



Original Article

The effects of “I can ride the storm” program in functionality, life satisfaction, and perceived family burden in patients with schizophrenia

Çiğdem Dereboy,¹ Gözde Sayın Karakaş,² Gamze Karadayı Kaynak,³ İlknur Kocadurdu,⁴
Ayşe Döndü,⁵ Fatma Demirkıran⁶

¹Department of Psychiatry, Aydın Adnan Menderes University, Aydın, Türkiye

²Department of Psychology, Aydın Adnan Menderes University, Aydın, Türkiye

³Department of Psychology, Aydın Adnan Menderes University, Aydın, Türkiye

⁴Çiğli Community-based Mental Health Service, İzmir, Türkiye

⁵Aydın State Hospital, Aydın, Türkiye

⁶Department of Psychiatric Nursing, Aydın Adnan Menderes University, Aydın, Türkiye

Abstract

Objectives: Psychosocial interventions are frequently used in the treatment of patients with schizophrenia. The aim of this study is to introduce the “I Can Ride the Storm” program, which was developed for patients with schizophrenia, and to examine the effects of the program on the patients’ functionality, life satisfaction, and perceived family burden.

Methods: The sample consisted of 20 (11 females and 9 males) patients diagnosed with schizophrenia who were willing to participate in group sessions and enroll in a community-based mental health service in a state hospital in Aydın. Five groups consisting of 5–6 patients were formed within a 2-year period. Each group had a total of nine sessions that lasted for one and a half months. The Functional Recovery Scale in Schizophrenia, the Functioning Assessment Short Test, and the Life Satisfaction Scale were administered to the patients, and the Perceived Family Burden Scale was administered to the family members of patients, before and after the program. Group sessions were conducted by a therapist and a co-therapist, who were supervised by two senior researchers.

Results: The non-parametric Wilcoxon Signed Rank test was performed to compare the differences between the pre-test and post-test scores. The results indicated that the Life Satisfaction Scale scores of patients increased ($z=-2.12$, $p<0.05$), whereas the Perceived Family Burden Scale scores of their relatives decreased ($z=-3.28$, $p<0.05$). In addition, a decrease in perceived family burden was more evident in the families of male patients ($z=-2.25$, $p<0.05$). There was no significant change in the scores for the Functional Recovery Scale in Schizophrenia and the Functioning Assessment Short Test.

Conclusion: The findings of this first study evaluating the “I Can Ride the Storm” program are thought to be promising for the development of a new psychosocial intervention as an adjuvant to the treatment of patients with schizophrenia. Simplified homework and tasks that adapt to the patients’ living conditions are seen as essential features of the program. It would be important to examine the effectiveness of the program with different studies that include a control group.

Keywords: Behavioral science; group; psychotherapy; schizophrenia spectrum and other psychotic disorders.

Address for correspondence: Gözde Sayın Karakaş, Aydın Adnan Menderes Üniversitesi Fen-Edebiyat Fakültesi Psikoloji Bölümü Aydın, Turkey

Phone: +90 256 220 33 00 **E-mail:** gozde.sayin@adu.edu.tr **ORCID:** 0000-0002-9132-4144

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What is known about this topic?

It is known that psychosocial interventions make positive contributions to the treatment process of schizophrenia and other psychotic mental disorders.

What does this article add to what is already known?

This article presents the first findings on the effectiveness of a new intervention program on the functionality, life satisfaction, and perceived family burden of patients with psychotic symptoms.

What is its contribution to the practice?

With the support of other studies, this program will contribute to mental health professionals (physicians, psychologists, nurses, and social workers) who deal with the treatment of patients with psychotic symptoms, in terms of providing an alternative psychosocial intervention method that is easy to learn and implement, and of a relatively short duration (one and a half months).

Schizophrenia and other psychotic disorders significantly affect a person's quality of life and cause difficulties in many areas of life. Studies in the literature reveal that the quality of life and daily functionality of patients with schizophrenia decrease depending on the symptoms and severity of the disease.^[1,2] In addition, problems such as limited communication with other people, withdrawal from society, and low motivation to participate in daily life activities are common in many patients diagnosed on the schizophrenia spectrum.^[3] All these difficulties may also increase the care burden on families. It is known that caring for a schizophrenic patient is very tiring and demanding, and therefore caregivers may face various emotional and physical problems.^[4] Yu et al.^[5] (2017) found that 52% of the participants who care for patients with schizophrenia reported the care burden as moderate or severe. Similarly, in a study conducted by Stanley et al.^[4] (2017), it was reported that the perceived burden of care is high, the quality of life decreases, and simultaneously, high levels of anxiety and depression symptoms are observed.

