



The effect of mindfulness-based education given to individuals with substance-use disorder according to self-efficacy theory on self-efficacy perception ☆☆☆☆☆☆☆☆☆

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ABSTRACT

The aim of this research is to find the effect of mindfulness-based education given to individuals with substance-use disorder according to self-efficacy theory on self-efficacy perception. The research was planned as a test model with pretest-posttest control groups. Individuals who have been diagnosed with substance abuse in the substance abuse clinic of Turgut Ozal Medical Center, and at the Substance Abuse Treatment and Education Centre of Gaziantep 25 Aralık State Hospital formed the core of this study. The research was conducted between January 2018–May 2019. 112 patients, 56 in the treatment and 56 in the control group, participated in the study. Scientific research started after ethical approval. Mindfulness therapy was applied to experimental group patients. For the data collection, the Socio-Demographic Characteristics Questionnaire and Self-Efficacy-Sufficiency scale were used. *t*-Test for dependent variables to compare the mean scores of experimental and control groups and *t*-test for independent variables were used. It was seen that the average total Self-Efficacy-Sufficiency score of the patients in the treatment group was 76.50 ± 12.62 before the intervention and increased to 85.50 ± 14.95 after the intervention. There is a significant difference between the average scores. Even when the treatment and control groups are compared, a significant difference was still detected between the groups. There was no significant difference between the groups in two of the Self-Efficacy-Sufficiency steps after the intervention in the experimental group, but there were significant differences between the other two factors and total score averages.

1. Introduction

Substance use disorders are among the most important problems of our time (Dinç, 2016). It has become a public health problem which is very common in developed and developing countries and affects the individual and the family as well as the society (Karakaş & Ersöğütçü, 2016). Treatment of this problem, which leads to important disorders in many parts of individuals' lives, is quite difficult. Primary treatment is carried out by pharmacological methods. In cases where pharmacological methods are not sufficient, treatment is supported with psychosocial methods (Kulu et al., 2017). Through these treatment methods,

the coping capacity of the individual is supported, and their insight is formed or increased (Yıldırım & Sütçü, 2016). Cognitive and behavioral treatment approaches are among the psychotherapy methods used in the treatment of addiction. Purpose of treatment is to change the areas of interest and pleasure of the individual, to support individual abilities, and to decrease his interest in the substance (Şener & Küçükşen, 2017). It is known that pharmacological treatments used for individuals with substance-use disorders have a significant effect on the frequency and severity of the recurrence of the problem; however, these treatments alone are not sufficient, and the use of additional psychotherapy programmes is necessary. In a study conducted by Yılmaz et al. (2014)

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involving alcohol or substance-use addicts, it was determined that drug therapies and psychosocial improvement programmes should be included in the treatment of substance-use disorders to ensure that the patient leads a life without substance (Yılmaz et al., 2014).

Mindfulness, which is one of the cognitive and behavioral treatment approaches, is a physical and mental exercise practice that involves the realization of internal experiences and the focus of attention on the current situation. The concept of mindfulness comes from the meditation practices in the East (Kabat-Zinn, 2005). For almost thirty years, the concept of mindfulness has been used as a method of therapy among psychotherapy approaches in the West (Tamam, 2016). As mindfulness increases, individuals realize that they are making correct self-criticism, and that they are directed to negative situations which they faced in the past and they may face in the future. The goal of mindfulness is to reduce the distrust and judgmental thoughts of individuals and to prevent the current situation from the effects of the past and the future. It is thought that the Self-Efficacy-Sufficiency of those who can achieve this will increase (Atalay, 2018; Atalay et al., 2017).

1.1. The concept of self-efficacy

Self-efficacy-sufficiency is defined as self-belief that the individual possesses the necessary skills to complete a task in order to cope with difficult living conditions. One aim of increasing self-efficacy-sufficiency is to contribute to the change in behavior in individuals, because self-efficacy-sufficiency is one of the factors that affect behavior change (Bandura, 1977; Bandura, 1982). The concept of self-efficacy (PO) was proposed by the Psychologist Albert Bandura for the first time in 1997, within the context of "Cognitive Behaviour Change". It has been determined that having a stronger sense of individual competence is associated with higher success, being healthier and being more socially integrated. In fact, this concept is used in many different areas such as physical and mental health, emotional problems, school success, career choice and socio-political life. If the individual believes that the result will be positive according to self-efficacy, he/she acts more actively to take control of his/her life (Scherbaum et al., 2006). When the concepts related to self-efficacy are examined, we come across concepts such as self-respect, self-regulation and self-perception. Accepting the person as who he/she is, is very important in the development of self-esteem. Self-efficacy does not care about the personal skills of people but the results that people will achieve by using these skills (Ulusoy et al., 2011). Self-regulation is defined as the way the individual directs, controls, and affects his/her own behaviors (Senemoğlu, 2012). All kinds of methods, techniques, tactics, and strategies that the individual use to know him/herself and to teach him/herself are called self-organized learning. In other words, it can be defined as the process whereby individuals get cognitively motivated in line with their own goals and principles (Çiltaş, 2011). Sense of the self includes many types of self-awareness and self-worth feelings. Like other concepts, self-perception varies on cognitive accessibility (Çiltaş, 2011; Zimmerman, 2000). Self-awareness indicates our rate of focus on self-perception at the present (Zimmerman, 2000).

