain and other physical, mental, spiritual, and social problems, palliative care helps patients and their families in facing problems related to life-limiting diseases. In fact, palliative care pays homage to patients and their families from the moment the disease is diagnosed to mitigate pain and suffering caused by the disease and its complications.[12] One of the basic components in palliative care is respect for the dignity and rights of human beings, regardless of their nationality, race, religion, color, age, or socio-political status.[13] Respecting the dignity of patients plays a substantial role in their treatment[14] and, thus, nurses must restore the dignity of patients and refrain from any action that causes harm to them.[15]

Dignity therapy is a unique, personal, and short-term psychotherapy method which was developed for patients and the families of patients suffering from limiting and life-threatening diseases. Dignity therapy is a standard psychological protocol which was first presented by Chochinov in 2005.[16] Based on the result of a study, new approaches such as dignity therapy can reduce the anxiety of patients with cancer.[17] Given the nature of dignity therapy as a nascent concept, more research is needed to investigate the effect of this model, especially in the context of Eastern culture, which is completely different from Western culture, and among patients with chronic obstructive pulmonary disease; as this disease is a chronic one and death seems to be imminent in patients suffering from it, their dignity is a serious concern.[18] According to the results of studies and the researcher's personal experience, nurses are supposed to provide patients with physical care and listen to their concerns and try to reduce the anxiety and stress of patients with chronic diseases, who are in the final stages of their life by focusing on dignity conservation tasks such as settling relationships, sharing words of love, and preparing a legacy document for loved ones.[19] Moreover, lack of attention to patients' feelings and perceptions will disrupt communication between patients and healthcare providers, thereby disturbing the process of treatment and recovery.[20] Therefore, the present study was conducted to investigate the effect of dignity therapy on anxiety and depression in patients with chronic obstructive pulmonary disease, referring to the comprehensive respiratory clinic of Khurshid Research and Training Hospital in 2021.

Materials and Methods

Study design

This randomized clinical trial was conducted on 62 patients with chronic obstructive pulmonary disease, referring to the comprehensive respiratory clinic of Khorshid Hospital (Isfahan, Iran) in 2021.

Study participants and sampling

The research population consisted of all patients with chronic obstructive pulmonary disease who based on the gold criteria were in the third and fourth stages of the disease, and referred to the Comprehensive Respiratory Clinic of Khurshid Research and Training Hospital. Sixty-two patients with inclusion criteria were selected using convenience sampling method and were divided into the control (n = 31) and the intervention (n = 31) groups based on the days of the week [Figure 1]. As such, the patients referred to the comprehensive respiratory clinic on even and odd days were allocated to the intervention group (dignity therapy) and the control group, respectively. Based on a similar study[21] and considering the confidence level of 95%, test power of 80%, and the probable drop of 10% in the samples, the sample size was calculated to be 60 subjects via the following formula:

$$n = (Z1\text{-}\alpha/2 + Z1\text{-}\beta)\, 2/d2\, (s12 + s22)$$

Inclusion criteria were willingness to participate in the study, age range of 18–70 years, literacy (to answer the questions of the questionnaire), being in the third and fourth stages of the disease based on the gold criteria,

