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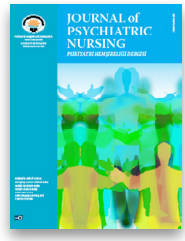

Original Article

Effect of guided imagery on the functionality of individuals diagnosed with schizophrenia in a community mental health center

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Abstract

Objectives: The aim of this study is to determine the effect that guided imagery has on the functionality of individuals diagnosed with schizophrenia in a community mental health center.

Methods: This is a pretest-posttest-controlled group study including 631 individuals registered in the Community Mental Health Center (CMHC) of Ege University Medical Faculty Hospital, of which 55 individuals were diagnosed with schizophrenia, as well as 300 individuals registered in the CMHC of Katip Çelebi University Atatürk Training and Research Hospital, of which 30 individuals were diagnosed with schizophrenia, and who were receiving continuous daytime service. The study sample included 48 individuals that fit the inclusion criteria among the 85 individuals who benefitted from daytime CMHC. The study was completed with 24 individuals in the experimental group and 24 individuals in control group. The value of power analysis is 98.8%. As data collection tools, an Introductory Information Form, Functional Remission of General Schizophrenia Scale (FROGS), and Subjective Recovery Assessment Scale (SubRAS) were used. For the numerical measurements, Mann-Whitney U test, Wilcoxon t test, one-way ANOVA test, and Chi-squared test were used.

Results: As a result of guided imagery applied to the study group 10 minutes daily for two weeks, a statistically significant difference was detected between the mean score of daily living skills subscale of FROGS ($z=-2.69$, $p\leq0.01$); mean score of treatment subscale ($z=-2.37$, $p=0.01$); overall mean score of FROGS ($z=-2.41$, $p=0.01$); mean score of SubRAS ($z=-3.70$, $p\leq0.01$). However, no significant difference could be found between the mean scores of social functioning subscale of FROGS ($z=-1.80$, $p=0.07$) and the mean scores of professional functioning in FROGS ($z=-0.46$, $p=0.64$).

Conclusion: According to the results of the study, it can be said that the guided imagery application for two weeks has created a significant difference in functional remission of the cases diagnosed with schizophrenia.

Keywords: Community mental health nursing; functional recovery; guided imagery; schizophrenia.

Although it has been more than a half-century since the performance of medical treatment practices for severe mental disorders in the 1950s, there are still fields that need to be developed in the treatment of the diseases.[1] Despite the recent developments in the psychopharmacological and psychosocial treatments, almost 25–30% of the patients with schizophrenia do not explicitly recover. Such patients comprise a vast majority of the patients in large hospitals, which can have many patients for a long time.[2] Patients with schizophrenia have serious problems in skills such as daily life skills, social relationships, communicating with parents and people around.[3] Schizophrenia comes into prominence with posi-

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What is known on this subject?

- This is the first study where guided imagery was performed on individuals diagnosed with schizophrenia.

What is the contribution of this paper?

- Performance of guided imagery on individuals diagnosed with schizophrenia positively affected the functionality.

What is its contribution to the practice?

- Community mental health nurses can perform this method by receiving guided imagery training at the centers they work in.

tive, negative, cognitive, and affective symptoms and requires practicing multiple treatment methods simultaneously due to its various features in etiology, clinical symptoms, process, and termination, causing serious problems in the quality of life and functions as it lasts an individual's lifetime.[2,4,5] Community mental health center teams need to be recovery-oriented and focus on the patient instead of the disease.[6] The common goal should be making the patient more functional. In addition to the treatment approaches towards removing the fundamental symptoms and mental deprivation during schizophrenia treatment, efforts to increase functionality are expected to increase the subjective life, self-respect, and satisfaction with life.[1] The most important emotion for the patients comes with reaching the condition of being able to do something for themselves that they previously relied on someone else to do. Arousing this emotion will ensure the continuity of the treatment.[7] The individual will reach the condition of one doing something for themselves with guided imagery practice.

