Effectiveness of Acceptance and Commitment Therapy for Patients with Psychosis Being Monitored at a Community Mental Health Center: A Six-Month Follow-up Study

ABSTRACT

Objective: This study aimed to examine the long-term efficacy of a short-term acceptance and commitment therapy-based (ACT) group psychotherapy on patients with psychosis in a community mental health center (CMHC).

Methods: A total of 6 group-based ACT sessions were applied to 16 people diagnosed with psychotic disorders who met the inclusion criteria. They were evaluated at the start of, end of, and 6 months after the therapy using the acceptance and action questionnaire, the psychotic symptom rating scales, and the quality-of-life scale.

Results: At the end of the 6 session group therapy and 6-month follow-up, a statistically significant decrease was found in patients' psychotic symptoms and experiential avoidance as well as a statistically significant increase in their quality of life ($P < .001$).

Conclusion: According to the results, ACT can be said to be an effective method for managing psychotic symptoms, reducing experiential avoidance, and improving the quality of life in patients diagnosed with psychotic disorders in CMHCs.

Keywords: Acceptance and commitment therapy, cognitive behavioral therapy, group psychotherapy, psychotic disorders

Introduction

Psychotic disorders are associated with self-stigmatization and decreased quality of life in addition to delusions and hallucinations.¹ Chronic psychotic disorders such as schizophrenia and schizoaffective disorder have been reported to be associated with loss of occupational and social functioning in the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5).² Psychotic disorders such as schizophrenia are one of the causes of the world’s leading mental disabilities.¹ It has a lifelong prevalence in the community between 0.5% and 1.6% and is associated with a high rate of disability.³ Psychotic disorders that cause significant disabilities can be considered as a public health problem.⁴

Targeting not only psychotic symptoms but also increasing the quality of life and social and occupational functioning have been suggested in management of psychosis.⁵ The addition of cognitive behavioral therapy (CBT) to pharmacotherapy has been shown to increase the effectiveness of treatment. Adding CBT to routine treatment has been found to be more effective at reducing both positive and negative symptoms compared with people who receive pharmacotherapy alone.⁶ Although antipsychotic drugs are particularly effective at treating psychosis, their effect on cognitive symptoms is controversial, and side effects reduce treatment compliance.⁷⁸ Therefore, pharmacological treatment and mental-social approaches such as psychotherapy being used together have been suggested for treating psychotic disorders.⁹¹⁰

Acceptance and commitment therapy (ACT), a relatively new psychotherapy, includes psychopathology hypotheses and interventions based on contextual behavioral sci-
Acceptance and commitment therapy (ACT) has been shown to be effective in psychosis. The results of this study indicated initial findings about the efficacy of ACT in community mental health center (CMHC) in Turkey for short term and 6 month follow-up. ACT has been found to reduce psychotic symptoms, experiential avoidance and increase quality of life with an acceptable drop rate. According to these results, ACT can be a successful therapeutic approach, especially in CMHC.
includes 2 separate scales, one that evaluates delusions and the other that evaluates auditory hallucinations. The semi-structured interview form is scored by the clinician during the interview. The delusions scale (PSYRATS-d) includes 6 items. This scale evaluates the amount and duration of one’s experiences with delusions, belief/doubt, level and intensity of distress, and impairment in functionality resulting from delusions. The auditory hallucinations scale (PSYRATS-h) has 11 items. This scale evaluates frequency, duration, location, loudness, and beliefs about the source of auditory hallucinations as well as the amount and level of their negative content, the amount and intensity of distress, and level of disruption in functionality they cause, and the controllability of auditory hallucinations. All subscale items are scored between 0 and 4, with only the item related to the controllability of auditory hallucinations being reverse scored. Higher scores obtained from the scales indicate greater symptoms. The Turkish validity and reliability study of the scale was conducted by Sevi et al.21

The Quality-of-life Scale (QLS) for Schizophrenic Patients: This scale was developed by Heinrich et al. 22 The QLS aims to evaluate schizophrenic outpatients’ social adaptability. The scale has 21 items and 4 dimensions, these dimensions being intrapsychic foundations, instrumental role, interpersonal relations, and common objects and activities. This scale is applied using a structured interview. Each item is scored between 0 and 6. Higher scores indicate higher quality of life and better adjustment, whereas lower scores indicate lower quality of life and poor adjustment. The Turkish validity and reliability study of the scale was conducted by Soygür et al.21