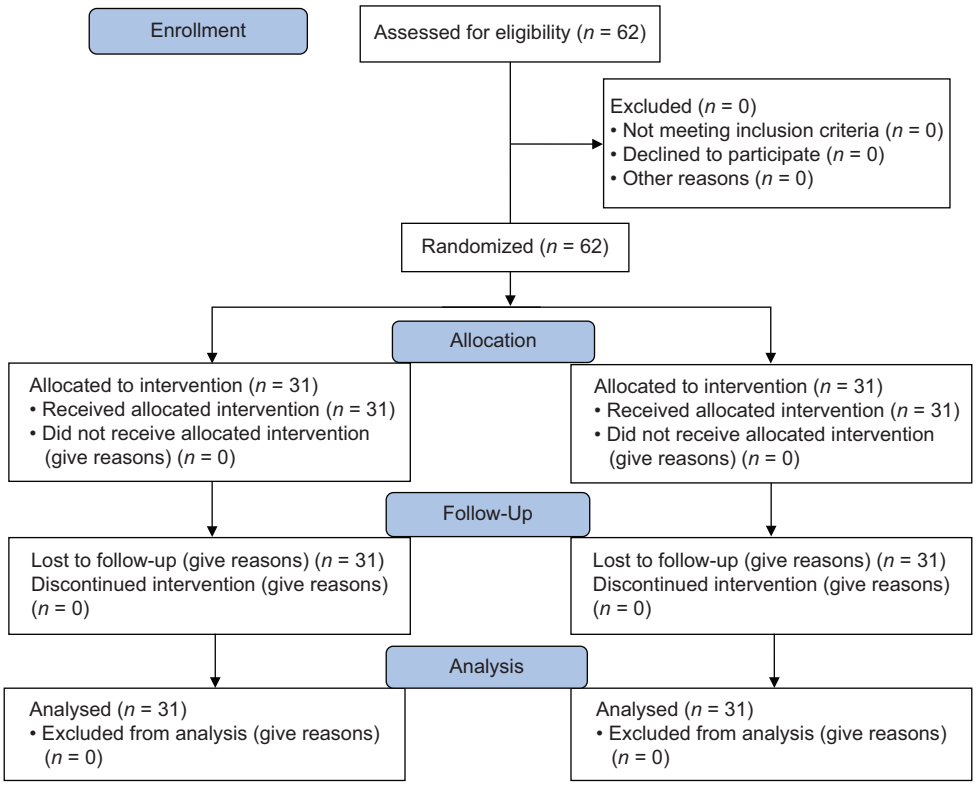

Figure 1: CONSORT flow diagram

having physical ability, no cognitive deficiency (based on the mental status examination questionnaire for participating in the sessions and answering the questions), and having no major mental disorder (e.g. schizophrenia, paranoid disorders, and major depression). Exclusion criteria included unwillingness to continue participating in the study and incomplete questionnaires in the pre-test and post-test stage.

Data collection

The data collection tool was a two-part questionnaire which was completed by questioning before and one month after the intervention. The first part of the questionnaire included 13 items of demographic characteristics [age, sex, marital status, education status, employment status, number of children, smoking history, other chronic diseases, stage and severity of the disease according to Global Initiative for chronic lung disease (GOLD) criteria, duration of the disease, hospitalization frequency, place of residence, and financial status]. The second part was the questionnaire related to the Hospital Anxiety and Depression Scale (HADS), which was designed by Zigmond and Snaith in 1983 as a very appropriate and practical self-report tool for investigating anxiety and depression in patients with physical and mental problems. This questionnaire consists of 2 parts and 14 questions, 7 of which measure the anxiety factor and the other 7 measure the depression factor. Each question has four options, and the subjects choose one of the options based on their feeling. A weight of 0–3 is assigned to each of these options. Weighted scoring for the items that show the presence of anxiety or depression is such that the scores of 3 and 0 indicate the maximal and minimal presence of anxiety or depression, respectively. The validity of the first part of the questionnaire, including the demographic information of the subjects, was confirmed by five faculty members. In a study, the Cronbach's alpha calculated for HADS was reported to be HAD-A = 0.78–0.93 and HAD-D = 0.82–90 for anxiety and depression, respectively. Additionally, the internal correlation of depression and anxiety was reported to be between 0.49 and 0.63 based on Pearson's correlation coefficient.[22] This questionnaire was translated into Farsi and standardized by Montazeri *et al*. in Iran, 2003[23]; the Cronbach's alpha was calculated to be equal to or greater than 0.70, and the validity of the test was reported to be appropriate by comparing and calculating the convergence of the groups.

Intervention

The intervention was based on the dignity experimental model. This model offers a framework for comprehending how terminally ill patients feel about their sense of dignity as well as for creating interventions meant to improve that feeling of dignity in the end-of-life patients. There are three categories in total, and inside each of those categories are several themes and sub-themes that pertain to

experiences, feelings, or events:(1) Illness-related concerns (e.g. degree of independence and symptom distress); (2) a repertoire of dignity-conserving attitudes and behaviors (e.g. living "in the moment"); and (3) an inventory of social concerns (e.g. burden to others) related to dignity. DT (Dignity therapy)was created to improve respect, purpose, and optimism while easing emotional and existential suffering.[24] DT is based on an interview with some questions that gives patients the chance to talk about their most meaningful or proud moments in life as well as things they need to say or things they most want remembered.[25]