Guided imagery belongs to the mind-body field of complementary and alternative therapies. In guided imagery, the thoughts and imagination of the person are focused on and oriented to a specific goal by a guide. Images in the guided imagery include all the five senses and are based on an understanding that body and mind are connected, and the mind may affect the body.[8] Stress and anxiety directly affect the brain and immune system.[9,10] In guided imagery, the thoughts and imagination of the person are focused on and oriented to a specific goal, mostly through a voice record of a guide.[8,10] Imaging may provide physical improvements in individuals in addition to psychological improvements, such as in emotion control, concentration, and self-confidence.[11] Guided imagery has been proved to help individuals cope with many diseases, such as cancer, migraine, irritable bowel syndrome, hypertension, anxiety, depression, immune system diseases, posttraumatic stress disorder, and asthma.[12] A few studies in international literature have used guided imagery in psychiatry patients. The use of guided imagery in individuals diagnosed with schizophrenia is quite limited. This is the first study where guided imagery was performed in individuals diagnosed with schizophrenia in Turkey. Patients diagnosed with schizophrenia have difficulty in mentally forming consistent scenes of future events[13] and dreaming about their positive events in the future due to apathy,[14] which specifically makes using guided imagery valuable in this group.[15]

Psychiatric nurses and community mental health nurses are recommended to have the body of knowledge regarding the methods in complementary treatments (relaxation, posture flexibility, correct respiration, colors, plants), provide the treatment setting, make regulations in accordance with the study data, and participate in certified training programs in this field and train colleagues in other fields and practice on the patients and patient relatives.[16] The guided imagery method is such complementary treatment. Guided imagery method is significant for practice on individuals diagnosed with schizophrenia as a nursing intervention at community mental health centers (CMHCs).

This study was conducted to determine the effect of guided imagery methods practiced on the people diagnosed with schizophrenia at the CMHC on the functionality of the individuals.

Materials and Method

Study Type

This is a pretest-posttest-controlled group study.

Study Location and Time

This study was conducted between 2017 and 2018 in the Community Mental Health Center (CMHC) of Ege University Medical Faculty Hospital and the Community Mental Health Center (CMHC) of İzmir Katip Çelebi University Atatürk Training and Research Hospital.

Study Population and Sample

The study population includes n=55 individuals diagnosed with schizophrenia who were receiving continuous daytime service, among n=631 individuals registered in the Community Mental Health Center of Ege University Medical Faculty Hospital, and n=30 individuals diagnosed with schizophrenia who were receiving continuous daytime service among n=300 individuals registered in the CMHC of İzmir Katip Çelebi University Atatürk Training and Research Hospital. The study sample included 48 individuals who met the inclusion criteria among the 85 individuals benefitting from daytime CMHC. Individuals were distributed to the experimental and control groups based on the lottery method. The study was completed with 24 individuals in the experimental group and 24 individuals in the control group. The value of power analysis is 98.8%.

Hypotheses

H0: The guided imagery method does not have any effect on the functionality of individuals diagnosed with schizophrenia in the community mental health center.

H1: The guided imagery method affects the functionality of individuals diagnosed with schizophrenia in the community mental health center.

Study Inclusion and Exclusion Criteria

Inclusion criteria included:

- Receiving daytime service from the Community Mental Health Center (CMHC) of Ege University Medical Faculty Hospital or the Community Mental Health Center (CMHC) of İzmir Katip Çelebi University Atatürk Training and Research Hospital
- Followed up with schizophrenia diagnosis based on DSM-IV and V criteria for at least one year (no discrimination was found between subtypes of schizophrenia)
- Volunteered for participation in the study
- With hearing ability to listen to voice recordings
- Listening to the guided imagery voice record at least once daily for two weeks

Exclusion criteria included:

- Patients in the acute exacerbation period
- Inpatients or patients discharged two weeks ago at most
- Patients who actively use alcohol or psychoactive substance
- Patients with a mental condition such as mental disability or dementia, which makes cooperation impossible

Patients included in the study were monitored with ambulatory controls by Community Mental Health Centers, and all patients continued to receive drug treatments including typical and/or atypical antipsychotic medications. Patients' drug treatments were not interfered with during the study.

Data Collection Tools

Study data were collected through an Introductory Information Form, the Functional Remission of General Schizophrenia Scale (FROGS), and the Subjective Recovery Assessment Scale (SubRAS).

The introductory information form was prepared by the researchers and included 11 questions about socio-demographic characteristics of the individuals (contact information, age, etc.).