Weakening of the social skills of the patients, deterioration in their daily functioning and cognitive functions, and the problems experienced by the caregivers reveal the need for psychosocial interventions in addition to medical treatment.^[6] The literature presents many approaches and techniques that are applicable to patients with schizophrenia. Some of these techniques are based on psychoeducation and others are based on behavioral approaches. It is known that psychoeducation improves treatment compliance and the quality of life of patients with schizophrenia.^[7] In addition, there are studies showing that patients with schizophrenia also benefit from various behavioral techniques. For example, it has been found that the self-care abilities of patients with schizophrenia improved,^[8] and with intervention programs based on the token economy, their physical activity levels and their quality of life increased.^[9] Gronholm et al.^[10] (2018) showed that social skills training, including role-playing, helped increase the functionality and reduce the negative symptoms of patients with schizophrenia. Bellack (1986) emphasized that the benefits of using behavioral techniques in the treatment of schizophrenia are important because they 1) strengthen the effect of pharmacotherapy, 2) include interventions that

involve the family and include social skills training, 3) provide skills that support daily life functionality, and 4) reduce rehospitalization rates.^[11] Kern et al.^[12] (2009) also suggested that well-structured social skills training based on behavioral methods should be seen as an important part of treatment for improving the social skills of patients. In the review study conducted by Ventriglio et al.^[13] (2020), the importance of psychoeducation to patients was mentioned and emphasized, as was the importance of training them on how to cope with their symptoms of illness and daily responsibilities. They reported that psychoeducation and skill development activities should be included in intervention programs in order to especially prevent relapses, increase adherence to treatment, and obtain longer-term results. Norman et al.^[14] (2017) similarly emphasized the importance of giving feedback and the effect of homework by systematically evaluating the life skills of patients with schizophrenia.

When the literature is examined, it is possible to encounter many psychosocial intervention methods carried out as group interventions in the treatment of schizophrenia in order to improve the functionality of patients.^[15,16] In a study conducted by Kim et al.^[17] (2020), it was found that increasing the grocery shopping skills of patients with schizophrenia resulted in the improvement of executive functions and instrumental activities. Their research aimed to gain these skills by showing 10 patients the requirements of shopping for groceries (for example, where the products are located and the prices) during eight sessions. The results showed an increase in the executive functions of the participants in the experimental group who participated in the sessions. These results indicated that increasing functionality for even a simple daily activity resulted in an increase in life skills and executive functions in patients with schizophrenia.

Interventions to strengthen the functionality of patients on the schizophrenia spectrum are widely applied and give promising results. As in the foreign literature, it is seen that there are also psychoeducations practices in Turkey, including group practices, cognitive and behavioral interventions, and various practices involving families in Türkiye.^[18-23] These interventions aim to provide improvements in different areas, such as strengthening the functionality, treatment compliance, and social interactions of patients. As an example, Social Skills Training: Coping with Symptoms and Medication Management Approach (Mental-Social Skills Training) stands out as a program developed for patients with schizophrenia, including various cognitive behavioral techniques.^[22] This program has modules on medication and symptom management, community involvement, basic speaking skills, substance abuse management, friendship and intimacy, leisure entertainment, and core skills at work. The program includes interventions in various areas, such as homework, psychoeducation, problem solving, and family education.^[24] In a recent study, the effects of "Life Skills Training in Schizophrenia" on the functionality of patients were evaluated in a randomized controlled study. A total of 32 patients with schizophrenia were included in the

study and were randomly assigned to the experimental and control groups. Patients in the control group participated in group sessions twice a week for 8 weeks. In these sessions, the improvement of daily life skills and social skills in patients with schizophrenia was supported. The results revealed an increase in the life skills and functionality of the patients in the experimental group compared with those of the control group.^[25]

One of the points recommended to be considered in programs developed for patients on the schizophrenia spectrum is cultural characteristics. Researches show that the course of treatment and prognosis for the disorder may differ in different cultures.^[26] It has been reported that cultures vary in terms of sociocultural variables, religious characteristics, and family values, and because of this variability, the prognosis of the disease is milder (benign) compared with that of developed countries, especially in developing countries.^[27] Based on these results, it is extremely important that the prepared intervention programs include culturally convenient features for the patients.

Based on these research findings, it is thought that developing daily life skills, teaching coping methods, and gaining social skills for patients on the schizophrenia spectrum may produce very beneficial outcomes. When the programs in Turkey are reviewed, it is noteworthy that most of these programs have been developed in other cultures and have been used through adaptation studies. Although there are programs that have been successfully adapted, it is thought that an intervention developed in our own culture is important and will contribute to treatment. In line with the findings in the literature, the "I Can Ride the Storm" program was developed, in which many behavioral techniques were brought together and homework assignments were made in accordance with the cultural characteristics of the patients. This program is of a relatively short duration (each session is an average of one and a half hours, for a total of about one and a half months), enriched with sessions and assignments based on behavioral techniques, and presented as an easy-to-apply group practice where people from various fields, such as psychologists, physicians, nurses, and social workers, can be trained in a short time.

As a result, it is seen that patients with schizophrenia experience difficulties, such as decreased functionality, an inability to communicate with people, and decreased life satisfaction. Patients cannot mingle with society, have difficulty fulfilling their basic daily tasks, and have problems communicating even with their closest relatives. The findings in the literature show that behavioral and psychosocial interventions are promising in the face of these difficulties. Within the scope of this research, we aim to evaluate the effects of the newly developed "I Can Ride the Storm" program on the functionality, life satisfaction, and family burden of patients with schizophrenia. The research questions of the study are the following:

1. Do the life satisfaction levels of the participants who complete the "I Can Ride the Storm" program differ between the

pre-test and post-test measurements?

2. Do the functionality levels of the participants who complete the "I Can Ride the Storm" program differ between the pre-test and post-test measurements?

3. Is the perceived care burden of the families of the participants who complete the "I Can Ride the Storm" program different between the pre-test and post-test measurements?

