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Towards improving psychological treatment options for patients with acute psychosis

Dissertation

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Für meinen Vater

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Publication 1

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Publication 3

Fischer, R., Nagel, M., Schöttle, D., Lüdecke, D., Lassay, F., Moritz, S., & Scheunemann, J. (2023). Metacognitive training in the acute psychiatric care setting: feasibility, acceptability, and safety. *Frontiers in Psychology, 14,* 1247725.
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Note: The order of publications corresponds to the thematic order of the cumulative dissertation.

2 Synopsis

2.1 Introduction

The treatment of patients with acute and severe mental illness has come a long way. Since the late 18th century, when Philippe Pinel reportedly freed the mentally ill patients in Paris from their chains, changing therapeutic approaches and contributing to the founding of modern psychiatry in France (Kendler, 2020; Ruiz-Gómez & Liebrenz, 2021), acute psychiatric care[1] has been striving towards more humane and patient-oriented treatments. Over time, it has transitioned from custodial models – often characterized by indefinite confinement and a conflation of mental illness with criminality – to curative approaches focused on shared decision-making and integrating care within the community (Johnson et al., 2022; Saya et al., 2019). A diagnosis of schizophrenia, for instance, likely resulted in lifelong institutionalization well into the 20th century and was a death sentence for some during Germany's Nazi regime (Freudenreich, 2020). Today, our aim is to improve our understanding of biological, social and psychological factors in the development and the treatment of severe mental illnesses like schizophrenia, and increasing research efforts in real-life settings is an essential step toward this aim.

Despite advancements in understanding and addressing the needs of individuals with severe mental illnesses, conditions like schizophrenia and bipolar disorder continue to pose significant challenges for acute psychiatric care. Psychotic disorders, particularly schizophrenia and bipolar disorder with psychotic features, often follow chronic trajectories and are associated with reduced psychosocial functioning, higher rates of somatic comorbidities, and increased mortality (Chan et al., 2022; Correll et al., 2017, 2022; Vancampfort et al., 2015; Vieta et al., 2018). People who experience these disorders are at greater risk of suicidal ideation and suicide attempts compared to the general population (Bai et al., 2021; Tondo et al., 2021) and are particularly likely to experience acute psychiatric treatment, including involuntary hospitalization (Walker et al., 2019). Risk of harm to oneself or others constitute legal grounds for acute involuntary psychiatric inpatient treatment in many parts of the world (Saya et al.,

[1] While 'acute psychiatric care' can describe very different settings from country to country, it is primarily provided in inpatient hospitals on locked and open wards (different terminologies exist, such as closed/open wards, secure wards and acute wards). Throughout this dissertation, "acute ward" and "locked ward" are used to describe the high security inpatient units where patients stay during the most acute phase of their illness when they are believed to pose a danger to themselves or others, while "open wards" refer to specialized wards dedicated to treating people with specific diagnoses who are not at an acute risk of harming themselves or others due to their current mental state.

2019; Sheridan Rains et al., 2019) and represent key aspects of patient safety in inpatient psychiatry (Marcus et al., 2021). Thus, one essential purpose of acute psychiatric services has been to assess and – where possible – avoid harm. At times, this may result in little emphasis on fostering positive aims through therapeutic means (Bowers et al., 2014; Tracy & Phillips, 2022).

In many countries, acute psychiatric care is predominantly delivered in inpatient settings, typically on locked wards staffed by multidisciplinary teams including psychiatrists, nurses, and specialized therapists. Such wards often face criticism for being non-therapeutic or even inhumane. Patients report hospitalization as traumatic and unhelpful for recovery, citing a lack of respect, dignity, social support, involvement in decision making regarding their own care, and support from healthcare professionals (Emrich et al., 2021; Wood & Alsawy, 2016). They frequently describe the ward environment as overstimulating, unpredictable, and unwelcoming – conditions that conflict with patients' psychological needs (Schmidt & Uman, 2020).

2.1.1 Challenges in acute psychiatric care

Despite the critical role of inpatient settings in acute psychiatric care, the quality of these environments and their impact on patient outcomes remain contentious. The experiences patients have during hospitalization, particularly their interactions with staff and the ward environment, are pivotal in shaping their recovery and overall perception of psychiatric services. While some patients describe staff as friendly and attentive, others view them as uninterested, unprofessional, or overburdened with administrative tasks; high workloads often limit staffs' time with patients, affecting quality of care, and patients frequently report inadequate information about their condition (Schmidt & Uman, 2020). Alongside systemic issues like understaffing, environmental factors – such as inadequate privacy, poor lighting, and lack of fresh air – and safety risks – including harm from other patients or coercive measures – further hinder optimal care. These issues can lead to long-term adverse outcomes, including deteriorated patient quality of life, staff burnout, and significant financial costs (Johnson et al., 2022; Schmidt & Uman, 2020). Overall, the patient experience in acute care profoundly shapes their perception of psychiatric services and influences their recovery. Negative experiences can worsen mental health outcomes, increase the likelihood of repeated hospital visits, and place further strain on an already resource-limited system (Schmidt & Uman, 2020).

2.1.2 Psychosocial and psychological interventions

Some patients have explicitly expressed their wish for more psychotherapeutic interactions with wards staff (Berry, Raphael, Wilson, et al., 2022; Wood & Alsawy, 2016). Treatment guidelines also recommend psychosocial treatments even during the acute phase (American Psychiatric Association (APA), 2020; National Institute for Health and Care Excellence (NICE), 2014). Yet, such interventions remain underutilized, as applying psychological therapies already during the acute phase can have a variety of benefits. Such interventions can help patients identify problems and strategies to reduce them, reduce stress, foster a recovery-oriented outlook and hope through the therapeutic relationship, improve social functioning and treatment compliance and reduce rehospitalization risks (Barnicot et al., 2020; Donaghay-Spire et al., 2016). However, implementation is hampered by systemic barriers such as busy ward environments with frequent emergencies and departures from routine treatment, staff training deficits, the severity of patients' symptoms, and the lack of specific adaptation of interventions to this setting (Evlat et al., 2021; Raphael, Price, et al., 2021). Staff in acute settings may also be reluctant to recommend psychosocial interventions, partly due to concerns about patients' ability to comprehend the interventions' goals (Raphael, Price, et al., 2021).

2.1.3 Patient-centered recovery and preferences

These systemic and practical barriers often prevent the integration of psychosocial interventions into acute psychiatric care, despite their potential benefits and alignment with treatment guidelines. This gap highlights a broader tension in modern psychiatric care, which increasingly prioritizes patient-centered recovery focused on overall well-being and functional outcomes, often diverging from traditional clinical goals of symptom reduction alone (Oorschot et al., 2012). Patients often prioritize psychosocial outcomes, such as quality of life and functional recovery, independent of (at times persistent) symptom presence over mere symptom reduction (Allerby et al., 2020; Turner, 2023). Research shows that symptom severity and subjective measures of recovery do correlate (Jørgensen et al., 2015). However, patients' needs that must be met to be able to reach certain recovery goals are associated with subjective quality of life and perceived psychosocial disabilities beyond the role of psychopathology (Stefanatou et al., 2023). Yet, particularly in inpatient care for psychosis, staff and patients may differ in their treatment priorities (Wood et al., 2019). At least some staff members may focus on quick stabilization through medication and risk containment, leaving little room for psychological approaches (Berry, Raphael, Haddock, et al., 2022). Meanwhile, patients often desire greater involvement in their care planning, focusing on reducing the symptoms they view as

distressing, improved patient-staff relationships and more psychosocial treatment options (Wood et al., 2019). Patients may also prioritize different symptom domains than staff. Patients' reluctance—or even refusal—to address certain symptoms, particularly positive symptoms, is often classified as a subdomain of insight into illness and considered a symptom requiring treatment in its own right (Subotnik et al., 2020). However, research indicates that even patients with less acute symptoms than those in acute wards, including those who actively seek treatment, may perceive some positive symptoms as beneficial and wish to retain them (Lancellotta & Bortolotti, 2019; Schneider et al., 2023). Studies involving outpatients with schizophrenia reveal that patients prioritize the treatment of affective and neurocognitive symptoms over positive symptoms, while physicians place the greatest emphasis on disease-related and neurocognitive symptoms (Kuhnigk et al., 2012; Moritz, Berna, et al., 2017). Whether these findings extend to inpatients with severe acute symptoms—and whether these patients recognize the need for treatment at all—remains unclear.

2.1.4 Emerging interventions and challenges

Previous interventions developed for the acute care setting show promising results. A mindfulness-based crisis intervention for patients with psychosis (Jacobsen et al., 2020), for instance, showed decreased risk of readmission and relapse rates at 12 months' follow-up and a cross-diagnostic psychologically informed acute inpatient therapy service including individual and group sessions (Paterson et al., 2019) showed reduced psychological distress and increased mental health-related self-efficacy compared to treatment as usual.

However, evidence-based interventions specifically designed or adapted to fit this particular setting remain scarce and rarely implemented in the clinical context. Patients' willingness to engage in different treatment options in this setting also remains under-researched. Studies evaluating their efficacy are lacking (Berry, Raphael, Haddock, et al., 2022; Paterson et al., 2019). Evaluations are challenging due to high patient turnover requiring non-sequential intervention formats, distressing cognitive impairments impeding even short and simple assessments, and challenges in follow-up after discharge (Berry, Raphael, Wilson, et al., 2022; Fife et al., 2019; Paterson et al., 2019; Raphael, Hutchinson, et al., 2021; Wood et al., 2021). Despite its association with positive outcomes, particularly through therapeutic relationships (Ruud & Friis, 2022), care continuity between acute inpatient treatment and subsequent settings is often lacking in many countries (Wood et al., 2022). Due to the typically short duration of acute ward stays, interventions in these settings must also be brief (Bullock et al., 2021).

To address the aforementioned challenges and to contribute to narrowing the current treatment gap for patients with acute symptoms, particularly on closed wards, we developed the Metacognitive Training for the acute care setting (MCT-Acute). MCT-Acute is an adaption of Metacognitive Training for psychosis (MCT; Moritz & Woodward, 2007b), a psychological group intervention. MCT is based on more than 30 years of research suggesting that individuals who experience psychosis are prone to certain cognitive biases that underlie the foundation and maintenance of psychotic symptoms, particularly delusions (Moritz, Pfuhl, et al., 2017; Ward & Garety, 2019). The intervention employs an open group format with 10 independent modules that patients can join at any point, enabling them to continue participation smoothly even if a module is missed. Its primary goal is to demonstrate the fallibility of cognitive processes (normalization) and subsequently to show how extreme manifestations of such biases can lead to psychotic symptoms (Kumar et al., 2015). Rather than addressing delusional content directly, MCT uses neutral stimuli to illustrate cognitive biases. This approach can foster a working alliance particularly with patients who may lack insight into their condition, which can be improved through MCT (Lopez-Morinigo et al., 2020). The program is highly structured, offering a variety of exercises that can be tailored to match patients' attention spans, motivation, and engagement levels. According to meta-analyses, MCT is effective for a range of symptoms, particularly delusions and positive symptoms overall (Eichner & Berna, 2016; Liu et al., 2018; Penney et al., 2022; Sauvé et al., 2020). However, in one study, the effectiveness of MCT was found to be diminished in patients with moderate to severe delusional symptoms, highlighting the necessity for tailored adaptations of metacognitive training for the acute setting (van Oosterhout et al., 2014).

2.1.5 Study aims and objectives

Based on the theoretical background outlined above, the aims of my dissertation were twofold: First, it aimed to show what patients on acute psychiatric wards want to be treated and which options they are open to. Study I sought to guide clinicians to find common ground with patients more easily in order to work more collaboratively and produce better outcomes for all. It can also inform future research into how evidence-based psychosocial therapies for this setting can be adapted and expanded.

Second, my dissertation encompassed the adaptation process of an evidence-based program to this setting and an evaluation of its' feasibility and safety. Thus, this work provides a free, easy-to-implement program that may be used and adapted by clinicians internationally.

As of the submission of this thesis, the intervention is available cost-free at www.uke.de/mct-acute in English, German, French, Italian and Arabic and more translations are in progress.

Since the dissertation consists of three distinct studies, the individual objectives and hypotheses are presented separately in the following sections.

Study 1 aimed to examine and compare treatment priorities and intervention preferences between patients with acute psychosis and the healthcare staff on locked and open psychiatric wards. Specifically, it aimed to assess differences in symptom prioritization for treatment (e.g., affective versus neurocognitive versus positive symptoms) between patients and staff and between open and locked setting and to compare patients' and staffs' preferences for various biopsychosocial treatment options. We expected that patients and staff would differ in their symptom prioritization and that patients might favor psychosocial interventions, particularly on locked wards.

Study 2 aimed to describe the adaptation process of an evidence-based psychological intervention, Metacognitive Training (MCT), to the acute care setting (MCT-Acute), to inform both researchers and clinicians of the changes that were made and the reasons for those changes in order to ensure reproducibility and to inform future adaptation efforts for this setting. It also described a first patient, who participated in MCT-Acute during her involuntary hospital stay due to acute exacerbation of her psychotic symptoms and who was able to apply the lessons learned in the group to her life and to adapt her behavior.

Study 3 aimed to assess the feasibility, acceptability, and safety of implementing MCT-Acute within acute psychiatric settings. Specifically, it sought to determine whether the modified MCT-Acute can be practically delivered in acute wards despite this challenging environment. Further, it aimed to evaluate patient engagement and acceptance of MCT-Acute based on attendance and subjective utility and to assess the safety of MCT-Acute by monitoring for adverse events, particularly symptom worsening. We expected MCT-Acute to show similar attendance rates and adverse events to comparable interventions and high acceptance rates, comparable to previous versions of MCT. We also did not expect any adverse events directly related to the intervention.

2.2 Methods

The studies discussed here were all conducted as part of a single, overarching research project pre-registered with the German Clinical Trial Register (DRKS-ID: DRKS00020551). The overarching project received ethical approval from the University Medical Center

Hamburg-Eppendorf's ethics committee for psychological studies (LPEK-0108 and LPEK-0152) and was conducted in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments. The project took place at two locations: the Department of Psychiatry and Psychotherapy at the University Medical Center Hamburg-Eppendorf (UKE) and the Department of Psychiatry and Psychotherapy at the Asklepios Clinic Hamburg North-Wandsbek (AKNW). Each hospital includes two locked inpatient units providing intensive psychiatric care for patients with various psychiatric diagnoses who pose a potential threat to themselves or others due to their medical condition, as well as one open ward specifically for patients with psychosis and/or bipolar disorder.

All patients recruited for this project had received a primary diagnosis of a mental disorder classified within the F-section of the ICD-10 and were at least 18 years old. Exclusion criteria included intellectual disability, dementia, insufficient command of the German language, and inability to consent to participation. When patients were under a treatment mandate confirmation of legal guardian consent was also required. Patients were recruited shortly after their admission or as soon as they were stable enough to participate in an interview. All participants provided written informed consent. Whenever participants were currently under a treatment mandate and had a legal guardian, confirmation of no objection to study participation was also obtained.

2.2.1 Study I

A total of 1,985 admission records were screened, resulting in the inclusion of 142 patients with a diagnosis of a psychotic disorder (74 from open, 68 from locked wards) in this observational survey.

Patients reported their subjective treatment priorities for various symptoms and treatment types they wish to receive during their stay on the respective ward they were interviewed on. Specifically, they were asked about 16 symptoms (e.g., hallucinations, lack of drive) and eight treatment types for psychosis (e.g., medication, individual psychotherapy). To assess delusion-related symptoms, interviewers described the symptoms indirectly (e.g., “Is there anything special about you? Do you have any special abilities or powers?” for grandiosity), as patients with current delusions may not identify, and therefore not endorse, them as symptoms. Patients first indicated if they were experiencing each symptom and, if they answered yes, they were asked “Would you like treatment or help with this problem while you are on this ward?” Answers were given on a five-point scale (definitely yes, somewhat yes, unsure, somewhat no, definitely no). For treatments, patients were asked whether they were

familiar with the given treatment and, if familiar, whether they wished to receive it during their stay on the respective ward (responses were recorded using a three-point scale: yes, unsure, no). The majority of patients recruited from the locked acute wards completed this survey as part of the baseline assessment of the MCT-Acute pilot trial described in study III. Patients from the open ward were approached independently of study III and only completed the questionnaire described here for study I.