Functional Remission of General Schizophrenia Scale (FROGS)

Emiroğlu et al.[3] (2009) conducted the Turkish validity reliability study of the Functional Remission of General Schizophrenia Scale (FROGS), which was originally developed in French for use in clinical studies and patient evaluations. Cronbach Alpha value of the Functional Remission of General Schizophrenia Scale is 0.89. This study found the Cronbach Alpha value of this scale 0.87. FROGS is a 5-point Likert-type scale (1 = Do not do; 2 = Do partly; 3 = Do a significant part; 4 = Do almost all the activity; 5 = Do perfectly) including 19 items and evaluating the functionality of the patients with schizophrenia independently from symptoms. The scale includes four subscales: social functioning, daily life, treatment, and professional functioning. The professional functioning subscale was bipolarly performed, i.e., one of the items is the alternative for the other. Patients receiving a score below 58 from the Functional Remission of General Schizophrenia Scale (general total) are those with a low level of functional recovery. Patients with a score between 59 and 66 have a medium level of functional recovery, while patients with a score of 66 and above have a higher level of functional recovery. Patients with a score below 28 from the social functioning subscale have a lower social functionality; those with a score between 29 and 33 have a medium level of social functionality, and those with a score of 33 and above have a good level of social functionality. Patients with a score below 13 from the daily life scale have a lower daily life skills; those with a score between 14 and 15 have a medium level of daily life skills, and those with a score of 15 and above have a good level of daily life skills. Patients with a score below 13 from the treatment scale have a lower functionality on treatment level; those with a score between 14 and 15 have a medium level of functionality, and those with a score of 15 and above have a good level of functionality.

Subjective Recovery Assessment Scale (SubRAS)

Yıldız et al.[17] (2018) developed the 5-pointLikert-type scale SubRAS (1 = does not suit me; 5 = fully suits me) including 17 items and evaluated through the total score. Its Cronbach Alpha value is 0.98. This study found the Cronbach Alpha value to be 0.89. The scale does not have any subscales. A higher total score means a positive contribution to the recovery level of the patient.

Data Collection Methods

The scales were performed on the individuals who registered in the Community Mental Health Center of Ege University Medical Faculty Hospital and the Community Mental Health Center of İzmir Katip Çelebi University and agreed to participate in the study. Individuals were distributed to the experimental and control groups through the lottery method. Individuals in the experimental and control groups were separately interviewed and informed regarding the study, and their written permissions were obtained. Guided imagery method was performed on the experimental group after completing the introductory information form, Functional Remission of General Schizophrenia Scale, and Subjective Recovery Assessment Scale.

Of the guided imagery methods, imagery with the script method was used in this study. Scenarios on which expert opinion was received were used for functional improvement. Expert opinion for the scenario was received from one psychologist, two psychiatrists, and one psychiatry nurse. The flow of the scenario started with breathing exercises and continued with safe place practice; this is coming back to the present, waking up by turning to the body after affirmations regarding functionality, while in a safe place in the mind. Voice

recordings of the scenario were made in a professional studio setting, and the recording lasted 10 minutes. The experimental group performed guided imagery were told to listen to scenarios at least once every day for two weeks. Individuals were warned about the noteworthy subjects in the first interview when the pre-tests were conducted. They were told to listen to the voice recorder in the most convenient time of the day for themselves and in an environment where no one can disturb them, and to listen to the voice recording with earphones after changing the mode of the phone to plane mode and let the family members know so they do not distract. After letting participants read the text version of the scenario during the interview, they were asked if there was a word or sentence that they did not understand. People were told that they would be reminded via phone call to listen to the recordings, and their permissions were obtained. The participants listening to the voice recordings were asked to note down the date and hour after each listening and write an evaluation about how they feel and what they think. In the first interview, voice recordings were sent to the phones of the participants through computers in the Community Mental Health Center. The study was conducted with only voice recording. The participant and therapist did not perform face-to-face practice. After completing the interventions made to the experimental group, individuals in the experimental and control group were re-administered the scales.

Statistical Analysis

Study data were evaluated using the Statistical Package for the Social Sciences (SPSS) 20 software program. Mann-Whitney U test, two-dependent-group Wilcoxon t-test, one-way ANOVA test, and Chi-squared were used for the numerical measurements.

Hypotheses, Limitations, Difficulties Encountered

Study limitations included daytime patients registered in the Community Mental Health Center of Ege University Medical Faculty Hospital and the Community Mental Health Center of İzmir Katip Çelebi University Atatürk Training and Research Hospital, not taking into consideration the possible effects of the drugs used by the patients, not providing randomization, data being based on the notifications of the patients (the possibility to give positive answers to the questions due to social pressures), conducting the study in a relatively smaller sample, and being the first study to examine guided imagery in the individuals diagnosed with schizophrenia in Turkey.