Self-efficacy perception consists of information obtained from four basic sources (Bandura, 1982). These are the events directly experienced by the individual (Yıldırım & İlhan, 2010), indirect experiences that he/she learned from others (Ulusoy et al., 2011), verbal persuasion that is defined as the way people convincing the individuals that they have the capability to perform a task successfully (Coleman & Karraker, 1997) and the psychological state of individuals (Pajares, 2003). How the individual feels physically and mentally are an element affecting the self-efficacy perception (Bandura, 1997). It plays a crucial role in influencing people's effective, cognitive, motivational beliefs and their behaviors towards substance use due to their perspectives in decision-making (Bandura, 1994). Emphasized that the perception of self-efficacy-competence is the determinant of health behaviors in 21 studies analyzed by Gözüüm and Aksayan (1999).

In a study conducted to protect against substance use disorder; it is

found that individuals with low self-efficacy are more likely to be addicted (Helmus et al., 2001). In a study conducted to protect against drug use disorder, it is found that individuals with low self-efficacy are more likely to start addictive drugs (Uzun & Kelteci, 2017). Considering the relationship between conscious-awareness and self-efficacy, the concept of self-efficacy based on mindfulness has being studied recently (Chang et al., 2004).

As per the literature review, it has been observed that substance-use disorder is an increasingly important community health problem and further work is needed in this area (Atalay, 2018; Atalay et al., 2017; Kulu et al., 2017; Milivojevic et al., 2012). Unfortunately, the number of drug addicts is increasing day by day. There is a need to prevent this rapidly spreading problem and to conduct research in this area. Since substance-use disorder is a public health problem, a multidisciplinary approach should be taken as a basis when dealing with substance-use. Nurses play an important role in teamwork in prevention and treatment of addiction. Nurses have important responsibilities in this regard. Nurse is a profession that takes part in public information activities on drug addiction, provides training and consultancy services on mental health protection and development, and takes part in rehabilitation services and researches on addiction treatment. Therefore, a nurse should help the individual suffering from substance addiction and his family at every stage of the process (Karakaş & Ersöğütçü, 2016).

The aim of this research is to find the effect of mindfulness-based education given to individuals with substance-use disorder according to self-efficacy theory on self-efficacy perception.

1.2. Hypothesis of the study

H0. At the end of the mindfulness-based education, there is no difference in self-efficacy-sufficiency in the experimental group compared to the control group.

H1. At the end of the mindfulness-based education, self-efficacy-sufficiency is higher in the experimental group than in the control group.

2. Material and method

2.1. Type and sample of the study

The study was conducted as a randomised controlled trial with pre- and post-tests (ClinicalTrials.gov Identifier: NCT04152525). Further, the study comprising patients diagnosed with substance addiction in the outpatient clinics of Turgut Ozal Medical Centre and Ahmet Sireci Substance Addiction Treatment and Training Centre (Gaziantep ASATC) was conducted between January 2018 and May 2019.

2.1.1. Sampling method

The number of patients admitted to the substance addiction outpatient clinics within 1 year was 44 in Turgut Ozal Medical Centre and 425 in Gaziantep ASATC. The sample size of the study was 47 in each group to find statistically significant difference between the experimental and control groups using power analysis in terms of scale scores. The analysis was performed using Gpower version 3.1. Considering probability of patients to leave the study, 60 patients were targeted in each group. Individuals diagnosed with substance addiction were selected in the sample group via simple random sampling method.

2.1.2. Characteristics of psychiatry clinic

Turgut Ozal Medical Centre's ASATC unit, which comprises a reading room, kitchen, training room, workshop, television and dining room, is located in a psychiatric clinic. In total, it has 12 beds, of which 10 are in the clinic and two in the intensive care unit. Further, the Turgut Ozal Medical Centre's ASATC unit includes a faculty member, a psychologist, a nurse, a secretary and two staff members. Two psychiatrists, two general practitioners, two psychologists, one social worker and ten

nurses or health officers work in the ASATC clinic of Gaziantep Sireci 25 Aralık State Hospital, which has six private detoxification rooms with 13 double beds and 10 single beds, with a total capacity of 42 patients. Notably, in both clinics, education is not provided to individuals diagnosed with substance addiction.

2.1.3. Determination of experimental and control groups

In the mindfulness-based education programme, the experimental group was selected from the patients admitted to Turgut Ozal Medical Centre, Psychiatry Department and the control group was selected from the patients admitted to Gaziantep ASATC. Because the number of patients admitted to the psychiatric clinic of Turgut Ozal Medical Centre was insufficient for the study, the list of patients admitted to the polyclinic in the last 2 years was checked. In total, 127 patients in the list were contacted. Of these, 60 patients who accepted to participate in the study were included in the experimental group; one patient who wanted to leave the study, two patients who could not continue the psychoeducation programme and one patient who could not implement the programme were excluded from the study. Therefore, 56 patients who met the inclusion criteria were included in the experimental group. Four patients included in the control group were reluctant to complete the data form and discontinued the study. In total, 56 patients were included in the control group, and the study was completed with 112 patients.