A parallel questionnaire was administered to 29 staff members, primarily nurses (n = 18; 62.1%) and medical doctors (n = 6; 20.7%), of which 13 worked on open and 16 on locked wards. They also indicated their perceived needs for treatment of the 16 symptoms and preferences regarding the eight treatment types in the context of their ward (using the same response scales as the patient questionnaire).

To analyze differences in (1) treatment importance assigned to different symptoms and (2) endorsements of treatment types across settings and between patients and staff, symptoms were first clustered into subscales, such as positive or affective symptoms, based on theoretical assumptions. As not all patients reported every symptom or were familiar with all treatments in the questionnaire, only the three most prevalent symptom subscales (positive, affective, and neurocognitive symptoms) and six treatments known to more than 75% of the patients (art therapy, group psychotherapy, individual psychotherapy, medication, occupational therapy, and physiotherapy) were included in subsequent analyses. Four repeated measures ANOVAs were conducted using (1) the symptom subscales and (2) treatment type as within-subject factor and setting (locked vs. open ward), as well as gender for patients, as between subject factor(s). Huynh-Feldt corrections were used due to data violating sphericity.

2.2.2 Study II

MCT-Acute, an adaptation of Metacognitive Training for Psychosis (MCT; Moritz & Woodward, 2007b), is an easy-to-implement, low-threshold group intervention, tailored to inpatients with acute neurocognitive and psychiatric symptoms. It addresses cognitive biases associated with the development and maintenance of positive symptoms, particularly delusions, using exercises that directly elicit such cognitive biases (e.g., jumping to conclusions) and thus produce so-called aha moments, allowing patients to recognize their biased thinking directly through the exercise instead of through theoretical explanations. MCT has shown effectiveness in symptom reduction (e.g., Penney et al., 2022) and high patient acceptability (e.g., Eichner & Berna, 2016). It has also been modified for various other mental health conditions such as depression (D-MCT; Jelinek et al., 2013). MCT is recommended by treatment guidelines for

schizophrenia; however, one study indicated reduced effectiveness for patients with moderate to severe delusions, suggesting the need for a tailored adaptation to acute settings (van Oosterhout et al., 2014).

MCT-Acute consists of six modules adapted from the original MCT and one from D-MCT (MCT for depression). It covers cognitive biases related to delusions, low mood, and self-esteem, thus offering relevant content for various mental health conditions beyond schizophrenia spectrum, particularly (comorbid) depression. MCT-Acute features shorter sessions with simplified content aimed at engaging patients effectively even when their initial motivation for therapy may be low due to different factors such as depressed mood, side effects of medication, or subjective lack of need for therapy. For the present studies, trainers delivering the intervention always included one staff member from the respective ward and one psychologist with a completed master's degree. Group size varied between two and nine patients.

To obtain qualitative feedback on the acceptability and subjective utility of the intervention in addition to the quantitative data collected in study III, I approached a severely ill patient with a symptom profile typically found in the acute ward setting, who had frequently participated in MCT-Acute. This patient had been recruited as part of the feasibility trial but had not completed all quantitative assessments and was therefore not included in the final sample of study III. The patient, NK, was a 41-year old Ukrainian-born woman with a completed university degree who had previously been diagnosed with paranoid schizophrenia and who had had multiple hospitalizations in the past, including one involuntary hospitalization. In an interview based on the change interview version 5 (Elliott & Rodgers, 2008) protocol, NK provided qualitative feedback after attending her last session of the intervention. Specifically, changes she had noticed since starting MCT-Acute as well as helpful and unhelpful aspects of the intervention were assessed to be incorporated into further adaptations of the intervention after the conclusion of study III.

2.2.3 Study III

A total of 1,017 patients currently treated on one of the four locked psychiatric wards, were screened for participation in the feasibility trial. Eligible patients were offered to take part in MCT-Acute sessions twice a week for 3.5 weeks in addition to their care as usual on the ward and asked to complete three assessments: before the initial group session (t_0; pre-intervention), after two weeks (t_1; interim) and after four weeks (t_2; post-intervention). The assessments included clinical interviews with self- and other-rated symptom assessments, along with

questionnaires about the intervention's acceptability and subjective utility, as well as any potential adverse events. Feasibility and acceptability were assessed based on the number of sessions attended and reasons for missing sessions, as well as two feedback questionnaires: the MCT-Acute Feedback Questionnaire (based on Moritz & Woodward, 2007a), and an in-session feedback questionnaire devised for this study. Safety was monitored using an adapted version of the QueSPI (Rüegg et al., 2018), employed at t_1 and t_2, and through continuous recording of six unwanted events (prolongation of treatment, emergence of new symptoms, deterioration of symptoms, strains in the patient-therapist relationship, suicidal ideation and suicide attempts) based on ward staff's clinical documentation. Symptom development was recorded using the clinician-rated DSM-IV Axis V Global Assessment of Functioning Scale (GAF; American Psychiatric Association, 2000) and the self-report Brief Symptom Inventory-18 (BSI-18; German version: Spitzer et al. (2011) at all three time points. After completing the post-assessment, patients had the option to continue participating in the intervention.

At baseline, a total of 75 patients were assessed. Among them, 37 patients participated in the intervention at least once and completed all three assessments, qualifying them as "completers" eligible for inclusion in the final analysis, as specified in the trial's pre-registration criteria. Some participants included in the final sample were unable to complete all questionnaires, due, for example, to high symptom load or poor neurocognitive abilities.

The assessment of clinician-rated symptoms and functioning was conducted by a physician on the acute ward. In cases where patients moved to another ward or were discharged from the hospital before t_1 or t_2, there were no available GAF ratings for those time points.

Descriptive analyses were conducted to evaluate session attendance, subjective utility, session-specific feedback, and adverse events; Greenhouse-Geisser corrected repeated measures ANOVAs assessed improvements in patient-rated symptoms and clinician-rated overall functioning (for which data was imputed using the last observation carried forward method).

2.3 Results

This part of the synopsis summarizes the main results of each study, while detailed data, including baseline characteristics as well as all tables and figures, are available in the published articles.

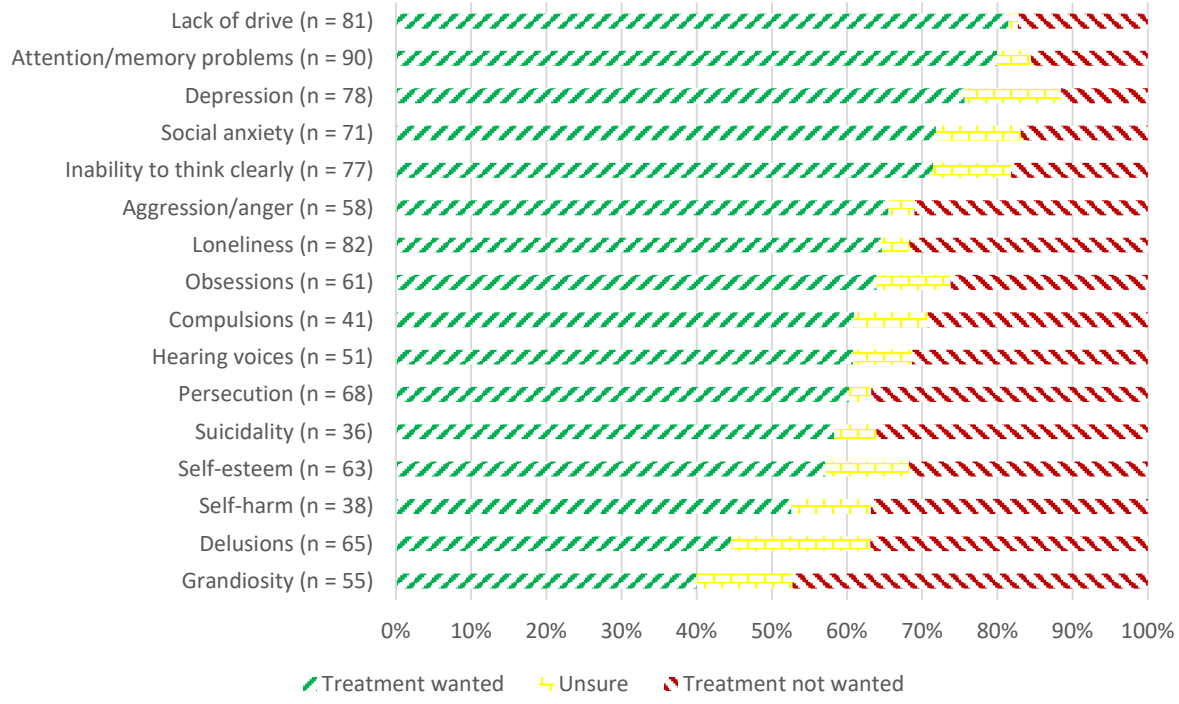
2.3.1 Study I

Overall, 138 patients completed the subjective symptom presence and relevance questionnaire, with four patients rating no symptom as present and five participants rating all symptoms as present. The most frequently endorsed symptoms included neurocognitive symptoms such as memory/attention problems (63.4%, $n = 90$) and affective symptoms such as listlessness (57%, $n = 81$), while the least frequently endorsed symptoms were those related to self-harm such as suicidal ideation (25.4%, $n = 36$). Endorsement of positive symptoms ranged from 47.9% ($n = 68$) for persecution to 35.9% ($n = 51$) for hearing voices.

2.3.1.1 Patients' treatment priorities regarding symptoms. Figure 1 (corresponding to figure 1 in the original publication of the study) shows patients' perceived need for treatment of a present symptom.

Figure 1.

Need for treatment of present symptoms as rated by patients



A repeated measures ANOVA revealed a significant main effect of symptom domains on the perceived importance of treatment ($F(1.844, 134.629) = 9.719$, $p < .001$, $\eta_p^2 = 0.117$). Post-hoc tests with Bonferroni correction showed that patients rated neurocognitive symptoms as significantly higher than positive symptoms ($p < .001$) and than affective symptoms ($p =$

.047). There was also a significant main effect of setting on patients' subjective need for treatment ($F(1, 73) = 13.547$, $p < .001$, $\eta_p^2 = 0.157$), with those on open wards reporting a higher need for treatment compared to those on locked wards. There were no significant main effect of gender and no significant interactions.

2.3.1.2 Staffs' treatment priorities regarding symptoms. Staff, in contrast, most endorsed the treatment of positive symptoms (e.g., delusions, 93.1%) and less so affective (e.g., listlessness, 79.3%) and neurocognitive (e.g., attention/memory problems, 62.1%) symptoms. The ANOVA showed no significant interaction but significant main effects of symptom domains on treatment importance ($F(2,54) = 30.059$, $p < .001$, $\eta_p^2 = .527$) and of treatment setting on treatment importance ($F(1,27) = 10.902$, $p = .003$, $\eta_p^2 = .288$). Staff viewed positive symptoms as significantly more important to treat than neurocognitive and affective symptoms (each $p < .001$) and neurocognitive symptoms as significantly more important to treat than affective symptoms ($p = .009$). Staff on open wards voiced a significantly higher need for treatment of symptoms than staff on locked wards.

2.3.1.3 Patients' preferences for treatments. Patients' familiarity with a certain type of treatment ranged from almost everyone being familiar with physiotherapy and occupational therapy (each 94.4%, $n = 134$) to 57.0% ($n = 81$) being familiar with psychoeducation. All treatments were desired by more than half of all patients who knew them, ranging from 82.9% ($n = 107$) endorsement for individual psychotherapy to 54.5% ($n = 72$) endorsement for group psychotherapy. A repeated measures ANOVA analyzing the effect of treatment type, setting, and gender on appraisal of treatment showed a significant main effect of treatment type on appraisal of treatment ($F(4.725, 368.535) = 6.340$, $p < .001$, $\eta_p^2 = .075$). Bonferroni-corrected post-hoc tests revealed that patients rated individual psychotherapy as significantly higher than medication ($p = .005$) and than group psychotherapy ($p < .001$) and that they rated physiotherapy significantly higher than group psychotherapy ($p < .001$). There was also a statistically significant interaction effect of treatment type by setting ($F(4.725, 368.535) = 2.814$, $p = .019$, $\eta_p^2 = .035$), in that medication endorsement by patients on the locked ward was significantly lower than endorsement of medication (and other treatments) by patients on open wards and significantly lower than several other treatments' endorsements by patients on locked wards.

2.3.1.4 Staffs' preferences for treatments. All staff (100%) endorsed physiotherapy, occupational therapy, and medication to be offered on their wards. The ANOVA revealed a significant main effect of treatment type on indication for treatment ($F(5, 130) = 3.902$, $p = .003$, $\eta_p^2 = .130$), with staff rating physiotherapy, occupational therapy, and medication each significantly higher than group psychotherapy (each $p = .022$). There was no significant main effect of setting and no significant interaction between treatment type and setting.

2.3.2 Study II

The jumping to conclusions bias, which is the tendency to make hasty decisions based on little information, is theorized to be one of the most crucial cognitive tendencies in psychosis, contributing substantially to the formation and maintenance of delusional beliefs (e.g., Dudley et al., 2016; McLean et al., 2017). Previous to the interview, in one of the sessions she attended, the participant NK exclaimed "You are trying to teach us to think more slowly!", showing that she had grasped one of MCT's main goals, which is to reduce hasty decision making. Overall, despite varying in her active participation in the intervention and despite exhibiting fluctuating – and at times severe – symptoms, NK was able to extract several of MCT-Acute's most central themes (empathy, jumping to conclusions) and to apply them in her everyday life, for example when communicating with her family.

Her subjective evaluation of the training was that she benefited from engaging with its' topics, that she found distraction from the ward environment and her own thoughts during sessions and that she was able to relax herself and improve her mood during and in between sessions by using the exercises that she learned in the intervention. She also liked the training's engaging nature and the group format, as it encourages patients to 'open up to others'. She did not report any emergence or exacerbation of symptoms. In summary, NK emphasized that MCT-Acute is unique from other interventions on the ward and that it should be continued to be offered.