Before starting the research, the researcher took part in 20 hrs of dignity therapy under the supervision of a psychologist, and after gaining the necessary skills, she proceeded to perform the intervention. In the first few sessions, the psychologist held the sessions and the researcher was also actively present. Then, after confirming the researcher's ability, the psychologist played the role of supervisor in all the sessions and the researcher proceeded to select the samples and conduct the therapy. The intervention was conducted in the comprehensive breathing clinic (in a room dedicated to dignity therapy with the coordination of the head of the department). Before each session, the researcher informed the subjects by phone after making the necessary arrangements. She also prepared the location of dignity therapy before each session. The dignity therapy session was conducted for 45-60 min by using audio recording 24-48 hrs after filling out the questionnaires. Throughout the session, the dignity of the patient regarding their thoughts, speech, and feelings was tried to be maintained by establishing proper communication. Moreover, during the interview process, the interviewer helped the patient to express themselves in more detail by using open-ended questions. Dignity therapy protocol included nine questions which were read to the client one by one, and after each question, the patient was given sufficient time to answer each question freely [Table 1]. The interviewer read the questions to the patient and the patient answered them. Based on the opinions of the patients, a particular question could be removed or considered unimportant and superficial, while another question could be given more significance. All the statements of each patient were recorded, and the patient could ask for rest if necessary. When exhaustion was evident in the physical condition of the patient, the interviewer could postpone the rest of the interview to the next day. The most crucial role of the interviewer was to draw memories from the patient's unconscious that had the potential to increase a sense of satisfaction and pride and contribute to the creation of a sense of self-esteem in the patient. Given the fact that all subjects were not present in each session, the researcher should repeat these things with each person. After conducting the interview, transcribing and editing the recorded conversations and creating a productive document, the manuscripts were read to the patient in the third session (two to three days later) so that they can offer their suggestions and corrections, and to add the possible missing parts. Then the final version was given to a relative of the patient to share the productive document with other family members. Doing so, these family members could become more familiar with the thoughts, past, and wishes of the patient and fulfill them if necessary and possible. Finally, after one month of dignity therapy, the questionnaire was completed again by the members of both intervention and control groups. In all sessions, the researcher protected the clients from Covid-19 by maintaining social distance and following other health protocols.

Statistical analysis

Data were analyzed using SPSS V.16.0 software (SPSS Inc., Chicago, IL, USA) V.18.0. Initially, the normality of the data was examined by using the Kolmogorov-Smirnov test. Then, independent *t*-test (for quantitative variables) and $\chi 2$ test (for categorical variables) were used to compare demographic variables as well as anxiety and depression between the two groups. Paired *t*-test was used to compare the variables in each group before and after the intervention. Moreover, independent *t*-test was used for intergroup comparisons with regard to the main

Table 1: The protocol of dignity therapy (questions)

1	Tell me a bit about your life (life story). Tell me about the best or most important parts of your life that you remember clearly. When did you feel the happiest and most alive?
2	Is there any specific thing you want your family to know about you, or something special you want them to remember?
3	What are the most significant roles you have had in your life? (Family, social, etc.) Why are they so important to you? And what did you do successfully regarding these roles?
4	What are the most substantial tasks you have accomplished and in which one do you feel the highest level of pride?
5	Is there any private thing you still like to talk about it with those you love? Do you like get another chance to talk about things you like?
6	What are your hopes and dreams for those you love?
7	What things have you learned in life that you would like to share with others? What advice or guidance do you have that you like to provide to others (son, daughter, wife, parents or others)?
8	Are there any particular statement or instruction that you want to suggest to your family to prepare them for the future?
9	Is there any specific point you would like to add to this note?

variables. The significance level was determined to be lower than 0.05.

Results

Sixty-two patients with chronic obstructive pulmonary disease participated in the study and were divided into the control (n = 31) and the intervention (n = 31) groups to receive the therapeutic intervention. The mean age of the participants was 61.9 ± 8.95 and 71.26 ± 6.95 in the intervention and control groups respectively. Around 64.5% of the participants of the intervention group were male and 35.5% were female. In the control group, 61.3% of the participants were male and 38.7% were female. In the intervention group, 35.5% of the participants were smokers, while this present was 25.5% in the control group. Other demographic characteristics of the participants are shown in Table 2. Based on the independent *t*-test, the mean age, years of smoking, and number of hospitalizations were not significantly different between the two groups ($P > 0.05$). The Chi-squared test also indicated that the distribution of gender and marital status, education, occupation, history of cigarette use, history of chronic disease, and the number of children were not significantly different between the two groups ($P > 0.05$) [Table 2].

