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ORIGINAL ARTICLE

The Effect of Mindfulness-based Psychoeducation on Negative Automatic Thoughts and Medication Adherence in Individuals with Cannabis Use Disorder: a Randomized Controlled Trial

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Abstract
The aim of this study is to evaluate the effect of mindfulness-based psychoeducation on negative automatic thoughts and medication adherence in individuals with cannabis use disorder. The randomized controlled study was conducted between September 2021 and December 2022 in the psychiatry clinic of a university hospital in Turkey. The sample size of the study consisted of 60 individuals (30 experimental groups, 30 control groups). Descriptive Characteristics Form, Negative Automatic Thoughts Questionnaire, and Morisky Medication Adherence Scale were used to collect data. In the study, while eight sessions of mindfulness-based psychoeducation were given to the experimental group, no intervention was applied to the control group. Experimental group posttest negative automatic thoughts and medication adherence scale total mean scores were found to be statistically significant ($p < 0.05$). It was determined that the posttest negative automatic thoughts scale total score mean in the experimental group decreased compared to the control group, and the medication adherence scale total score mean increased compared to the control group. It was determined that mindfulness-based psychoeducation given to individuals with cannabis use disorder was effective in negative automatic thoughts and adherence to treatment.

Keywords Mindfulness · Cannabis · Substance · Patient · Negative automatic thought · Psychiatric nursing · Psychoeducation · Adherence to treatment

Cannabis use disorder is the most common illegal substance use disorder in the general population (Pinto et al., 2019). The World Drug Report 2021 by the World Health Organisation states that approximately 4% of the world population abused cannabis in 2019 (WHO- World Health Organization, 2021). While one study reported that individuals with more negative automatic thoughts are more likely to abuse cannabis (Roos & Witkiewitz, 2017), another study revealed that individuals with cannabis use disorder had higher levels of negative automatic thoughts (Budak et al., 2021).

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The cognitive approach indicates that negative automatic thoughts affect the emotions and behaviours of individuals due to their dysfunctional and detrimental effects on the assessment and interpretation of the environment (Artıran & Şeker, 2020). While one study showed that individuals with substance use disorders had more negative automatic thoughts (Gülen, 2019), another study revealed a significant positive correlation between negative automatic thoughts and the potential for substance use disorder (Karami, 2018). A study conducted by Budak et al. on cannabis users reported a negative correlation between mindfulness and negative automatic thoughts (Budak et al., 2021). Miller and Fleming reported that substance addicts had a low level of mindfulness (Miller & Ve Fleming, 2008). Also, negative automatic thoughts negatively affect the medication adherence of individuals (Artıran & Şeker, 2020).

Medication adherence generally refers to as the degree of the patient to follow the recommended treatment regimen (Yel & Karadakovan, 2022). Medication non-adherence is an important issue in substance use disorders. In a study on individuals with substance use disorders, it was found that 47.7% of patients suffered from problems with medication adherence during the treatment (Blum et al., 2018).

Even though pharmacological therapies are promising in the treatment of cannabis use disorder, no pharmacological approach with proven efficacy is available. Therefore, psychosocial-based interventions such as cognitive behavioural therapy, motivational interview techniques, and deprivation-based emergency management are used alongside pharmacological treatment (Connor et al., 2021; Patel, 2022). One of these psychosocial methods is mindfulness-based intervention (Bayır & Aylaz, 2021; Kargın & Hiçdurmaz, 2020).

The concept of mindfulness is a mental process based on the observation of emotions, thoughts, and bodily sensations by focusing attention on the present moment without any judgement (Çetin & Aylaz, 2018). Mindfulness-based interventions are used in psychotherapy sessions, psychoeducational sessions, and some meditation practices (Groves, 2016). Mindfulness-based interventions help individuals to notice and regulate underlying maladaptive thoughts, emotional reactions, and automatic and impulsive behaviours in mental health disorders and strengthen individuals to cope with distress by increasing their tolerance for it (Davis et al., 2019; Zümbül, 2021). The results of studies on cannabis use have indicated that mindfulness reduces cannabis abuse and associated adversities (Barrington et al., 2019; Lin et al., 2021; Schneegans et al., 2021). The study by Barrington et al. indicated that individuals with a high level of mindfulness reported lower levels of cannabis abuse (Barrington et al., 2019). Mindfulness-based psychoeducation would produce effective results in the treatment of cannabis use disorder, as in other substance use disorders (Sripada, 2022), by reducing negative automatic thoughts.

