Research Square

Preprints are preliminary reports that have not undergone peer review.
They should not be considered conclusive, used to inform clinical practice,
or referenced by the media as validated information.

“Acceptance and Commitment Therapy for Schizophrenia and Psychosis Inpatients with Recovery and Experience Orientation (ASPIRE)”: A Pilot Study

Lennard Telschow

lennard.telschow@charite.de

Charité - Universitätsmedizin Berlin, corporate member of Freie Universität Berlin and Humboldt-Universität zu Berlin

Henrik Voß

Charité - Universitätsmedizin Berlin, corporate member of Freie Universität Berlin and Humboldt-Universität zu Berlin

Andreas Bechdolf

Charité - Universitätsmedizin Berlin, corporate member of Freie Universität Berlin and Humboldt-Universität zu Berlin

Friederike Sachsenheimer

Vivantes Hospital Am Urban and im Friedrichshain

Stefan Wagler

Vivantes Hospital Am Urban and im Friedrichshain

Berenike Lehmann

Vivantes Hospital Am Urban and im Friedrichshain

Ali Kadoum

Vivantes Hospital Am Urban and im Friedrichshain

Mathis Schulze

Vivantes Hospital Am Urban and im Friedrichshain

Raoul Decker

Vivantes Hospital Am Urban and im Friedrichshain

Yona Pößnecker

Vivantes Hospital Am Urban and im Friedrichshain

Felicitas Ehlen

Charité - Universitätsmedizin Berlin, corporate member of Freie Universität Berlin and Humboldt-Universität zu Berlin

Research Article

Keywords: Acceptance and commitment to therapy, Mindfulness, Schizophrenia, Psychosis, Inpatient

Posted Date: July 3rd, 2026

DOI: https://doi.org/10.21203/rs.3.rs-10032816/v1

License: This work is licensed under a Creative Commons Attribution 4.0 International License.
Read Full License

Additional Declarations: No competing interests reported.

Abstract

Background:

Psychotic disorders are associated with severe impairments in quality of life, high rehospitalization rates, and social challenges. Acceptance and Commitment Therapy (ACT) is a promising approach that focuses on symptom acceptance rather than control. This monocentric pilot study evaluated the feasibility, acceptability and preliminary effectiveness of a four-week ACT-based group intervention for inpatients with psychotic disorders.

Methods:

A total of 38 inpatients with psychotic disorders participated in the study, 28 of whom completed the intervention and were included in the final analysis. Among these participants, 20 were successfully assessed at the six-month follow-up. The outcomes included symptom severity (PANSS), global functioning (GAF), and recovery (QPR), mindfulness (CHIME), psychological flexibility (FAH-II), cognitive fusion (CFQ-D), and patient satisfaction (ZUF-8).

Results:

Feasibility and acceptability were high, patient satisfaction (ZUF-8: *M* = 27.27, SD = 3.26) exceeded the reference values, and no serious adverse events occurred. Pre-post improvements were found in symptom severity (PANSS: η_p^2 = 0.476), global functioning (GAF: η_p^2 = 0.673), recovery (QPR: η_p^2 = 0.366), and mindfulness (CHIME: η_p^2 = 0.301). The PANSS score and GAF score gains continued at follow-up. The rehospitalization rates (32.1%) were lower than those reported in comparable studies, and treatment fidelity was high (ACT-FM: 32.5/36).

Conclusion:

This pilot study indicates that an ACT-based inpatient intervention is feasible, safe, and well accepted in individuals with psychotic disorders. Improvements in symptoms, functioning, and mindfulness suggest the potential suitability of ACT for psychotic conditions. The stagnation of some ACT-specific measures at the six-month follow-up highlights the need for structured aftercare and booster sessions. Further controlled research is needed to validate these findings.

Trial registration:

A preregistration was published at ClinicalTrials.gov with the clinical study ID NCT06086184; first submitted on 2023-10-05, first posted on 2023-10-17.

Background

2.1. Psychotic Disorders

The schizophrenia spectrum and other psychotic disorders (SSPDs) are often associated with a significant decline in quality of life (Narvaez et al., 2008; Saarni et al., 2010). The estimated lifetime prevalence of SSPDs is approximately 3% to 3.5% (Perälä et al., 2007), and symptoms typically encompass impairments in perception, cognition, language, mood, drive, and psychomotor control (American Psychiatric Association, 2013). A reduction in social functioning is frequently experienced by affected individuals, often resulting in social isolation and accompanied by stigmatization and rejection (Jill M. Hooley, 2010). According to the American Psychiatric Association (2013), individuals diagnosed with schizophrenia (SCZ) have a significantly greater suicide risk, which highlights the substantial suffering associated with this illness. This suffering is further intensified by comorbidities such as substance abuse, anxiety, depression, panic disorder, posttraumatic stress disorder, and obsessive–compulsive disorder (Buckley et al., 2009).

Although recent research suggests that remission rates and potentially recovery rates in SCZ patients may be higher than previously assumed (Nenadić et al., 2025), rehospitalization rates remain alarmingly high, with up to 44% of individuals readmitted within two years following inpatient treatment (Dey et al., 2016). According to the NICE guidelines, treatment for individuals with SSPDs primarily includes pharmacotherapy, cognitive behavioral therapy (CBT), and family interventions (NICE, 2014). CBT, alongside family interventions and psychoeducation, has been shown to reduce the risk of relapse (Bighelli et al., 2021) and appears to have a positive effect on negative symptoms (Xu & Xu, 2024), which remains a significant treatment challenge (Galderisi et al., 2018; Marder & Galderisi, 2017). Nevertheless, recent meta-analyses indicate that CBT does not significantly outperform basic psychosocial interventions in terms of efficacy or relapse prevention in psychotic disorders (Bighelli et al., 2021; Guaiana et al., 2022; Solmi et al., 2023), leaving significant room for new therapeutic approaches.

2.2. ACT for Psychosis Treatment

Acceptance and Commitment Therapy (ACT), developed by Steven C. Hayes and colleagues in 1982, was originally called comprehensive distancing; it originates from the behavioral tradition and is grounded in functional contextualism (Hayes & Pierson, 2005). As part of "third-wave" therapies (Cunha et al., 2024), its proposed mechanism of change is anchored within six core processes: acceptance, cognitive defusion, being present, self as context, values, and committed actions (Hayes et al., 2003). As such, it aims to enhance a person's psychological flexibility, referring to the ability to openly observe one's subjective experience without judgment and to commit to behavior consistent with personal values (Twohig et al., 2021).

Conceptualized as a transdiagnostic approach, ACT has positive effects on patients suffering from anxiety, depression, substance abuse disorder, and pain (Gloster et al., 2020). In the context of SSPDs, previous studies have yielded mixed results. In a noncontrolled trial, Gaudiano et al. (2020) reported that

inpatients with psychotic disorders who received ACT-based treatment experienced improvements in symptom severity and quality of life. However, a subsequent RCT comparing ACT with treatment as usual (TAU) revealed no advantage of ACT regarding psychotic symptoms or functioning but demonstrated a lower risk of rehospitalization (Gaudiano et al., 2023). Reduced rehospitalization rates were likewise reported at a 4-month follow-up (Bach & Hayes, 2002; Bach et al., 2013; Tyrberg et al., 2017) and at up to 12 months (Bach et al., 2012). Shawyer et al. (2017) examined the influence of ACT for patients with medication-resistant psychosis in an RCT and did not find that ACT was superior to a befriending intervention in terms of symptom severity. Nevertheless, the ACT group showed greater improvement in positive symptoms and hallucination distress at follow-up. The therapeutic value of ACT has been specifically described for individuals with SSPDs who have a history of childhood trauma (Spidel et al., 2018) and for those who experienced major depression following psychosis (Gumley et al., 2017). For the early stages of psychosis, ACT-based treatments have improved symptom severity, treatment adherence, and self-care skills (Bouws et al., 2024; Pena-Garijo et al., 2025; Reininghaus et al., 2019). Similarly, Chong et al. (2025) demonstrated in an RCT that an ACT-based lifestyle counseling program for early psychosis led to significant improvements in overall symptomatology. Additionally, Zoromba et al. (2024) reported that inpatients with primary psychosis treated in an ACT group presented significant reductions in overall symptom severity alongside a value-oriented strengthening of future perspectives and personal recovery.