The mean score of anxiety in the control group was 11.29 ± 2.81 and 10.58 ± 3.27 before the intervention and one month after the intervention, respectively. In the intervention group, this score was 8.12 ± 3.73 and 5.96 ± 4.4 before the intervention and one month after the intervention, respectively. Based on the paired *t*-test, the mean score of anxiety in the control group was not significantly different before and one month after the intervention ($P = 0.08$). By contrast, in the intervention group, there was a significant difference before and one month after the intervention ($P = 0.004$)[3] [Table 3].

According to the normality of the data distribution based on the Kolmogorov-Smirnov test, the independent *t*-test indicated that the mean score of anxiety before the intervention did not differ significantly between the two groups ($t = 3.76$ and $P = 0.18$). However, one month after the intervention, this score was significantly lower in the intervention group than in the control group ($t = -4.67$ and $P = 0.05$) [Table 3].

The mean score of depression in the control group was 10.45 ± 3.43 and 10.38 ± 3.61 before the intervention and one month after the intervention, respectively. However, in the intervention group, this score was 6.96 ± 3.4 and 6.06 ± 4.01 before the intervention and one month after the intervention, respectively. Based on the paired *t*-test, the mean score of depression in the control group was not significantly different before and one month after the intervention ($P = 0.72$). Similarly, there was no significant difference in the intervention group before and one month after the intervention ($P = 0.19$). Additionally, based on the independent *t*-test, the mean score of depression before ($P = 0.68$) and one month after the intervention was not significantly different between the two groups ($P = 0.24$) [Table 3].

Table 2: Demographic characteristics in two groups

Characteristics		Intervention (DT)	Control	*P*
Age (year) Means±SD/Means		61.90±8.95	71.26±6.6	*0.4
Smoking (year) Means±SD/Means		67.18±9.32	61.17±6.1	*0.8
Hospitalization frequency Means±SD/Means		6.38±2.45	4.22±2.04	*0.36
Sex (*n* %)	Male	20 (64.5)	19 (61.3)	
	Female	11 (35.5)	12 (38.7)	**0.76
Marital status (*n* %)	Married	25 (80.6)	26 (83.9)	
	Single	6 (19.4)	5 (16.1)	**0.74
Education status (*n* %)	Under Diploma	19 (61.3)	13 (41.9)	**0.31
	Diploma	8 (25.8)	12 (38.7)	
	University	4 (12.9)	6 (19.4)	
Employment status (*n* %)	housewife	9 (29)	13 (41.9)	**0.5
	employed	13 (41.9)	12 (38.7)	
	Retired	9 (29)	6 (19.4)	
Smoking history (*n* %)	Yes	11 (35.5)	8 (25.8)	**0.4
	No	20 (64.5)	23 (74.2)	
Other chronic diseases (*n* %)	No disease	12 (38.7)	19 (29)	**0.32
	Hypertension	13 (41.9)	10 (32)	
	Cancer	2 (6.4)	1 (3.2)	
	Kidney disease	3 (9.7)	1 (3.2)	
	Rheumatoid diseases	1 (3.2)	0 (0)	
Number of children (*n* %)	≥3	19 (61.3)	20 (64.5)	**0.5
	<3	12 (38.7)	11 (35.5)	

*Calculated using independent *t*-test. **Calculated using Chi-square test

Table 3: Comparing the mean score of anxiety and depression before and one month after the intervention between the two groups

Outcomes	Tims of measurement	Control	Intervention	*P***
HADS. stress	Before intervention	11.29±2.81	8.12±3.73	0.18
	After intervention	10.58±3.27	5.96±4.4	0.05
	*P**	0.08	0.004	
HADS. Depression	Before intervention	10.45±3.43	6.96±3.44	0.68
	After intervention	10.38±3.61	6.06±4.01	0.24
	*P**	0.72	0.19	

*Calculated using paired sample *t*-test. *Calculated using independent *t*-test

Discussion

This study was conducted to determine the effect of dignity therapy on anxiety and depression in patients with chronic obstructive pulmonary disease. The findings were indicative of the positive effect of dignity therapy on the anxiety of patients. Patients suffering from chronic obstructive pulmonary disease usually experience a range of symptoms such as pain and various physical and mental disorders, which prevent them from performing their roles and tasks properly. In this study, which was conducted for the first study in Iran to determine the effect of dignity therapy on the anxiety and depression of these patients, the researchers tried to help the patients overcome the negative aspects of their feelings and have a better treatment process by reminding the important roles of them in the past and making them feel valuable as well as providing them with the opportunity to express their feelings and share these feelings with others.