Materials and Method

Type of research

This research was conducted to compare the scale scores before and after the group (pre-test–post-test) of the participants who completed the "I Can Ride the Storm" program in a community-based mental health service structured within a state hospital in Aydın. A total of 500 patients are registered in the community-based mental health service, and the number of patients who attend the center regularly is 70. This study was carried out in a community mental health center, where a doctor, a psychologist, a nurse with working experience in a psychiatry clinic, a social worker, an ergotherapist, an occupation trainer affiliated with the Public Education Directorate, a literacy trainer, a secretary, and a cleaning staff from the psychiatry clinic of the state hospital were assigned for a period of one year.

Population and sample

The population of the study consisted of patients diagnosed on the schizophrenia spectrum who attended the community-based mental health service. The sample of the study consisted of patients who volunteered to participate in group sessions and met the inclusion criteria, as well as a family member responsible for the primary care of these patients. The study started with 33 patients who met the criteria for participation and were selected for sampling among the patients; however, only 20 patients were included in the analysis because four patients could not complete the group sessions and nine patients filled in the measurement tools incompletely.

Inclusion criteria

Literate patients, who volunteered to participate in the study, were diagnosed with schizophrenia, were not in the acute phase of the disease, regularly attended the community-based mental health service, could actively participate in the group, continued their treatment, and filled out the measurement tools completely, were recruited. The participants to be included in the group were determined by the evaluations of a psychiatrist and a psychologist.

Exclusion criteria

Patients who were in the acute phase of the disease, who could not cooperate and were reluctant to participate in group sessions, were not included in the study, and patients with deficiencies or an inability to fill out the measurement tools were not taken into consideration in the study.

Data collection tools

Functional Recovery Scale in Schizophrenia (FRSS): This scale, which evaluates the functionality of patients on the schizophrenia spectrum regardless of symptoms, was developed by Llorca and colleagues (2009)^[28] and adapted into Turkish by Emiroğlu and colleagues (2009).^[29] The total score obtained from the 19-item, 5-point Likert-type (non-excellent level) scale varies between 19 and 95. The total score of the scale, which has three sub-dimensions: daily living skills, social functionality, and health and treatment, was used in this study. The total score was obtained by the doctor who followed up on the patients on the schizophrenia spectrum, with both the patient and their relatives. An increase in scores indicates an increase in the functionality of the patient. In the validity and reliability study conducted by Emiroğlu and colleagues (2009), the Cronbach's alpha coefficient showing internal consistency was found to be .89.^[29]

Functioning Assessment Short Test (FAST): This scale was developed by Rosa and colleagues (2007) and was used to evaluate the functionality of the participants.^[30] Its Turkish validity and reliability study was performed by Aydemir and Uyar (2012).^[31] This scale consists of 24 items and has six dimensions: autonomy, occupational functionality, cognitive functionality, financial issues, interpersonal relations, and leisure activities; however, the total score was used for this study. The total score obtained from the 4-point Likert-type scale (no difficulty–extreme difficulty) ranges from 0 to 72, with increasing scores indicating poor functionality. In the validity and reliability study of the scale, Cronbach's alpha coefficient was found to be .96.^[31]

Life Satisfaction Scale (LSS): This scale, which was developed by Diener and colleagues (1985),^[32] measures life satisfaction and was adapted into Turkish by Köker (1991).^[33] This scale is a 7-point Likert-type (not at all appropriate–very appropriate) consists of a total of 5 items, and the total score that can be obtained varies between 1 and 35. Increasing scores indicate increasing life satisfaction among participants. In the validity and reliability study conducted by Dağlı and Baysal (2016), Cronbach's alpha coefficient, which indicates internal consistency, was found to be .88.^[34]

Perceived Family Burden Scale (PFBS): This scale, which was developed by Levene, Lancee, and Seeman (1996),^[35] measures the burden perceived by the caregiver in the last month. Its validity and reliability study in Turkish was conducted by Arslantaş and colleagues (2011).^[36] This scale is divided into two parts: the current behaviors of the patient in the first stage and how much discomfort these behaviors cause to the caregiver in the second stage; if there is no behavior, zero points are awarded. For existing behaviors, a 4-point Likert-type (never–very much) rating is made. The total score that can be obtained from the scale, which consists of a total of 24 items, ranges from 0 to 120, and an increase in scores indicates an increased burden perceived by the caregiver. In the validity and reliability study of the scale, Cronbach's alpha coefficient was found to be .92.^[36]

Ethical considerations

Ethical approval of the study was obtained from the Ethics Committee of Aydın Adnan Menderes University Faculty of Medicine Non-Invasive Clinical Research (Date: August 9, 2016; issue: 53043469-050.04.04). In addition, permission was obtained from the state hospital to which the community-based mental health service is affiliated. Participants and their caregivers were informed about the research (how long it would take, what would be done, what was expected from them, etc.) and their verbal consent was obtained. The diagnoses of the patients were made after evaluation by a psychiatrist.

Data collection

After explaining the scope and purpose of the program in detail to the participants and their families, they were asked to fill out the self-report tools, FAST and LSS themselves. FRSS was administered by the service's psychiatrist by interviewing both the patient and the primary caregiver from the family. In addition, PFBS was filled out by the primary caregiver in the family through the service's psychologist. Data collection tools were applied twice, at the beginning and at the end of the group sessions. After the group training was completed, the sessions were started again when a sufficient number of patients (5–6 people) were reached for a new group. For this reason, the data of 20 participants were obtained from a total of five different group trainings held in about two years. Patients included in the group participated in group sessions for approximately two hours, two days a week, for approximately one and a half months.