2.1.4. Inclusion and exclusion criteria

The study was conducted with individuals who knew the Turkish language (this criterion was added because of the increase in the refugee population and high Kurdish-speaking population in Turkey), were 18 years and above, were diagnosed with substance-use disorder according to the diagnostic criteria in DSM and had not previously received education in mindfulness therapy or self-efficacy theory were included. Patients who were active in alcohol or psychoactive substance use, experienced withdrawal symptoms due to substance-use disorder and had substance-induced psychosis were excluded from the study. The limitation of the research was that individuals with long-term substance use disorders experience mental retardation problems (Fig. 1).

2.2. Data collection tools

Sociodemographic Characteristics Questionnaire and Self-Efficacy-Sufficiency Scale were used for data collection.

2.2.1. Socio-demographic characteristics form

The form, prepared by the researcher, was used to obtain information about the characteristics of the patients which consists of a total of 13 questions related to age, sex, marital status, education and working status, occupation, social security, income level, number of children,

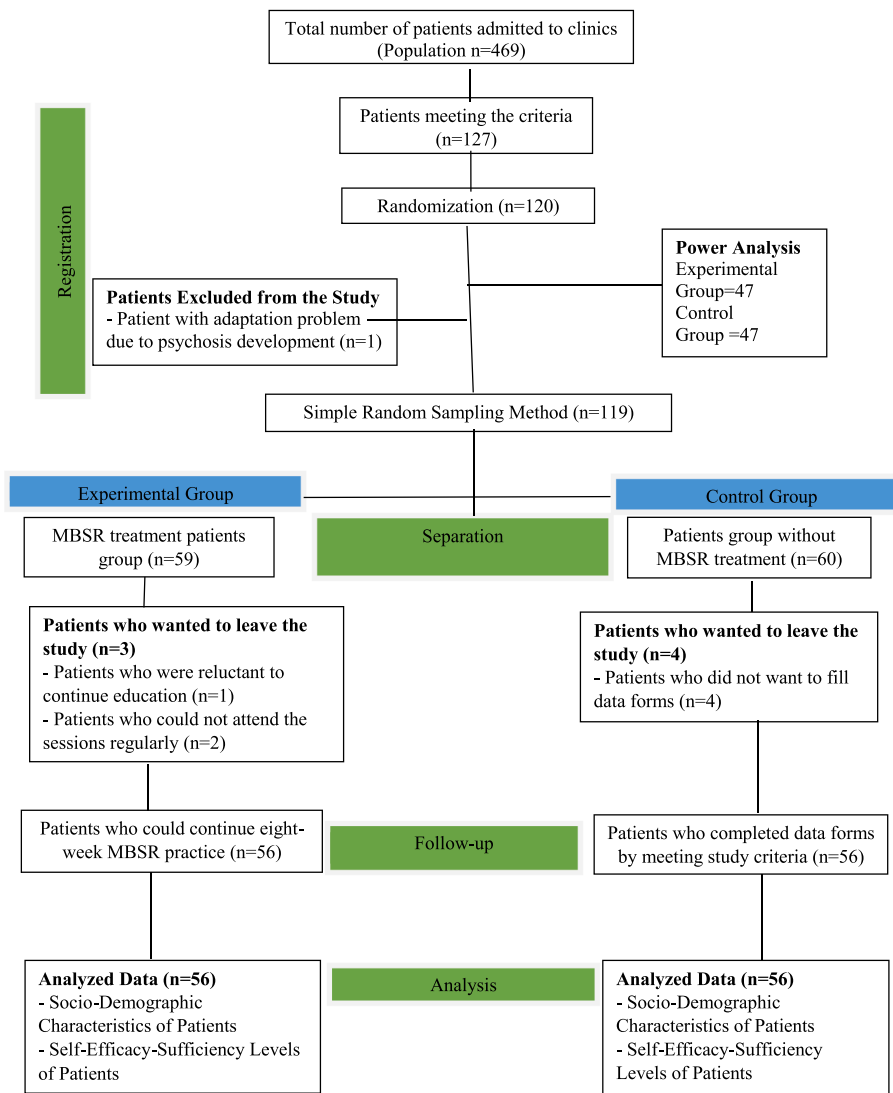


Fig. 1. Study application plan.

how long he used substance, duration of treatment and presence of chronic disease. The dependent variables of the study are self-efficacy-adequacy perception level of individuals with substance addiction. Independent variables are factors such as awareness-based education programme, control variables, age, gender, marital status, educational status, working status, occupation, income level, SSI (Social Security Institution) presence, and drug use status.