2.3.3 Study III

Patients attended an average of 3.6 out of 7 sessions ($SD = 1.85$), with early discharge accounting for almost half (42.9%) of all missed sessions. About one third (30.1%) of sessions were missed because patients directly declined to participate. Other reasons for missing a session included currently undergoing seclusion or restraint measures ($X = 12$, 9.0%), being asleep ($X = 11$, 8.3%), other appointments during a given session ($X = 9$, 6.8%), and being

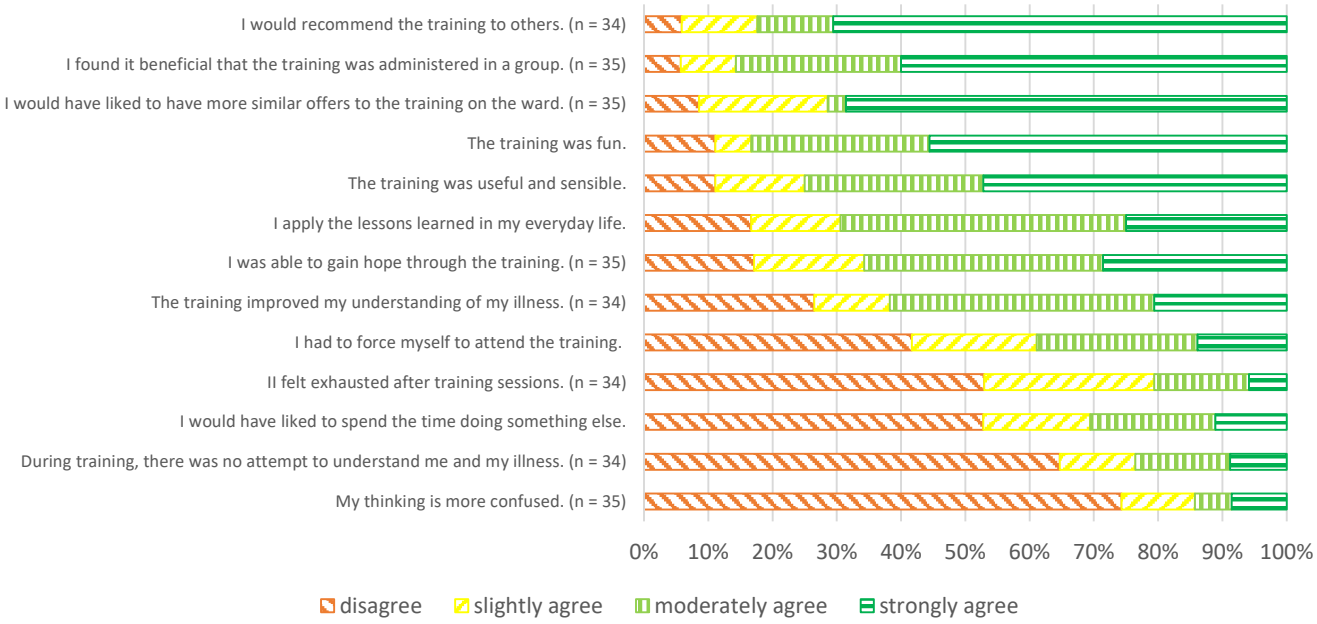
judged ineligible by staff for a given session due to acutely high symptomatology (e.g., severe agitation, disorganization; $X = 4$, 3.0%).

Overall, participants filled in 69 end-of-session feedback questionnaires, but not all participants answered all items, resulting in the number of responses per item ranging from 69 to 64. Across modules, a majority of participants evaluated sessions positively, endorsing positive statements such as "MCT-Acute was fun" (89.7%, $n = 61$), "I am motivated to continue participating in MCT-Acute" (87.0%; $n = 60$), and "MCT-Acute helps me" (83.3%; $n = 55$) and rejecting the statement "MCT-Acute confuses me," (73.9%; $n = 51$).

Subjective utility ratings are depicted in Figure 2 (which corresponds to figure 2 in the original publication of the study).

Figure 2.

Participants' ratings of subjective utility at t2.



On average, participants endorsed 3.1 subjective adverse events on the adapted QueSPI at t2 ($SD = 3.03$; median = 2). As not every participant answered every item, the number of responses per item ranges from 33 to 35. Overall, 410 responses were given across the 12 items, of which 113 responses (27.6%) indicated varying degrees of agreement. Specifically, 51 (45.1%) of the answers indicated slight agreement, 29 (25.7%) indicated moderate agreement and 33 (29.2%) indicated complete agreement. Participants most frequently agreed completely to MCT-Acute not adequately addressing their individual needs or preferences, to feeling that their participation in MCT-Acute led them to reassess the importance of medication,

considering it less critical than they had previously believed and to MCT-Acute making them feel responsible for their problems.

At least one unwanted event was recorded for 17 participants, including extension of treatment (n = 15), worsening of symptoms (n = 9), emergence of new symptoms (n = 3) and suicidal ideation (n = 1). All events were rated as either unrelated (67.0%) or probably unrelated (33.0%) to the intervention.

Although patients numerically improved on the BSI-18 scale from t_0 (M = 18.29, SD = 13.69) to t_2 (M = 17.46, SD = 15.92), the repeated measures ANOVA revealed no significant difference between time points ($F(1.371, 37.013) = 0.49$, $p = .546$, $\eta_p^2 = 0.018$). For functioning, a repeated measures ANOVA found a large increase in GAF scores over time ($F(1.332, 47.943) = 20.44$, $p < .001$, $\eta_p^2 = 0.362$).

2.4 Discussion

This dissertation presents three studies focused on improving the treatment for patients with severe mental illness, particularly psychosis, on (locked) acute psychiatric wards. Study I investigated which symptoms patients on acute wards see a need for treatment for and the types of treatment options they would like to have access to during their stay. We compared their responses to those from patients on open wards specialized in the treatment of psychosis, as well as to responses from staff on both locked and open wards. Studies II and III addressed patients' frequently expressed wish for more psychosocial treatment options in acute settings. In study II, we adapted a freely available, easy-to-administer, low-threshold intervention for patients with psychosis, described the adaptation process, and gathered qualitative feedback from an early participant. Study III then evaluated the feasibility and safety of implementing this intervention as part of the wards' treatment regimen.

2.4.1 Subjective need for treatment of symptoms and preferred treatment options

In study I, patients indicated a higher perceived need for treatment of neurocognitive and of affective symptoms as compared to positive symptoms, while staff emphasized treatment of positive symptoms. Study I also showed that all treatments were endorsed by more than half of all patients and staff, respectively, although patients' endorsement of treatments varied, in part, between ward settings.

Our findings contribute to the growing evidence emphasizing the importance of affective and neurocognitive symptoms for patients (Kuhnigk et al., 2012; Moritz, Berna, et al., 2017; Stainton et al., 2023). Given that neurocognitive impairments are linked to adverse

outcomes such as poorer functional performance and more severe negative and disorganized symptoms (Gebreegziabhere et al., 2022), and that both patients and staff regard them as critical treatment targets, interventions addressing these issues should be integrated into acute care settings.

Although positive symptoms have traditionally been considered the primary focus of therapy, research indicates that patients do not necessarily perceive all aspects of these symptoms as adverse (Schneider et al., 2023). Furthermore, both, positive and affective symptoms such as depression, contribute to general distress in patients with psychosis (García-Mieres et al., 2020; Tsukahara et al., 2022). Patients who feel supported in their recovery and experience higher levels of shared decision-making report greater treatment satisfaction (Haugom et al., 2023; Skar-Fröding et al., 2021), a widely recognized quality indicator in mental health care (Miglietta et al., 2018). In long-term involuntary treatment settings, consideration of patients' perspectives is a strong predictor of both treatment satisfaction and subjective quality of life (Van Kranenburg et al., 2022). Incorporating patients' treatment preferences into care planning may therefore enhance the quality of acute involuntary inpatient care. The findings of this study could assist clinicians in recognizing that patients may prioritize different treatment goals than clinicians, encourage comparisons between individual and group-level priorities among patients with the same condition, and help normalize less conventional preferences, such as art therapy, for both patients and staff.

2.4.2 Metacognitive Training for the acute psychiatric care setting (MCT-Acute)

In study II, we described the adaptation of a low-threshold group psychotherapy for the acute psychiatric setting and documented an initial case with promising results.

This study addresses the need for documented adaptations to this setting to enable replication (Jacobsen et al., 2018) and provides preliminary evidence that the adapted version of Metacognitive Training for psychosis (MCT) with severely impaired psychotic patients in the acute ward (MCT-Acute) may be a feasible intervention. This outcome challenges common concerns such as psychosocial interventions being too complex or too distressing for patients in the acute setting (Raphael, Price, et al., 2021). The documented patient, NK, participated in the intervention regularly, provided largely positive feedback, and demonstrated insight into hasty decision-making, even extrapolating the overarching goal of MCT-Acute. This suggests that patients experiencing highly acute psychotic symptoms can comprehend the content of MCT-Acute and benefit from the intervention.

NK's case also underscores the value of open group formats that do not require patients with highly acute and fluctuating symptoms to participate in every module or to start with a specific module (Fife et al., 2019). It also highlights the importance of designing research and interventions for the acute setting with sensitivity to patients' high symptom load, especially neurocognitive impairments, and the associated distress (Berry, Raphael, Wilson, et al., 2022; Wood et al., 2021).

Study III further demonstrates the high acceptability of MCT-Acute, comparable to other versions of MCT, e.g., for psychosis, depression and obsessive-compulsive disorder (Jelinek et al., 2017, 2018; Moritz & Woodward, 2007a). Most participants reported that they would recommend the training to others and expressed a desire for more similar therapeutic options on the ward. This aligns with previous patient calls for more psychosocial interventions in the acute setting (Wood & Alsawy, 2016), as well as with study I's results, and further suggests that patients are open to engaging in psychological therapies even during acute illness phases. Patients' ability to assess the usefulness of an intervention and to participate in it is critical for their engagement with psychosocial interventions (Raphael, Price, et al., 2021).

Regarding safety, the most commonly reported subjective adverse event regarding MCT-Acute was that it did not fully address participants' individual needs or preferences, a frequently cited limitation of group therapy (Shechtman & Kiezel, 2016). However, some patients reported preferring group therapy, as it allows them to share experiences with other group members (Osma et al., 2019). Clinicians agree that fostering a sense of belonging to a collective and shared learning is a core benefit of group therapy, despite the challenges posed by lack of individualization and privacy, and potential fear of criticism from others (Kealy & Kongerslev, 2022; Osma et al., 2019; Raphael, Price, et al., 2021). In acute setting trials, adverse events are common but largely independent of participation in the investigated intervention (e.g., Jacobsen et al., 2020; Paterson et al., 2019). Therefore, the reported adverse events in this trial, none of which were directly linked to participation in MCT-Acute, were anticipated. These findings are encouraging, as they suggest that psychological interventions in the acute setting are not harmful to patients and may even contribute to problem formulation, stress reduction, and fostering hope (Donaghay-Spire et al., 2016).

2.4.3 Research challenges in the acute care setting

MCT-Acute brings to light known challenges in research within acute care settings, such as high symptom loads and neurocognitive impairments that can hinder patients' ability to complete even brief assessments and lead to high distress (Berry, Raphael, Wilson, et al., 2022;

Wood et al., 2021). Additionally, there is often a lack of continuity in care from the acute inpatient setting to outpatient care (Wood et al., 2022), despite evidence linking care continuity with positive outcomes (Ruud & Friis, 2022). Given that acute ward stays are often short and interventions limited to the ward cannot continue seamlessly once the patient is discharged, interventions must be brief as well (Bullock et al., 2021). Follow-up assessments after discharge can also be challenging, as patients are often difficult to reach (Paterson et al., 2019; Raphael, Hutchinson, et al., 2021). Implementing psychological therapies in acute ward environments is complicated by various logistical and clinical barriers, including frequent emergencies, disruptions to routine treatment, insufficient staff training, limited leadership support, acute symptom exacerbations, and lack of specific adaptations for the acute care setting (Evlat et al., 2021; Raphael, Price, et al., 2021).

2.4.4 Clinical implications

Patients experiencing acute psychosis may still be open to addressing certain symptoms or concerns through various treatment options, even if they are hesitant to focus directly on their positive symptoms. This highlights the need for more evidence-based psychosocial interventions tailored to target the specific symptoms that patients prioritize, such as lack of drive or concentration problems.

MCT-Acute is one such intervention: it is highly standardized, accessible, easy to implement, and can be delivered by a range of healthcare professionals. MCT-Acute targets both positive and affective symptoms using non-confrontational exercises that show high acceptability by patients. This approach not only aligns with the treatment preferences of both patients and staff but also responds to patients' growing demand for expanded psychosocial treatment options. Additionally, MCT-Acute equips practitioners with an intervention rooted in well-researched cognitive mechanisms, easily integrated into existing treatment regiments that may include other widely endorsed therapies, such as occupational, physio and pharmacological treatments.

Overall, the findings presented here can inform shared decision-making and goal-setting processes, which are essential for building a constructive therapeutic alliance and enhancing patients' motivation for change.

2.4.5 Limitations, strengths, and future research

Research in acute mental health care settings, particularly with severely and acutely ill patients, remains limited due to inherent challenges in balancing research goals, such as standardization, with the clinical reality that often demands high flexibility. In both Studies I

and III, a large number of admission records were screened to identify potential participants, yet only a small fraction were successfully enrolled. Factors such as concentration difficulties, suspiciousness, and insufficient language proficiency frequently precluded participation. These systematic sampling biases are challenging to overcome because the acute symptoms that bring patients to these settings, such as suspiciousness, often require time to address—time that is incompatible with research protocols reliant on interactions with unfamiliar interviewers.

In study I, the small number of recruited staff limited our ability to explore potential differences in treatment preferences across professional roles. In study III, despite offering patients the option to complete assessments after discharge or online, dropout rates were high, and attendance was low due to factors such as early discharge, albeit being consistent with other studies in this setting (Paterson et al., 2019).

For patients who agreed to take part in the studies, researchers had to exercise significant flexibility. Accommodations included frequent breaks and unconventional settings, such as conducting interviews while walking in the ward's yard when participants indicated this as the only option for them to be able to answer questions. Assessment tools were simplified to enhance accessibility, although this led to the loss of nuance, such as differentiating between types of art therapy (e.g., music vs. dance therapy). Although even with such adjustments, some patients were unable to complete the full assessment battery, this was a rare occurrence.

In study I, a self-report measure was used to assess symptoms, particularly delusions. To minimize bias, delusion-related symptoms (e.g., grandiosity or persecution) were described indirectly rather than named explicitly, allowing patients to identify symptoms they perceived. However, this approach likely led to underreporting, as positive symptoms are often not recognized by patients as part of their illness. Moreover, the stigma surrounding such symptoms and fear of consequences, such as medication adjustments, may have deterred honest disclosure.

For study III, the focus on transdiagnostic symptom severity rather than disorder-specific symptoms was a notable limitation. Additionally, patients in all studies were receiving treatment as usual during assessments, which included medications and other interventions. In Study I, patients' treatment priorities for specific symptoms may have been influenced by side effects of their medications, such as lack of drive. In studies II and III, disentangling the effects of MCT-Acute from those of other therapies within the treatment-as-usual framework was not feasible. However, as the primary aim of the research was to assess safety rather than symptom improvement, stabilization and progress—regardless of contributing factors—were regarded as positive outcomes.

Looking ahead, one critical challenge in this field is determining which research questions warrant strict adherence to standard protocols and when deviations may improve data quality. For instance, involving a trusted interviewer could reduce patients' fear of consequences, leading to more accurate self-disclosure of symptoms. Longitudinal designs may also provide valuable insights into the evolving needs of chronically ill patients across different stages of illness, including acute phases.

While these challenges are significant, they should not deter researchers from engaging with this patient population. Excluding such patients not only introduces substantial sampling bias but also perpetuates the marginalization they frequently encounter in society. Future research should aim to increase scientific rigor through more complex designs, such as randomized controlled trials, employing both self- and clinician-rated outcomes and addressing high dropout rates through enhanced remote assessment options. Simultaneously, researchers must prioritize ecological validity by involving individuals with lived experience throughout the research process and tolerating deviations from standard protocols when necessary to address questions, methods, and outcomes that patients themselves find most relevant. Balancing these priorities will help produce scientifically robust, clinically meaningful insights that improve treatment outcomes for this vulnerable population.

2.4.6 Conclusion

Understanding what patients in acute psychiatric settings need and what staff identify as treatment priorities can enhance communication and care alignment. Patients in this setting have consistently voiced a need for more psychosocial options, feeling that their perspectives are often unheard and undervalued.

This investigation, alongside prior research, shows that both patients and staff on acute psychiatric wards recognize the need to improve the therapeutic framework in these settings. Crucially, even individuals experiencing severe acute psychotic symptoms are receptive to working on specific issues and symptoms and open to a range of treatments. My research also demonstrates that patients with acute severe mental illness, such as patient NK, appreciate opportunities to participate in interventions like MCT-Acute on the acute ward.

Evidence-based psychosocial interventions tailored to this setting and mindful of patients' treatment preferences remain scarce. MCT-Acute offers a valuable option as a structured, accessible, cost-free, and easy-to-implement group-based intervention. Currently available in English, German, Italian, French, and Arabic (www.uke.de/mct-acute), it can represent one component of a biopsychosocial treatment plan for patients on acute wards.