Application

The groups were planned to include 8-10 people. After evaluating the patients who applied, group therapy sessions were started once the groups reached enough members, and 2 therapy groups were formed. The first group started their group therapy sessions with 10 people and the second group with 8 people. The groups were not determined according to the sociodemographic characteristics or the clinical statuses of the patients. The clients did not change their medication treatment during the therapy program. From the first therapy group, 1 patient was excluded because he had also received individual psychotherapy for his obsessive-compulsive symptoms, and 1 person from the second group left because the group therapy schedule was not appropriate for him.

A total of 6 sessions of ACT-based group therapy was administered by 1 therapist and 3 co-therapists once a week consecutively. Session duration was set between 90 and 120 minutes based on group size. The intervention protocol was created by a therapist experienced in ACT by examining 2 existing protocols.16,24 The therapy protocol created for this study was composed of the following sections: psychoeducation, interventions for cognitive processes, behavioral interventions, and relapse prevention. The practitioner therapist has received theoretical and supervisory training in ACT. The co-therapists are clinical psychologists and nurses experienced with psychosis. Before each session, the therapists and co-therapists held meetings about the planned interventions or the performance of the session, with the therapist informing the co-therapists. The session contents are given in Table 1.

Table 1. Content of the Group Therapy Sessions

| Session | Description |
|---------|-------------|
| Session 1 | Introducing everyone and introducing the participants to the principles of group therapy, acceptance and commitment therapy, and the psychosis model |
| Session 2 | Introducing the concept of values and determining personal values |
| Session 3 | Applying defusion and acceptance interventions within the framework of personal values; determining which exercises to perform between sessions |
| Session 4 | Applying defusion and acceptance-based interventions within the framework of personal values; determining which exercises to perform between sessions |
| Session 5 | Evaluating problems related to interpersonal relations; applying defusion and acceptance interventions; determining which exercises to perform between sessions |
| Session 6 | Summarizing and reviewing what has been learned and achieved in previous sessions |

The patients were evaluated with face-to-face interviews with the 4 scales a total of 3 times: once before the first session (t0), once at the end of therapy (t1), and once 6 months after the completion of therapy (t2). The procedures involved from selecting the patients to collecting the final data were completed between March and September 2019.

Statistical Analysis

Statistical analysis was done using the SPSS version 20 (IBM Corp., Armonk, NY, USA). The groups’ compliance to normal distribution was evaluated using the Kolmogorov-Smirnov test and histogram graphics. The Friedman test, which is a nonparametric alternative to the analysis of variance test, was used for one-way ordinal variables to evaluate 3 ordinal variables. In addition, the variables t0, t1, and t2 were evaluated in pairs using the Wilcoxon signed ranks test, a nonparametric alternative to the t-test for ordinal variables25 with P < .05 being considered statistically significant.

Results

Sociodemographic and Clinical Data

The mean age of the patients (n = 16) was 45.75 (SD = 7.24) years. The sample consisted of 14 (87.5%) men and 2 (12.5%) women. A total of 8 patients lived with their spouses and/or children, 4 with their parents, 2 alone, and 2 in a nursing home; 6 were single, 7 married, and 3 widowed/divorced. The average educational level of the sample was 9.25 (SD = 3.56) years. Of the 16 patients, 3 whose data had been evaluated attended 5 sessions, whereas the others attended 6 sessions. The 16 people who completed the program attended an average of 5.81 sessions.

Changes Regarding Scale Scores

As the number of patients was small (n = 16), the Kolmogorov-Smirnov test results and histogram graphics were examined together, and the evaluated scale scores were found to be not normally distributed; therefore, nonparametric tests were chosen. A statistically significant change was found in the scores from the AAQ-2, QLS, PSYRATS delusional and auditory hallucinations subscales, all of which were evaluated 3 times during the therapy/follow-up process using the Friedman test (P < .01). Because auditory hallucinations were initially detected in 7 patients, the changes in scores from the PSYRATS auditory hallucination subscale were only evaluated for these individuals. The significance levels of the descriptive statistics for scale scores regarding ordinal measurements, Friedman tests, and Wilcoxon signed ranks tests are given in Table 2. The changes in scale scores are shown in Figure 1.