Earlier meta-analyses revealed no significant benefit of ACT over CBT for people with SSPDs (Öst, 2014; Powers et al., 2009; Ruiz, 2012). Furthermore, Brown et al. (2021) suggested that there is not yet sufficient evidence to confirm that ACT is a safe and effective treatment overall. However, these analyses did not include more recent RCTs. With respect to mindfulness, which plays a central role in ACT, the evidence is less ambiguous and generally suggests that mindfulness-based approaches are safe and effective for SPDDs (Böge et al., 2020, 2021; Cramer et al., 2016; Jansen et al., 2020; Khoury et al., 2013; Louise et al., 2018). A recently published meta-review by Meinhart et al. (2025) examined mindfulness-based interventions for patients with SSPDs and, despite concluding that most included studies were of low methodological quality, reported positive effects on overall symptomatology, social functioning, and mindfulness, as well as small beneficial effects on positive, negative, and affective symptoms. Notably, mindfulness-based interventions exhibited stronger effects than did acceptance-based interventions.

2.3. Study Aim

Individuals diagnosed with SSPDs face the reality that their illnesses often become chronic and generally constitute lifelong diagnoses. ACT's approach of focusing on personal values and committed actions rather than symptom reduction may therefore offer a particularly valuable perspective for this population.

To date, ACT-based group therapy for inpatients has been evaluated in only two instances (Gaudiano et al., 2023; Gaudiano et al., 2020; Zoromba et al., 2024). However, in two cases, the intervention was limited to a single week (Gaudiano et al., 2023; Gaudiano et al., 2020), whereas the other study focused exclusively on individuals experiencing their first episode of psychosis (Zoromba et al., 2024). The

current study featured a four-week intervention, which more closely aligns with standard inpatient treatment durations. Furthermore, it included a heterogeneous patient population, encompassing individuals with recurrent or more chronic conditions as well as comorbid substance use disorders. This noncontrolled pilot study was designed to lay the groundwork for a subsequent RCT by evaluating acceptability, safety, and preliminary effect sizes.

We hypothesized that patient satisfaction would be equal to or greater than the reference values reported in a group of 664 psychosomatic patients (Schmidt et al., 2003). Additionally, this study aimed to preliminarily evaluate the effectiveness of treatment on clinical and ACT-specific outcomes. We therefore anticipated significant improvements in overall symptoms and functioning, as well as in mindfulness, psychological flexibility, and cognitive fusion.

Methods

3.1. Study Design

This monocentric feasibility study was conducted at the Department of Psychiatry, Psychotherapy and Psychosomatics at Vivantes Klinikum Am Urban (ward act23) from October 2023 to October 2025. The longitudinal design did not incorporate a control group. The participants were assessed at baseline (T0) and subsequently participated in a four-week intervention (detailed in Section 3.3: therapy implementation). A postintervention assessment (T1) was conducted within two weeks of completing the intervention, and a six-month follow-up assessment (T2) was administered six months after T1. In addition to the measures outlined below, semistructured interviews were conducted at both T1 and T2. The resulting qualitative data are reported separately (Voß et al., 2026). All the measurements and corresponding timepoints are summarized in Table 1.

Table 1
Measurements over time

The ethics committee of Ärztekammer Berlin (Eth-26/23 3) approved the study protocol, which was designed and conducted in accordance with the Declaration of Helsinki (World Medical Association, 2013). The study protocol was previously registered at ClinicalTrials.gov (NCT06086184; first submitted on 2023-10-05, first posted on 2023-10-17.).

[Enter Table 1. Measurements over time**]**

3.2. Procedure and Participants

Eligible participants were inpatients on ward act23 who provided informed consent, were aged 18–65, and met the DSM-5 criteria for at least one SSPD diagnosis. Eligible diagnoses included schizophrenia, schizophreniform disorder, schizoaffective disorder, delusional disorder, brief psychotic disorder, substance/medication-induced psychotic disorder, and affective disorders with psychotic features

(American Psychiatric Association, 2013). Additional inclusion criteria were German language fluency, absence of dementia, and a Global Assessment of Functioning (GAF) score ≥ 30. Comorbid substance use disorders were explicitly not defined as an exclusion criterion. Participants could transition to inpatient equivalent home-treatment (IEHT) offered by act23 staff to ensure continuity of care within a home-based setting.

3.3. Therapy Implementation

Ward act23 integrates ACT concepts and principles holistically across the entire multidisciplinary team, including physicians, psychotherapists, nurses, an occupational therapist, a peer counsellor, a music therapist, and physiotherapists, supported by regular training. The main intervention comprised two distinct therapy group formats: the Compass Group and the Here-and-Now Group (Ehlen et al., 2026).

The Compass Group is an ongoing open therapy group led by SW, a clinical psychologist and ACT trainer, and FE, a psychiatrist and senior consultant trained in ACT. Each 50-minute weekly session followed a fixed structure: (1) introduction and warm-up, (2) main exercise, (3) brief mindfulness practice, and (4) Courageous Step Plan. The main exercise rotated weekly among four modules: M1 (Orientation in Life), M2 (Dealing with Inner Obstacles), M3 (Personal Narratives and Self-Compassion), and M4 (Planning and Taking Courageous Steps), adapted from established ACT resources (Harris, 2019; Dambacher & Samaan, 2024; Strosahl et al., 2012). Rather than targeting the six ACT core processes in isolation, all processes were addressed each session while shifting emphasis: values in M1, acceptance and cognitive defusion in M2, self as context in M3, and committed action in M4. Being present was addressed during each session's mindfulness practice, and values, acceptance, and committed action were reiterated through the Courageous Step Plan (see Supplementary Material: Material 1).

The Here-and-Now Group, conceptualized by SW, is a mindfulness group led by trained physicians and/or psychotherapists and held twice per week in 25-minute sessions. It was designed to help participants deepen their nonjudgmental awareness of present-moment feelings, thoughts, and sensory impressions while ensuring that mindfulness is not mistaken for emotional avoidance. Sessions alternated between external (sensory) and internal (thoughts/feelings) mindfulness practices, following the script by Ehlen and Böge (2021), and concluded with an invitation for participants to share personal experiences. In both groups, the therapists actively shared their own experiences when they were therapeutically useful while maintaining a focus on the participants.

3.4. Feasibility and acceptability

Patient satisfaction was assessed via the ZUF-8 (Schmidt et al., 1989), an 8-item unidimensional self-report questionnaire with a maximum score of 30 points, where higher scores indicate greater satisfaction. The dropout rate between T0 and T1 was also evaluated, including an analysis of individual withdrawal reasons. Reference values from Nosé et al. (2003) served as benchmarks for both satisfaction and dropout.

3.5. Clinical Outcomes

Primary outcomes included the Positive and Negative Syndrome Scale (PANSS; Kay et al., 1987), the Global Assessment of Functioning (GAF; Aas, 2011), and the Questionnaire about the Process of Recovery (QPR; Neil et al., 2009). The PANSS is a widely used 30-item semistructured interview divided into three subscales assessing positive symptoms, negative symptoms, and general psychopathology, with good internal consistency (Cronbach's α: 0.73–0.83) and satisfactory interrater reliability (ICC: 0.56–0.80). The GAF is a clinician-rated global functioning scale with good overall reliability (ICC = 0.81; Söderberg et al., 2005). The QPR is a 22-item self-report measure of intrapersonal and interpersonal recovery that has strong internal consistency (Cronbach's α: 0.77–0.94) and good construct validity (Neil et al., 2009). Across all measures, higher values indicate more severe symptomatology for the PANSS and greater functioning or recovery for the GAF and QPR, respectively.