Addressing patient preferences more closely can help strengthen the therapeutic relationship, enhance motivation for change, and ultimately support long-term stabilization.

Although many challenges extend beyond the influence of individual clinicians or hospital policies, and the care of acutely ill patients remains challenging, demanding a careful balance between patient needs and ward safety, research suggests that patients and staff often share a common goal: to improve patient well-being as much as possible. The insights gained from this dissertation aim to make a small but meaningful contribution to advancing this shared objective. Two centuries after Philippe Pinel is reported to have taken off the chains from his patients, we still face challenges such as conflicting treatment priorities, and lack of research and evidence-based interventions in the acute psychiatric care setting. I hope that this work contributes to improving patients' care experience and I will continue to strive for such improvement in the future.

3 List of Abbreviations

AKNW	Asklepios Clinic North – Wandsbek
ANOVA	Analysis of Variance
APA	American Psychiatric Association
BSI	Brief Symptom Inventory
DRKS	Deutsches Register Klinischer Studien
DSM	Diagnostic and Statistical Manual
GAF	Global Assessment of Functioning
ICD	International Classification of Diseases
LPEK	Lokale Psychologische Ethikkommission
MCT	Metacognitive Training
NICE	National Institute for Health and Care Excellence
QueSPI	Questionnaire about Side Effects Psychosis and Internet
UKE	University Medical Center Hamburg-Eppendorf

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ORIGINAL PAPER

Treatment Preferences in Acute Psychosis: A Comparison of Patient and Staff Perspectives on Symptom Prioritization and Biopsychosocial Interventions

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Abstract
Patients with acute psychosis are often confronted with the prejudice that they refuse all treatment due to lack of insight. This study examined and compared the aims and preferences for treatment of patients with acute psychosis and of psychiatric inpatient staff. A total of 142 inpatients being treated for a psychotic disorder on either a locked or an open ward indicated which of a range of symptoms they want to be treated and which of various biopsychosocial treatment options they would like to receive. Staff members from the same wards reported which psychiatric symptoms they deemed relevant in the treatment of psychosis and which treatment options should be offered. Patients assigned the highest treatment need to neurocognitive symptoms, followed by affective and positive symptoms. In contrast, staff assigned the highest treatment need to positive symptoms, followed by neurocognitive and affective symptoms. Patients and staff on open wards expressed more treatment needs overall than did patients and staff on locked wards. Patients' desire for treatment differed across treatment types. In comparing patients on locked versus open wards, patients on open wards expressed higher approval of medication than patients on locked wards. Even patients with highly acute psychosis being treated on locked psychiatric wards endorsed treatment. Treatment preferences of this group deviated markedly in some instances from staffs' preferences. Considering their specific needs may contribute to increasing patient self-efficacy, and improving adherence to treatment.

Keywords Locked ward · Schizophrenia · Bipolar Disorder · Severe Mental Illness · Psychological Intervention

Introduction

Psychotic disorders, especially schizophrenia and bipolar disorder with psychotic features, are considered severe mental illnesses that often take a chronic course. Both schizophrenia and bipolar disorder are associated with reduced psychosocial functioning, somatic comor-

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bidities, and increased mortality [1–5]. People diagnosed with psychotic disorders are particularly likely to experience acute psychiatric treatment, and a diagnosis of a psychotic disorder is a strong risk factor for involuntary hospitalization [6].

Psychiatric treatment's emphasis on biological processes and its relationship to complementary services such as psychological interventions have at times been the subject of heated discussions [7]. In contrast to the traditional clinical definition of remission as symptom reduction [8], the patient-centered recovery movement that emerged in the late 20th century has focused on overall well-being, independent of (at times persistent) symptom presence [9, 10]. Within this context, psychosocial functioning and subjective quality of life constitute some of the main outcomes. Research has shown an association between symptom severity and subjective measures of recovery [11]. Nevertheless, patients' self-rated needs for care, which must be met to be able to reach certain recovery goals, contribute to predictions of subjective quality of life, and to perceived psychosocial disabilities beyond psychopathology [12].

Although not all such needs apply to the acute psychiatric care setting, some, such as general psychological distress reduction, may be addressed in this context. Particularly in inpatient care for psychosis, however, the emphasis of patients and staff regarding treatment goals can differ [13]. Staff may primarily aim for quick stabilization through medication and risk containment, leaving little room for psychological approaches [14]. Patients, on the other hand, want more psychosocial treatment options, better patient-staff relationships, and more involvement in their treatment plan, including a focus on reducing the symptoms they view as distressing [13]. These differences may in part be explained by different models and conceptualizations of mental health and illness held by patients and staff [15, 16].

Patients' reluctance, or at times even refusal, to treat certain symptoms, particularly positive symptoms, is commonly defined as a subdomain of insight into illness and therefore as a symptom to be treated in itself [17]. Yet, research shows that even patients who have less acute symptoms than those on acute wards and who actively seek treatment view some of their positive symptoms favorably and want them to remain present [18, 19]. In studies asking outpatients with schizophrenia to indicate the treatment importance of a range of symptoms, patients assign more importance to affective and neurocognitive symptoms than to positive symptoms, whereas physicians assign the most importance to neurocognitive symptoms [20, 21]. Whether these findings also apply to inpatients with severe acute symptoms (and whether these patients see a need for treatment at all) remains to be shown.

Overall, acute psychiatric inpatient care must strive to improve and broaden its treatment approach to include more psychosocial options, which patients have expressed a need for [22, 23]. While several studies have shown promising results for psychological interventions in acute settings [24], the willingness of patients with severe acute exacerbations of psychotic symptoms to engage in various treatment options within a biopsychosocial treatment framework remains under-researched. Staff working in an acute setting may hesitate to recommend patient participation in psychosocial interventions because, for instance, they question patients' ability to understand the interventions' aims [25].

We hypothesized that patients on acute wards would report experiencing a variety of symptoms, including affective, neurocognitive, and positive symptoms, and that they would assign a higher need for treatment to affective and neurocognitive than to positive symptoms. In addition, we hypothesized that patients would want a variety of psychosocial treatment options and that some patients, while generally open to receiving treatment, would not

wish for pharmacological treatment. We hypothesized that staff would assign a higher need for treatment to positive and neurocognitive symptoms than to affective symptoms and that they would endorse patients receiving a variety of psychosocial treatment options as well as pharmacological treatment. Concerning differences between the open and locked wards, we hypothesized that both patients and staff on open wards would report more treatment need than patients and staff on locked wards. As for treatment options, we hypothesized that, overall, patients on locked wards would not differ from patients on open wards regarding endorsement of psychosocial treatment options but that staff on locked wards would be more hesitant to endorse certain psychosocial treatment options than staff on open wards.

Materials and Methods

Design

We conducted a survey of patients with psychotic disorders on acute locked vs. open psychiatric wards. Patients completed questionnaires regarding their prioritized treatment targets (symptoms) as well as their preferences regarding their upcoming treatment on their ward. Prior to participation, all patients gave written informed consent. In a parallel design, staff on these wards filled in analogous questionnaires regarding their own perceived priorities in treating their patients. The University Medical Center Hamburg-Eppendorf's Ethics Committee for Psychological Studies approved the study (LPEK-0152), which was carried out in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments.

Setting

The study was conducted at two sites: the Department of Psychiatry and Psychotherapy of the University Medical Center Hamburg-Eppendorf (UKE) and the Department of Psychiatry and Psychotherapy of the Asklepios Clinic North-Wandsbek (AKNW), Germany. The UKE has two locked wards with 13 and 19 beds respectively, and one open ward with 23 beds specifically for patients with psychosis and/or bipolar disorder. The AKNW has two locked wards with 21 beds each and one open ward specifically for patients with psychosis and/or bipolar disorder with 26 beds. All locked wards provide intensive psychiatric care for patients with a variety of psychiatric diagnoses who pose potential harm to themselves or others due to their medical condition. Patients on the locked wards are generally more acutely ill than those on the open wards, and many are in mandatory treatment. The two hospitals' catchment sectors are urban areas with approximately 450,000 and 320,000 residents, respectively.

Sample

Patients were eligible for participation if they had a primary diagnosis of any psychotic disorder, including but not limited to, schizophrenia spectrum disorders (as classified in the DSM-V or the ICD-10 F-section), were currently undergoing inpatient treatment on one of the six wards, and were at least 18 years old. Exclusion criteria were inability to consent,

insufficient German language skills, intellectual disability, dementia, and inability to obtain consent from a legal guardian when applicable.

All professional staff were invited to participate in this survey if they were currently working on one of the six wards patients were recruited from.

Procedure

Patients were consecutively recruited shortly after admission to the inpatient wards (although in some cases patients were recruited later due to high symptom burden upon admission). A total of 1,985 admission records were screened for potential participants (see Figure S1 in Online Resource 1). Patients provided written informed consent to participate in the study and then completed the interview. The interview length varied depending on symptom severity but averaged 20 to 30 min.

Instruments

Parallel questionnaires regarding symptom treatment priorities and treatment type priorities were devised for patients and staff. Both were accompanied by sociodemographic questions.

Patients were interviewed using a face-to-face paper-pencil format; staff filled in an online survey they received via email.

The patient questionnaire included one open-ended question regarding patients' perception of current symptoms ("Which problems/symptoms are you currently experiencing that you wish to receive treatment for during your stay on this ward?"). After the open-ended question, patients were asked the following question regarding a list of 16 symptoms: "Are you currently experiencing the following symptom or problem?" If they answered yes, they were asked "Would you like treatment or help with this problem while you are on this ward?" Answers were given on a five-point scale (definitely yes, somewhat yes, unsure, somewhat no, definitely no). Some symptoms were described rather than named directly (e.g., "Is there anything special about you? Do you have any special abilities or powers?" for grandiosity). Whenever a patient did not endorse experiencing a given symptom, they were not asked about it further.

In addition, the patient questionnaire included two open-ended questions regarding treatment preferences ("Which types of treatment do you expect to receive on this ward?" and "Which types of treatment would you like to receive on this ward?"). Following the open-ended questions, patients were asked about eight types of treatments for psychosis. First, they were asked whether they were familiar with the given treatment (meaning they knew what this treatment is; it was not necessary for them to have experienced the treatment themselves). If they said yes, then they were asked whether they would like to receive that treatment on the ward they were currently on. Responses were recorded using a three-point scale: yes, unsure, no.

The staff questionnaire posed questions analogous to the patient questionnaire, including one open-ended question regarding symptoms ("In your opinion, which symptoms typically experienced by individuals with psychosis do you consider most crucial to address in your ward setting?"). It also inquired about the same 16 symptoms patients were asked about ("Do you believe that the following symptoms/difficulties, if exhibited by a patient,

should be treated in your ward setting?"), using the same five-point scale as on the patients' questionnaire.

The staff questionnaire also included an open-ended question on treatments ("What types of treatment do you think should be offered to individuals with psychosis on your ward?"), followed by a question about the eight treatment types mentioned previously: "Which of the following types of treatment do you think should be offered to individuals with psychosis on your ward?" Responses were recorded using the same three-point scale as on the patients' questionnaire.

Data Analysis

Patients' symptom presence, subjective need for treatment for a given symptom, and treatment type preferences, as well as staff's views on symptom and treatment type importance, were analyzed descriptively. In addition, we clustered symptoms into subscales, such as positive or affective symptoms, based on theoretical assumptions. We carried out repeated measures ANOVAs using these symptom subscales as within-subject factor and ward setting as between-subject factor to investigate whether patients and/or staff assigned different treatment importance to various symptoms and whether this varied between the open and the locked ward setting. For the analysis of the patient sample, we also included gender as a between-subject factor to test for gender differences. In addition, we performed repeated measures ANOVAs using treatment type as within-subject factor and open versus locked setting (as well as gender for patients) as between-subject factor(s) to assess differences in patients' and/or staff's endorsement of different treatments between settings (and genders).

As not all patients experienced every symptom and not all were familiar with all the treatments on the questionnaire, we performed the ANOVAs using only the three most frequently present symptom subscales that were named by at least 100 patients each (positive, affective, and neurocognitive symptoms) and using only six of the eight treatments that more than 75% of the patient sample knew about, namely art therapy, group psychotherapy, individual psychotherapy, medication, occupational therapy, and physiotherapy. We defined art therapy as music, dance, and/or art (e.g., painting) therapy.

Readers interested in our analysis of the qualitative data may contact the first author.

Results

Table 1 summarizes sociodemographic data of patients and staff.

Symptoms

Patients

Of the 142 patients who consented to participate, 138 completed the questionnaire on subjective symptom presence and relevance. The four patients who did not answer the questionnaire were being treated on locked wards. While 10 patients did not provide an answer for every symptom on the questionnaire, all but four patients (three on an open, one on a locked ward) rated at least one symptom as present. Five patients rated all 16 symp-

Table 1 Sociodemographic data of patients and staff

Patients ($N=142$)	Open setting ($n=74$)	Locked setting ($n=68$)	Differences
Gender (male/female)	32 female (43.2%)	30 female (44.1%)	χ^2 (1, $N=142$) = 0.011, $p=.916$
Age (years)	$M=39$ ($SD=13.8$)	$M=38.8$ ($SD=12.3$)	$t(140)=0.081$, $p=.936$
Primary education (years)	$M=11.3$ ($SD=2.1$)	$M=10.9$ ($SD=2.4$)	$t(138)=1.130$, $p=.260$
Previous admissions to psychiatric hospital	$M=3$ ($SD=1.1$)	$M=3.1$ ($SD=1.3$)	$t(138)=0.554$, $p=.581$
Primary diagnosis	-	-	-
Other Specified Mental Disorder Due to Another Medical Condition	1 (1.3%)	0	-
Substance-Induced Mental Disorders	0	3 (4.4%)	-
Schizophrenia Spectrum and Other Psychotic Disorders	65 (87.9%)	52 (76.5%)	-
Bipolar and Related Disorders	7 (9.5%)	11 (16.2%)	-
Depressive Disorders	1 (1.3%)	2 (2.9%)	-
Staff ($N=29$)	Open setting ($n=13$)	Locked setting ($n=16$)	Differences
Profession	-	-	-
Medical doctor	1 (7.7%)	5 (31.3%)	-
Nurse	9 (69.2%)	9 (56.3%)	-
Psychologist	2 (15.4%)	1 (6.3%)	-
Social worker	1 (7.7%)	0	-
Medical assistant	0	1 (6.3%)	-
Work experience overall (years)	$M=15.5$ ($SD=12.8$)	$M=9.3$ ($SD=6.1$)	$t(16.34)=1.619$, $p=.125$
Work experience on current ward (years)	$M=6.1$ ($SD=6.6$)	$M=4.3$ ($SD=4.1$)	$t(27)=0.874$, $p=.390$

toms as present (see Table 2). Comparing open vs. locked ward settings, patients on the locked wards endorsed experiencing grandiosity ($M=0.54$, $SD=0.50$; $t(126.305)=3.105$, $p=.002$, $d=0.53$) and self-harming behavior ($M=0.38$, $SD=0.49$; $t(120.963)=2.435$, $p=.016$, $d=0.42$) significantly more often than patients on the open wards ($M_{grandiosity}$ = 0.28, $SD=0.45$; $M_{self-harming\ behavior}=0.19$, $SD=0.39$).

Figure 1 shows how many patients currently experiencing a given symptom wanted, did not want, or were unsure whether they wanted that symptom to be treated. There was no significant association of age or number of previous hospital admissions with the subjective need for treatment of any symptom.