The literature includes studies in which mindfulness-based interventions have been applied with individuals diagnosed with substance use disorders (Amaro & Black, 2017; Black & Amaro, 2019; Roos et al., 2017). However, no studies have been found that especially examined the effect of mindfulness-based psychoeducation on negative automatic thoughts and medication adherence in individuals with cannabis use disorder. The introduction of approaches, effectiveness of which is proven in the treatment of cannabis use disorder, leading to serious problems, would contribute to the improvement of the physical and mental health of patients. Psychiatric nurses assume major responsibilities in the treatment of substance use disorders such as cannabis, as it requires a multidisciplinary team approach (Kargın & Hiçdurmaz, 2018). Scientific publications that address these concepts related to the group should be available so that psychiatric nurses can deliver the appropriate psychosocial care. Therefore, this study is believed to serve as a guideline for psychiatric nurses.

This study aims to evaluate the effect of mindfulness-based psychoeducation on negative automatic thoughts and medication adherence in individuals with cannabis use disorder.

Hypotheses

H_1: Mindfulness-based psychoeducation reduces negative automatic thoughts in individuals with cannabis use disorder.
H_2: Mindfulness-based psychoeducation increases medication adherence in individuals with cannabis use disorder.

Method

Study Design

The study design was randomized controlled trial.

Place and Time of the Study

The study was conducted in the psychiatry clinic of Turgut Özal Medical Centre, İnönü University, in Turkey, between September 2021 and December 2022.

The psychiatry clinic has a capacity of 52 beds. The cases of anxiety disorder, mood disorder, psychosis, related disorders, and substance use disorder are treated in the clinic. A total of 45 healthcare professionals on staff, including 12 nurses, 7 faculty members, 13 assistants, and 13 other staff members, work in this clinic. There is a library, garden, table tennis board, sports garden, and hobby room for patients in the Psychiatry Clinic of Turgut Özal Medical Centre. In clinics, patients are subjected to regular psychiatric examinations and participate in interviews and group therapies with a psychologist. At the same time, psychiatric nurses working in the clinic write their daily observations about the patients in observation reports and report them to the physicians. Therefore, if the patient has a psychiatric problem in addition to addiction, it is stated in the clinical reports and treatment.

Population and Sample

The population of the study consisted of individuals diagnosed with substance use disorders in the psychiatry clinic of Turgut Özal Medical Centre. Based on hospital records, there were 200 individuals with substance use disorders who were treated in the psychiatry clinic in 2021–2022. One hundred thirty-five out of 200 individuals with substance use disorders used only cannabis, and 27 out of 200 individuals with substance use disorders have no diagnosis of an additional psychiatric disorder. It was obtained from the records of the patients that they only used cannabis and did not have an additional diagnosis of mental illness. The sample size was calculated for 108 individuals. The sample size determined by power analysis was calculated as at least 30 individuals for each group and 60 individuals in total (30 in experimental groups, 30 in control groups), assuming that the mean score of being affected by cannabis use, which was 37.83 (standard deviation 31) in the group who abused cannabis, would decrease by 5 points, at an error level of 5%, a two-way significance

level, a confidence interval of 95%, and an ability to represent the population of 80% (Kavak Budak et al., 2021). Considering that there would be losses in the research, 70 patients (35 experimental, 35 control) were interviewed. Three patients from the experimental group stated that they gave up participating in the training after the preliminary tests were carried out, and two patients reported that they could not spare time for the training hours and days. Two patients in the control group changed the city they lived in, and three patients were assigned to another city for work reasons. The research was completed with 60 patients, 30 in the experimental group, and 30 in the control group (Fig. 1).