3.6. ACT-specific and Mindfulness Measures

ACT-specific outcomes were assessed via three instruments. The Comprehensive Inventory of Mindfulness Experiences (CHIME; Wilkinson et al., 2023) is a 37-item self-report scale comprising eight subscales that has strong internal consistency (Cronbach's α/McDonald's Ω = 0.95). The German Acceptance and Action Questionnaire II (FAH-II; Gloster et al., 2011) is a 7-item measure of psychological flexibility with Cronbach's α values ranging from 0.84 to 0.97 and a retest reliability of 0.74 to 0.85. The German Cognitive Fusion Questionnaire (CFQ-D; China et al., 2018) is a 7-item scale measuring the degree to which individuals identify with and fuse with their thoughts. Higher values indicate less psychological flexibility. It has excellent internal consistency and good test–retest reliability (Gillanders et al., 2014).

3.7. Further Measures

Treatment fidelity was evaluated across six randomly selected sessions via the ACT Fidelity Measure (ACT-FM; O'Neill et al., 2019), which was administered by BL, a trained psychologist. The ACT-FM captures four key domains: therapist stance, open response style, aware response style, and engaged response style, each rated from 0 to 3, with a maximum of 36 points for both ACT-consistent and ACT-inconsistent behaviors. Adverse events (AEs) and serious adverse events (SAEs) were systematically documented throughout the study. SAEs were defined as fatal or life-threatening events, events requiring hospitalization or prolonged hospitalization, events resulting in permanent or serious disability, or congenital malformations. AEs refer to any symptom or illness occurring in temporal association with the study, regardless of the assumed causal relationship. The likelihood of a causal link was systematically rated for each event. Substance use was assessed with the WHO ASSIST (WHO ASSIST Working Group, 2002), and rehospitalization rates were monitored over the six-month follow-up period.

3.8. Statistical analysis

All analyses were conducted in SPSS 29.0.0.1 (IBM Corp., 2022). To assess T0–T1 changes, multivariate analyses of variance (MANOVAs) were performed separately for the clinical outcomes (PANSS, GAF, and QPR), evaluating the clinical recovery process of the participants, and ACT-specific outcomes (CHIME, FAH-II, and CFQ-D) were used as dependent variables, with the timepoint as the independent variable.

Post hoc ANOVAs provided detailed insight into individual effects. Partially missing data were handled via the multiple imputation method within SPSS. No violations of normality, linearity, or homogeneity of variance–covariance matrices were observed. All primary outcomes correlated as expected (PANSS/GAF: $r = -0.853$; PANSS/QPR: $r = -0.512$; GAF/QPR: $r = 0.364$; CHIME/FAH-II: $r = -0.601$, $p < 0.01$; CHIME/CFQ-D: $r = -0.816$, $p < 0.01$; FAH-II/CFQ-D: $r = 0.799$, $p < 0.01$). Effect sizes were calculated as partial eta squared (η_p^2), with ≈ 0,01 being a small effect, ≈ 0,06 being a medium effect, and ≈ 0,14 being a large effect (Cohen, 1988).

Results

4.1. Demographics

Of the 38 participants who commenced the intervention, 28 completed it and participated in T1. These constitute the final analytic sample. The sample was evenly split by gender (50% women, n = 14; 50% men, n = 14), with a mean age of 45.1 years (SD = 9.46). Schizophrenia was the most common primary diagnosis (n = 16, 57.14%). The mean duration of hospital stay was 67.4 days (SD = 56.72). With respect to prior hospitalizations, 32.14% had none, 60.71% had between one and ten, and 7.14% had more than ten. At admission, 17.86% of the patients reported self-endangerment, and 14.29% reported endangerment. The detailed demographic and clinical characteristics are presented in Table 2. The complete study procedure is outlined in Fig. 1.

[Enter Table 2. Demographic overview**]**

4.2. Feasibility and acceptability

Initially, 42 patients were selected for participation. Prior to T0, four participants withdrew (two spontaneously, one due to medical complications, one could not provide informed consent), resulting in 38 participants commencing the intervention. Ten patients dropped out before completing the intervention, and an additional eight withdrew during the six-month follow-up period. A full overview of the reasons for withdrawal is provided in the PRISMA flow chart (Fig. 1). Missing data analysis confirmed that all the data were missing completely at random (MCAR; $\chi^2 = 55{,}99$, df = 47, p = 0.173), with no systematic dropout patterns identified. The ZUF-8 was completed by 26 participants, yielding a mean score of 27.27 (SD = 3.26), which exceeded the reference value of 25.12 (SD = 4.63; Nosé et al., 2003).

[Enter Fig. 1. PRISMA flow chart of the enrollment process, presenting all withdrawal reasons.**]**

4.3. Symptom severity measures

The MANOVA for T0–T1 changes in clinical outcomes yielded a large overall effect size ($\eta_p^2 = 0.731$, $F(3,25) = 22.7$; $p < 0.001$). Post hoc ANOVAs confirmed large individual effect sizes for each measure:

PANSS (η_p^2 = 0.476, F(1,27) = 24.54; p < 0.001), GAF (η_p^2 = 0.673, F(1,27) = 55.68; p < 0.001), and QPR (η_p^2 = 0.366, F(1,27) = 15.61; p < 0.001).

4.4. ACT-specific and Mindfulness Measures

The multivariate analysis for ACT-specific outcomes yielded a large overall effect (η_p^2 = 0.321, F(3,25) = 3.94; p = 0.02). Post hoc ANOVAs revealed large effect sizes across individual measures, although p values for the FAH-II and CFQ-D did not reach the significance threshold: CHIME (η_p^2 = 0.301, F(1,27) = 11.62; p = 0.002), FAH-II (η_p^2 = 0.104, F(1,27) = 3.125; p = 0.08), and CFQ-D (η_p^2 = 0.131, F(1,27) = 4.09; p = 0.053).

4.5. ACT Fidelity

A total of several fix spot-check sessions were evaluated with the ACT-FM, revealing a high level of treatment fidelity (mean ACT-consistent score: 32.5/36; mean ACT-inconsistent score: 0.33/36).

4.6. Adverse Events and Rehospitalization

No SAEs occurred during the intervention. No suicide attempts were recorded, and no events resulted in permanent or serious disability. Five participants reported AEs: three reported (re)emerging depressive symptoms, one characterized these symptoms as a psychological "aftermath" of a prior psychotic episode, and two reported anxiety symptoms. Among these five cases, none were found to be causally linked to the intervention. Nine participants (32.1%) were rehospitalized between T1 and T2.

4.7. Six-month follow-up

The PANSS and GAF scores showed sustained improvement at T2 (PANSS: T0 M = 66.36, SD = 14.87; T1 M = 50.81, SD = 18.17; T2 M = 42.6, SD = 11.68; GAF: T0 M = 49.79, SD = 15.35; T1 M = 69.65, SD = 12.86; T2 M = 81.66, SD = 11.44), whereas the QPR gains plateaued (T0 M = 38.14, SD = 8.84; T1 M = 45.25, SD = 7.75; T2 M = 44.35, SD = 12.16). For ACT-specific outcomes, the FAH-II and CFQ-D scores continued to improve at T2 (FAH-II: T0 M = 27.43, T1 M = 24.18, T2 M = 22.3; CFQ-D: T0 M = 27.75, T1 M = 23.5, T2 M = 23.35), whereas the CHIME scores slightly decreased after T1 (T1 M = 4.09, SD = 0.59; T2 M = 4.02, SD = 0.53). No suicide attempts occurred during follow-up. One death was recorded due to a preexisting severe medical condition that was unrelated to the study. All nine rehospitalized participants had a prior hospitalization history, and no follow-up AEs attributable to the intervention were reported. The means and effect sizes for all the measures are summarized in Table 3.