To analyze the impact of symptom domains, setting and gender on the subjective need for treatment, we grouped the assessed symptoms into subscales based on theoretical assumptions (see Table S1 in Online Resource 1) and performed an ANOVA. The presence of symptoms varied considerably across patients, so we performed an ANOVA using the positive, affective, and neurocognitive symptom subscales as those were the three most frequently present subscales. Thus, 77 patients who had endorsed at least one symptom per subscale (positive, affective, and neurocognitive) as present were analyzed. A three-way ANOVA was performed to analyze the effect of symptom domains, treatment setting, and gender on whether the symptom domains should be treated. Due to the data violating assumptions

Table 2 Symptoms reported to be present by patients ($N=138$) in descending order of frequency

Symptom	*n* (%)
Memory/attention problems	90 (63.4%)
Loneliness	82 (57.7%)
Lack of drive	81 (57%)
Depression	78 (54.9%)
Inability to think clearly	77 (54.2%)
Social anxiety	70 (49.3%)
Persecution	68 (47.9%)
Delusions	65 (45.8%)
Self-esteem	63 (44.4%)
Obsessions	61 (43%)
Aggression/anger	58 (40.8%)
Grandiosity	55 (38.7%)
Hearing voices	51 (35.9%)
Compulsions	41 (28.9%)
Self-harm	38 (26.8%)
Suicidal ideation	36 (25.4%)

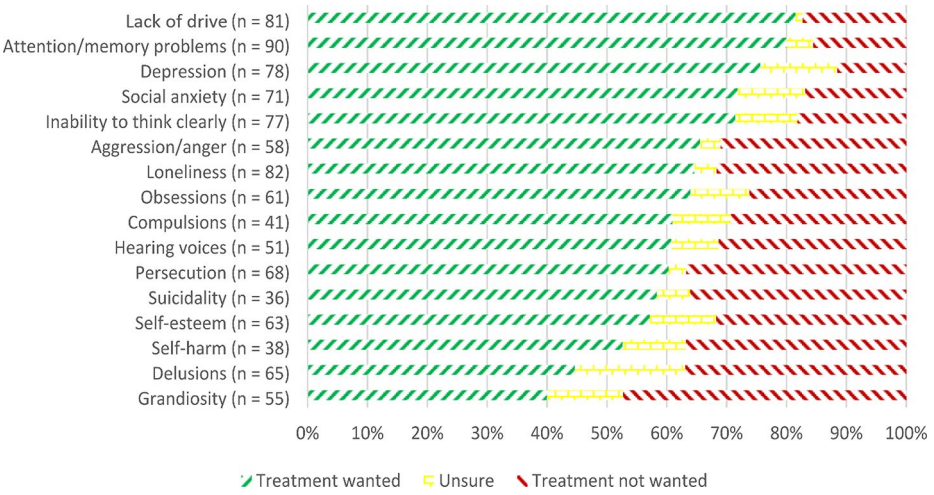

Fig. 1 Subjective need for treatment of present symptoms as rated by patients

of sphericity, ANOVA test statistics were estimated using the Huynh-Feldt method. There was a significant main effect of symptom domains on reported importance of treatment ($F(1.844, 134.629)=9.719$, $p<.001$, $\eta_p^2 = 0.117$), with neurocognitive symptoms being the most important for patients, followed by affective and positive symptoms. Bonferroni-corrected post-hoc tests showed that patients rated neurocognitive symptoms as significantly more important to treat ("should be treated") than positive symptoms ($p<.001$) and affective symptoms ($p=.047$). However, patients did not rate affective symptoms as significantly more important to treat than positive symptoms ($p=.157$).

There was also a significant effect of setting on subjective need for treatment ($F(1, 73)=13.547$, $p<.001$, $\eta_p^2 = 0.157$), with patients on the open wards expressing a higher level of subjective need for treatment than patients on the locked wards. There was no

significant main effect of gender ($F(1, 73) = 0.026$, $p = .873$, $\eta_p^2 < 0.001$). There were no significant interactions between symptom domains by setting ($F(1.844, 134.629) = 1.104$, $p = .331$, $\eta_p^2 = 0.015$), symptom domains by gender ($F(1.844, 134.629) = 0.573$, $p = .552$, $\eta_p^2 = 0.008$), symptom domains by setting by gender ($F(1.844, 134.629) = 1.572$, $p = .213$, $\eta_p^2 = 0.021$), or setting by gender ($F(1, 73) = 0.228$, $p = .634$, $\eta_p^2 = 0.003$).

Staff

Figure 2 shows how many staff members agreed with, were unsure about, or disagreed with the need to treat a given symptom on their ward. In parallel to the patient data analysis, positive, affective, and neurocognitive symptoms were compared in a two-way ANOVA analyzing the effect of symptom domains and treatment setting on staff's view of treatment need. There was a significant main effect of symptom domains on treatment importance ($F(2,54) = 30.059$, $p < .001$, $\eta_p^2 = 0.527$). Bonferroni-corrected post-hoc tests showed that staff viewed positive symptoms as significantly more important to treat than neurocognitive symptoms ($p < .001$) and than affective symptoms ($p < .001$). Staff also rated neurocognitive symptoms as significantly more treatment worthy than affective symptoms ($p = .009$). There was a significant effect of treatment setting on treatment importance, $F(1,27) = 10.902$, $p = .003$, $\eta_p^2 = 0.288$, in that staff on open wards endorsed a higher need for treatment of symptoms than staff on locked wards. However, there was no significant type of symptom by setting interaction, $F(2,54) = 0.841$, $p = .437$, $\eta_p^2 = 0.030$.

Treatment Preferences

Patients

The numbers of patients familiar with and desiring various treatments are shown in Table 3. The largest percentage of patients endorsed wanting individual psychotherapy ($n = 107$;

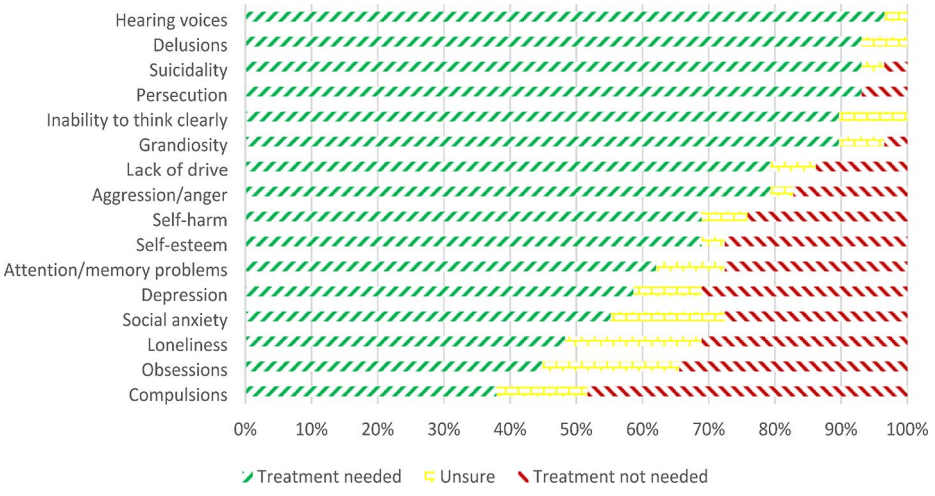

Fig. 2 Need for treatment of present symptoms as rated by staff

82.9%), while the smallest percentage endorsed group psychotherapy ($n = 72$; 54.5%). Thus, all treatments were desired by more than 50% of patients.

To further compare patients' appraisal of different treatments, we performed a three-way ANOVA analyzing the effect of treatment type, setting, and gender on appraisal of treatment. As all treatments except for mindfulness and psychoeducation were known by more than 85% of patients, we excluded mindfulness and psychoeducation. Altogether, 82 patients knew of all other six types of treatments and were included in the analysis. Due to the data violating assumptions of sphericity, ANOVA test statistics were estimated using the Huynh-Feldt method. There was a significant main effect of treatment type on appraisal of treatment ($F(4.725, 368.535) = 6.340$, $p < .001$, $\eta_p^2 = 0.075$). Bonferroni-corrected post-hoc tests showed that patients preferred individual psychotherapy over medication ($p = .005$) and over group psychotherapy ($p < .001$). They also preferred physiotherapy significantly over group psychotherapy ($p < .001$). There were also statistically significant interaction effects of treatment type by setting ($F(4.725, 368.535) = 2.814$, $p = .019$, $\eta_p^2 = 0.035$) and of treatment type by gender ($F(4.725, 368.535) = 5.841$, $p < .001$, $\eta_p^2 = 0.070$). Patients on the open wards endorsed medication more than patients on the locked wards. Women endorsed occupational therapy, art therapy, and physiotherapy more than men, while men endorsed medication more than women. Neither the main effect of setting ($F(1, 78) = 3.383$, $p = .070$, $\eta_p^2 = 0.042$), nor the main effect of gender ($F(1, 78) = 1.412$, $p = .238$, $\eta_p^2 = 0.018$), the interaction effect of setting by gender ($F(1, 78) = 2.632$, $p = .109$, $\eta_p^2 = 0.033$), nor the three-way interaction of treatment type by setting by gender ($F(4.725, 368.535) = 0.636$, $p = .663$, $\eta_p^2 = 0.008$) on treatment preference were statistically significant.

Staff

Staff endorsements of which treatments patients should receive can be found in Table 3. We performed a two-way repeated measures ANOVA analyzing the effect of treatment type and

Table 3 Patients' familiarity with various treatments and patients' and staffs' endorsement of these treatments

Treatment	Known by patients		Desired by patients				Endorsed by staff ($n = 28$)		
	n	yes (%)	*n*	yes (%)	no (%)	unsure (%)	yes (%)	no (%)	unsure (%)
Individual psychotherapy	141	130 (91.5%)	129	107 (82.9%)	16 (12.4%)	6 (4.7%)	26 (92.9%)	0	2 (7.1%)
Physiotherapy	139	134 (94.4%)	134	107 (79.9%)	23 (17.2%)	4 (3.0%)	28 (100%)	0	0
Art therapy	140	122 (85.9%)	122	92 (75.4%)	27 (22.1%)	3 (2.5%)	23 (82.1%)	0	5 (17.9%)
Occupational therapy	141	134 (94.4%)	134	100 (74.6%)	30 (22.4%)	4 (3.0%)	28 (100%)	0	0
Mindfulness	141	88 (62.0%)	87	58 (66.7%)	23 (26.4%)	6 (6.9%)	17 (60.7%)	3 (10.7%)	8 (28.6%)
Medication	139	131 (92.3%)	131	84 (64.1%)	41 (31.3%)	6 (4.6%)	28 (100%)	0	0
Psychoeducation	140	81 (57.0%)	81	47 (58.0%)	28 (34.6%)	6 (7.4%)	21 (75%)	2 (7.1%)	5 (17.9%)
Group psychotherapy	140	132 (93.0%)	132	72 (54.5%)	51 (38.6%)	9 (6.8%)	22 (78.6%)	1 (3.6%)	5 (17.9%)

treatment setting on staff's perceived indication for treatment. In parallel to the patient data analysis, we left mindfulness and psychoeducation out of the ANOVA. There was a significant main effect of treatment type on indication for treatment ($F(5, 130)=3.902$, $p=.003$, $\eta_p^2 = 0.130$). Bonferroni-corrected post-hoc tests showed that staff endorsed physiotherapy, occupational therapy, and medication significantly more than group psychotherapy (each $p=.022$). There was no significant main effect of setting ($F(1, 26)=0.572$, $p=.456$, $\eta_p^2 = 0.022$) nor significant treatment type by setting interaction ($F(5, 130)=0.230$, $p=.949$, $\eta_p^2 = 0.009$).

Discussion

In the present study, we examined which symptoms patients with acute psychosis reported experiencing while being treated on locked and on open psychiatric wards, which of their symptoms they believed should be treated, and which treatment options patients would like to receive. In addition, we reported which symptoms staff on the same wards believed should be treated in patients with psychosis in their setting and which treatments staff believed patients should receive.

Patients regarded the need for treatment of neurocognitive symptoms as significantly greater than the need for treatment of affective or positive symptoms. Staff considered the need for treatment of positive symptoms as significantly greater than for the other symptom domains, followed by neurocognitive symptoms, to which they assigned a significantly higher need for treatment than to affective symptoms. Across symptoms, both patients and staff on open wards saw greater treatment need than patients and staff on locked wards.

All treatment types were desired by more than half of all patients. Endorsement of psychopharmacological treatment differed between settings, with patients on open wards showing higher endorsement than patients on locked wards. While all staff endorsed that their patients should receive occupational therapy, medication, and physiotherapy, endorsement of the remaining therapies ranged from 93% for individual psychotherapy to 61% for mindfulness. There were no differences in staff's endorsements of treatments between the open and locked settings. The largest difference in agreement between patients and staff regarding a specific treatment was found for medication, which was endorsed by all staff (100%) but only by approximately two thirds (64.1%) of patients. Patients also endorsed occupational therapy (74.6%) and group psychotherapy (54.5%) less than staff did (100% endorsement for occupational therapy and 78.6% endorsement for group psychotherapy). All other therapies except mindfulness-based interventions were endorsed more by staff than by patients, but by a lesser extent. Overall, physiotherapy and individual psychotherapy were endorsed most frequently by patients and also received some of the highest rankings from staff, while psychoeducation and group psychotherapy were among the three lowest ranked therapy options for both patients and staff.

Our results add to a growing body of literature that shows the importance of affective and neurocognitive symptoms to patients [20, 21, 26]. When directly compared, patients' subjective need for treatment for these symptoms was higher than for positive symptoms. While it has long been argued that positive symptoms must inherently be the primary target of therapy, patients have previously reported that they do not necessarily view all aspects of their positive symptoms as negative [19]. Goal formulations for cognitive behavioral

therapy for psychosis also show that patients engaging in therapy often have other targets in addition to symptom reduction [27]. One reason why staff may focus on reducing positive symptoms as a treatment target is that antipsychotic medication is the most effective intervention at reducing these symptoms but is much less effective at improving negative or neurocognitive symptoms [28]. Another important argument for prioritizing the treatment of positive symptoms is that psychotic symptoms, particularly positive symptoms, constitute a risk marker for suicidal thoughts and behaviors. Positive symptoms such as persecutory ideation and auditory hallucinations have also been associated in one study with suicidal thoughts and attempts in community samples [29], although the authors also found that affective symptoms such as depression mediated the associations between positive symptoms and suicidality. In addition, studies on various populations show that both positive symptoms and affective symptoms such as depression are associated with general distress in patients with psychosis [30, 31]. Thus, targeting affective symptoms such as depression during the acute phase of illness may be worthwhile, and clinicians should first assess the harmfulness of a given symptom before determining its treatment priority [13] and should take patients' subjective needs into consideration. Some symptoms characterized as affective, such as lack of drive, may also be induced by antipsychotic medication [32]. Lack of drive, if present, was the symptom patients most often wanted treatment for. This may also relate to many patients' not wishing to receive medication as treatment because it might either aggravate an existing lack of drive or induce it when it had not been present previously. As neurocognitive impairments are associated with a range of adverse outcomes such as poorer functional outcome and more negative and disorganized symptoms [33], and both patients and staff rate them as important treatment targets, interventions addressing these difficulties directly should also be incorporated into the acute care setting.

Our findings demonstrate that while both patients and staff deem certain symptoms important to treat and the two groups show strong agreement on some interventions, there are also differences in preferences between these two groups. This may be due to differing models and conceptualizations of mental health and illness, such as more biologically oriented views that may be more common among medical staff and views related more to a personal recovery orientation that may be more common among patients [15, 16]. People with psychosis who feel supported in their recovery process and who report higher shared decision making show higher treatment satisfaction [34, 35], which is a commonly used quality indicator of mental health care [36]. In a long-term involuntary treatment setting, the consideration of patients' opinions was also a strong predictor of treatment satisfaction and of subjective quality of life [37]. Thus, taking patients' treatment preferences into account more may also contribute to improving acute involuntary inpatient care. The results of this study may help clinicians realize that patients may have treatment priorities different from clinicians', compare individual patients' priorities with the priorities of other patients with the same disorder, and normalize seemingly unconventional priorities such as art therapy among patients and staff.

Limitations

The present study is subject to several limitations. Not all patients were experiencing all symptoms nor were familiar with all assessed treatments, resulting in different sample sizes across analyses. The low number of staff members recruited also limits the generalizability.