Inclusion Criteria

- Meeting the criteria for substance abuse according to DSM-V
- Being currently abusing cannabis

Exclusion Criteria

- Being under 18 years of age
- Having a comorbid psychiatric diagnosis (psychotic disorder, personality disorder, depression, etc.)
- Being in their period of substance deprivation
- Having communication problems
- Having previously or currently participate in any mindfulness programme

Randomization

Randomization list for assigning patients to groups MedCalc version 18.11.3 made using. Guided by the clinician, who meet the inclusion criteria, agree to participate in the study, and routinely patients receiving treatment (similar drug therapy) are listed in the order of referral. Equal distribution according to socio-demographic characteristics (age, gender, marital status, education level, working status, people living with, status of having children, cannabis starting age, getting treatment to quit cannabis) was taken into account in the randomization of the experimental and control groups. The randomization number obtained from MedCalc of the number received by the patient. The last part of the list indicates that the patient is in the experimental or control group has determined. Patients were not told which group they were in.

Data Collection Tools

Descriptive Characteristics Form

This form was prepared by the researcher upon the literature review and consists of a total of ten questions including the socio-demographic characteristics of the patients.

Negative Automatic Thoughts Questionnaire

Hollon and Kendall developed the questionnaire in 1980 (Hollon & Kendal, 1984). Şahin and Şahin conducted the second validity and reliability study in 1992 (Şahin