2.2.2. Self-Efficacy-Sufficiency (SES) Scale

A 5-point Likert-type scale developed by Sherer and Maddux (1982) is a self-assessment scale adapted to Turkish by Gözümlü and Aksayan (1999). The total number of items in the scale is 23. For each item, the individual was asked to choose between: 1 - "does not define me at all", 2 - "defines me a little", 3 - "indecisive", 4 - "defines me well", 5 - "defines me very well". In the evaluation of the scale, specific score for each item was taken into consideration. The items of the scale in the row of "2, 4, 5, 6, 7, 10, 11, 12, 14, 16, 17, 18, 20, 22" were scored in the opposite direction of the answer. After calculating the score, the scores determined as minimum 23 and maximum 115 were evaluated. It was determined that the higher the individuals score, the higher the perception of SES. The SES scale has four sub-factors. The sub-factors of the Self-Efficacy-Sufficiency scale refer to the stages of behavior change. The first factor is initiating behavior is take action to finish a work. "Initiating behavior, which includes the items 2, 11, 12, 14, 17, 18, 20, 22", the second factor maintaining behavior is to continue the same behavior after taking action to finish a work. "Maintaining behavior, which includes the items 4, 5, 6, 7, 10, 16, 19", the third factor completing the behavior; the work is to complete. "Completing the behavior including the items 3, 8, 9, 15, 23", the fourth factor competing the obstacles is to combat the obstacles to sustain a behavior. "Competing the obstacles including the items 1, 13, 21". When calculating the scores of the sub-factors, the mean scores of the sub-factors were obtained by summing the scores from each item (Gözümlü & Aksayan, 1999). Two factors emerged in the construct validity of the original scale. 1: General self-efficacy-competence factor that does not take into account any specific behavior; and 2: Social self-efficacy-competence factor that reflects perceptions in social situations. It was determined that the score of the reliability and validity Cronbach Alpha internal consistency applied by Gözümlü et al. is 0.81, whereas the Cronbach alpha value of the scale is 0.78 in this research. It is applied to adolescents and adults, as they are able to perceive the effectiveness and competence of the individual and make a judgment about himself. It is an easy-to-apply scale that individuals can apply on their own (Gözümlü & Aksayan, 1999).

2.3. Data collection

The data of the study were collected between September 2018 and November 2018. Data were collected from the patients diagnosed with substance-use disorder in the substance addiction outpatient clinic of Turgut Ozal Medical Centre, Department of Psychiatry and Gaziantep ASATC. The questions included in the data collection instruments were filled by the patients within "10" to "5" minutes by marking the most appropriate options. Sociodemographic Characteristics Questionnaire and Self-Efficacy-Sufficiency Scale were applied to the experimental group as pre-test. Then, eight sessions of mindfulness-based psychoeducation programme were conducted 2 days a week for 4 weeks. At the end of the last session, the Self-Efficacy-Sufficiency Scale was applied to the experimental group to collect post-test data.

Patients diagnosed with substance-use disorder in Gaziantep ASATC and treated as inpatients were included in the control group. Because the inpatients received a 3-week treatment programme, patients in Gaziantep ASATC were visited at 3-week intervals to meet new patients. Patients were taken to the meeting room in groups of 10 people. The Sociodemographic Characteristics Questionnaire and Self-Efficacy-Sufficiency Scale, which were used as pre-tests, were filled by marking

the appropriate options. Using the same technique to collect the post-test data, the Self-Efficacy-Sufficiency Scale was applied to those who were still on inpatient treatment during the researcher's subsequent visits. The patients who were discharged from the hospital were contacted through telephone; questionnaires were analyzed by the researcher, and the items appropriate to the patients' answers were collected and marked.

2.4. Mindfulness-based psychoeducation programme

A mindfulness-based education programme was used as a nursing initiative to increase the self-efficacy of individuals with substance-use disorder in the experimental group. Before beginning this initiative, the researcher received a certificate after receiving training on mindfulness-based stress reduction programme. Patients who met the criteria of the study were informed about the objective and significance of the study. Appropriate days for the education programme were determined for the patients included in the experimental group. Pre-test data were collected on the first day of the interview from the patients included in the control group. The mindfulness-based education programme that was conducted by the researcher and aimed at increasing self-efficacy in substance addicts was conducted within eight sessions, 2 days a week for 4 weeks. Furthermore, each session was completed in approximately 40 min. Patients were included in this programme in closed groups of at least four and at most 10 people. The seminar room that was part of the psychiatry clinic was used for the educational sessions; it was quiet and calm and provided an environment for the patients to easily pay attention to the tasks. Some meditation practices, including those whilst standing and those whilst lying on a yoga mat, were performed. Researcher gave to patients, booklets prepared according to self-efficacy theory at the end of the first session. The first session was a preparatory session, during which patients were informed about the programme contents and duration and purpose of the study. The importance of regular participation in the psychoeducation process was emphasized. Patients who could not regularly attend the training were determined after the announcement; these patients were excluded from the study. Two suitable days to attend the sessions were determined with all group members, and session days were planned.

2.4.1. Preparatory session

The preparatory session was structured to explain the purpose and process of the study on the first day after the first meeting with the patients. The importance of regular participation of patients in the psychoeducation programme was explained. The dates and times of the programme were planned in accordance with the patients' schedules. The patients were asked to define the type of expectations that they had for the post-programme period, and the plans were accordingly adjusted.