[Enter Table 3. Means and effect sizes of outcome measures**]**

Discussion

The purpose of this noncontrolled pilot study was to evaluate the feasibility, acceptability, and safety of an ACT-based group intervention for inpatients diagnosed with SSPDs. The research was conducted on ward act23 at Vivantes Klinikum Am Urban, where the ACT is holistically integrated into all

multidisciplinary treatment programs. The intervention comprised three weekly group sessions focusing on the core processes of the ACT. This study thus represents a pioneering effort in evaluating an ACT-based group intervention for inpatients with SSPDs within the German healthcare system.

Since ACT focuses on enhancing quality of life by clarifying personal values and fostering acceptance of internal processes, it represents a particularly valuable approach for patients with chronic illnesses, precisely because it prioritizes functional recovery and psychological flexibility over symptom elimination.

5.1. Feasibility and acceptability

The mean ZUF-8 score of 27.27 (SD = 3.26) substantially exceeded the reference value of 25.12 (SD = 4.63; Nosé et al., 2003), indicating high patient satisfaction with the care provided. This may reflect a core tenet of ACT: patients becoming increasingly able to accept their current circumstances and engage meaningfully with their treatment.

Among the 38 patients who commenced the intervention, 10 (26.32%) dropped out before completion. This dropout rate closely mirrors the mean nonadherence rate of 25.78% reported by Nosé et al. (2003) for psychotherapy in psychosis and is substantially lower than the average of 47.6% (SD = 36.1) identified by Öst (2014) across 60 ACT studies involving 4234 participants. This finding is particularly noteworthy given the broad inclusion and minimal exclusion criteria, which reflect a high degree of ecological validity and demonstrate that the intervention is applicable to the complex, real-world populations encountered in acute psychiatric wards. MCAR analysis confirmed the absence of systematic dropout patterns, underscoring the suitability of this intervention for severely affected patients. No SAEs were reported throughout the study, and AEs remained infrequent, further supporting the safety profile of the intervention.

With nine participants (32.1%) requiring rehospitalization within the six-month follow-up period, the rates compare favorably with those of prior research (Dey et al., 2016), although it should be noted that the follow-up period included only six months. These findings align with those of Bach and Hayes (2002), Bach et al. (2012, 2013), and Tyrberg et al. (2017), who reported significantly reduced rehospitalization rates for inpatients with PDs treated with ACT. Taken together, these findings contribute to the growing evidence that ACT and mindfulness-based interventions, more broadly, are feasible and safe for patients with SSPDs.

5.2. Outcome

As a pilot study designed with a primary focus on feasibility, effect size estimation constitutes the main analytical interest. Statistical significance should therefore be interpreted within this context. With respect to T0–T1 changes, the primary outcome measures PANSS, GAF, and QPR demonstrated large effect sizes and highly significant improvements, reflecting both reductions in symptom severity and meaningful recovery processes. While these effects are undoubtedly influenced in part by concurrent

pharmacological treatment, it is plausible that the acceptance mindset fostered by the ACT intervention also contributed. This assumption is further supported by the qualitative findings reported by Voß et al. (2026).

A sustained positive trend was observed for both the PANSS score and the GAF score at T2. QPR gains, however, did not persist at the same level. This discrepancy may reflect the nature of the QPR, which captures an individual's adaptive capacity and ability to cope with their environment rather than symptom severity per se, a domain likely more susceptible to ongoing symptom burden than to short-term clinical improvement. Notably, prior ACT studies reported either unchanged (Gaudiano et al., 2023) or even increased (Bach & Hayes, 2002) symptom severity following intervention, a phenomenon attributed to enhanced acceptance of symptoms and greater overall illness insight. This study contextualizes the present findings and highlights that ACT does not specifically target symptom reduction but focuses primarily on symptom management and acceptance. Previous research has identified mindfulness, defusion, acceptance, and values as the primary therapeutic mechanisms of ACT (Bacon et al., 2014).

With respect to ACT-specific outcomes, the CHIME demonstrated a large and statistically significant effect (η_p^2 = 0.301, p = .002), confirming that the mindfulness component of ACT was effective in the immediate postintervention period. This is consistent with findings by Jansen (2020) and Meinhart (2025), who reported comparable mindfulness improvements within this clinical population. While the FAH-II and CFQ-D yielded substantial effect sizes (η_p^2 = 0.104 and 0.131, respectively), they did not reach statistical significance, which may partly reflect the limited sample size rather than a true absence of effect. Overall, a strong positive trend emerged for psychological flexibility and cognitive fusion, and these gains were sustained, even slightly extended, at T2 for both the FAH-II and the CFQ-D. In contrast, the CHIME scores slightly decreased after T1, suggesting that mindfulness skills may require ongoing reinforcement to be sustained over time. This pattern implies that participants successfully acquired mindfulness skills during treatment but that continued support may be necessary to consolidate them long-term.

5.3. Strengths and Limitations

A key strength of this study lies in its broad inclusion and minimal exclusion criteria. Most notably, comorbid substance use disorders were not an exclusion criterion—a deliberate departure from many prior trials that substantially enhances the generalizability of findings to real-world psychiatric settings. The resulting sample heterogeneity, particularly regarding age and diagnostic profile, further strengthens the external validity of the results.

A further distinguishing feature is the implementation of ACT as a ward-wide, multidisciplinary therapeutic stance. To the best of the authors' knowledge, no previous study evaluating an ACT intervention in an inpatient setting has employed such a comprehensive approach. The entire clinical team was trained in ACT principles, thereby integrating the core concepts of therapy into daily care.

Treatment fidelity was additionally verified through systematic evaluation of six randomly selected sessions via the ACT-FM, confirming adherence to established clinical guidelines.

Several considerations for future research should be noted. The sample size should be expanded, and a randomized control group should be included to enable causal inference. Future studies would also benefit from a more parsimonious selection of outcome measures to reduce participant burden, which is especially relevant in this vulnerable population where cognitive impairment and psychological distress can make completing extensive questionnaires demanding. The complex wording and length of certain instruments, particularly the CHIME, proved challenging for some participants.

A related methodological concern involves the self-report format of all ACT-specific measures. At T0, several participants were still experiencing acute psychotic symptoms, which may have compromised the accuracy of self-assessment, with euphoric or manic presentations potentially leading to overestimation and the transition toward more prominent negative symptoms at T1 potentially resulting in underestimation. Future studies should therefore incorporate clinician-rated external assessments to complement self-report measures.

A compelling approach for future research could be the creation of a structured aftercare concept to cover the interval between the posttreatment assessment (T1) and the follow-up (T2). Given that the current data indicate a stagnation in QPR scores as well as in the ACT measures CHIME and CFQ-D, a protocol could be developed to monitor and encourage the continued practice of the acquired skills. Furthermore, as previously noted, the implementation of a sustainable, long-term therapy group could serve to prevent the stagnation or decline of therapeutic gains and consolidate them.

Finally, the question of which processes drive the observed changes points beyond a sheer call for greater differentiation among the six ACT core processes. Identifying the mechanisms of change may require a shift in research logic rather than only a finer-grained measurement of predefined components. Following the process-based therapy (PBT) framework articulated by Hofmann and Hayes (2019), therapeutic processes are perhaps best understood not as latent entities that act uniformly across patients but as interrelated elements of a dynamic, person-specific network. From this perspective, a purely nomothetic, group-level design can establish that change occurs but cannot fully explain why a given individual's psychological flexibility, mindfulness, or cognitive defusion shifts over the course of treatment. Future research should therefore complement the present nomothetic approach with idiographic and idionomic methods, such as intensive longitudinal assessment and individual network modeling, that trace how ACT processes interact within and across patients over time. Such a design would move beyond documenting effects toward specifying the modifiable, context-dependent processes through which acceptance-based inpatient care exerts its influence.