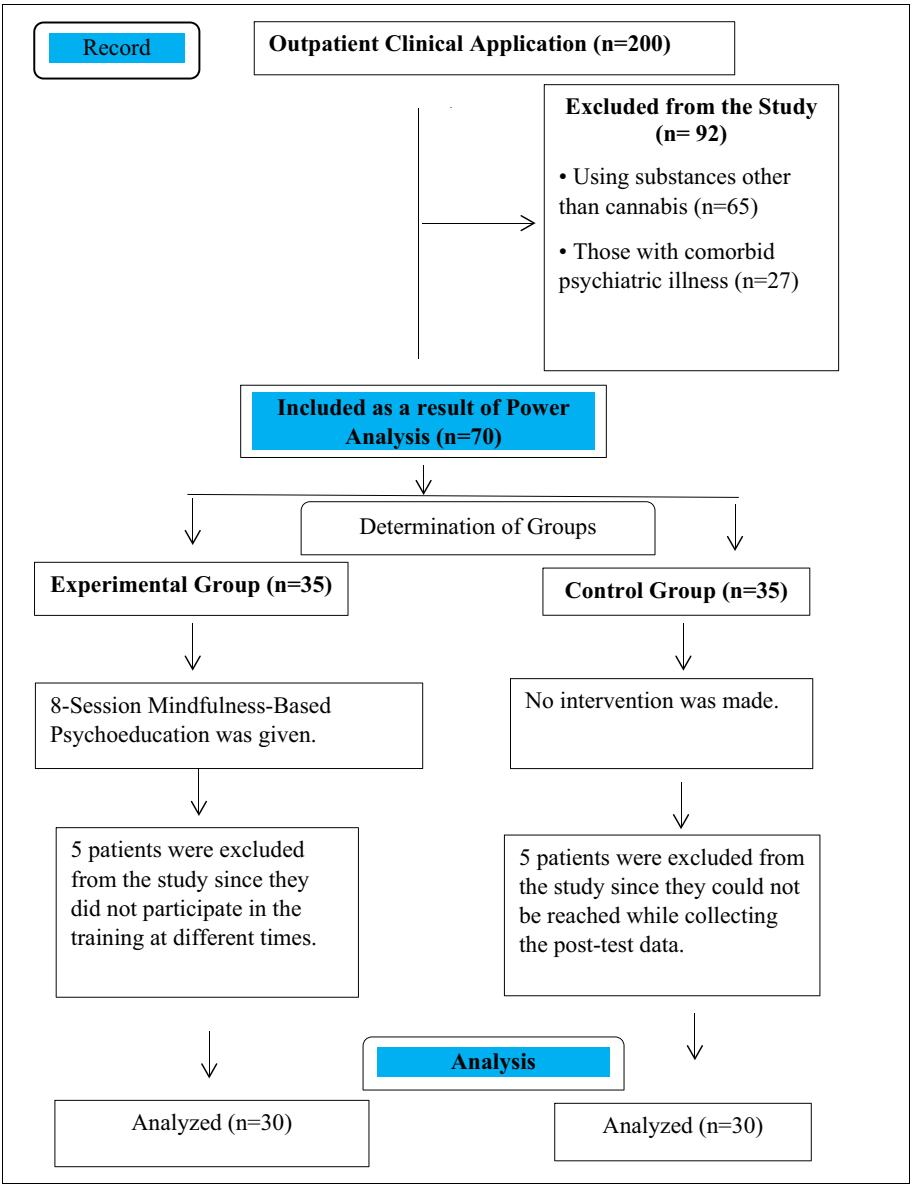


Fig. 1 Research consort flow chart

& Şahin, 1992). It requires a scoring on a 5-point Likert scale. All items are scored straight. Total score ranges between 30 and 150. A score of 67 and above indicates a high level of negative automatic thoughts. The Cronbach's alpha internal consistency coefficient of the questionnaire was determined as 0.93 (Şahin & Şahin, 1992). In this study, the Cronbach's alpha coefficient of the questionnaire was found to be 0.94.

Morisky Medication Adherence Scale

Morisky, Green, and Levine developed the scale in 1986 (Morisky et al., 1986). Yılmaz conducted the Turkish validity and reliability study of the scale in 2004 (Yılmaz, 2004). The Cronbach's alpha coefficient of the scale ranges between 0.64 and 0.96. The scale consists of four questions to measure medication adherence. The questions are answered as "yes/no". If the answers to all questions are "no", medication adherence is rated as high (4 points); if the answer to one or two questions is "yes", medication adherence is rated as moderate (between 2 and 3 points); and if the answer to three or four questions is "yes", medication adherence is rated as low (between 0 and 1 point) (Yılmaz, 2004). In this study, the Cronbach's alpha coefficient of the scale was found to be 0.92.

Data Collection

The data were collected in a private room in the clinic by the researcher using face-to-face interview method. Pretest forms (Descriptive Characteristics Form, Negative Automatic Thoughts Questionnaire and Morisky Medication Adherence Scale) and posttest forms (Negative Automatic Thoughts Questionnaire and Morisky Medication Adherence Scale) were applied in the experimental and control groups. The researcher distributed the forms to the patients, and the patients filled out the forms themselves. The researcher collected the completed forms. It took approximately 15 min to complete the data collection tools.

Nursing Intervention

The researcher who applied the mindfulness training attended the training on "Mindfulness and Its Use in Therapeutic Process" provided by Assoc. Prof. Dr. Zümra Atalay on 29 April 2018 and received its certificate.

The individuals in the experimental group were informed about mindfulness-based psychoeducation, and psychoeducation days were set. The individuals in the experimental group were divided into three groups of ten people. The psychoeducation programme was provided twice a week (eight sessions) as group education over 4 weeks. Each session lasted for approximately 40 min. No intervention was applied to the control group. Patients coming to the clinic were first included in the experimental group. After reaching the number in the experimental group, the control group was reached. In both groups, 15 days were waited for the posttest after the pretest. The individuals in the control and experimental groups continued their medication, education and routine practices, in the clinic during this period.

Mindfulness-based Psychoeducation Sessions

Session 1: The technique of meeting with mindfulness allowed the group members to introduce themselves to one another during the session. According to this technique, each person paired up with the patient next to him/her within the given time frame and explained themselves only to the person with whom they are paired. When the time was up, everyone took turns introducing the person they were paired up with to the

group, and the introduction was completed in this way. The group members were asked to share their experiences with the practice.

Session 2: During this session, they were informed about addiction, substance use disorder, and cannabis abuse and tried to make them recognise their bodies with mindfulness exercises.

Session 3: This session involved a raisin practice to explore mindfulness. Breathing and body meditation practices were realised. They were told to notice the sounds that they hear from inside and outside with their senses during the practice. This allowed them to accept what was going on in their inner world and their surroundings as what they were. The patients were told to be aware of themselves while performing their daily activities, and mindfulness breathing exercises were assigned as homework.

Session 4: This session was based on exploring their bodies, and the patients did body meditation. The body meditation focused on the body. The session tried to raise mindfulness and alleviate stress in daily life with a habit-breaker: spending some time in nature.

Session 5: The causes of anger in patients and methods of coping with anger were discussed. They were informed about anger and coping strategies. The meditation on facing difficulties was practised. This meditation enabled the patient to develop the ability to face the difficulties occasionally encountered in daily life. A letter to the self-habit breaker made the patient aware of his/her own feelings and thoughts.