2.4.2. First session

After the pre-test data were obtained from the experimental group in the first session, the group members were introduced to each other according to the mindfulness-based meeting technique. According to this technique, each person was matched and paired with the patient next to them; they explained themselves only to the person who they were paired with. After this meeting, effects of drug addiction on self-efficacy, A training and motivation programme was implemented in order to raise awareness of the activities carried out unnoticed during the day.

2.4.3. Second session

In the second session, 4-minute body and breathing therapies were given. Three raisins were given to each patient after the therapy; the patients were asked to feel the first two grapes they received using five sensory organs, that is, touching, looking, smelling, listening to the sound of grapes, tasting. They were asked to eat the third grape as they always eat. The researcher then asked the patients how they felt when

eating these grapes. if there was a difference, they were told to share the difference with other patients in the group. Finally, the session was closed with a minute of silence. The patients were asked to practice their meditation activities once a day as homework. They were also asked to eat at least one food with this technique during the week. Each patient was given CDs containing audio recordings prepared by the researcher so that they could practice the meditation techniques at home.

2.4.4. Third session

Previous meditation practices, experiences about the food items eaten by applying awareness technique and number of activities they performed during the day were discussed in this session. The researcher provided training on topics such as what addiction is, how it is treated, misunderstandings about addiction and families' approaches in addiction. The patients were then asked to take a yoga mat and sit on the floor. Breathing therapy whilst sitting on the mats, followed by body therapy, was performed, and their feelings after the therapy were discussed.

2.4.5. Fourth session

In the fourth session, thoughts about the patients who benefitted from the treatment were discussed; the manner in which they remembered the differences in their bodies when faced with difficult situations and the coping methods used were also discussed. Further, they were asked to form pairs and describe to each other what the word 'pain' meant for them. At the end of the conversation, the listeners were asked to share the painful expression of the other patient with the group as far as he or she could remember. After the discussion, the session was closed with a minute of silence.

2.4.6. Fifth session

This session was started by discussing the patients' views about the previous session and the meditation practices performed during the week. Patients were asked to share their thoughts about the support methods used in the treatment and the importance of these methods after the training.

2.4.7. Sixth session

In this session, patients were given breathing and body therapies on yoga mats, followed by a short yoga meditation comprising four movements. After discussing the thoughts and feelings of the patients after yoga, the session was closed with a minute of silence.

2.4.8. Seventh session

This session aimed to identify positive and negative emotions and develop positive addictions. After discussing types of meditation, the patients practiced during the week, they were asked to discuss their positive and negative thoughts about their expectations from the treatment process. Recommendations were received, and positive reinforcements were supported.

2.4.9. Eighth session

In the last session, the researcher gave training on how to replace addictions or habits with positive behaviors. After the training, positive addictions were discussed. After obtaining the latest test data from the patients, we discussed how to implement the mindfulness-based self-efficacy training in the patients' lives. The session was closed with a 3-minute breathing exercise.

2.5. Data evaluation

Statistical analysis of the study data was evaluated using the Statistical Package for Social Science (SPSS) 22 software. "Kolmogorov" and "Smirnov" test used for normal distribution, and Cronbach's alpha coefficient was used for internal consistency. Percentage, mean and standard deviation were used to evaluate patients' demographic data. Chi-square test in parametric cases was used to compare the control

variables of experimental and control groups. Moreover, Fisher's exact test for non-parametric cases, t-test for dependent variables to compare the mean scores of experimental and control groups and t-test for independent variables were used.

2.6. Ethics

Individuals participating in the study were informed that they would be free to participate in the study and could discontinue the study at any time. Written informed consent using informed consent forms was obtained from the patients who agreed to participate in the study. The principle of confidentiality has been followed with respect to research data. Approval was obtained from Malatya Clinical Research Ethics Committee (Ethics Committee Decision: 2017/27-12, Ethics Committee revision number: 2018/4-1). Necessary official permissions were obtained from Turgut Ozal Medical Centre Department of Psychiatry and Gaziantep 25 Aralık State Hospital Ahmet Sireci Substance Addiction Treatment and Education Centre.

3. Results

The results of the study conducted with patients diagnosed with substance use disorder between January 2018 and May 2019 in Malatya Turgut Ozal Medical Center and Gaziantep 25 Aralık State Hospital Ahmet Sireci ASATC are presented below:

When the socio-demographic characteristics of the patients were examined, it was observed that 89.3% of the patients in the experimental group consisted of male patients and 10.7% of the patients were female. Of these, 67.9% were single, 19.6% were primary-school graduates, 60.7% were secondary-school graduates, 19.6% had university or higher degrees, 63.5% had middle income, 28.6% had low income.

When the data of the control group were examined, it was evaluated that 94.6% of the patients in the group were male, 51.8% were married, 44.6% were primary-school graduates, 48.2% secondary-school graduates, 7.1% had university or higher degrees, 44.6% had middle income, 51.8% had low income. When the patients in the experimental and

Table 1
Socio-demographic characteristics of the patients in experimental and control groups.