Features and implementation of the "I Can Ride the Storm" Program

The "I Can Ride the Storm" program, which was used during the group sessions in the research, was developed by combining many behavioral techniques in line with the findings in the literature. Program sessions were organized according to the dimensions of the "Functional Remission of General Schizophrenia" scale developed by Llorca and colleagues (2009)^[28] and the "Functional Recovery Scale," which was adapted into Turkish by Emiroğlu and colleagues (2009).^[29] This scale was found to be useful in terms of evaluating the functionality of patients independently of symptoms, allowing monitoring of patients in the areas of social functionality, health and treatment, daily living skills, and occupational functionality, and the modules were created in accordance with these areas. A therapist and a co-therapist conducted the group sessions together. In this way, it was possible to observe each patient participating in the group session more carefully, to pay close attention and to examine their homework one by one. In addition, participating in groups first as a co-therapist and then as a therapist was also important in terms of training therapists and gaining group management skills.

Within the scope of the program, during nine sessions, we aimed for the participants to gain various skills, such as learn-

ing about and coping with the symptoms of illness, strengthening drug compliance, supporting self-care and home care, making evaluations about work and education, increasing their social communication and activities, combating useless and unpleasant thoughts and behaviors and understanding and helping others. Various techniques have been used for this purpose. A homework system has been prepared with the token economy method. When the patients performed the given tasks, they were given reinforcement (stickers in different colors) to increase the frequency of the behavior. When they collect enough stickers and participate in all sessions, they reach a larger reward (for example, beanies and gloves) and complete the program. In order to follow-up on these assignments, record keeping sheets were prepared, which were requested to be filled by the patients. In this way, the intensity and frequency of the patients' behaviors, thoughts and symptoms related to the disease were monitored by them and their therapists. In addition, psychoeducation about their diseases, drug use, and behavior control (anger, smoking, etc.) was given to the patients. Another technique used in the sessions is role-playing; in this way, patients had the opportunity to increase their social skills by modeling and trying new behaviors. In order to cope with their intrusive and disturbing thoughts, they were provided to produce alternative thoughts by using cognitive restructuring techniques.

Below is a brief overview of the sessions:

1. I Learn About My Disease: The participants shared how their disease started, what kind of complaints they have, and how this disease affects their lives. They marked the common symptoms that they have on the table of disease symptoms, which was given to them, and they then share their symptoms with the other group members.

2. I Use My Drugs Regularly: The participants' drug use habits, the problems associated with using their medicines regularly, and the side effects caused by the drugs are discussed. To ensure their follow-up and drug compliance, sheets indicating the drugs used by the patients were given. In addition, techniques to organize and monitor their drug use, such as preparing reminder notes or using a drug box so that they do not forget to use their drugs, were provided.

3. I Take Care of Myself: Sleeping patterns, eating habits, meal times, and personal care habits of the participants were discussed. Suggestions and sharing are made about the difficulties they have and how they can overcome them.

4. I Take Care of Where I Live: The responsibilities that the participants take at home and what work they are involved in (housework, paying bills, repairs, etc.) were discussed as well as the difficulties of the participants and how they can play more roles at home.

5. I Communicate Socially: The participants' contacts, whether they have friends, who they talk to during the day, what they do with the people they meet, and the difficulties they face in their social relationships were also discussed. Through role-playing, a social communication environment (meet-

ing, buying medicine from the pharmacy, etc.) is handled in a group environment, so the concerns of the participants are addressed, aiming to improve their social skills.

6. I Increase my Activity: The activities that the participants do at home, in service, or in their social life (doing sports, taking care of gardening, walking, etc.) were discussed. The reasons for avoiding the activities and how to increase the frequency of the activities were also shared between them. In addition, activities, such as drinking tea or coffee and chatting with friends at the mental health center or if possible, inviting guests to the house, were provided.

7. I Struggle With Unhelpful Thoughts: Disturbing, intrusive thoughts, delusions and hallucinations of the participants were reviewed. After sharing their symptoms, the ways to combat them were discussed, as well as techniques that can be applied in these situations.

8. I Control My Behaviors: After the definition of "behavior" is made, there was a discussion about what behaviors should be increased or decreased (outbursts of anger, overeating, nail biting, etc.). In particular, psychoeducation on anger and anger management is given, and the techniques that can be used in case of anger were shown using role-playing.

9. I Help Others, and I Understand Them: In this last session, a general assessment is made, and the achievements of the participants are discussed. By reviewing their symptoms, we determined which ones decreased, which ones stayed the same, and which ones increased. Also in this session, helping each other behavior were also discussed. Their feelings about whether they have helped others and whether they have received help from others were discussed.