Session 6: The patients were made to do mindfulness breathing exercises and breathing meditation. This meditation was intended to teach coping with difficult circumstances and new coping strategies. The habit breaker "going for a walk" was used to raise mindfulness and reduce stress in daily life.

Session 7: The patients were told about the causes of stress and coping strategies. It aimed to alleviate the patient's stress by increasing their joy in life. The patients did the treasure of pleasure meditation. They were enabled to use their whole consciousness to focus on extremely simple pleasures such as the warmth of the hands or the taste of the favourite food, thus trying to increase the joy of life.

Session 8: The effectiveness of the programme was assessed. What they learned were reinforced. Concerning the whole training, the group members were asked to evaluate themselves and the programme (Table 1).

Statistical Analysis

The SPSS 25.0 for Windows software (SPSS, Chicago, IL, USA) was used for statistically analysis of the data. Before the analysis, the Kolmogorov–Smirnov test was run to assess the compatibility of the scales for normal distribution. Percentage distribution, mean, Pearson chi-square, independent samples *t*-test, and paired *t*-test were applied to assess the normally distributed data.

Ethical Considerations

Approval from the Scientific Research and Publication Ethics Committee of Inonu University (IRB NO: 2018/10–15) and then legal permission from the related institutions were obtained to conduct the study. The participants were informed about the aim of the study,

Table 1 Mindfulness-based psychoeducation programme

Session 1: Preparation session *Acquaintance *Explaining group rules *Introducing the programme	Session 2: Recognition of the disease * Cannabis and its effects *Explaining the concept of addiction, *Brain and addiction *Explaining cannabis and its effects,
Session 3: Mindfulness • Mindfulness • Mindfulness breathing exercise • Raisin meditation • Mindfulness in daily activities	Session 4: Don't forget the body *Body scanning meditation *Being aware of daily activities *Habit breaker
Session 5: Coping with anger and anger *Understanding the nature of anger *Anger and emotion, thought, and behavior relationship *Ways to control anger *Meditation to face difficulties *Habit breaker	Session 6: Applying mindfulness to daily life • Mindfulness breathing exercise • Breathing meditation • Habit breaker
Session 7: Methods of coping with stress *What is stress? *What are the effects of stress? *How can we deal with stress? *Actions to deal with cannabis-related thoughts *Mindfulness breathing exercise *Pleasure treasure meditation	Session 8: Evaluation *Reinforcement of the learned information *Evaluation of the programme *Receiving feedbacks

and then their questions were responded. Afterwards, their verbal and written consents were obtained. After the training given to the experimental group was completed, patients in the control group were also given 8 weeks of training.

Findings

It can be asserted that the total mean score of the individuals in the control and experimental groups in the Negative Automatic Thoughts Questionnaire in the pretest was high when the total mean score of the scale was taken into consideration (30–150). Upon intra-group and inter-group comparison of the control and experimental groups in terms of total mean score of the Negative Automatic Thoughts Questionnaire, no statistically significant difference was found in the Negative Automatic Thoughts Questionnaire total mean scores of the control group in the pretest and posttest, whereas a statistically significant difference was found between the Negative Automatic Thoughts Questionnaire total mean scores of the experimental group in the pretest and posttest ($p < 0.05$). There was a decrease in the total mean score of the Negative Automatic Thoughts Questionnaire in the posttest in the experimental group compared to the control group (Tables 2 and 3). In the experimental group, negative automatic thoughts decreased by approximately 31 points in the posttest compared to the pretest, while in the control group, negative automatic thoughts increased by approximately 1 point in the posttest compared to the pretest.

When the Morisky Medication Adherence Scale total mean scores of the control and experimental groups in the pretest were taken into consideration (0–1 [low], 2–3 [moderate], and 4 [high]), it was determined that their medication adherence was at a moderate level. Upon intra-group and inter-group comparison of the control and experimental groups in terms of total mean score of the Morisky Medication Adherence