Ethical Considerations

Written permission dated 20.03.2018 numbered 18-3.1/25 was obtained from the Clinical Studies Ethics Committee of Ege University. Institution permissions were obtained from the Community Mental Health Center (CMHC) of Ege University Medical Faculty Hospital and the Community Mental Health Center (CMHC) of İzmir Katip Çelebi University Atatürk Training and Research Hospital. Written permission was obtained from the individuals within the scope of the study. Individuals were assured that their name would not be written anywhere. The researcher received guided imagery training.

Results

This section includes the mean scale scores of the experimental group (n=24) and the control group (n=24), and the intergroup comparison of the mean scores.

Findings Regarding Experimental–Control Group Advisees

The mean age of the experimental group was found to be 34.13±8.82. Of the experimental group, 66.7% were male, 45.8% were university graduates, 87.5% were single, 70.8% lived with a relative or friend, 25% had been receiving treatment for 11 to 16 years, 45.8% came to CMHC between 2 and 4 years, and 79.2% did not have any physical disease.

Table 1. Comparison of Functional Remission of General Schizophrenia Scale Subscales and Total Mean Scores Before and After Guided Imagery Practice of the Experimental-Control Group

Scales	Experimental Group				Control Group			
	Before	After	z	p	Before	After	z	p
	Mean±SD	Mean±SD			Mean±SD	Mean±SD		
Social Functionality Sub Scale	18.25±6.60	19.70±5.72	-1.80	0.07	16.25±4.51	15.41±4.82	-1.11	0.26
Daily Life Skills Sub Scale	17.33±4.71	19.25±4.66	-2.69	0.00	18.58±3.39	17.45±4.18	-2.08	0.03
Health and Treatment Sub Scale	11.62±3.07	12.87±3.83	-2.37	0.01	12.70±3.08	11.58±3.07	-1.74	0.08
Professional Functionality Sub Scale	5.00±2.43	4.87±2.13	-0.46	0.64	4.29±1.68	4.12±1.51	-0.73	0.46
Functional Remission of General Schizophrenia Scale General Total	52.20±14.6	56.70±14.33	-2.41	0.01	51.83±9.41	48.58±11.05	-2.11	0.03

SD: Standard deviation.

The mean age of the control group was found to be 40.46±10.73. Of the control group, 83.3% were male, 29.2% were primary school graduates, 29.2% were high school graduates, 91.7% were single, 87.5% lived with a relative or friend, 33.3% received treatment for 6 to 10 years, 33.3% received treatment for 17 years and more, 45.8% came to CMHC between 2 to 4 years, and 83.3% had no physical disease.

A statistically significant difference was found between the pretest-posttest FROGS daily life skills subscale, health and treatment subscale, and total FROGS mean scores of the experimental group individuals (Table 1). No statistically significant difference was found between pretest-posttest FROGS social functioning subscale and professional functioning mean scores of the experimental group individuals (Table 1).

A statistically significant difference was found between pretest-posttest FROGS daily life skills subscale, treatment subscale, and total FROGS mean scores of the control group (Table 1). No statistically significant difference was found between pretest-posttest FROGS social functioning subscale and professional functioning mean scores of the experimental group individuals (Table 1).

Mean SubRAS scores were found to be 52.83±14.00 before guided imagery practice of the individuals in the experimental group, while it was found to be 60.29±14.29 after the practice. A statistically significant difference was found between preposttest SubRAS mean scores of the individuals in the experimental group (z=-3.70; p<0.001) (Table 2).

Mean pretest SubRAS scores were found to be 56.54±13.32 before guided imagery practice of the individuals in the control group, while posttest mean scores were found to be 52.41±14.01. A statistically significant difference was found between mean SubRAS scores of the individuals in the control group (z=-2.31 p=0.02) (Table2).

Table 3 presents the FROGS subscale and general total posttest mean scores between the experimental and control group and the SubRAS posttest mean scores. A statistically significant difference was found between the social functioning subscale of FROGS posttest mean scores between groups (p<0.05). No statistically significant difference was found between mean scores of FROGS daily life skills subscale, FROGS treatment subscale, FROGS professional functioning subscale, and mean FROGS scores (p>0.05). No statistically significant difference was found in the SubRAS posttest mean scores between groups (p>0.05) (Table 3).