Statistical analysis

The analysis of the data was conducted using the SPSS 22 package program. In addition to descriptive statistics, non-parametric Wilcoxon Signed Rank Sum Test was used to evaluate the change between the start and the end of the group sessions, and the Mann-Whitney U t-test for Independent Samples was used to examine the differences between the genders of the changes. The analysis of the data was carried out on the total score, it was examined in the 95% confidence interval, and the level of significance was accepted as $p < 0.05$. The effect sizes of the observed differences were calculated by dividing the z-value by the square root of the total number of participants.^[37]

Results

A total of 20 patients, 11 females and 9 males, participated in the study. Participants were between the ages of 20 and 58, with a mean age of 38.83 ± 9.64 . The arithmetic means and standard deviations of the scores obtained by the participants from the data collection tools before and after the program are given in Table 1. The participants' total FRSS pre-test mean score was 64.00 ± 13.34 , and the post-test mean

Table 1. Comparisons of Participants' Mean FRSS, FAST, LSS and PFBS Scores Before and After Group Sessions (n=20)

Variable	Scales			
	FRSS	FAST	LSS	PFBS
	Functional Recovery Scale in Schizophrenia	Functioning Assessment Short Test	Life Satisfaction Scale	Perceived Family Burden Scale
	$\bar{X} \pm SS$	$\bar{X} \pm SS$	$\bar{X} \pm SS$	$\bar{X} \pm SS$
Pre-session (Pre-Test)	64.00±13.34	32.00±10.51	18.10±4.80	12.60±7.75
Post-session (Post-Test)	58.40±11.01	28.55±8.99	20.05±4.64	6.95±5.64
Wilcoxon Signed Ranks Test	z=-1.79 p=.07	z=-1.51 p=.13	z=-2.12 p=.03*	z=-3.28 p=.00**

\bar{X} : Mean, SD: Standard deviation; *p<.05, **p<.001

total score was 58.40±11.01; the FAST pre-test mean total score was 32.00±10.51, and the post-test total score mean was 28.55±8.99; the mean total score of the LSS pre-test was 18.10±4.80, and the mean of the post-test total score was 20.05±4.64; and the mean of the PFBS pre-test total score was 12.60±7.75, and the post-test mean total score was 6.95±5.64. At the end of the group sessions, it was observed that there was a decrease in the functionality scores (as the scores from the Short Functioning Rating Scale increase, functionality decreases) and perceived family burden scores, and an increase in life satisfaction scores.

According to the Wilcoxon Signed Rank Test results of the participants' FRSS, FAST, LSS, and PFBS scores before and after the group sessions given in Table 1, there was no significant difference between the pre- and post-test scores in terms of functionality (FRSS and FAST); however, it was found that there is a significant difference in perceived family burden and life satisfaction. It was observed that the difference observed in the scores was in favor of the post-test score, and at the end of the group sessions, the life satisfaction of the participants increased (z=-2.12, p<0.05) and the perceived burden

of their families decreased (z=-3.28, p<0.001). The effect size of the difference in life satisfaction (r=.47) was medium; and the effect size of the difference in the perceived family burden (r=.73) was found to be large.

The Mann-Whitney U Test results in Table 2, on the other hand, show the difference in terms of the mean rank scores of the FRSS, FAST, LSS, and PFBS scores before and after the group sessions by gender. Considering the mean rank of women and men in terms of the differences in the pre- and post-test changes, there was no significant difference in the functionality level and life satisfaction scores; however, the difference between the scores obtained from the PFBS was found to be significant, and the perceived family burden scores of the male participants' families were found to be lower (z=-2.25, p<0.05). The effect size of the difference between genders (r=.50) was found to be large.

Discussion

In this study, the effects of the "I Can Ride the Storm" program in a community-based mental health service on the function-

Table 2. Comparison of the Participants' FRSS, FAST, LSS and PFBS Scores According to their Gender

Gender	Scales							
	FRSS		FAST		LSS		PFBS	
	Mean rank	Rank sum	Mean rank	Rank sum	Mean rank	Rank sum	Mean rank	Rank sum
Woman (n=11)	10.32	113.50	10.95	120.50	10.36	113.50	13.18	145.00
Man (n=9)	10.72	96.50	9.94	89.50	10.67	96.00	7.22	65.00
Mann-Whitney U Test	U=47.50 z=-.15 p=.88		U= 44.50 z=-.38 p=.7		U=48.00 z=-.12 p=.91		U=20.00 z=-2.25 p=.03*	

*p<.05

ality, life satisfaction, and perceived burden of the families of patients on the schizophrenia spectrum were examined. The findings obtained from this research reveal that the life satisfaction of the participants who participated in the "I Can Ride the Storm" program increased, and the burden perceived by their families decreased ($p < 0.05$) (Table 1). In addition, in considering the gender, the burden perceived by the families of male participants decreased more than that of the female participants ($p < 0.05$) (Table 2). On the other hand, although there is an increase in functionality levels, there is no significant difference between the first and last measurements.

In our study, it was found that there was a significant increase in the life satisfaction of the patients. Studies conducted with patients on the schizophrenia spectrum disorder show that the patients' life satisfaction is lower than that of the healthy control group.^[38,39] In addition, there are studies showing that patients' happiness levels are also lower.^[39,40] These findings in the literature highlight the importance of increasing the life satisfaction of patients with schizophrenia. The preliminary findings of the "I Can Ride the Storm" program are promising and increase the life satisfaction of the patients. During the program, the patients developed social relationships, increased productivity with various activities, and took more responsibilities in their lives, which may effectively have a role in increasing their life satisfaction.