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Discussion

This study aimed to examine the effectiveness of ACT-based group psychotherapy on chronic psychotic disorders. When analyzing the obtained data and evaluating the intervention and follow-up sessions together, a statistically significant change was found for all the measures. The fact that 16 out of 18 patients completed the therapy program and that those who completed the program attended an average of 5.81 out of the 6 sessions suggested that the protocol could be applied to patients with psychosis. These results can be interpreted as the effectiveness of ACT-based group therapy in the treatment and care of chronic psychosis with the effects lasting at least 6 months.

Table 2. Sociodemographic and Clinical Data

| Variable                          | Value            |
|----------------------------------|------------------|
| Age, years, mean, SD             | 45.75 (7.24)     |
| Sex                              |                  |
| Men, n (%)                       | 14 (87.5)        |
| Women, n (%)                     | 2 (12.5)         |
| Marital status                   |                  |
| Single, n (%)                    | 6 (37.5)         |
| Married, n (%)                   | 7 (43.75)        |
| Widowed or divorced, n (%)       | 3 (18.75)        |
| Residential status (lives with)  |                  |
| Spouse and/or children           | 8 (50.0)         |
| Parent(s)                        | 4 (25.0)         |
| Nursing home                     | 2 (12.5)         |
| Alone                            | 2 (12.5)         |
| Education level, years, mean (SD)| 9.25 (3.56)      |
| Diagnosis                        |                  |
| Schizophrenia, n (%)             | 15 (93.75)       |
| Schizoaffective disorder, n (%)   | 1 (6.25)         |
| Years since first diagnosis, years, mean (SD) | 18.75 (7.30) |
| Number of times hospitalized, mean (SD) | 3.06 (1.73) |
| Current treatment                |                  |
| Single antipsychotic, n (%)      | 1 (6.25)         |
| Two or more antipsychotics, n (%)| 15 (93.75)       |
| Antidepressant, n (%)            | 5 (31.25)        |
| Mood stabilizer, n (%)           | 3 (18.75)        |
| SD, standard deviation.          |                  |

Table 3. Descriptive Statistics for Scale Scores, Mean and Standard Deviation, Significance Levels for Friedman Tests and Wilcoxon Signed Rank Tests

| Scale                          | Before therapy (t0) | End of therapy (t1) | 6-month follow-up (t2) | P (Friedman) | P (Wilcoxon t0-t1) | P (Wilcoxon t1-t2) | P (Wilcoxon t0-t2) |
|--------------------------------|---------------------|---------------------|------------------------|--------------|-------------------|-------------------|-------------------|
| AAQ-2 (n = 16)                 | 28.75 (8.52)        | 22.25 (8.97)        | 20.06 (10.02)          | < .001       | .008              | .102              | .001              |
| PSYRATS-d (n = 16)             | 11.25 (2.67)        | 7.38 (3.83)         | 4.62 (4.62)            | < .001       | .001              | .004              | < .001            |
| PSYRATS-h (n = 7)              | 11.19 (9.09)        | 8.12 (8.12)         | 7.38 (5.34)            | .009         | .108              | .465              | .018              |
| QLS (n = 16)                   | 43.37 (9.60)        | 62.69 (6.38)        | 6562 (10.26)           | < .001       | < .001            | .165              | < .001            |
| QLS-1 (n = 16)                 | 16.88 (3.16)        | 24.81 (2.536)       | 26.69 (3.30)           | < .001       | < .001            | .016              | < .001            |
| QLS-2 (n = 16)                 | 3.19 (2.43)         | 5.81 (2.20)         | 7.750 (6.60)           | < .001       | < .001            | .009              | < .001            |
| QLS-3 (n = 16)                 | 17.87 (4.06)        | 24.87 (2.70)        | 23.50 (3.92)           | < .001       | < .001            | .049              | .001              |
| QLS-4 (n = 16)                 | 5.94 (1.84)         | 7.19 (1.38)         | 7.688 (1.35)           | < .001       | < .001            | .054              | .001              |

P < .05 was considered statistically significant.