Discussion

This study aimed to determine the effect of the guided imagery practiced on the individuals diagnosed with schizophrenia.

The experimental group listened to the 10-minute guided imagery voice recording downloaded to their phones, at least once every day for two weeks using earphones, which increased the individuals' daily life skills, health and treatment

Table 2. Comparison of Subjective Recovery Assessment Scale Subscales and Total Mean Scores Before and After Guided Imagery Practice of the Experimental-Control Group

Scale	Experimental Group				Control Group			
	Before	After	z	p	Before	After	z	p
	Mean±SD	Mean±SD			Mean±SD	Mean±SD		
Subjective Recovery Assessment Scale Score	52.83±14.00	60.29±14.29	-3.70	0.00	56.54±13.32	52.41±14.01	-2.31	0.02

SD: Standard deviation.

Table 3. Comparison of Intergroup FROGS Subscales and Mean General Total Post-Test Score and Mean SubRAS Post-Test Scores

Groups	Scales					
	FROGS (Mean±SD)					SubRAS (Mean±SD)
	Social functionality	Daily life skills	Health and treatment	Professional functionality	General total	
Deney grubu	19.70±5.72	19.25±4.66	12.87±3.83	4.87±2.13	56.70±14.33	60.29±14.29
Kontrol grubu	15.41±4.82	17.45±4.18	11.58±3.07	4.12±1.51	48.58±11.05	52.41±14.01
Test ve önemlilik	U=156.5 p≤0.01	U=237.7 p=0.29	U=215.5 p=0.13	U=232.0 p=0.24	U=195.5 p=0.05	U=199.0 p=0.06

FROGS: Functional Remission of General Schizophrenia Scale; SubRAS: Subjective Recovery Assessment Scale; SD: Standard deviation.

functionalities, and general functionalities. Individuals were found to have no idea about guided imagery, while they were familiar with the term meditation. A small number of participants who stated that they were meditating said that they were not frequently doing it; however, it was good for them. Russionava conducted a study conducted with 157 individuals—of which 40 were diagnosed with schizophrenia—with heavy mental illness. Of the 40 patients with schizophrenia, 11 individuals practiced meditation, and two practiced guided imagery.[18] Of the 28 individuals using guided imagery with bipolar disorder and heavy depressive disorder, 13 increased their emotional calmness in the emotional functionality. In the cognitive functionality field, six individuals increased their self-realization levels, four individuals increased their level of self-respect, and six individuals increased their spirituality. In the social functionality field, four individuals developed their interpersonal relationships, and one indicated that their level of social isolation decreased. This study found that higher-scale scores of the advisees in the intervention group indicated that imagery was effective in psychological recovery. The elements causing this situation included breathing exercises, relaxation techniques, affirmations on self-respect and functionality, individuals' having the opportunity to listen to the voice record at any time and allowing individuals to express themselves. Study results showed that individuals learning the guided imagery gave feedback indicating they developed more emotional calmness and awareness. This feedback included;

- It was good for my stress,
- I relaxed, calmed down, felt well due to breathing exercises,
- I could prepare breakfast; I took care of my hair and clothes,
- It refilled my energy; I did not feel sleepy anymore,
- I met my old friends,
- I aim to be appointed as an officer after getting a good score from E-KPSS, I realized that there is no such thing as pleasing as a relaxed mind and a mind committed to a positive thought,
- I felt relaxed while breathing and exhaling,
- I breathed and relaxed instead of beating the busboy/busgirl younger than me.

The subjective recovery level of the individuals in the experimental group increased after guided imagery practice. The scenario included some instructions to focus the individual's mind on the present. A study conducted with eighteen individuals diagnosed with schizophrenia and included scenarios starting with mindfulness to make individuals focus on the present found that imagery study decreased negative symptoms and increased positive emotions and psychological healing.[19] Evaluation notes were written by the individuals after each practice, and an increase in their mean subjective recovery assessment scale indicated an increase in psychological healing. A pilot study investigating the effect of mindfulness meditation regarding anxiety in individuals diagnosed with schizophrenia suggested that mindfulness meditation training was acceptable for all participants, and no finding worsening the psychotic or other symptoms was found during meditation.[20] In this study, individuals in the experimental group fully participated in the practice, and no individual felt bad with this practice.