One of the most important contributions of the program is the reduction of the perceived family burden after the intervention. Caregivers of the patients on the schizophrenia spectrum and those with psychotic symptoms feel much burdened in terms of the effect of this disease.^[41-44] There are findings that the family burden is reduced by including the direct caregivers or their families in certain support programs or group work.^[45,46] In this study, the perceived burden on the family decreased when the program was implemented in which the patients were included. Thanks to the program, the patients have increased social relations and developed certain skills, such as organizing home life has a significant effect on the family. The decrease in the perceived family burden should be interpreted with caution, considering the patients' attendance at the community-based mental health service.

In the literature, there are findings that being a male increases the burden of the caregiver.^[47,48] At this point, it is noteworthy that the burden perceived by the families of male participants decreased more significantly than that of female participants, especially after participating in the program. The change may have become more visible to their families, as the impact of the men's symptoms of the disease on the family is felt more. At the same time, providing skills such as regulating home life and increasing self-care in the program may have provided a more effective change in the lives of male patients; female participants may show some skills at home, albeit slightly, whereas male participants may have been less involved in the home and social life before the program.

We found that the "I Can Ride the Storm" program did not

make a significant difference on the functionality of the patients. In the study conducted by Şahin, Elboğa, and Altındağ (2020), they found that the treatment adherence and functionality of the patients who came to the community-based mental health service increased.^[49] In our study, as the patients attended the community mental health center, their functionality may have reached a certain level, and the program may not have made an additional contribution to this. In addition, some effects may not have arisen due to the small sample size.

In reviewing the interventions in the literature, the importance of improving both the daily life and social skills of patients with schizophrenia is emphasized. To this end, cognitive behavioral interventions, psychoeducation, social skills training, and training to improve daily life skills are applied.^[16-50] These interventions have been shown to be effective on various disease- and treatment-related variables, such as patients' functionality, life satisfaction, and treatment adherence.^[22] Norman et al.^[14] (2017) stated that evaluation, feedback, and structured homeworks should be included in the development of life skills, but they said that there are very few studies on the effectiveness of these interventions. Studies on the effectiveness of the "I Can Ride the Storm" program contribute to the elimination of the deficiency that Norman et al.^[14] (2017) pointed out, in that they include effective evaluation processes by therapists, feedbacks given to patients in each session, and structured homeworks. In addition, the program aimed to contribute to improving the life skills of patients on the schizophrenia spectrum and other patients with psychotic symptoms, increasing their life satisfaction and reducing their family burden, with behavioral interventions, psychoeducation, social skills training suggested in the literature of the program, and in addition to these, many suggested techniques, such as drug monitoring and increasing effectiveness.

Limitations of the research

This study has some limitations. First, the absence of a control group in the study makes it difficult to draw a conclusion on whether the results are actually due to the effectiveness of the intervention. In addition, all patients participating in the program continued their drug treatment. This may have had a confounding effect on the results. In addition, the absence of a follow-up measurement after the last measurement makes it difficult to make assumptions about the continuity of the patients' gains. Finally, the small number of samples and the inequality in the number of male and female patients can be cited as another limitation of the study.

Conclusion

This is a preliminary study to test the effectiveness of the "I Can Ride the Storm" program. In future studies, it is necessary to examine how the program will affect the functionality of patients using prospective studies in a randomized controlled design. In addition, studies involving patients attending and not attending a community-based mental health service may

be important in terms of explaining confounding variables. Whether the program is effective in preventing relapse and reducing hospitalization can be investigated. In addition, for the enhancement of the program, it is important to investigate what interventions work in terms of patients' functionality and coping with disease symptoms.

As a result, it is important to test the effectiveness of this program with a biopsychosocial perspective, which can be added to the treatment of both patients on the schizophrenia spectrum and patients with other diagnoses that may show psychotic symptoms (bipolar disorder, psychotic depression, etc.), in future studies and bring it into the field of practice.

Ethics Committee Approval: This study was approved by the Aydin Adnan Menderes University Faculty of Medicine Non-Invasive Clinical Research Ethics Committee (Date: August 9, 2016, Decision No: 53043469-050.04.04).