Table 2 Descriptive characteristics of the control and experimental groups

Group	Control group (*n*:30)		Experimental group (*n*:30)		Test and value
Descriptive characteristics	*n*	%	*n*	%	
Age					
18–28	15	50	16	53.33	$X^2=0.310$ $p=0.605$
29–39	10	33.33	11	36.67	
40–50	5	16.67	3	10	
Gender					
Male	30	100	30	100	$X^2=5.339$ $p=0.588$
Female	0	0	0	0	
Marital status					
Married	12	40	11	36.67	$X^2=1.398$ $p=0.134$
Single	18	60	19	63.33	
Education level					
Literate	2	6.66	3	10	
Primary education	8	26.67	7	23.33	
Secondary	12	40	11	36.67	$X^2=3.605$ $p=0.269$
University	8	26.67	9	30	
Working status					
Yes	4	13.33	5	16.67	$X^2=0.990$ $p=0.863$
No	26	86.67	25	83.33	
People living with					
Family	26	86.67	27	90	
Alone	4	13.33	3	10	$X^2=5.157$ $p=0.461$
Status of having children					
Yes	4	13.33	4	13.33	$X^2=0.409$ $p=0.210$
No	26	86.67	26	86.67	
Cannabis starting age					
18–28	27	90	28	93.33	$X^2=4.339$ $p=0.688$
29–39	3	10	2	6.67	
Getting treatment to quit cannabis					
Yes	15	50	15	50	$X^2=1.339$ $p=0.785$
No	15	50	15	50	

Scale, no statistically significant difference was found in the Morisky Medication Adherence Scale total mean scores of the control group in the pretest and posttest, whereas a statistically significant difference was found in the Morisky Medication Adherence Scale total mean score of the experimental group in the pretest and posttest ($p<0.05$). There was a decrease in the Morisky Medication Adherence Scale total mean score in the posttest in the experimental group compared to the control group (Table 4).

Table 3 Comparison of the pretest and posttest negative automatic thoughts scale total score mean of the individuals in the experimental and control groups ($n=60$)

Negative automatic thoughts			
Control group experimental group			
Groups	Pretest (X ± S.S.)	Posttest (X ± S.S.)	*Test and value
Experimental group ($n=30$)	110.23 ± 5.88	79.35 ± 4.76	$t=-1.480$ **$p=0.001$**
Control group ($n=30$)	111.56 ± 5.62	112.38 ± 6.06	$t=1.983$ $p=0.246$
**Test and value	$t=0.131$ $p=0.132$	$t=-1.309$ **$p=0.001$**	

*Independent samples *t* test. **Paired *t* test, $p<0.05$ is significant

Table 4 Comparison of the pretest and posttest Morisky Medication Adherence Scale total score mean of the individuals in the experimental and control groups ($n=60$)

Morisky medication adherence scale			
Control group Experimental group			
Groups	Pretest (X ± S.S.)	Posttest (X ± S.S.)	*Test and value
Experimental group ($n=30$)	2.46 ± 1.08	3.97 ± 1.86	$t=1.140$ **$p=0.001$**
Control group ($n=30$)	2.56 ± 1.13	2.51 ± 1.06	$t=2.347$ **$p=0.001$**
**Test and value	$t=1.073$ $p=0.865$	$t=-2.106$ **$p=0.001$**	

*Independent samples *t* test, **Paired *t* test, $p<0.05$ is significant

Discussion

The findings of the study, which were conducted to determine the effect of mindfulness-based psychoeducation on negative automatic thoughts and medication adherence in individuals with cannabis use disorder, were discussed based on the literature.

Individuals with substance use disorders may exhibit high levels of negative emotions and thoughts. Swendsen et al. determined that alcohol addicts had high levels of negative emotions and thoughts (Swendsen et al., 2002). Cannabis abuse, one of the substance use disorders, may impair the quality of life of individuals. Cannabis abuse may lead to negative effects on the cognitive, emotional, and thinking abilities of individuals. These negative effects may bring about automatic negative thoughts of individuals. The study by Roos Witkiewitz reported that individuals who held more negative automatic thoughts exhibited higher levels of cannabis abuse (Roos & Witkiewitz, 2017). The study by Budak et al. also reported that individuals with cannabis use disorder had high levels of negative automatic thoughts (Budak et al., 2021). It can be asserted that the individuals in the control and experimental groups had high level of the negative automatic thoughts before the training.