The guided imaginary scenarios used in the study included breathing exercises and relaxation techniques. Individuals' feedback included comments such as, "Especially breathing exercise helped me to relieve the tension. My functionality increased a bit. I met with my old friends" and "Voice record relieved me when I listened. I felt relaxed and calmed down whenever I listened. I felt precious and significant as much as everyone," indicating that individuals were aware of the relaxation, and feedback showed positive effects on the individuals. Relaxation makes the release of chemicals feeding the growth of new synapses or neurons easier.[21,22] This growth nearly reprograms the unconscious mind, and new emotional and cognitive reactions emerge in harmony.[22] Relaxation is the first step for individuals to focus and concentrate on the recovery period.[23] Studies indicate that relaxation methods encourage patients to focus on the recovery process and give them the feeling of more autonomy regarding the management of the disease.[24]

Presentation and easy availability of the guided imaginary scenario written for an individual diagnosed with schizophrenia is significant, since it would be long-term and repetitive. Long term and repetitive training and reinforcements will increase the functionality of the patient in the long term.[2] On the other hand, it is important to repeat the imagery to create new neural nets.[22] It is thought that individuals' functionalities would regularly increase if they think this a time reserved for themselves, to integrate into their lives, and regularly practice. Some of the individuals gave feedback such as, "I will continuously practice this." Accordingly, performing guided imaginary practice in community mental health centers will help community mental health center nurses to take guided imaginary training, help individuals to gain the habit, and increase the permanence of the functionality, which is why nurses are recommended to regularly perform this on individuals. The mission of community health center nurses includes taking steps towards the social adaptation of the patient and cooperating with the rehabilitation team, supporting the individual and family during the recovery and adaptation process.[25] Nurses' role in the imaginary is thought to be consistent with basic nursing roles that train patients and empower them.[24] Nurses in the CMHC where the practice was performed indicated that they want to make advisees collectively listen to the voice record once a week.

Schizophrenia may not always be chronic and result in destruction; progress may be halted in each stage of the disease, and it even may be reversed, and functional improvement may be made.[3] Studies indicate that imagery may be effec-

tive in the treatment of various diseases.[23] For this reason, guided imagery within daily life activities will positively affect recovery when used in addition to medication. On the other hand, guided imagery practice did not affect social functionality and professional functionality. Patients with schizophrenia are not able to start working and provide continuity due to social stigmatization, cognitive disabilities, side effects of the drugs, affection, interpersonal relationships, and a decrease in self-respect.[26] Guided imagery practice did not have an effect on professional functionality, which may result from the employment problem of these patients. Providing business opportunities to the individuals diagnosed with schizophrenia for professional functionality and practicing long-term alternative treatments in addition to the drug treatments to individuals may enhance their effectiveness in their working life. Schizophrenic disorders generally last a lifetime and cause serious problems in the individual's level of social function.[27] There are various rehabilitation studies conducted to increase the social functionality and quality of life of patients with a psychiatric disorder such as schizophrenia.[28] These studies need to be generalized in the community mental health centers.

No practice was performed on the control group for two weeks. A significant decrease was found in the daily life skills subscale of FROGS, general FROGS mean scores, and general SubRAS mean scores. Statistically significant decrease in the daily life skills, total FROGS score, and SubRAS score may not have resulted from the guided imaginary practiced on the control group; however, considering the similar characteristics in the experimental and control group, higher mean scores (except professional functionality in the experimental group) indicate the efficiency of the practice. Liberman (2011) stated the place where recovery would reach as removing or minimizing the annoying symptoms and being able to live among people with disabilities in society.[29] Even though guided imagery practice increased functional improvements of the patients in the short term, it led to positive changes in the general situations of individuals.

In this direction, the study findings support hypothesis H1 that guided imagery method practiced on the individuals diagnosed with schizophrenia in the community mental health center affect the functionality of the individuals.

There are a few studies where guided imagery is used with psychiatric patients, in particular, with individuals diagnosed with schizophrenia. In Turkey, however, no such study was found. As a result, increasing this practice in centers by the community mental health nurses who receive education and training on guided imagery practices in psychiatric disorders is recommended, as well as conducting studies on providing more job opportunities for individuals diagnosed with schizophrenia and increasing social functionalities in these individuals.

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