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References

- Eack SM, Newhill CE. Psychiatric symptoms and quality of life in schizophrenia: A meta-analysis. *Schizophr Bull* 2007;33:1225–37.
- Vrbova K, Prasko J, Ociskova M, Kamaradova D, Marackova M, Holubova M, et al. Quality of life, self-stigma, and hope in schizophrenia spectrum disorders: A cross-sectional study. *Neuropsychiatr Dis Treat* 2017;13:567–76.
- Grant PM, Bredemeier K, Beck AT. Six-month follow-up of recovery-oriented cognitive therapy for low-functioning individuals with schizophrenia. *Psychiatr Serv* 2017;68:997–1002.
- Stanley S, Balakrishnan S, Ilangovan S. Psychological distress, perceived burden and quality of life in caregivers of persons with schizophrenia. *J Ment Health* 2017;26:134–41.
- Yu Y, Liu ZW, Tang BW, Zhao M, Liu XG, Xiao SY. Reported family burden of schizophrenia patients in rural China. *PLoS One* 2017;12:e0179425.
- Thoma N, Pilecki B, McKay D. Contemporary cognitive behavior therapy: A review of theory, history, and evidence. *Psychodyn Psychiatry* 2015;43:423–61.
- Kızılırmak Tatu M, Demir S. Effect of group psychoeducation on treatment adherence, quality of life and well-being of patients diagnosed with schizophrenia. *Issues Ment Health Nurs* 2021;42:256–66.
- Anas IM. Effect of token economy on self care management of patients with schizophrenia. *Int J Adv Nurs Manag* 2016;4:334–8.
- Kokaridas D, Maggouritsa G, Stoforos P, Patsiaouras A, Theodorakis Y, Diggelidis N. The effect of a token economy system program and physical activity on improving quality of life of patients with schizophrenia: A pilot study. *Am J Appl Psychol* 2013;2:80–8.
- Granholm E, Holden J, Worley M. Improvement in negative symptoms and functioning in cognitive-behavioral social skills training for schizophrenia: Mediation by defeatist performance attitudes and asocial beliefs. *Schizophr Bull* 2018;44:653–61.
- Bellack AS. Schizophrenia: Behavior therapy's forgotten child. *Behav Ther* 1986;17:199–214.
- Kern RS, Glynn SM, Horan WP, Marder SR. Psychosocial treatments to promote functional recovery in schizophrenia. *Schizophr Bull* 2009;35:347–61.
- Ventriglio A, Ricci F, Magnifico G, Chumakov E, Torales J, Watson C, et al. Psychosocial interventions in schizophrenia: Focus on guidelines. *Int J Soc Psychiatry* 2020;66:735–47.
- Norman R, Lecomte T, Addington D, Anderson E. Canadian treatment guidelines on psychosocial treatment of schizophrenia in adults. *Can J Psychiatry* 2017;62:617–23.
- Heinssen RK, Liberman RP, Kopelowicz A. Psychosocial skills training for schizophrenia: Lessons from the laboratory. *Schizophr Bull* 2000;26:21–46.
- Dixon LB, Dickerson F, Bellack AS, Bennett M, Dickinson D, Schizophrenia Patient Outcomes Research Team (PORT), et al. The 2009 schizophrenia PORT psychosocial treatment recommendations and summary statements. *Schizophr Bull* 2010;36:48–70.
- Kim YS, Park JH, Lee SA. Is a program to improve grocery-shopping skills clinically effective in improving executive function and instrumental activities of daily living of patients with schizophrenia? *Asian J Psychiatr* 2020;48:101896.
- Duman ZÇ, Aştı N, Üçok A, Kuşçu MK. Şizofreni hastalarına ve ailelerine 'bağımsız ve sosyal yaşam becerileri topluma yeniden katılım programı" uygulaması, izlenmesi. *Anadolu Psikiyatri Derg [Article in Turkish]* 2007;8:91–101.
- Deveci A, Danaci AE, Yurtsever F, Deniz F, Yüksel EG. Şizofrenide psikososyal beceri eğitiminin belirti örüntüsü, içgörüsü, yaşam kalitesi ve intihar olasılığı üzerine etkisi. *Türk Psikiyatri Derg [Article in Turkish]* 2008;19:266–73.
- Mortan O, Tekinsav-Sütçü S. İştisel varsanılarda bilişsel davranışçı terapi. *Psikiyatr Güncel Yaklaşımlar [Article in Turkish]* 2011;3:647–63.
- Mortan-Sevi O, Tekinsav-Sütçü S. Şizofreni ve diğer psikotik bozukluklarda bilişsel-davranışçı grup terapisi-sistematik bir gözden geçirme. *Türk Psikiyatri Derg [Article in Turkish]* 2012;23:206–18.
- Yıldız M, Yazıcı A, Unal S, Aker T, Ozgen G, Ekmekçi H, et al. Şizofreninin ruhsal-toplumsal tedavisinde sosyal beceri eğitimi. Belirtilerle başetme ve ilaç tedavisi yaklaşımının Türkiye'de çok merkezli bir uygulaması. *Türk Psikiyatri Derg [Article in Turkish]* 2002;13:41–7.