Socio-demographic characteristics	Experimental group		Control group		X ²	p	
	N	%	N	%			
Age	18–30	30	53.6	35	62.5	2.811	0.586
	31–43	21	37.5	12	21.4		
	44 and above	5	8.9	9	16.1		
Gender	Female	6	10.7	3	5.4	0.380	0.707
	Male	50	89.3	53	94.6		
Marital status	Married	18	32.1	29	51.8	0.034	0.540
	Single	38	67.9	27	48.2		
Educational status	Primary education	11	19.6	25	44.6	1.371	0.849
	Secondary education	34	60.7	27	48.2		
	Higher education	11	19.6	4	7.1		
Income	High	11	8.9	2	3.6	1.009	0.908
	Middle	35	63.5	25	44.6		
	Low	16	28.6	29	51.8		
Occupational status	Employed	23	41.1	13	23.2	5.014	0.081
	Unemployed	33	58.9	43	76.8		
Job	Worker	23	41.1	26	46.4	3.873	0.417
	Civil servant	10	17.9	5	9.0		
	Idle	23	41.1	25	44.7		
Social security	Yes	43	76.8	27	48.2	0.029	0.559
	No	13	23.2	29	51.8		
Drug use status	Yes	40	71.4	44	78.6	1.061	0.303
	No	16	28.6	12	21.4		

X² = Chi-square and Fisher analysis (p < 0.05).

control groups were assessed, there was no significant difference between them and the groups were interrelated ($p > 0.05$) (Table 1).

Since the duration of the use of the addictive substance and the time from the first decision to initiate the treatment to the time of the study were thought to affect the self-efficacy level, these data have been reviewed and it was found that the mean duration of substance use was 117.67 ± 84.91 and the mean duration of initiation of treatment was 23.78 ± 30.35 . When these values were examined in the control group, the mean duration of substance use was 112.16 ± 80.45 and the mean duration of initiation of treatment was 24.0 ± 28.78 . There was no significant difference between the groups ($p > 0.05$), (Table 2).

When the difference between the pre-intervention and post-intervention self-efficacy-sufficiency sub-factors and total mean scores of the patients in the experimental group was examined, it was found that there was a significant difference between the maintaining behavior ($p = 0.024$), combating the obstacles ($p = 0.013$) and self-efficacy-sufficiency total scores ($p = 0.003$). However, it was found that there was no significant difference in the factor of initiating behavior ($p = 0.053$) and between the pre-test and completing the behavior ($p = 0.05$) post-test measurements ($p > 0.05$). When the difference between the pre-intervention and post-intervention self-efficacy-sufficiency sub-factors and total mean scores of the patients in the control group was examined, there was no significance difference between self-efficacy-sufficiency total scores and the sub-factors of initiating behavior, maintaining behavior and completing behavior ($p > 0.05$).

In the study, when the pre-test mean scores of the Self-Efficacy-Sufficiency scale were compared to the experimental and control groups, no difference was found between the mean scores of all sub-factors before the intervention. When the groups were compared after mindfulness-based psychoeducation, it was found that there was a significant difference in the mean scores of initiating behavior (factor-1), completing behavior (factor-3), and total post-test scores ($p < 0.05$). Among the other sub-factors, there was an increase in the mean scores of the factors of maintaining behavior (factor-2) and Competing the obstacles (factor-4), but there was no statistically significant difference ($p > 0.05$), (Table 3).

4. Discussion

Substance-use disorder is a condition that becomes difficult to treat after it progresses to addiction. There are a limited number of studies that determine the effect of mindfulness-based cognitive therapies on individuals with substance use disorders on self-efficacy. Similar studies have generally been done for problems such as depression, stress and anxiety (Caldwell et al., 2010, Luberto et al., 2014, Turner et al., 2017). There are published studies in the literature that mindfulness-based education increases either the positive effect of substance use disorders or self-efficacy. However, no research has been encountered that the mindfulness-based education given to individuals with substance use disorders will have an effect by increasing self-efficacy. In this context, the aim is to increase the perception of self-efficacy through

Table 2

Mean scores of patients in experimental and control groups according to substance use characteristics.

Substance use characteristics	Mean score of experimental group		Mean score of control group		Test and significance
	Min-max	X ± SD	Min-max	X ± SD	
Duration of substance use (months)	10-300	117.67 ± 84.91	5-360	112.16 ± 80.45	t = 0.351 p = 0.183
Duration of starting treatment (months)	1-132	23.78 ± 30.35	1-120	24.0 ± 28.78	t = -0.39 p = 0.585

t = t-test in independent groups.

mindfulness-based education for individuals who are disabled by substance competence in awareness-based education. Findings were tried to be discussed with similar literature.