Our study evaluated the change in the relationship between auditory hallucinations and delusions (which are accepted as positive psychotic findings) and the patients’ relationship with these findings using PSYRATS; and a statistically significant decrease was found in both scale scores over time. According to the obtained results, changes can be interpreted as having occurred in the quality and quantity of auditory hallucinations and delusions in patients (that is, the patients’ auditory hallucinations decrease, and dysfunctional attitudes toward these findings change). The patients’ dysfunctional relationship with psychotic symptoms may be associated with the emergence of avoidance behaviors and decreased functionality. Experiential avoidance and cognitive fusion have been shown to be effective in sustaining and increasing psychotic symptoms. ACT primarily aims not to change patients’ psychotic symptoms but their relationships with these behaviors. Although not the primary goal, changes in symptoms occur as a secondary effect. Similar to our study, others have shown symptom levels to decrease as a result of ACT interventions. The findings resulting from the therapy sessions can be said to be in line with the ACT perspective.

When evaluating the data obtained from the QLS and its subscales, a statistically significant increase was found in the overall functionality and its sub-dimensions through the therapy program. The performed intervention could be hypothesized to have pro-
vided improvement in different areas of functionality. In another randomized controlled study, ACT applications were added to the treatment of some patients with schizophrenia, whereas others continued their previous treatment. As a result, decreased symptom-related social functioning was found to occur less in patients who had ACT added to their treatment. A total of 2 meta-analyses showed interventions based on acceptance and mindfulness or ACT-based interventions to increase functionality, and our results were consistent with the literature.

Data have been compared in pairs at 3 measurement points. Between results were consistent with the literature.

Only evaluating 7 people with auditory hallucinations. Significant results were found at the end of the therapy. A similar result was not found for disorders over the short period of approximately 2 months from the beginning to end of the therapy. A similar result was not found for the PSYRATS-h scores. The reason for this situation could be due to only evaluating 7 people with auditory hallucinations. Significant results can be found if the applied protocol is repeated over a larger sample.

When assessing the results between the scales applied at the end of the intervention (t₂) and those at the follow-up session (t₃), a significant decrease in scores were found for the AAQ-2 and PSYRATS-d and a significant increase in scores for QLS and its subscales. This result was consistent with our hypothesis; thus, ACT therapy could be said to be effective at reducing experiential avoidance and delusions and at increasing the quality of life in psychotic disorders over the short period of approximately 2 months from the beginning to end of the therapy. A similar result was not found for the PSYRATS-h scores. The reason for this situation could be due to only evaluating 7 people with auditory hallucinations. Significant results can be found if the applied protocol is repeated over a larger sample.

When assessing the results between the scales applied at the end of the intervention (t₂) and those at the follow-up session (t₃), a significant decrease in scores were found for the AAQ-2 and PSYRATS-d and a significant increase in scores for QLS and its subscales. This result was consistent with our hypothesis; thus, ACT therapy could be said to be effective at reducing experiential avoidance and delusions and at increasing the quality of life in psychotic disorders over the short period of approximately 2 months from the beginning to end of the therapy. A similar result was not found for the PSYRATS-h scores. The reason for this situation could be due to only evaluating 7 people with auditory hallucinations. Significant results can be found if the applied protocol is repeated over a larger sample.

Our study has found a decrease in experiential avoidance as assessed by the AAQ-2 alongside the therapy. Studies have stated that experiential avoidance is related to both positive symptoms and may be related to functionality in psychotic disorders. The applied group therapy protocol has been found to reduce experiential avoidance, and this has also been demonstrated in other studies.

The 2 most important limitations of our study were the absence of a control group and the small sample size. Another important limitation was that the follow-up period was limited to 6 months. Longer follow-up periods can provide sturdier information on disorders that become chronic and worsen in clinical processes such as psychotic disorders.

In conclusion, the group ACT sessions applied for short-term psychosis have been found to reduce experiential avoidance and increase the quality of life in patients with psychotic symptoms. The patients' high attendance rates in the sessions also suggested the applied protocol to be acceptable. We believe that in institutions such as CMHCs where interventions such as psychotherapy come to the fore, a group therapy protocol can make positive changes in the quality of life of the patients with psychotic symptoms and can be applied alongside pharmacotherapy. In future studies, this protocol may be repeated with larger samples and with a control group for further statistical analysis.
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