5.4. Implications

The present findings are consistent with prior work (Gaudiano et al., 2020, 2023) and suggest a potential paradigm shift in the treatment of patients with SSPDs toward an acceptance-focused approach

prioritizing functional recovery and psychological flexibility over pure symptom control. This is especially relevant given the typically chronic and lifelong course of these illnesses, for which ACT's emphasis on values-based living offers a meaningful therapeutic perspective.

The ward-wide, multidisciplinary ACT implementation model employed in this study may serve as a transferable blueprint for comparable inpatient programs, as further supported by the qualitative findings of Voß et al. (2026). With respect to safety, the low AE rate, absence of SAEs, normal dropout rates, and favorable rehospitalization figures confirm that ACT can be implemented safely in this population.

Conclusion

This monocentric pilot study evaluated, for the first time, an interdisciplinary ACT-based group intervention for inpatients with SSPDs within the German healthcare system. Despite the noncontrolled design and limited sample size, the findings make valuable contributions to the evidence base. Large effect sizes were observed for all primary clinical outcomes (PANSS, GAF, and QPR), and ACT-specific measures (CHIME, FAH-II, and CFQ-D) demonstrated strong positive trends, with encouraging patterns at the six-month follow-up. The intervention was feasible, highly accepted, and safe. ACT's emphasis on symptom acceptance and functional recovery renders it particularly suitable for individuals with persistent or chronic conditions such as schizophrenia. Structured postdischarge support appears warranted to consolidate and maintain the acquired therapeutic skills over time. The observed effect sizes provide a robust empirical foundation for power analyses in future randomized controlled trials.

Abbreviations

ACT
Acceptance and Commitment Therapy
ACT-FM
ACT Fidelity Measure
AE
Adverse Event
ANOVA
Analysis of Variance
ASPIRE
Acceptance and Commitment Therapy for Schizophrenia and Psychosis Inpatients with Recovery and Experience Orientation
CBT
Cognitive Behavioral Therapy
CFQ-D
Cognitive Fusion Questionnaire – German Version
CHIME
Comprehensive Inventory of Mindfulness Experiences

DSM-5
Diagnostic and Statistical Manual of Mental Disorders, 5th Edition
DZPG
Deutsches Zentrum Psychische Gesundheit (German Center of Mental Health)
FAH-II
Fragebogen zu Akzeptanz und Handeln II (German Acceptance and Action Questionnaire II)
GAF
Global Assessment of Functioning
ICC
Intraclass Correlation Coefficient
IEHT
Inpatient Equivalent Home-Treatment
M
Mean
MANOVA
Multivariate Analysis of Variance
MCAR
Missing Completely At Random
NICE
National Institute for Health and Care Excellence
PANSS
Positive and Negative Syndrome Scale
PBT
Process-Based Therapy
PDs
Psychotic Disorders
PRISMA
Preferred Reporting Items for Systematic reviews and Meta-Analyses
QPR
Questionnaire about the Process of Recovery
RCT
Randomized Controlled Trial
SAE
Serious Adverse Event
SCZ
Schizophrenia
SD
Standard Deviation
SPSS
Statistical Package for the Social Sciences

SSPDs
Schizophrenia Spectrum and other Psychotic Disorders
TAU
Treatment as Usual
WHO
World Health Organization
WHO ASSIST
WHO Alcohol, Smoking and Substance Involvement Screening Test
ZUF-8
Zufriedenheitsfragebogen 8 (German Patient Satisfaction Questionnaire, 8-item version)

Declarations

Ethics approval and consent to participate

The ethics committee of Ärztekammer Berlin (Vote: Eth-26/23 3) approved the study protocol, which was created in accordance with the Declaration of Helsinki (World Medical Association, 2013). A preregistration was published at ClinicalTrials.gov with the clinical study ID NCT06086184; first submitted on 2023-10-05, first posted on 2023-10-17.

Consent for publication

Not applicable

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request: Lennard.telschow@charite.de.

Competing interests

The authors declare that they have no conflicts of interest.

Funding

Henrik Voß received a grant from Heinrich Böll Stiftung. There was no further study funding.

Authors’ contributions

LT was involved in the conception and design of the study, contributed to data acquisition, performed the methodological analysis and interpretation of data, and drafted the manuscript. HV contributed to the conception and design of the study and to data acquisition. AB contributed to the conception and design of the study. FS contributed to data acquisition. SW led the therapeutic interventions and contributed to data acquisition. BL led the therapeutic interventions and contributed to data acquisition. AK contributed

to data acquisition. MS contributed to data acquisition. RD contributed to data acquisition. YP contributed to the conception and design of the study and to data acquisition. FE contributed to the conception and design of the study and to data acquisition. All authors have read and approved the submitted version and agree to be personally accountable for their own contributions and to ensure that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Acknowledgments

We wish to thank all the study participants and the entire staff of the ward act23 at Vivantes Klinikum Am Urban, specifically Aliena Arnemann, Rosalie Schwank, Sophia Döring, and Nilufar Kressmann.

The AI-based language model Claude Sonnet 4.6 (Antrophic) was utilized to ensure grammatical accuracy, optimize orthography, and refine the stylistic flow of the manuscript. The final content and scientific interpretations remain the sole responsibility of the author.

References

1. Aas IHM. Guidelines for rating Global Assessment of Functioning (GAF). Ann Gen Psychiatry. 2011;10(1):2. https://doi.org/10.1186/1744-859X-10-2.
2. American Psychiatric Association, Herausgeber. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596
3. Bach P, Gaudiano BA, Hayes SC, Herbert JD. Acceptance and commitment therapy for psychosis: intent to treat, hospitalization outcome and mediation by believability. Psychosis. 2013;5(2):166–74. https://doi.org/10.1080/17522439.2012.671349.
4. Bach P, Hayes SC. The use of acceptance and commitment therapy to prevent the rehospitalization of psychotic patients: A randomized controlled trial. J Consult Clin Psychol. 2002;70(5):1129–39. https://doi.org/10.1037//0022-006X.70.5.1129.
5. Bach P, Hayes SC, Gallop R. Long-Term Effects of Brief Acceptance and Commitment Therapy for Psychosis. Behav Modif. 2012;36(2):165–81. https://doi.org/10.1177/0145445511427193.
6. Bacon T, Farhall J, Fossey E. The active therapeutic processes of acceptance and commitment therapy for persistent symptoms of psychosis: clients' perspectives. Behav Cogn Psychother. 2014;42(4):402–20. https://doi.org/10.1017/S1352465813000209.
7. Bighelli I, Rodolico A, García-Mieres H, Pitschel-Walz G, Hansen W–P, Schneider-Thoma J, Siafis S, Wu H, Wang D, Salanti G, Furukawa TA, Barbui C, [Corrado], Leucht S. Psychosocial and psychological interventions for relapse prevention in schizophrenia: a systematic review and network meta-analysis. Lancet Psychiatry. 2021;8(11):969–80. https://doi.org/10.1016/S2215-0366(21)00243-1.
8. Böge K, Hahne IM, Bergmann N, Zierhut M, Ta T, Wingenfeld K, Bajbouj M, Hahn, E [E.]. Mindfulness-based group therapy for inpatients with schizophrenia spectrum disorders – feasibility, acceptability,

and preliminary outcomes of a rater-blinded randomized controlled trial. Eur Psychiatry. 2021;64(S1):S805–6. https://doi.org/10.1192/j.eurpsy.2021.2130. [M.].