23. Yıldız M, Tural Ü, Kurdoğlu S, Önder ME. Şizofreni rehabilitasyonunda aile ve gönüllülerle yürütülen bir kulüp-ev denemesi. *Türk Psikiyatri Derg* [Article in Turkish] 2003;14:281–7.
24. Yıldız M. Şizofrenide ruhsal toplumsal beceri eğitimi. Ankara: TPD 17. Yıllık ve Klinik Eğitim Toplantısı; 2013. Erişim Adresi: <https://silo.tips/download/zofrende-ruhsal-toplumsal-beceri-etm>. Erişim Tarihi; Mar 9, 2023.
25. Abaoğlu H, Mutlu E, Ak S, Akı E, Yağcıoğlu EA. Şizofrenide yaşam becerileri eğitiminin işlevselliğe olan etkisi: Seçkisiz kontrollü bir çalışma. *Türk Psikiyatri Derg* [Article in Turkish] 2020;31:48–56.
26. Maura J, De Mamani AW. Culturally adapted psychosocial interventions for schizophrenia: A review. *Cogn Behav Pract* 2017;24:445–58.
27. Kulhara P, Shah R, Grover S. Is the course and outcome of schizophrenia better in the 'developing' world? *Asian J Psychiatr* 2009;2:55–62.
28. Llorca PM, Lançon C, Lancrenon S, Bayle FJ, Caci H, Rouillon F, et al. The "Functional Remission of General Schizophrenia" (FROGS) scale: Development and validation of a new questionnaire. *Schizophr Res* 2009;113:218–25.
29. Emiroğlu B, Karadayı G, Aydemir Ö, Üçok A. Şizofreni hastalarında işlevsel iyileşme ölçeğinin Türkçe versiyonunun geçerlilik ve güvenilirlik çalışması. *Nöropsikiyatri Arşiv* [Article in Turkish] 2009;46:15–24.
30. Rosa AR, Sánchez-Moreno J, Martínez-Aran A, Salamero M, Torrent C, Reinares M, et al. Validity and reliability of the Functioning Assessment Short Test (FAST) in bipolar disorder. *Clin Pract Epidemiol Ment Health* 2007;3:5.
31. Aydemir Ö, Uykur B. Kısa işlevsellik değerlendirme ölçeğinin Türkçe sürümünün bipolar bozuklukta güvenilirliği ve geçerliliği. *Türk Psikiyatri Derg* [Article in Turkish] 2012;23:193–200.
32. Diener E, Emmons RA, Larsen RJ, Griffin S. The satisfaction with life scale. *J Pers Assess* 1985;49:71–5.
33. Köker S. Normal ve sorunlu ergenlerin yaşam doyumu düzeylerinin karşılaştırılması. Yayınlanmamış yüksek lisans tezi. Ankara: Ankara Üniversitesi Sosyal Bilimler Enstitüsü; 1991.
34. Dağlı A, Baysal N. Yaşam doyumu ölçeğinin Türkçe'ye uyarlanması: Geçerlik ve güvenilirlik çalışması. [Article in Turkish] *Elek J Soc Sci* 2016;15:1250–62.
35. Levene JE, Lancee WJ, Seeman MV. The perceived family burden scale: Measurement and validation. *Schizophr Res* 1996;22:151–7.
36. Arslantaş H, Adana F, Dereboy F, Altinyazar V, İnal S, İldirli GS. Algılanan aile yükü ölçeği'nin Türkçe sürümünün geçerlilik ve güvenilirlik çalışması. *Nöropsikiyatri Arşiv* [Article in Turkish] 2011;48:53–8.
37. Fritz CO, Morris PE, Richler JJ. Effect size estimates: Current use, calculations, and interpretation. *J Exp Psychol Gen* 2012;141:2–18.
38. Saperia S, Da Silva S, Siddiqui I, McDonald K, Agid O, Remington G, et al. Investigating the predictors of happiness, life satisfaction and success in schizophrenia. *Compr Psychiatry* 2018;81:42–7.
39. Fervaha G, Agid O, Takeuchi H, Foussias G, Remington G. Life satisfaction and happiness among young adults with schizophrenia. *Psychiatry Res* 2016;242:174–9.
40. Palmer BW, Martin AS, Depp CA, Glorioso DK, Jeste DV. Wellness within illness: Happiness in schizophrenia. *Schizophr Res* 2014;159:151–6.
41. Kuipers L. Family burden in schizophrenia: Implications for services. *Soc Psychiatry Psychiatr Epidemiol* 1993;28:207–10.
42. Lowyck B, De Hert M, Peeters E, Wampers M, Gilis P, Peuskens J. A study of the family burden of 150 family members of schizophrenic patients. *Eur Psychiatry* 2004;19:395–401.
43. Magliano L, Fiorillo A, De Rosa C, Malangone C, Maj M; National Mental Health Project Working Group. Family burden in long-term diseases: A comparative study in schizophrenia vs. physical disorders. *Soc Sci Med* 2005;61:313–22.
44. Köroğlu A, Hocaoğlu Ç. Şizofreninin aile üzerine olan etkisi. *DÜ Sağlık Bil Enst Derg* [Article in Turkish] 2017;7:170–5.
45. Pharoah F, Mari J, Rathbone J, Wong W. Family intervention for schizophrenia. *Cochrane Database Syst Rev* 2010;CD000088.
46. Yıldırım A, Buzlu S, Hacıhasanoğlu Aşlar R, Camcıoğlu TH, Erdiman S, ve ark. Şizofreni hastalarının ailelerine uygulanan aileden aileye destek programının hastalık hakkında bilgi, aile yükü ve öz yeterlilik üzerine etkisi. *Türk Psikiyatri Derg* [Article in Turkish] 2014;25:31–7.
47. Arslantaş H, Adana F. Şizofreni hastalarının bakım vericilerinin yük algısını ve duygu dışavurumunu etkileyen etkenler. *Anadolu Psikiyatri Derg* [Article in Turkish] 2012;13:8–15.
48. Gülseren L, Çam B, Karakoç B, Yiğit T, Danacı AE, Çubukçuoğlu Z, ve ark. Şizofrenide ailenin yükünü etkileyen etmenler. *Türk Psikiyatri Derg* [Article in Turkish] 2010;21:203–12.
49. Şahin Ş, Elboğa G, Altındağ A. The effects of the frequency of participation to the community mental health center on insight, treatment adherence and functionality. *Turk J Clin Psychiatr* 2020;23:64–71.
50. Yıldız M, Veznedaroglu B, Eryavuz A, Kayahan B. Psychosocial skills training on social functioning and quality of life in the treatment of schizophrenia: A controlled study in Turkey. *Int J Psychiatry Clin Pract* 2004;8:219–25.