Specifically, we could not examine potential differences between professions regarding their treatment preferences as almost two thirds of the staff sample were nurses and samples sizes for other professions were too small to allow meaningful analyses. Potential differences in staffs' preferences may be caused by different illness models that members of various professions base their understanding of treatment on [15], but this topic could not be analyzed here. This should be considered in more depth in future research. In addition, we used a self-report measure to assess the presence of symptoms. For the assessment of delusion-related symptoms (e.g., delusions of persecution or grandiosity), the symptoms were not named directly but were instead described indirectly (e.g., "Is there anything special about you? Do you have any special abilities or powers?" for grandiosity). This was done deliberately to assess which symptoms patients themselves viewed as present. Because positive symptoms, in particular, are often not recognized by patients as part of their illness, we were aware that even if a patient agreed that they felt they were being prosecuted or that they had extraordinary powers and a unique calling to fulfill, this did not necessarily mean that the patient viewed their experience as a symptom. It is also possible that patients deliberately denied experiencing certain symptoms, particularly delusion-related symptoms, as these are highly stigmatized and patients may be suspicious of the interviewer or afraid to disclose such symptoms for fear of consequences (e.g., augmentation of antipsychotic medication). Therefore, the number of patients experiencing positive symptoms may be underestimated due to the self-report format. We suggest that future studies include both self-reported and clinician-rated symptoms to compare self- and other ratings, particularly in the locked ward setting. This would also enable researchers to distinguish in more detail whether patients are subjectively suffering from certain positive symptoms and thus may be open to treatment for them even if they themselves do not identify these experiences as symptoms of an illness. We also deliberately used a simplified questionnaire to assess patients' treatment knowledge and preferences to accommodate patients' limited capacity to concentrate on the assessment while experiencing acute symptoms. Thus, nuances between different art therapies (e.g., music vs. dance) and between different types of individual or group psychotherapies cannot be discerned from this research design and should be investigated in more detail in the future. In addition, future research should specifically recruit patients with psychosis who are experiencing certain symptoms such as self-harming behavior to assess these symptoms' relevance in comparison to positive, neurocognitive, and affective symptoms. Furthermore, patients' medication at the time of the assessment should be recorded systematically and assessed for its potential influence on patients' treatment priorities for specific symptoms since medication itself can cause and/or exacerbate symptoms, such as lack of drive, that patients want to alleviate.

Clinical Implications

While it is often assumed that patients who experience acute psychosis have no insight into their symptoms and therefore no motivation for treatment, we found that this is not generally true. Clinicians who work in locked psychiatric care settings should focus on addressing neurocognitive and affective difficulties as well as positive symptoms with their patients to engage them in the therapeutic process. Neurocognitive symptoms, in particular, were ranked as high treatment priorities by both patients and staff, yet treatment options for these symptoms, particularly in the acute setting, are thus far mostly limited to medication. More psycho-

social interventions targeting neurocognitive symptoms should be developed and assessed for their acceptability and effectiveness with people experiencing acute psychosis. Staff should also consider that patients want a variety of treatment options and offer more interventions to motivate patients to actively participate in an overarching biopsychosocial treatment plan. This would contribute to meeting patients' increasingly voiced desire for more psychosocial treatment options [38] and might address the need that both patients and staff in inpatient settings report for the treatment of psychosis beyond symptom reduction [13]. Our results can inform shared decision making and goal formulation processes, which are essential to forming a constructive working alliance and fostering motivation for change in patients.

Conclusion

Both patients and staff on acute wards see much room for improvement of the therapeutic framework employed on such wards. Our study adds to previous findings that even patients with severe acute psychotic symptoms recognize the need to work on certain symptoms and are open to receiving a range of treatments for them. Thus, the next challenge will be to develop and evaluate more psychosocial treatment options specifically designed for the acute setting to improve patients' experience and to contribute to stabilization during their stay on the ward. Greater consideration of patients' preferences for their own treatment may help with goal formulation, establishing a therapeutic relationship, fostering motivation for change, and thus long-term stabilization.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s11126-024-10099-2.

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Author Contributions RF, SM, JS, and DL conceived and planned the project. RF, SM, CO, and DL carried out the study; MN and DS helped supervise the project. RF wrote the manuscript with support from SM, JS, CO, DL, MN, and DS. SM and DL supervised the project.

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Data Availability The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declarations

Research Involving Human Participants The University Medical Center Hamburg-Eppendorf's Ethics Committee for Psychological Studies approved the study (LPEK-0152), which was carried out in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments.

Informed Consent Written informed consent was obtained from all individual participants included in the study and their legal guardians where applicable.

Conflict of Interest There are no conflicts of interest to declare.

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RESEARCH ARTICLE

WILEY

'You are trying to teach us to think more slowly!': Adapting Metacognitive Training for the acute care setting—A case report

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Abstract

Psychological group interventions for the acute inpatient care setting are scarce. Whereas Metacognitive Training for patients with Psychosis (MCT) provides a widely accessible, easy-to-implement intervention for patients with mild to moderate symptoms, it is less adequate for the acute care setting with respect to length and density of information. We present the adaptation process and the resulting adaptation of MCT, MCT-Acute, for the acute inpatient care setting. We report the case of a first patient, NK, who participated in MCT-Acute during her mandated stay on the locked acute ward due to an exacerbation of schizophrenia. NK participated in MCT-Acute 12 times, evaluated the training overall as positive and reported that she used exercises she had learned during training to improve her mood. She also described changing her behaviour in everyday life to think more slowly and make less hasty decisions, which is a central topic discussed in MCT and MCT-Acute. Conducting an adapted version of MCT in the acute care setting is feasible, and the present case report suggests that MCT-Acute may be a useful complement to a multidisciplinary treatment plan to stabilize patients with severe mental illness in acute inpatient care.

KEYWORDS
acute inpatient care, group intervention, metacognitive training, psychosis, severe mental illness

1 | INTRODUCTION

Worldwide, intensive psychiatric care is primarily provided in inpatient hospitals on locked and open wards (different terminologies exist, such as closed/open wards, secure wards and acute wards. In this article, we will use the term 'acute wards' to refer to the setting this study took place in. Internationally, 'acute psychiatric care' can describe very different settings from country to country. In the present case, the acute ward represents a psychiatric intensive care unit where patients stay during the most acute phase of their illness when they pose a danger to themselves or others. This setting differs from the open wards of the hospital where patients are treated once the most severe symptoms have subsided and where the conventional

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form of Metacognitive Training can be administered). Many countries in the Western world share similar laws regarding the involuntary internment of the mentally ill, allowing only those with acute cases or exacerbations of symptoms to be forcibly admitted to a locked mental healthcare facility, provided they represent an acute danger to themselves or others (Saya et al., 2019). Therefore, acute wards generally provide intensive treatment for a challenging patient population exhibiting severe symptoms and often aggressive or violent behaviour. Individuals with psychosis are particularly likely to experience involuntary admission to hospital (e.g., Walker et al., 2019).

However, treatment options on acute wards are limited, in part due to the severity of patients' cognitive or emotional impairment. Most often, the treatment programmes during acute crisis consist almost exclusively of pharmacological therapy, with no psychological interventions, yet many patients in inpatient care reject medication and prefer therapeutic interactions as treatment (Wood & Alsawy, 2016). Although psychological therapies for inpatients in acute care are sparse, one review found reductions in psychotic, depressive and anxious symptoms, as well as readmissions with this type of treatment (Paterson et al., 2018). Jacobsen et al. (2018) in their review of psychological therapies for psychosis within acute psychiatric inpatient care noted that many interventions were adapted for the acute inpatient setting but that future studies should give more clear information on the adaptation process.

To address the lack of treatment options on acute wards, we adapted the Metacognitive Training for Psychosis (MCT; Moritz & Woodward, 2007) for patients who are experiencing an acute episode of severe mental illness such as psychosis, resulting in the new MCT-Acute.

Key Practitioner Message

- Conducting a simplified version of Metacognitive Training with patients who are in an early, acute stage of their illness is feasible.
- Despite experiencing an acute episode of psychosis while attending MCT-Acute, patient NK was able to extrapolate the key message of the training and use it to change her behaviour in everyday life.
- Choosing open group formats that allow for flexible participation and do not require attendance in a specific sequence is essential in the acute care setting, where symptom severity often fluctuates.
- Offering low-threshold and abbreviated psychological group interventions to patients in acute inpatient care may help support recovery while meeting patients' frequently voiced demand for more psychosocial treatment options.

1.1 | From MCT to MCT-Acute

MCT is an evidence-based group therapy programme originally developed for patients with psychosis (Moritz et al., 2014). MCT follows Flavell's (1976) understanding of metacognition as 'one's knowledge concerning one's own cognitive processes or anything related to them' (p. 232) and combines elements from cognitive-behavioural therapy with findings from cognitive bias research (Moritz & Lysaker, 2018). Ample evidence gathered over the past 30 years shows that specific cognitive biases such as jumping to conclusions (e.g., Garety et al., 1991; Moritz & Woodward, 2005), a self-serving attributional style (e.g., Bentall et al., 1991, 1994; Kaney & Bentall, 1989) or theory of mind deficits (e.g., Mehl et al., 2010) are linked to the development and maintenance of psychotic symptoms, particularly delusions. Recent reviews and meta-analyses corroborate these findings (Broyd et al., 2017; Mitchell & Young, 2016; Murphy et al., 2018).

MCT follows an open group format. It consists of a series of 10 independent but consecutive modules that patients can enter at any time; missing one module does not result in a lack of understanding for the next module. The aim is to playfully demonstrate the fallibility of cognitive processes per se (normalization) and in a second step to address how an escalation of these biases may prompt psychotic symptoms (Kumar et al., 2014). MCT does not directly discuss delusional content but straightforwardly demonstrates cognitive biases using neutral stimuli. Using this 'backdoor approach' facilitates a working alliance with patients who do not currently show adequate insight into their illness. In fact, one meta-analysis found that MCT can improve insight (Lopez-Morinigo et al., 2020). The programme is highly structured and offers a multitude of exercises from which trainers can pick and choose to best fit their current setting and their patients' attentional capacity, motivation and engagement. These exercises are reinforced by homework sheets and a wallet-sized summary card that lists three questions that capture the essence of the training: *What is the evidence? What could be alternative views? Even if the situation is as I think it is, am I overreacting?* Completing the homework and carrying the card are tools to enable a transfer of knowledge and behaviour from the group intervention setting into the participants' everyday life. Thus, MCT is a low-threshold and easy-to-administer group intervention, and its demonstrated characteristics are important factors that enable its transfer to the acute setting.

Several meta-analyses have shown a beneficial effect of MCT. Liu et al. (2018), for instance, found that MCT has a small to medium effect on delusional symptoms immediately after the intervention as well as at 6 months follow-up, which was replicated by Sauvé et al. (2020) based on an even larger body of studies. Other meta-analyses show that MCT has small to medium effects on cognitive insight (Lopez-Morinigo et al., 2020) and that the intervention has high acceptance rates among patients (Eichner & Berna, 2016). These results have led to the incorporation of MCT into treatment guidelines for individuals with schizophrenia in Germany (Hasan et al., 2019; Lincoln et al., 2019), as well as in Australia and New Zealand (Galletly et al., 2016).

However, in one study, the effectiveness of MCT was reduced in patients with moderate to severe delusional symptoms, which underscores the need for a specific adaptation of metacognitive training for the acute setting (van Oosterhout et al., 2014). MCT has also been adapted to several other psychiatric disorders such as depression (D-MCT; Jelinek et al., 2015), depression in later life (MCT-Silver; Schneider et al., 2018), obsessive–compulsive disorder (Miegel et al., 2020), bipolar disorder (Haffner et al., 2017), borderline personality disorder (Schilling et al., 2015) and problem gambling (Gehlenborg et al., 2020). In addition, it is now available as a mobile application (Lüdtke et al., 2018).

1.2 | MCT-Acute

MCT is primarily used in outpatient, day clinic and post-emergency open inpatient settings. In contrast, MCT-Acute is geared towards patients on acute wards and/or patients with highly acute symptoms to address this patient population's specific needs. MCT-Acute comprises seven modules, including six adaptations out of 10 original MCT modules (Empathy, Mood, Attribution, Stigma, Jumping to Conclusions and Self-Esteem) plus one additional module from the MCT for depression (D-MCT, Jelinek et al., 2015; module Behaviors and Strategies). Thus, MCT-Acute focuses on the cognitive biases associated with delusions and additionally addresses lowered mood and self-esteem, which patients with schizophrenia desire as a primary treatment target (Moritz et al., 2017). In doing so, MCT-Acute also provides relevant content to patients with (comorbid) depression, such as patients with affective, (borderline) personality or substance use disorders. Unlike MCT, MCT-Acute also targets patients beyond the schizophrenia spectrum.

Compared with MCT, MCT-Acute is shorter (fewer slides, shorter sessions of around 30 rather than 45 min), and we recommend groups include three to six participants (MCT: up to 12). The specific content and exercises of MCT-Acute's modules represent simplified versions of the MCT or D-MCT module. As with other MCTs, modules are presented using a projector and PDF slides (slides are currently available in English, German and Italian and can be downloaded free of charge from www.uke.de/mct-acute).

As exercises in MCT are mostly easy to understand and fun for participants, many of them were kept in MCT-Acute, while the primarily theoretical psycho-educational parts were shortened. Specifically, we shortened the introduction to each module, removing the everyday life examples (which are replaced by very simple exercises at the end of the modules) and the explanation of how each bias relates to psychosis. This was done to prevent overwhelming patients with too much 'theoretical' information all at once and to instead focus on the exercises. For MCT modules that comprise several different sets of exercises (e.g., Jumping to Conclusions I, Theory of Mind I), we selected one set per module that is the simplest yet the most effective at producing the intended 'a-ha moments'. The aim of these nonconfrontational exercises is to encourage patients to participate in the training even when they do not show much initial motivation for therapy due to depressed mood, side effects of medication or a subjective lack of need for therapy. Many exercises, such as the body exercises, are also very easy to implement in everyday life, even within the locked acute ward setting. In addition, the example of what a bias may look like during psychosis that is found at the end of every MCT module has been removed from MCT-Acute to avoid distressing patients who have similar delusions.

MCT applies a unique approach to drive change by utilizing the exercises in addition to theoretical knowledge to produce so-called a-ha moments through directly demonstrating to patients how one's own thinking can be flawed. This seems especially suitable for the acute setting, as this may encourage patients to acknowledge that such biases exist, even when they do not (yet) show much insight into their illness.

As an example, the adaptation process for the Jumping to Conclusions module (from MCT module 2 to the MCT-Acute module 5) is illustrated below.

1.2.1 | Adaptation example: Jumping to conclusions module

The original MCT first explains a module's topic to patients, gives examples of its relevance in everyday life to normalize the subject, illustrates how the particular bias can be problematic in the context of psychosis and finally utilizes exercises to show patients that they may very likely be subject to the bias themselves before closing with a summary. However, MCT-Acute follows a more differentiated module structure.

MCT-Acute introduces the modules' topics very briefly (if necessary) and promptly starts with an exercise. In the Jumping to Conclusions module, patients see parts of drawings of common objects that appear successively over eight steps, with each step revealing a new detail of the object. After each detail is revealed, participants decide whether they want to make a final decision regarding the identity of the portrayed object. Details are revealed in a way that makes it difficult to identify the objects with certainty at first. This exercise was taken from the original MCT and only modified to reduce complexity (by reducing the number of possible answers). After participants experience first-hand through the exercise that decision-making based upon little information can lead to errors, the session's goals are explained, reinforcing the point of not making decisions too hastily. Then, trainers show the remaining exercises of the particular set. Once patients have understood the main point of the module through the exercise, the general topic is explained in more detail. Examples from everyday life follow. This section only includes non-psychosis-specific examples to avoid distressing patients currently experiencing delusions. The examples also reflect situations that may realistically happen to patients on locked acute wards (e.g., 'A fellow patient does not acknowledge you when you walk past each other'). Finally, the trainers restate the session's learning goals for emphasis. Overall, the number and complexity of exercises in MCT-Acute are

reduced compared to MCT, and the module's central points are restated multiple times to facilitate participants' understanding.