9. Böge K, Karadza A, Fuchs LM, Ehlen F, Ta TMT, Thomas N, Bajbouj M, [Malek], Hahn, E [Eric]. (2020). Mindfulness-Based Interventions for In-Patients With Schizophrenia Spectrum Disorders—A Qualitative Approach. *Frontiers in Psychiatry*, *11*, Artikel 600. https://doi.org/10.3389/fpsyt.2020.00600
10. Bouws J, Henrard A, de Koning M, Schirmbeck F, van Ghesel Grothe S, van Aubel E, Reininghaus U, de Haan L, Myin-Germeys I. Acceptance and Commitment Therapy for individuals at risk for psychosis or with a first psychotic episode: A qualitative study on patients' perspectives. Early Interv Psychiat. 2024;18(2):122–31. https://doi.org/10.1111/eip.13442.
11. Brown E, Shrestha M, Gray R. The safety and efficacy of acceptance and commitment therapy against psychotic symptomatology: a systematic review and meta-analysis. Brazilian J Psychiatry. 2021;43(3):324–36. https://doi.org/10.1590/1516-4446-2020-0948.
12. Buckley PF, Miller BJ, Lehrer DS, Castle DJ. Psychiatric comorbidities and schizophrenia. Schizophr Bull. 2009;35(2):383–402. https://doi.org/10.1093/schbul/sbn135.
13. Canadian Agency for Drugs and Technologies in Health. VALIDITY OF PSYCHIATRIC SYMPTOM SCALES AND CLINICAL IMPLICATIONS. In: In, editor. A Systematic Review of Combination and High-Dose Atypical Antipsychotic Therapy in Patients with Schizophrenia [Internet]. Canadian Agency for Drugs and Technologies in Health; 2011. https://www.ncbi.nlm.nih.gov/books/NBK169692/.
14. China C, Hansen LB, Gillanders DT, Benninghoven D. Concept and validation of the German version of the Cognitive Fusion Questionnaire (CFQ-D). J Context Behav Sci. 2018;9:30–5. https://doi.org/10.1016/j.jcbs.2018.06.003.
15. Chong YY, Chien WT, Mou H, Ip CK, Bressington D. Acceptance and Commitment Therapy-based Lifestyle Counseling Program for people with early psychosis on physical activity: A pilot randomized controlled trial. Schizophr Res. 2025;275:1–13. https://doi.org/10.1016/j.schres.2024.11.007.
16. Cohen, J [Jacob]. (1988). *Statistical power analysis for the behavioral sciences* (Second edition). Lawrence Erlbaum Associates publishers. https://doi.org/10.4324/9780203771587
17. Cramer H, Lauche R, Haller H, Langhorst J, Dobos G. Mindfulness- and Acceptance-based Interventions for Psychosis: A Systematic Review and Meta-analysis. Global Adv Health Med. 2016;5(1):30–43. https://doi.org/10.7453/gahmj.2015.083.
18. Cunha O, Pereira B, Sousa M, Rodrigues AC. Cognitive behavioral third wave therapies in the treatment of justice-involved individuals: A systematic review. Aggress Violent Beh. 2024;76:101923. https://doi.org/10.1016/j.avb.2024.101923.
19. Dambacher C, Samaan M. (2024). *Akzeptanz- und Commitmenttherapie in der Gruppe: Mit Online-Material* (2. Auflage). Beltz. http://www.content-select.com/index.php?id=bib_view&ean=9783621291958

20. Deutsche Forschungsgemeinschaft e.V. (2023). Satzung der Deutschen Forschungsgemeinschaft. https://www.dfg.de/resource/blob/175684/b42afa33e2f127d3a8d7b6c236f9cea1/dfg-satzung-de-data.pdf
21. Dey S, Menkes DB, Obertova Z, Chaudhuri S, Mellsop G. Correlates of rehospitalization in schizophrenia. Australasian psychiatry: Bull Royal Australian New Z Coll Psychiatrists. 2016;24(4):356–9. https://doi.org/10.1177/1039856216632395.
22. Endicott J, Spitzer RL, Fleiss JL, Cohen J[J]. The global assessment scale. A procedure for measuring overall severity of psychiatric disturbance. Arch Gen Psychiatry. 1976;33(6):766–71. https://doi.org/10.1001/archpsyc.1976.01770060086012.
23. Europäisches Parlament. (2014). *Datenschutz-Grundverordnung: Finaler Text der DSGVO*. https://dsgvo-gesetz.de/
24. Galderisi S, Mucci A, Buchanan RW, Arango C. Negative symptoms of schizophrenia: new developments and unanswered research questions. Lancet Psychiatry. 2018;5(8):664–77. https://doi.org/10.1016/S2215-0366(18)30050-6.
25. Gaudiano BA, Ellenberg S, Johnson JE, Mueser KT, Miller IW. Effectiveness of acceptance and commitment therapy for inpatients with psychosis: Implementation feasibility and acceptability from a pilot randomized controlled trial. Schizophr Res. 2023;261:72–9. https://doi.org/10.1016/j.schres.2023.09.017.
26. Gaudiano BA, Ellenberg S, Ostrove B, Johnson JE, Mueser KT, Furman M, Miller IW. Feasibility and Preliminary Effects of Implementing Acceptance and Commitment Therapy for Inpatients With Psychotic-Spectrum Disorders in a Clinical Psychiatric Intensive Care Setting. J Cogn Psychother. 2020;34(1):80–96. https://doi.org/10.1891/0889-8391.34.1.80.
27. Gillanders DT, Bolderston H, Bond FW, Dempster M, Flaxman PE, Campbell L, Kerr S, Tansey L, Noel P, Ferenbach C, Masley S, Roach L, Lloyd J, May L, Clarke S, Remington B. The Development and Initial Validation of the Cognitive Fusion Questionnaire. Behav Ther. 2014;45(1):83–101. https://doi.org/10.1016/j.beth.2013.09.001.
28. Gloster AT, Klotsche J, Chaker S, Hummel KV, Hoyer J. Assessing psychological flexibility: What does it add above and beyond existing constructs? Psychol Assess. 2011;23(4):970–82. https://doi.org/10.1037/a0024135.
29. Gloster AT, Walder N, Levin ME, Twohig MP, Karekla M. The empirical status of acceptance and commitment therapy: A review of meta-analyses. J Context Behav Sci. 2020;18:181–92. https://doi.org/10.1016/j.jcbs.2020.09.009.
30. Guaiana G, Abbatecola M, Aali G, Tarantino F, Ebuenyi ID, Lucarini V, Li W, Zhang C, Pinto A. Cognitive behavioral therapy (group) for schizophrenia. Cochrane Database Syst Reviews. 2022;2022(7). https://doi.org/10.1002/14651858.CD009608.pub2.
31. Gumley A, White R, Briggs A, Ford I, Barry S, Stewart C, Beedie S, McTaggart J, Clarke C, MacLeod R, Lidstone E, Riveros BS, Young R, McLeod H. A parallel group randomized open blinded evaluation of

A cceptance and Commitment Therapy for d epression a fter p sychosis: Pilot t rial outcomes (ADAPT). Schizophr Res. 2017;183:143–50. https://doi.org/10.1016/j.schres.2016.11.026.