When the total mean scores of the control and experimental groups in the negative automatic thoughts questionnaire after the training was compared, a statistically significant difference was determined between them ($p < 0.05$). In a study conducted by Öğütçü Zeman et al. with individuals with a history of substance abuse, they found a significant correlation between cannabis abuse and negative automatic thoughts (Öğütçü Zeman et al., 2019). In their study, Barrington et al. revealed that individuals with a high level of mindfulness reported lower levels of cannabis abuse (Barrington et al., 2019). Mindfulness-based psychoeducation has been reported to be effective in treating cannabis use disorder by reducing negative automatic thoughts (Sripada, 2022). After the training, there was no change in the negative automatic thoughts of the control group in the posttest, whereas the negative automatic thoughts of the experimental group decreased. The reduction in the negative automatic thoughts of the individuals in the experimental group after the mindfulness-based psychoeducation confirms one of the hypotheses of the study, "Mindfulness-based psychoeducation reduces negative automatic thoughts in individuals with cannabis use disorder". The training showed that individuals may enjoy a temporary state of pleasure when abusing substances, but may regret it afterwards. Explanation of the cognitive, emotional, and physical damages of cannabis abuse to the abusers during the training may have strengthened the willpower of the abusers due to the ability of the abusers to think and recognise themselves better through the training. From this point of view, the training may have affected the negative automatic thoughts of individuals with cannabis use disorder.

Before the training, it was found that the medication adherence of the individuals in the control and experimental groups was at a moderate level. One of the most important challenges in substance use disorders is medication adherence. Considerations such as low belief in treatment for substance use disorders and less willpower to quit the substance may make it difficult to adhere to medication. A study on individuals with substance use disorders found that 47.7% of patients suffered from problems with medication adherence during the treatment (Blum et al., 2018). Çelikay Söyler et al. found that there were problems in medication adherence in a study conducted with individuals with cannabis use disorder (Çelikay Söyler et al., 2022). This finding of the present study is compatible with the literature.

When the Morisky Medication Adherence Scale total mean score of the control and experimental groups after the training was compared, a statistically significant difference was determined ($p < 0.05$). After the training, there was no change in the medication adherence of the control group in the posttest, whereas there was an increase in the medication adherence of the experimental group. Bayır and Aylaz determined in their study on substance use disorders that mindfulness-based education was effective in medication adherence in substance use disorders (Bayır & Aylaz, 2021). In their study on women with substance use disorders, Amaro and Black found that mindfulness-based therapy increased medication adherence (Amaro & Black, 2017). The increase in the medication adherence of the individuals in the experimental group after mindfulness-based psychoeducation confirms one of the hypotheses of the study, "Mindfulness-based psychoeducation increases medication adherence in individuals with cannabis use disorder". Mindfulness-based interventions help individuals to notice and regulate underlying maladaptive thoughts, emotional reactions, and automatic and impulsive behaviours of mental health disorders and strengthen individuals to cope with distress by increasing their tolerance for it (Davis et al., 2019; Zümbül, 2021). The results of studies on cannabis abuse have indicated that mindfulness reduces cannabis abuse and associated adversities (Barrington et al., 2019; Lin et al., 2021; Schneegans et al., 2021). Individuals who abuse cannabis might have raised their mindfulness of medication adherence due to the training they received about medication adherence. This may be considered to have improved their medication adherence.

Conclusion

The results of the study revealed that mindfulness-based psychoeducation given to individuals with cannabis use disorder was effective in negative automatic thoughts and adherence to treatment. It would be an appropriate intervention to organize mindfulness-based psychoeducation programs in psychiatric clinics and alcohol and substance abuse centres in addition to routine treatment. Psychiatric nurses do a one-to-one patient follow-up in the field and actively exercise their basic roles such as teaching, counselling, rehabilitation, case management, and caregiving. The nurses who work in psychiatric clinics should be certified in mindfulness-based psychoeducation training and should be able to practice it on all patients with cannabis use disorder, and this programme must try with other substance use disorders .

Limitations

The limitation of the study is that it was conducted in a single centre. Another limitation is that there was no female participant.

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Data Availability The data used to support the findings of this study are available from the corresponding author on request.

Declarations

Ethics Approval The present study was approved by the local research ethics committee of Inonu University (and was carried out following the Code of Ethics of the World Medical Association (Declaration of Helsinki) for medical research involving humans (World Medical Association, 2013).

Informed Consent Before participating, verbal informed consent was obtained from the patients. In the informed consent, ethical and privacy issues were covered.

Conflict of Interest The authors declare no competing interests.

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