4.1. Comparison of pre-test and post-test mean scores of Self-Efficacy-Sufficiency Scale and sub-factors of experimental group patients

The results of the difference between the sub-factors and the total mean scores of the patients in the experimental group in both pre- and post-intervention Self-Efficacy-Sufficiency Scale tests revealed that there were significant differences between the maintaining behavior and struggling against the obstacles and Self-Efficacy-Sufficiency total scores after the intervention. Among the self-efficacy sub-factors, only the factor on initiating behavior and completing the behavior showed no significant difference between pre- and post-test mean scores. But it was found that the self-efficacy perceptions of the patients who underwent the mindfulness-based psychoeducation programme had increased. When the pre- and post-test results of the patients in the control group were examined, no significant difference was found in the sub-factors of the Self-Efficacy-Sufficiency Scale and the total mean scores. There was a significant difference in the level of self-efficacy after the intervention in the experimental group; however, no significant difference in the control group was found, which supported the effectiveness of the intervention in the experimental group. This situation capable of proving the effectiveness of the application.

In studies conducted in the field of mindfulness-based cognitive therapies, it has been observed that these therapies have positive effects on the cognitive and emotional processes of individuals (Demir, 2015). People whose mental status is good, are supposed to have higher expectation of self-efficacy regarding completing a task successfully. In this case it can be noted that being mentally stable increases the perceived self-efficacy (Pajares, 2003). As per the literature review to observe the effectiveness of mindfulness-based cognitive therapies, in a study conducted with individuals who received therapy for a long time, results such as increased awareness and decreased addictive substance use and self-destructive behaviors were concluded. Mindfulness-based cognitive therapy is also considered to have positive results in many issues (Ögel et al., 2014). In this study, it was determined that an eight-session mindfulness-based therapy given to individuals with substance-use disorder increased self-efficacy. When the results of this study evaluated it can be seen that the mindfulness-based cognitive therapies increase the level of self-efficacy. The study of Ögel et al. and Pajares supports the findings of this study.

4.2. Comparison of pre-test and post-test mean scores of Self-Efficacy-Sufficiency Scale and sub-factors of control group patients

Ability to escape successfully in risky situations, it is closely related to Bandura's Self-Efficacy-Sufficiency theory. According to the theory, the person believes that he/she has the ability to cope with the events specific to the situation. This faith has a strong influence on behavior. When you get out of a situation that is at risk, self-esteem increases in dealing with the problem that arises later. It's like, "I'm sure I'm gonna fix this". This confidence is associated with increased self-efficacy (Bandura, 1994). Tırışkan et al., said that mindfulness psychotherapy was given hope in the control of individuals with substance use disorders (Tırışkan et al., 2015). In this study, mindfulness psychotherapy in the control of individuals with substance use disorders is thought to be promising as it increases self-efficacy. It was observed that self-efficacy is increased by the techniques of focusing attention, breathing with awareness and focusing on the current moment (Table 3). The results of this study are in accordance with those of the study by Tırışkan et al.

Table 3

Comparison of pre-test and post-test mean scores of Self-Efficacy-Sufficiency Scale and sub-factors of experimental and control group patients.

Self-Efficacy-Sufficiency Scale Scale sub-factors	Pre-test		Test and significance	Post-test		Test and significance
	Experimental group X ± SD	Control group X ± SD	p	Experimental group X ± SD	Control group X ± SD	p
Factor-1 Initiating Behavior	23.50 ± 5.54	25.00 ± 5.20	t = -0.632 p = 0.528	27.00 ± 5.64	25.00 ± 4.02	t = 1.643 p = 0.000
Factor-2 Maintaining Behavior	22.50 ± 5.73	24.00 ± 5.34	t = -0.682 p = 0.497	25.00 ± 5.29	25.00 ± 4.73	t = 1.166 p = 0.246
Factor-3 Completing the Behavior	18.00 ± 4.4	17.00 ± 5.64	t = 1.643 p = 0.103	21.00 ± 4.8	19.00 ± 4.59	t = 2.008 p = 0.047
Factor-4 Combating the Obstacles	8.00 ± 2.62	8.00 ± 2.88	t = 0.274 p = 0.785	9.00 ± 2.86	9.00 ± 2.98	t = 1.939 p = 0.055
Scale Total Self-Efficacy-Sufficiency	76.50 ± 12.62	77.50 ± 12.06	t = -0.061 p = 0.951	85.50 ± 14.95	74.00 ± 12.52	t = 3.329 p = 0.044

t = t-test in independent groups.

4.3. Comparison of pre-test and post-test mean scores of Self-Efficacy-Sufficiency Scale and sub-factors of experimental and control group patients

In the study, comparing the pre-test mean scores of the Self-Efficacy-Sufficiency Scale applied to the patients in the experimental and control groups (Table 3) revealed no difference in the mean scores of any of the scale factors before intervention, whereas comparing the mean post-test scores revealed a significant difference between the groups in initiating behavior, completing behavior and total scale scores. Evaluating the mean scores of other sub-factors of the maintaining behavior and struggle against the obstacles revealed no statistically significant difference, but a positive increase in self-efficacy levels was observed. As a result, it was concluded that mindfulness-based education given to the experimental group had positive effects on self-efficacy perception.