32. Hayes SC, Pierson H. (2005). Acceptance and Commitment Therapy. In A. Freeman, S. H. Felgoise, A. M. Nezu, C. M. Nezu & M. A. Reinecke, Herausgeber, *SpringerLink Bücher. Encyclopedia of Cognitive Behavior Therapy* (S. 1–4). Springer Science+Business Media Inc. https://doi.org/10.1007/0-306-48581-8_1
33. Hayes SC, Strosahl K, Wilson KG, Bissett RT, Pistorello J, Toarmino D, Polusny MA, Dykstra TA, Batten SV, Bergan J, Stewart SH, Zvolensky MJ, Eifert GH, Bond FW, Forsyth JP, Karekla M, McCurry SM. Measuring experiential avoidance: A preliminary test of a working model. Psychol Record. 2004;54(4):553–78. https://doi.org/10.1007/BF03395492.
34. Hofmann SG, Hayes SC. The Future of Intervention Science: Process-Based Therapy. Clin Psychol science: J Association Psychol Sci. 2019;7(1):37–50.
35. DOI. 10.1177/2167702618772296.
36. Hoyer J, Gloster AT. Psychologische Flexibilität messen: Der Fragebogen zu Akzeptanz und Handeln II. Verhaltenstherapie. 2013;23(1):42–4. https://doi.org/10.1159/000347040.
37. IBM Corp. *IBM SPSS Statistics for WIndows* (Version 29.0.0.1) [Computer software]. IBM Corp; 2022.
38. Jansen JE, Gleeson J, Bendall S, Rice S, Alvarez-Jimenez M. Acceptance- and mindfulness-based interventions for persons with psychosis: A systematic review and meta-analysis. Schizophr Res. 2020;215:25–37. https://doi.org/10.1016/j.schres.2019.11.016.
39. Jill M, Hooley. Social Factors in Schizophrenia. Sage Journals. 2010;203–69. https://doi.org/10.1177/0963721410377597.
40. Kay SR, Fiszbein A, Opler LA. The Positive and Negative Syndrome Scale (PANSS) for Schizophrenia. Schizophr Bull. 1987;13(2):261–76. https://doi.org/10.1093/schbul/13.2.261.
41. Khoury B, Lecomte T, Gaudiano BA, Paquin K. Mindfulness interventions for psychosis: A meta-analysis. Schizophr Res. 2013;150(1):176–84. https://doi.org/10.1016/j.schres.2013.07.055.
42. Louise S, Fitzpatrick M, Strauss C, Rossell SL, Thomas N. Mindfulness- and acceptance-based interventions for psychosis: Our current understanding and a meta-analysis. Schizophr Res. 2018;192:57–63. https://doi.org/10.1016/j.schres.2017.05.023.
43. Marder SR, Galderisi S. The current conceptualization of negative symptoms in schizophrenia. World psychiatry: official J World Psychiatric Association (WPA). 2017;16(1):14–24. https://doi.org/10.1002/wps.20385.
44. Meinhart A, Schmueser A, Moritz S, Böge K. Effects of mindfulness- and acceptance-based interventions for individuals with schizophrenia spectrum disorders: A systematic meta-review. Schizophr Res. 2025;281:91–107. https://doi.org/10.1016/j.schres.2025.03.040.
45. Narvaez JM, Twamley EW, McKibbin CL, Heaton RK, Patterson TL. Subjective and objective quality of life in schizophrenia. Schizophr Res. 2008;98(1–3):201–8. https://doi.org/10.1016/j.schres.2007.09.001.

46. National Institute for Health and Care Excellence (UK). (2014, Februar). Psychosis and schizophrenia in adults: Prevention and management (NICE guideline CG178). nice.org.uk.
47. Neil ST, Kilbride M, Pitt L, Nothard S, Welford M, Sellwood W, Morrison AP. The questionnaire about the process of recovery (QPR): A measurement tool developed in collaboration with service users. Psychosis. 2009;1(2):145–55. https://doi.org/10.1080/17522430902913450.
48. Nenadić I, Falkenberg I, Mehl S, Kircher T. Langzeitverläufe bei Schizophrenien: Eine Übersicht zu aktuellen Befunden und Entwicklungen [Long-term courses in schizophrenia : A review of current results and developments]. Nervenarzt. 2025;96(1):5–14. https://doi.org/10.1007/s00115-024-01790-7.
49. Nosé M, Barbui C[C], Tansella M. How often do patients with psychosis fail to adhere to treatment programmes? A systematic review. Psychol Med. 2003;33(7):1149–60. https://doi.org/10.1017/S0033291703008328.
50. O'Neill L, Latchford G, McCracken LM, Graham CD. The development of the Acceptance and Commitment Therapy Fidelity Measure (ACT-FM): A delphi study and field test. J Context Behav Sci. 2019;14:111–8. https://doi.org/10.1016/j.jcbs.2019.08.008.
51. Ost L–G. The efficacy of Acceptance and Commitment Therapy: an updated systematic review and meta-analysis. Behav Res Ther. 2014;61:105–21. https://doi.org/10.1016/j.brat.2014.07.018.
52. Pena-Garijo J, Baeza-Mor T, Martinez-Raga J. Acceptance and commitment therapy applied to early psychosis: Therapeutic foundations and a narrative systematic review. World J Psychiatry. 2025;15(8):107313. https://doi.org/10.5498/wjp.v15.i8.107313.
53. Perälä J, Suvisaari J, Saarni SI, Kuoppasalmi K, Isometsä E, Pirkola S, Partonen T, Tuulio-Henriksson A, Hintikka J, Kieseppä T, Härkänen T, Koskinen S, Lönnqvist J. Lifetime Prevalence of Psychotic and Bipolar I Disorders in a General Population. Arch Gen Psychiatry. 2007;64(1):19. https://doi.org/10.1001/archpsyc.64.1.19.
54. Powers MB, zum, Vorde Sive Vording MB, Emmelkamp PMG. (2009). Acceptance and commitment therapy: a meta-analytic review. *Psychotherapy and Psychosomatics*, *78*(2), 73–80. https://doi.org/10.1159/000190790
55. Reininghaus U, Klippel A, Steinhart H, Vaessen T, van Nierop M, Viechtbauer W, Batink T, Kasanova Z, van Aubel E, van Winkel R, Marcelis M, van Amelsvoort T, van der Gaag M, de Haan L, Myin-Germeys I. Efficacy of Acceptance and Commitment Therapy in Daily Life (ACT-DL) in early psychosis: study protocol for a multicenter randomized controlled trial. Trials. 2019;20(1):769. https://doi.org/10.1186/s13063-019-3912-4.
56. Ruiz FJ. Acceptance and Commitment Therapy versus Traditional Cognitive Behavioral Therapy: A Systematic Review and Meta-analysis of Current Empirical Evidence. Int J Psychol Psychol Therapy. 2012;12(3):333–57. https://www.redalyc.org/articulo.oa?id=56024657002.
57. Saarni SI, Viertiö S, Perälä J, Koskinen S, Lönnqvist J, Suvisaari J. Quality of life of people with schizophrenia, bipolar disorder and other psychotic disorders. Br J Psychiatry. 2010;197(5):386–94. https://doi.org/10.1192/bjp.bp.109.076489.