1.3 | Study aims

The present study aimed to explore the feasibility of conducting this new adaptation of MCT in the acute care setting, as well as its acceptance by patient NK. NK was involuntarily admitted to an acute ward, where she stayed for 70 days and showed severe and acute psychotic psychopathology.

There are also particular challenges that the adaptation for the acute setting faces and that need to be investigated. These challenges include whether patients are willing to participate in a psychological group training when they lack insight into their illness and whether their insight changes during the intervention. In addition, it may be that the intervention is too overwhelming, challenging or exhausting for patients. Another question to investigate is whether this intervention targeting cognition may actually cause additional confusion in a state where patients often exhibit pronounced disorganized thoughts. Finally, even when patients attend the group regularly, it remains to be shown whether they can extrapolate from what they learn in the group to their own lives and change their behaviour accordingly.

For this purpose, we describe the case of NK, who took part in MCT-Acute during her mandated stay on an acute ward, focusing on her qualitative feedback on the intervention.

2 | METHODS

2.1 | Setting

The intervention was introduced in the locked acute inpatient psychiatric wards at Asklepios Clinic North – Wandsbek in Hamburg, Germany. The hospital's psychiatry department includes six inpatient units (130 beds total), two of which are locked, acute psychiatric units (crisis intervention wards) that deliver intensive inpatient care with 21 beds each. They provide care for all types of psychiatric crisis and diagnosis needing intensive care to prevent harm, including suicidality or risk of aggression against others. About one third of patients remain voluntarily on these wards. The hospital's catchment sector is an urban area with approximately 450,000 residents.

2.2 | Procedure

The recruitment of NK took place within a larger study, which was registered in the German Clinical Trial Register (DRKS-ID: DRKS00020551). All of NK's assessments took place during the year 2021. The study was approved by the University Medical Center Hamburg-Eppendorf's ethics committee for psychological studies (LPEK-0108) and was conducted in accordance with the Declaration of Helsinki. Two trainers, one psychologist (RF) and one occupational therapist (PD), delivered MCT-Acute together on the locked acute ward. The training took place twice a week. The psychologist is the developer of MCT-Acute and has several years of experience delivering MCT for psychosis after training in the working group of MCT's developer, SM. The occupational therapists underwent the online training for MCT for psychosis offered by MCT's developers and received intensive one-on-one training by RF. One cycle through all modules of MCT-Acute takes 3.5 weeks to complete, although participants are allowed to continue participating after they have completed one cycle. The patient, NK, provided written informed consent to participate in the study and was interviewed at baseline and after 2 weeks, at which point she had attended four sessions. Eight weeks after baseline, after having transferred to the open ward, NK participated in a follow-up interview.

2.3 | The participant NK

NK is a 41-year-old female born in Ukraine who moved to Germany in the early 2000s and completed 11 years of primary and secondary education and a university degree. During the screening procedure, the interviewer determined that NK was fluent in German. She was diagnosed with paranoid schizophrenia; it was her seventh admission to a psychiatric hospital in total and her second involuntary admission. Throughout her stay, she reported suffering from unstable mood and feelings of anxiety. Her medical doctor reported that overall her symptoms had improved, but depressed mood and some psychotic symptoms remained. She stayed on the locked acute ward for 70 days and participated in a total of 12 sessions of MCT-Acute. At baseline, the ward's head medical doctor rated NK on the Clinical Global Impressions-Severity Scale (CGI-S; Guy, 1976), the Global Assessment of Functioning Scale (GAF; APA, 2000) and the extended version of the Brief Psychiatric Rating Scale (BPRS-E; Lukoff et al., 1986; Ventura et al., 1993). She received a score of six ('Severely ill') on the CGI-S and a score of 30 on the GAF. A score of 30 indicates the following: 'Behavior is considerably influenced by delusions or hallucinations OR serious impairment in communication or judgement (e.g., sometimes incoherent, acts grossly inappropriately, suicidal preoccupation) OR inability to function in almost all areas (e.g., stays in bed all day, no job, home, or friends)'. On the BPRS-E, NK was given a score of 54, which can be interpreted as 'markedly ill' according to Leucht et al. (2005). The highest rating she received on the BPRS-E was a score of 6 (out of 7) on the items conceptual disorganization, blunted affect and emotional withdrawal. Additionally, trainers and ward staff continuously monitored for serious adverse events.

2.4 | Measures

2.4.1 | MCT-Acute feedback and subjective utility

Open-ended feedback was collected via an interview comprising three questions: *What did you like about MCT-Acute? What did you dislike*

about MCT-Acute? and *What changes do you suggest should be made to MCT-Acute?*

2.4.2 | Questionnaire about side effects

The QueSPI (Rüegg et al., 2018) was adapted to assess potential side effects of the MCT-Acute. Here, we focused on the three open-ended items (a. *Have new symptoms emerged during the MCT-Acute intervention period? If yes, which ones? Do you think those new symptoms emerged because of MCT-Acute?; b. Did some symptoms get worse during the MCT-Acute intervention period? If yes, which ones? Do you think that this is because of MCT-Acute?; and c. Were there certain events which led to a worsening of symptoms during the MCT-Acute intervention period? If yes, which ones? Are those events related in any way to MCT-Acute?).* This questionnaire was answered 2 weeks after baseline.

2.4.3 | Change interview

The change interview Version 5 (Elliott & Rodgers, 2008) follows a protocol, which guides a 60- to 90-min interview. The aim of the interview is to assess changes the interviewee has noticed since they started therapy, factors they attribute these changes to, helpful and unhelpful aspects of the therapy, resources that have helped and limitations that have made it more difficult for the interviewee to make use of the therapy, as well as questions about the research the interviewee was involved in (Rodgers & Elliott, 2015).

3 | RESULTS

3.1 | Behaviour during MCT-Acute sessions

In the beginning, NK participated very eagerly in the group; she expressed hope that it would help her understand her illness better and show her new ways of coping. During this time, she gave input to the group and answered the trainers' questions to the group often and adequately. After 2 weeks, she participated less actively in the group, making only a few remarks during the sessions. When she did make comments, they appeared odd and unrelated to the module's topic (e.g., asking whether children should be allowed to watch scary movies when the discussion at the time concerned neither children nor movies). When she was asked to give an evaluation interview 4 weeks after baseline, NK declined. After another 2 weeks, she slowly became more receptive to the training again, and during one module, she said to the trainers, 'You are trying to teach us to think more slowly!'

3.2 | Psychopathological development

Throughout her intervention period, NK's symptoms fluctuated. Her psychotherapist also noted that with the subsiding of the most acute psychotic symptoms, during individual sessions with him, NK mentioned the topic of empathy as something she had discovered was important to her during MCT-Acute sessions. The therapist noted that the training may have been her first psychotherapeutic exposure to this topic. Furthermore, he stated that after continued stabilization and transfer to the open ward, NK continued to mention 'thinking more slowly' and avoiding 'premature decisions and evaluations' as topics that she had been introduced to in MCT-Acute and that she felt that confronting herself with these topics benefited her.

3.3 | Feedback on and subjective utility of MCT-Acute

In her feedback interview 2 weeks after baseline, NK positively noted the good atmosphere, the fact that MCT-Acute is a group intervention, that one learns the opinions of others and receives information and that the information is given in the right order. When asked about what she did not like, she stated that she could not think of anything. She suggested implementing homework/exercises to take home, more examples from everyday life, a movie about the rationale of MCT with comments made by psychologists and including citations from authors, one for each topic.

3.4 | Side effects of the intervention

Neither in her feedback interview 2 weeks after baseline nor in direct conversations with the trainers after sessions did NK report any new symptoms emerging, existing symptoms worsening or specific events that would have led to a worsening of symptoms occurring during MCT-Acute. However, her psychotherapist noted that NK seemed frustrated with the intervention around 2–3 weeks after baseline as it did not give specific recommendations on what to do to get healthy again.

3.5 | Self-reported changes noted due to participation in MCT-Acute based on the change interview

NK met with an interviewer 2 months after baseline, after she had already transferred to the open ward, to discuss what she, in retrospect, thought had changed for her since first participating in MCT-Acute. The interview followed the structure of the Change Interview. Overall, NK reported having benefited from the intervention. Specifically, she mentioned that MCT-Acute provided good tips and distraction from her own thoughts and her surroundings on the ward, as well as relaxation. She praised the nature of the sessions and the fact that the programme encourages patients to engage and 'open up to others'. NK reported that she calmed down in the sessions and that her mood improved directly after each session, which she attributed to the exercises utilized during the training. Additionally, she

successfully used the exercises that she had learned between sessions, which also improved her mood. These included the body exercise from the module Coping Strategies (*Participants are asked to put their hands on the opposite shoulder, crossing their arms in front of their chest, then lift one leg up and move it in a circular motion. This bodily exercise is used to distract them from ruminating thoughts*), the marble exercise from the Self-Esteem module (*Participants are told to put a handful of marbles into their left pocket at the beginning of the day, then move one marble from the left to the right pocket whenever they experience something positive. At the end of the day, they should look at each marble in their right pocket and savour the positive experiences they represent*) and the body posture exercise from the Self-Esteem module (*Participants stand up and first slouch forward and direct their gaze towards the floor to create an 'insecure' body posture. Then they walk around the room with this posture. After this, they let their upper body hang loosely towards the floor, then straighten their spine slowly to end up in a 'secure', 'confident' body posture. They walk around the room again and then are asked to describe any differences that they felt between the postures*).

Regarding MCT-Acute's goal to reduce hasty decisions, NK's insight appeared to have increased. She wanted to learn to think more slowly, and while she said she would need more sessions to train herself to think more slowly, she clearly was able to transfer the goal to avoid hasty decisions. She described writing letters (e.g., to family members), setting them aside for a day and then rereading them and thinking, 'Stop. I am thinking too fast. I should think more slowly', then rewriting certain sections of her letters. One challenge she saw in implementing a more careful thinking style was in moments of danger when she felt the need to react quickly to protect herself. This may hint at a general challenge for MCT-Acute, which is to convey a balance of faster and slower decision-making depending on the particular situation a person is in. While this idea is discussed in the regular MCT for psychosis, it was not included in MCT-Acute in depth due to the effort to reduce its complexity in this setting. Altogether, NK emphasized that the training should continue to be offered. She also noted that MCT-Acute is a unique intervention and that nothing like it was offered previously on the ward. When asked for recommendations on what to change, she stated that she would have liked more relaxation exercises (e.g., one exercise per session).

3.6 | Other interventions

During her stay on the acute ward, NK received several other therapeutic interventions besides MCT-Acute. First, she received pharmacotherapy (antipsychotic medication: quetiapine, paliperidone; anxiolytic medication: lorazepam) and short (10 min) appointments with a medical doctor three times a week. Second, she had individual psychotherapy sessions with a clinical psychologist up to two times a week, which usually lasted for 25 min although they could be shortened, depending on NK's wishes and ability to concentrate and the therapist's judgement. These sessions followed a psychodynamic approach to psychotherapy for patients with schizophrenia (Lempa et al., 2016). Lastly, NK attended occupational therapy up to three times a week. The occupational therapy sessions consisted of crafting using a variety of materials, for example, clay, textiles, drawing/painting, playing board games or making music. All of these interventions may have had an individual impact on NK's condition and may have interacted with MCT-Acute's effect on NK's condition.

4 | DISCUSSION

The present case report provides preliminary support that the adapted version of MCT with severely impaired psychotic patients in the acute ward (MCT-Acute) may represent a feasible intervention. The presented patient, NK, was mandated to stay on the locked acute ward for over 2 months due to an exacerbation of previously diagnosed schizophrenia and was evaluated as severely ill at admission. The intervention was well accepted by NK, and both her feedback and the trainers' observations during sessions suggest improvements in mood and changes in cognition. NK gave mainly positive feedback but also noted that she sometimes struggled to put what she had learned during sessions into action, and she made suggestions for improvement. Although she did not attend every available session, she continued to participate in the MCT-Acute group until her transfer to the open psychosis ward of the hospital (12 sessions in total).

NK's case highlights the utility of using open group formats that do not require participation in every module or starting with a specific module, such as in MCT-Acute, for patients with highly acute and fluctuating symptoms. It also emphasizes the need for interventions in the acute setting to consider patients' low attention span, memory deficits and other impaired cognitive abilities. MCT-Acute condenses the original MCT material to a few core aspects, for example, stopping to gather more information before making an important decision, that are repeated multiple times throughout sessions to account for possible neurocognitive deficits. Certain content such as exercises that rely on showing a lot of information at once (e.g., false memory paradigm from the original MCT's module 5 on memory) is not included from MCT-Acute because it may overwhelm patients. NK's participation was at times a quite regular attender and at other times more sporadic; overall, however, she continued to attend the MCT-Acute throughout her stay. In her feedback, she positively highlighted the atmosphere of the group and participants opening up to each other about their experiences. Deliberate interactions with other patients can counteract safety behaviours such as social withdrawal and avoidance common among individuals with persecutory delusions, which hamper the processing of information contradictory to the delusional belief, thus contributing to the maintenance of the delusion (Freeman, 2007). NK's claim that her mood improved directly after sessions shows that the set-up of MCT(-Acute) as a fun, nonconfrontational intervention not only aids in increasing adherence but may also contribute to short-term improvement in mood. Her ability to recall specific exercises from certain modules that she wanted to further incorporate into her everyday life shows the practical relevance of the exercises.

Several potential challenges arose during the adaptation and implementation process of MCT-Acute. One major concern was whether patients who experience very acute symptoms and show limited insight into their illness during this time would even be willing to participate in a psychotherapeutic group intervention. NK not only attended but also demonstrated insight into hasty decision-making and even extrapolated the overarching goal of MCT-Acute, indicating that even patients with highly acute psychotic symptoms can comprehend the content of MCT-Acute and benefit from the intervention. The wording she chose ('thinking more slowly') also shows the content validity of this intervention as it highlights the conceptual overlap with another recently developed intervention that also targets cognitive biases such as jumping to conclusions in individuals with schizophrenia spectrum disorders (SlowMo; Garety et al., 2017, 2021). Although NK displayed disorganized behaviour and derailed thinking during her stay and appeared tired after some of the sessions she attended, there is no indication that MCT-Acute was generally too challenging or overwhelming for her or that the content of the intervention exacerbated her disorganization in any way. On the contrary, she was able to take what she had learned during the intervention and apply it to her everyday life in a meaningful way (e.g., performing exercises outside of the intervention and rewriting letters to her relatives).

4.1 | Filling a treatment gap

Thus far, psychological interventions for patients with psychosis within the acute emergency care setting are rare (Jacobsen et al., 2018) and are often geared at patients who have less acute symptoms than NK. At the same time, evidence from randomized controlled trials suggests that psychological therapies delivered to patients in acute inpatient care are associated with improvements in symptoms and lower readmission rates (Paterson et al., 2018). In addition, treatment guidelines, such as the National Institute for Health and Care Excellence in the United Kingdom, recommend psychological therapies for individuals with psychosis at every stage of their treatment (NICE, 2014).

In countries where emergency psychiatric care is almost exclusively conducted on acute wards where some patients spend several weeks to months, often in mandated treatment, there is an unfulfilled need for manualized, evaluated psychological interventions that work in unison with established therapeutic approaches such as pharmacotherapy to stabilize patients. MCT-Acute, as a low-threshold, easy to implement intervention that can be administered by various health care staff members such as psychologists, nurses or occupational therapists, can help address this need. Offering optional attendance empowers patients and helps them regain autonomy, which can improve their overall experience of the ward. This is a valuable aim as treatment satisfaction is lower in involuntary patients than those admitted voluntarily (Bird et al., 2019). Higher treatment satisfaction, in turn, is associated with less severe symptoms and better quality of life and can even predict the reduction of positive symptoms up to 3 years after initial measurement in patients with psychosis (Vermeulen et al., 2018).