Feeling strong and self-confident is a known to be a way to increase self-efficacy (Bandura, 1977). It was thought that increasing self-efficacy may be effective in healing management with increasing health responsibility (Karakas & Ersögütçü, 2016). In a study conducted by Murphy et al., it has been thought that increased mindfulness levels reduce stress and make it easier to cope with cravings for drugs (Murphy & Mackillop, 2012). In another study, the importance of education to relapse in the treatment of substance-use disorder was mentioned. In the literature, it was mentioned that the recovery management nurse should help the patients to continue their lives in a constructive way to realize their specific goals and plans by strengthening them to achieve the desired success; they should maintain the motivation and meet the needs of patients (Karakas & Ersögütçü, 2016). Recent studies show that mindfulness-based interventions are used in the treatment of substance addiction and that effective results are obtained (Bowen et al., 2014; Imani et al., 2015; Mermelstein & Garske, 2015; Witkiewitz et al., 2013). In a randomised controlled study by Bowen et al., the eight-week mindfulness-based therapy was found to be effective in preventing recurrent substance use (Bowen et al., 2014). In a study conducted with patients with substance-use disorder, Chiesa et al. found that mindfulness-based therapy reduced negative desires in substance-use patients and increased their ability to quit substance use (Chiesa & Serretti, 2014). In this study, it is thought that mindfulness-based education to increases the self-efficacy and is effective in patients with substance use disorders. This situation shows that increasing self-efficacy with mindfulness-based psychoeducation programme can have significant effects on the prevention of relapse and the intervention in this research can be used in relapse-prevention studies.

Negative state of emotion in individuals may improve with acceptance and by being non-judgemental to environment and oneself, which form the basis of mindfulness. Considering that mindfulness-based practices, such as awareness breathing exercises, increase psychological well-being and in accordance with the results obtained with increasing self-efficacy-sufficiency levels, the individual's focusing on

the current moment, being non-judgemental on the situations against the emotions and being accepting was supported by this study in terms of being an effective technique in the struggle against substance use. The results of this study revealed that the mindfulness-based education programme used was effective in increasing self-efficacy perception in individuals with substance-use disorder. This supports the hypothesis that states that at the end of the mindfulness-based education, self-efficacy is higher in the experimental group than in the control group (Table 3). Determined results showed similarity with literature sources (Atalay, 2018; Bowen et al., 2014; Chiesa & Serretti, 2014; Imani et al., 2015; Karakas & Ersögütçü, 2016; Mermelstein & Garske, 2015; Murphy & Mackillop, 2012; Witkiewitz et al., 2013). For all these reasons and based on the results of this research, it can be said that mindfulness-based cognitive therapies will be a useful intervention in patients with substance-use disorder. It is important to show that the therapy programme has achieved its purpose, particularly because it can guide nurses working in the field of community mental health in terms of techniques that can be used in the treatment of individuals with this condition. It is difficult to make the individuals who have substance-use disorder problems focus on mindfulness-based cognitive therapy that is an 8-week programme. To get accurate results from the therapy, the group who attends the programmes were included in the study. Although all patients who received pharmacological treatment expected to be included in the therapy, especially patients with severe mental problems could not continue the therapy and they were excluded from the scope of the study. This situation is considered as a limitation for the study.

5. Conclusion

In this study, it was found that there was a significant difference in two sub-factors of "initiating the behavior" and "completing the behavior" and total mean scores of the Self-Efficacy-Sufficiency Scale of the experimental group after the intervention. After the mindfulness-based psychoeducation programme, it was found that self-efficacy perceptions increased in terms of the maintaining behavior, completing the behavior and struggle against the obstacles. When the total score and sub-factors average of the self-efficacy before and after the application to the experimental group was evaluated; a significant difference was found "maintaining behavior", "Competing the obstacles" sub-factors and "total scale scores" between. Comparing the pre- and post-test mean scores of the experimental and control groups revealed that there was a significant difference between the groups in terms of factors initiating and completing the behavior among the scale sub-factors. It was found that there was a significant difference between the average scores of total self-efficacy; although there was no significant difference between the other items of the scale, compared with the average of pre-test scores, the average of the post-test scores in the experimental group increased. Mindfulness-based psychoeducation programme was

observed to be effective. The results of this study have contributed to the literature on psychoeducation programmes to be applied to patients. In line with these results, community mental health nurses may use the literature to add awareness-based psychoeducation programme to their training plans. They may communicate with clinical nurses about these trainings and take part in the trainings conducted; the results may also help public health nurses to identify individuals with substance-use disorder and identify homes, workplaces and schools that they should regularly visit and implement activities for the problems identified after the visits, as well as plan trainings to prevent substance use. It has been shown that self-efficacy can increase with the application made in this study. This may guide future scientific researches for the treatment of drug addiction to individuals with substance use disorders.

CRedit authorship contribution statement

Berna Bayır: Conceptualization, Formal analysis, Investigation, Resources, Data curation, Writing - original draft, Visualization, Funding acquisition. **Rukuye Aylaz:** Methodology, Validation, Writing - review & editing, Supervision, Project administration.

Declaration of competing interest

The authors report no actual or potential conflicts of interest.

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