58. Schmidt J[J], Lamprecht F, Wittmann WW. (1989). Fragebogen zur Messung der Patientenzufriedenheit (ZUF-8): Originalversion Client Satisfaction Questionnaire (CSQ-8). https://gfqg.de/forschung/assessment/zuf-8
59. Schmidt J[Jürgen], editor. (2003). *Rehabilitationswissenschaften - Rehabilitationspsychologie - Rehabilitationsmedizin: Bd. 6*. *Ergebnisqualität stationärer psychosomatischer Rehabilitation: Vergleich unterschiedlicher Evaluationsstrategien*. Roderer.
60. Shawyer F, Farhall J, Thomas N, Hayes SC, Gallop R, Copolov D, Castle DJ. Acceptance and commitment therapy for psychosis: randomized controlled trial. Br J Psychiatry. 2017;210(2):140–8. https://doi.org/10.1192/bjp.bp.116.182865.
61. Söderberg P, Tungström S, Armelius BA. Reliability of global assessment of functioning ratings made by clinical psychiatric staff. Psychiatric Serv. 2005;56(4):434–8. https://doi.org/10.1176/appi.ps.56.4.434.
62. Solmi M, Croatto G, Piva G, Rosson S, Fusar-Poli P, Rubio JM, Carvalho AF, Vieta E, Arango C, DeTore NR, Eberlin ES, Mueser KT, Correll CU. Efficacy and acceptability of psychosocial interventions in schizophrenia: systematic overview and quality appraisal of the meta-analytic evidence. Mol Psychiatry. 2023;28(1):354–68. https://doi.org/10.1038/s41380-022-01727-z.
63. Spidel A, Lecomte T, Kealy D, Daigneault I. Acceptance and commitment therapy for psychosis and trauma: Improvement in psychiatric symptoms, emotion regulation, and treatment compliance following a brief group intervention. Psychol Psychotherapy: Theory Res Pract. 2018;91(2):248–61. https://doi.org/10.1111/papt.12159.
64. Twohig MP, Levin ME, Petersen JM. *The Oxford handbook of acceptance and commitment therapy*. *Oxford handbooks online Psychology*. Oxford University Press; 2021. https://doi.org/10.1093/oxfordhb/9780197550076.001.0001.
65. Tyrberg MJ, Carlbring P, Lundgren T. Brief acceptance and commitment therapy for psychotic inpatients: A randomized controlled feasibility trial in Sweden. Nordic Psychol. 2017;69(2):110–25. https://doi.org/10.1080/19012276.2016.1198271.
66. Voß H, Telschow L, Bechdolf A, Berghöfer A, Sachsenheimer F, Wagler S, Lehmann B, Jäckel D, Pößnecker Y, Ehlen F. (2026). Acceptance and Commitment Therapy for Schizophrenia and Psychosis Inpatients with Recovery and Experience Orientation (ASPIRE): A qualitative study of participant experiences [Manuskript zur Veröffentlichung eingereicht]: Qualitative evaluation of inpatient ACT for psychosis. *Department of Psychiatry, Psychotherapy and Psychosomatic Medicine incorporating FRITZ am Urban and soulspace, Vivantes Hospital am Urban and im Friedrichshain, Berlin, German; Charité - Universitätsmedizin Berlin, corporate member of Freie Universität Berlin and Humboldt-Universität zu Berlin Charitéplatz 1, 10117 Berlin, Germany*.
67. WHO ASSIST Working Group. The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST): development, reliability and feasibility. Addiction. 2002;97(9):1183–94. https://doi.org/10.1046/j.1360-0443.2002.00185.x.

68. Wilkinson S, Ribeiro L, Krägeloh CU, Bergomi C, Parsons M, Siegling A, Tschacher W, Kupper Z, Medvedev ON. Validation of the Comprehensive Inventory of Mindfulness Experiences (CHIME) in English Using Rasch Methodology. Mindfulness. 2023;14(5):1204–18. https://doi.org/10.1007/s12671-023-02099-3.
69. The World Medical Association. (2023). *Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects*. https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/
70. Xu F, Xu S. Cognitive–behavioral therapy for negative symptoms of schizophrenia: A systematic review and meta-analysis. Medicine. 2024;103(36):e39572. https://doi.org/10.1097/MD.0000000000039572.
71. Zoromba MA, Sefouhi L, Alenezi A, Selim A, Awad S, El-Gazar HE, El-Monshed AH. Effectiveness of Acceptance and Commitment Therapy on Psychotic Severity Among Inpatients With Primary Psychoses: A Randomized Controlled Trial. Int J Ment Health Nurs. 2024;33(6):2239–56. https://doi.org/10.1111/inm.13388.

Tables

Tables are available in the Supplementary Files section.

Figures

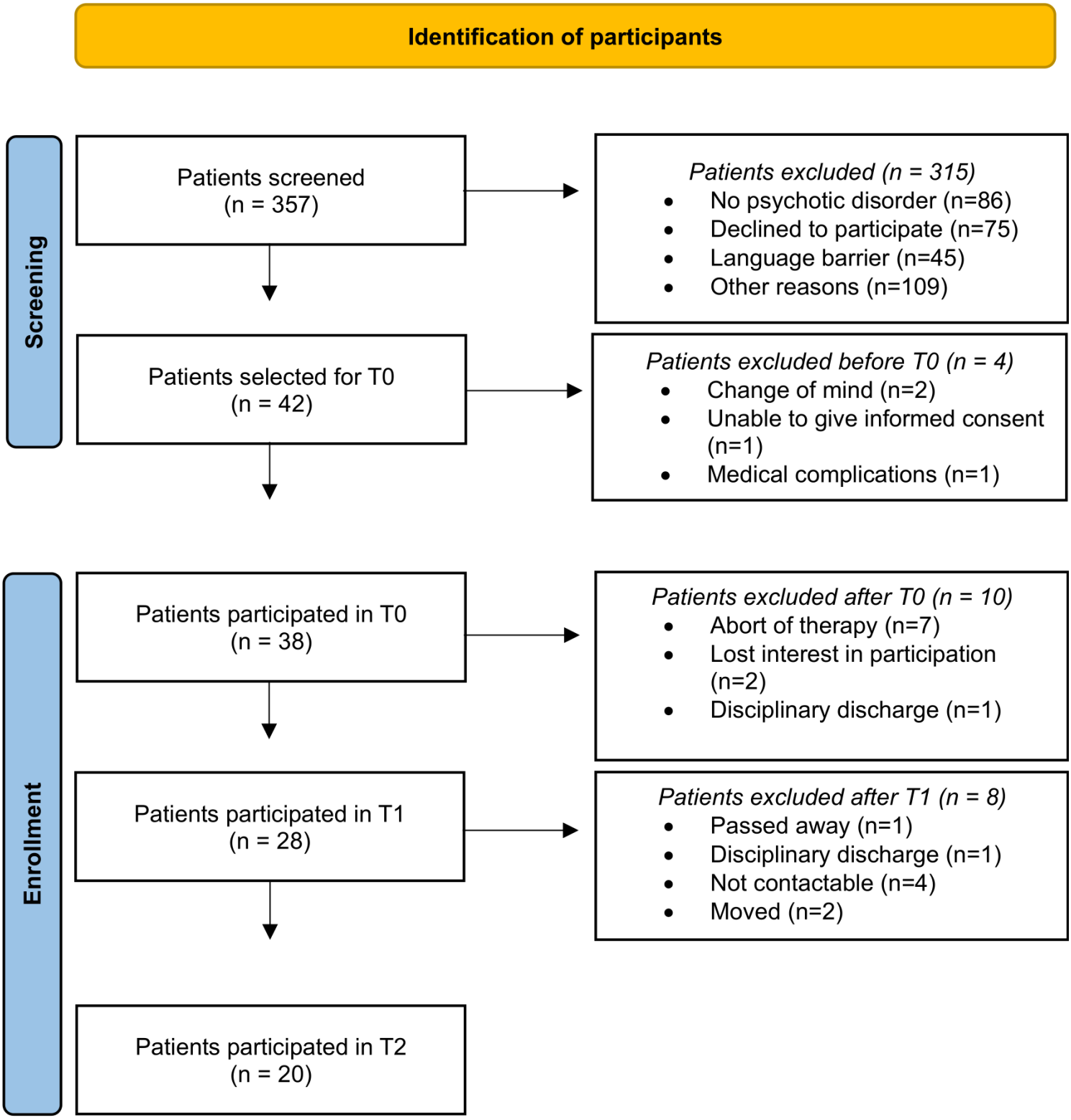


Figure 1

PRISMA flow chart of the enrollment process, presenting all withdrawal reasons.
T0: Baseline survey before the start of the intervention; T1: Final survey within 1 week after the intervention was completed; T2: Follow-up survey 6 months after the intervention.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- Tables.docx
- SupplementaryMaterial.docx