Based on the results of the present study, dignity therapy could effectively reduce anxiety of patients with chronic obstructive pulmonary disease. Dignity therapy significantly reduced the score of anxiety one month after the intervention in the intervention group. This result was consistent with the results of the study conducted by Vuksanovic *et al*.[19] on the anxiety of patients with advanced cancer. In this study, the anxiety score of the intervention group was significantly lower than that of the control group ($P < 0.05$). Xiao *et al*.[26] investigated the level of anxiety in end-of-life patients with lung cancer. In their study, the mean score of anxiety was significantly reduced after the intervention ($P < 0.05$). The results of this study are also in line with the results of the present study. Similar results were obtained by the study of En-gui *et al*.[27] conducted on the hospitalized cancer patients. They indicated in their study that dignity therapy could significantly lower the anxiety of patients. In this regard, the results of Wang *et al*.[17] also revealed that dignity therapy reduced the anxiety of lung cancer patients ($P < 0.05$). Investigating the effect of dignity therapy on the mental state of the patients with advanced cancer, Xiaodong *et al*.[28] confirmed the positive effect of dignity therapy on the anxiety of these patients. The results of these studies confirmed the results of the present study that dignity therapy could effectively decrease the anxiety of patients with chronic obstructive pulmonary disease. In fact, encouraging the patients to talk about past and recalling past feelings, dignity therapy reduces sources of distress, thereby making patients express their emotions and adapt to the present situation.[27]

As revealed by the results of the present study, dignity therapy had no effect on the depression of patients with chronic obstructive pulmonary disease, as it did not reduce the score of depression of the intervention group one month after the intervention. Li *et al*.[29] conducted a study entitled "the effectiveness of dignity therapy as applied to end-of-life of patients with cancer in Taiwan." Based on their results, the mean score of depression was not significantly different between the two groups before the intervention ($P > 0.05$). However, a significant difference was observed between the two groups in the first and second week after the intervention ($P < 0.001$). Similarly, Juliao *et al*. investigated the effect of dignity therapy on the depression in the patients with terminal illnesses, where dignity therapy could reduce the level of depression ($P < 0.05$).[30] The results of the study conducted by Li *et al*[31]. in 2018 on the depression of patients with advanced cancer were contrary to the results of the present study. According to their results, dignity therapy could effectively reduce the patients' depression ($P < 0.05$).[31] Investigating the effect of dignity therapy on the emotional state of patients with lung cancer, Zhang *et al*.[32] indicated the positive effect of dignity therapy on the depression of these patients. Unlike these studies whose results confirmed the positive effect of dignity therapy on the depression of patients, the present study obtained no similar results. Different results are maybe due to the different background of the study, the extent and severity of the disease, the way the intervention was implemented, and the short follow-up period of the patients after the intervention. It also should be noted that not only has depression a complex nature and many factors can affect it, but a longer period of time is also needed to change this variable.

Among the limitations of the present study, mention may be made of the small sample size, the implementation of the intervention in only one treatment center, and the blinding of the samples. Moreover, the follow-up time for the effects of this intervention was relatively short and there was no possibility of long-term follow-up. Despite having these limitations, the findings of the present study confirmed the positive effect of dignity therapy on the anxiety of patients suffering from chronic obstructive pulmonary disease.

Conclusion

Based on the results of the present study, dignity therapy had an effect on the anxiety of patients suffering from chronic obstructive pulmonary disease. Therefore, given the increasing prevalence of this disease, it is recommended that counselors, therapists, and nurses use therapeutic intervention along with other effective methods to help these patients. Doing a search in information databases, we found a limited number of studies on the effect of dignity therapy on patients suffering from chronic diseases, especially chronic obstructive pulmonary disease. Therefore, it is recommended that other studies investigate and compare the effect of this therapeutic intervention with other psychotherapy methods in controlling the psychological symptoms of these patients after a long-term follow-up. It is also suggested that future researchers conduct similar studies in a wider scale in other hospitals and centers.

Ethical considerations

This study, with code IR.MUI.NUREMA.REC.1400.132, was approved by the Ethics Committee of Isfahan University of Medical Sciences. In the outset of the study, informed consent was obtained from the participants of both groups, and they were assured about the confidentiality of their information and having the freedom to withdraw from the study at any time.

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Data availability statement

All data generated or analyses during this study are included in this published article.

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Conflicts of interest

There are no conflicts of interest.

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