4.2 | Limitations

The present case report demonstrates that adapting an existing effective psychological group programme to the acute setting is feasible and that even a patient with highly acute symptoms can be willing and able to participate in and benefit from it. The ways in which MCT-Acute can systematically improve patients' conditions across a large sample remain to be shown. We must also note that the changes NK described in herself happened in parallel to the administration of medication and other psychosocial treatment, including regular doctor's visits, individual sessions with a psychotherapist and contact with nurses and social workers, as well as several occupational and physical therapy options. Thus, the relative contributions of pharmacotherapy, other treatments and MCT-Acute cannot be discerned. However, MCT-Acute is not meant to be a stand-alone intervention; rather, it is to be used as one element of an interdisciplinary treatment plan for acute stabilization.

4.3 | Conclusion

MCT-Acute was well accepted by NK, an acutely ill patient with a diagnosis of severe and chronic schizophrenia who was staying involuntarily on a locked acute psychiatric ward for 70 days. The patient valued the opportunity to express herself and have contact with others and viewed the intervention's materials as helpful. She also used key themes of the intervention to change her behaviour in everyday life, for instance, how she communicates with her family. MCT-Acute is an easy-to-implement group intervention that is free of charge and currently available in English, German and Italian. Based on the presented case report, MCT-Acute may fill a gap within existing treatment options on acute wards and meet patients' frequently voiced need for more interpersonal exchanges with staff and other patients.

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CONFLICT OF INTEREST

One of the co-authors is the chief physician of the hospital at which the study was conducted.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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Metacognitive training in the acute psychiatric care setting: feasibility, acceptability, and safety

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Patients on acute psychiatric wards desire more psychosocial treatment than they receive, according to recent studies, but evidence-based interventions tailored to this setting are currently lacking. Metacognitive Training for psychosis (MCT) is a flexible, easy-to-administer group therapy that has been adapted to meet this demand (MCT-Acute). Thirty-seven patients with severe mental illness took part in MCT-Acute twice a week during their stay on a locked acute ward and were interviewed before, during, and after the intervention period regarding subjective utility, subjective adverse events, and symptom severity; attendance rates and reasons for absence were recorded. In addition, staff rated adverse events, symptom severity, and functioning (German Clinical Trial Register ID: DRKS00020551). Overall, most patients evaluated MCT-Acute positively and reported symptom stabilization. Staff also reported improvement in functioning. No clinician-rated adverse events related to participation in MCT-Acute were reported. Conducting MCT-Acute is feasible and safe and may contribute to meeting patients', practitioners', and researchers' demands for more evidence-based psychotherapeutic interventions for the acute psychiatric care setting.

Clinical Trial Registration: ID: DRKS00020551, https://drks.de/search/de/trial/DRKS00020551

KEYWORDS

locked ward, psychosis, psychiatry, psychological intervention, group therapy, severe mental illness, metacognitive training

1 Introduction

Risk of harm to oneself or others represent key aspects of patient safety in inpatient psychiatry (Marcus et al., 2021) and constitute legal grounds for acute involuntary psychiatric inpatient treatment in many parts of the world (Rains et al., 2019; Saya et al., 2019). While 9.1% of all Europeans experience suicidal ideation in their lifetime (Castillejos et al., 2020), this number rises to 34.5% for people diagnosed with schizophrenia (Bai et al., 2021) and individuals with a diagnosis of bipolar disorder show suicide attempt rates at least 20 times higher than the adult general population (Tondo et al., 2021). Patients with schizophrenia or bipolar disorder are also at higher risk of committing crimes (Senior et al., 2020; Yee et al., 2020), although they are overall responsible for only a small fraction of all crimes committed, a much larger number

of people experiencing psychosis are victims rather than perpetrators of violent crimes (Thornicroft, 2020). People with psychosis also show victimization rates several times higher than the general population (de Vries et al., 2019). Thus, one essential purpose of acute psychiatric services has been to assess and, where possible, avoid harm, at times placing little emphasis on fostering positive aims through therapeutic means (Bowers et al., 2014; Tracy and Phillips, 2022).

Acute psychiatric care has moved from custodial models of treatment, often meaning indefinite confinement and equating mental illness with criminality, to curative goals, shared decision-making, and increasing attempts to integrate care into the community today (Saya et al., 2019; Johnson et al., 2022). Yet, in many countries, acute psychiatric care still ordinarily takes place in inpatient settings, often on locked wards staffed by a multidisciplinary team of psychiatrists, nurses, and specialized therapists. Even in places where a variety of psychiatric emergency services exist outside of hospitals, such as in the United Kingdom (e.g., Odejimi et al., 2020), psychiatric emergency wards for patients in acute crisis still exist. In many cases, patients are mandated to enter inpatient care, and in some countries they may experience involuntary treatment lasting up to several months (Zhang et al., 2015; Sashidharan et al., 2019). At this stage of treatment, psychological interventions offer a range of benefits such as identifying problems and strategies to reduce them, reducing stress, fostering a recovery-oriented outlook and hope through the therapeutic relationship, improving social functioning and treatment compliance and reducing risk of rehospitalization (Donaghay-Spire et al., 2016; Barnicot et al., 2020).

Psychological care is often lacking during the acute stage, even though many patients endorse more therapeutic interactions with ward staff and several national treatment guidelines for severe mental illnesses explicitly call for psychosocial treatment options across the various stages of the illness, including during the acute phase (National Institute for Health and Care Excellence (NICE), 2014; Wood and Alsawy, 2016; American Psychiatric Association (APA), 2020; Berry et al., 2022). In recent years, several psychological interventions have been developed for the acute care setting. For instance, Jacobsen et al. (2020) examined a mindfulness-based crisis intervention for patients with psychosis. No drop-outs were observed during the intervention, and it was associated with a decreased risk of readmission and relapse rates at 12 months' follow-up. Paterson et al. (2019) examined a cross-diagnostic psychologically informed acute inpatient therapy service that provided both individual and group sessions, and found that their intervention was feasible to conduct with acute inpatients and that it might lead to reduced psychological distress and increased mental health-related self-efficacy compared to treatment as usual. However, evidence-based interventions specifically designed or adapted to fit this particular setting are scarce and are rarely implemented in the clinical context. Studies evaluating their efficacy are lacking (Paterson et al., 2019; Berry et al., 2022).

Several factors unique to the acute ward setting make the evaluation of such interventions particularly challenging. One of these is the high symptom load, especially neurocognitive impairments, which make it difficult for participants to answer even short and/or simple questionnaires, along with the high distress that participants often experience as a result (Wood et al., 2021; Berry et al., 2022). Accordingly, comprehension is often low and informed consent cannot always be properly obtained. Another characteristic of the acute setting that makes research particularly challenging is that in many countries there is no continuity of treatment from the acute inpatient to subsequent (open) settings (Wood et al., 2022), although care continuity, particularly the ability to build a therapeutic relationship, is associated with a variety of positive outcomes (Ruud and Friis, 2022). As stays on acute wards are often brief, ranging from a few days to around four weeks, and interventions that are limited to the ward itself cannot continue seamlessly once the patient leaves care, interventions must be very brief as well (Bullock et al., 2021). Due to the high turnover of patients, group interventions in particular should not be sequential so that patients can join the intervention at any time point and can resume participation without having missed essential information if they miss sessions due to worsening of symptoms or other reasons (Fife et al., 2019). In addition, it is often difficult to contact participants for follow-up assessments after they have been discharged from the ward (Paterson et al., 2019; Raphael et al., 2021a).

There are also several barriers to the implementation of psychological therapies itself, including the busy ward setting with frequent emergencies and departures from routine treatment, lack of training of ward staff, lack of support from leadership, acute exacerbation of symptoms precluding, for example, the ability to concentrate for several minutes, as well as lack of specific adaptation of interventions to the acute care setting (Evlat et al., 2021; Raphael et al., 2021b).

In order to address the aforementioned challenges and to contribute to narrowing the current treatment gap for patients with acute symptoms, particularly on closed wards, we developed the Metacognitive Training for the acute psychiatric setting (MCT-Acute). The MCT-Acute is an adaption of Metacognitive Training for psychosis (MCT; Moritz and Woodward, 2007a). MCT is a psychological group intervention based on more than 30 years of research suggesting that individuals who experience psychosis are prone to certain cognitive biases that underlie the foundation and maintenance of psychotic symptoms, particularly delusions (e.g., Moritz et al., 2017; Ward and Garety, 2019). One of the most researched biases that constitutes a key mechanism in the development of delusions is the jumping to conclusions bias (Dudley et al., 2016; McLean et al., 2017), in which participants make hasty decisions based on very little information (Garety et al., 1991). Research has also shown that patients with psychosis demonstrate a bias against disconfirmatory evidence (e.g., Woodward et al., 2006; Veckenstedt et al., 2011) and do not revise their decision, even when they are confronted with evidence that goes against their decision. This bias also constitutes a central mechanism in the development and maintenance of delusions (Eisenacher and Zink, 2017). Another cognitive bias contributing to the development of delusions, particularly persecutory delusions (Murphy et al., 2018), is the self-serving attributional style first described by Kaney and Bentall (1989), Bentall et al. (1991, 1994). MCT is a multimedia-based group intervention that uses engaging exercises to provoke, for example, hasty decision making within a group session and thus produce so-called aha moments, allowing patients to recognize their biased thinking directly through the exercise instead of through theoretical explanations. This realization is followed by exercises that help patients develop alternative ways of thinking. According to recent meta-analyses, MCT is effective for a range of symptoms, particularly delusions and positive symptoms overall (Eichner and Berna, 2016; Liu et al., 2018; Sauvé et al., 2020; Penney et al., 2022). However, it is too challenging and difficult for

many patients with high symptom severity (van Oosterhout et al., 2014). In addition to MCT for psychosis, versions of Metacognitive Training have been developed for other disorders in recent years, including MCT for depression (Jelinek et al., 2013) and suicidality (Jelinek et al., 2021), depression in later life (Schneider et al., 2018), obsessive-compulsive disorder (Miegel et al., 2022), gambling disorder (Gehlenborg et al., 2021), and borderline personality disorder (Schilling et al., 2018). A case report describes the adaptation process of MCT-Acute in detail and outlines its potential as an add-on treatment in the acute-care setting (Fischer et al., 2022). MCT-Acute was designed to be suitable for patients with psychosis but also for patients with (comorbid) depression. Most topics that are addressed by MCT for psychosis are also relevant to individuals with depression, although the emphasis may differ between psychosis and depression (e.g., self-serving attributional style in psychosis vs. depressive attributional style in depression). In addition, several modules in MCT for psychosis already address depression-specific topics, such as mood and self-esteem. Furthermore, one module was adapted from the MCT for depression; thus, MCT-Acute also targets depression-specific cognitive biases that may be relevant to patients on acute wards with a variety of primary diagnoses who suffer from (comorbid) depression.

The aim of the present feasibility trial was to assess the acceptability and safety of the adapted version of a well-researched, easy-to-implement, evidence-based intervention. In particular, we aimed to assess whether patients on acute psychiatric wards who are being treated for different forms of severe mental illness (mainly psychosis but also depression, borderline personality disorder, and substance use disorder) would attend the offered sessions (and why they would not), whether they would view the treatment as useful, and whether they would experience any adverse events or symptom worsening related to their participation. Regarding safety, we not only assessed adverse events rated by clinical staff but also included subjective adverse events as side effects occur not only with pharmacological treatment but also with psychotherapy (Linden and Schermuly-Haupt, 2014). Thus, the pilot trial addressed the following hypotheses. We hypothesized that patients in an acute psychiatric inpatient setting would be willing to attend MCT-Acute sessions, that they would rate MCT-Acute as subjectively useful, and that there would be no severe subjective adverse events or unwanted events associated with participation in MCT-Acute. In addition, we hypothesized that patients' clinician-rated and self-rated overall symptom severity would decrease significantly and that patients' overall functioning would increase significantly over the course of the intervention period.

2 Materials and methods

2.1 Design

The trial was planned as an uncontrolled, observational pilot trial that included patients with severe mental disorders in an acute locked psychiatric setting. We decided against a controlled trial because a wait-list control design would not be feasible in this setting and there was no suitable control group program for this setting available. In addition, the trial's primary aim was to prove the feasibility and safety of the intervention. Patients could attend MCT-Acute sessions over a period of 3.5 weeks in addition to a standardized acute inpatient treatment program (including, e.g., psychopharmacotherapy and occupational therapy). Before the first group session (t0; baseline assessment), after two weeks of intervention (t1; interim assessment) and after four weeks of intervention (t2; post assessment), participants completed clinical interviews comprising self- and other-rated symptom assessments as well as questionnaires regarding the subjective utility and subjective adverse events of the intervention. Prior to their participation, all patients gave written informed consent. The University Medical Center Hamburg-Eppendorf's Ethics Committee for Psychological Studies approved the study (LPEK-0108); we preregistered the study in the German Clinical Trial Register (DRKS-ID: DRKS00020551). The preregistration included further measures that will be reported elsewhere as they do not immediately relate to the feasibility and safety of the intervention.

2.2 Setting

The trial was conducted at two sites: the Department of Psychiatry and Psychotherapy of the University Medical Center Hamburg-Eppendorf and the Department of Psychiatry and Psychotherapy of the Asklepios Clinic Hamburg North (both in Germany). The University Medical Center Hamburg-Eppendorf includes two locked inpatient units (crisis intervention wards) with 13 and 19 beds, respectively. The Department of Psychiatry and Psychotherapy of the Asklepios Clinic North also includes two locked inpatient units, each with 21 beds. The hospitals' catchment areas are urban areas with approximately 450,000 and 320,000 residents, respectively. All four locked acute inpatient psychiatric wards provide care for people with any psychiatric diagnosis that require intensive care to prevent harm, including suicidality or risk of aggression against others.

2.3 Sample

Patients were eligible for participation if they had a primary diagnosis of a severe mental disorder (diagnoses classified in the DSM-V or the ICD-10 F-codes), were expected to stay on the ward for at least two weeks, and were at least 18 years old. Exclusion criteria were insufficient command of the German language, intellectual disability, dementia, or inability to confirm consent with a legal guardian where applicable. Patients who were acutely intoxicated were not approached for participation until their intoxication had subsided. Patients admitted to one of the locked wards were screened soon after admission to determine whether they met the inclusion criteria, and eligible patients were approached by study staff regarding trial participation.

All patients received acute psychiatric standard treatment, including primarily psychopharmacotherapy (all participants were taking psychotropic medication; all but one [2.7%] were taking antipsychotic medication), as well as occupational and physical therapy, doctor's visits three times per week, one-on-one meetings with a psychologist up to twice a week for some patients, and, at one

of the hospitals, psychologist-led group interventions. Additionally, patients were offered the opportunity to take part in MCT-Acute up to two times per week (regardless of their participation in the study). We screened 1017 patients for participation and approached 138, 63 of whom declined participation and 75 of whom were assessed at baseline (see Figure 1). Of those assessed at baseline, seven patients did not participate in any MCT-Acute session. Of the remaining participants, 51 (75.0%) completed the assessment at two weeks and 38 (55.9%) also completed the assessment at four weeks. Whenever participants were unable to complete questionnaires themselves (e.g., due to difficulties concentrating or writing or due to circumstances such as lacking appropriate eyeglasses), they received support from the assessors (e.g., reading questions aloud, writing down participants' answers). Some participants were unable to complete all questionnaires, due, for example, to high symptom load or poor neurocognitive abilities.

2.4 Procedure

2.4.1 Intervention (MCT-Acute)

Two trainers delivered MCT-Acute on the locked acute wards of the two hospitals. Most trainers in this study were psychologists who had completed a master's degree and were currently undergoing postgraduate training in cognitive behavioral therapy; the other trainers were occupational therapists who worked on the respective

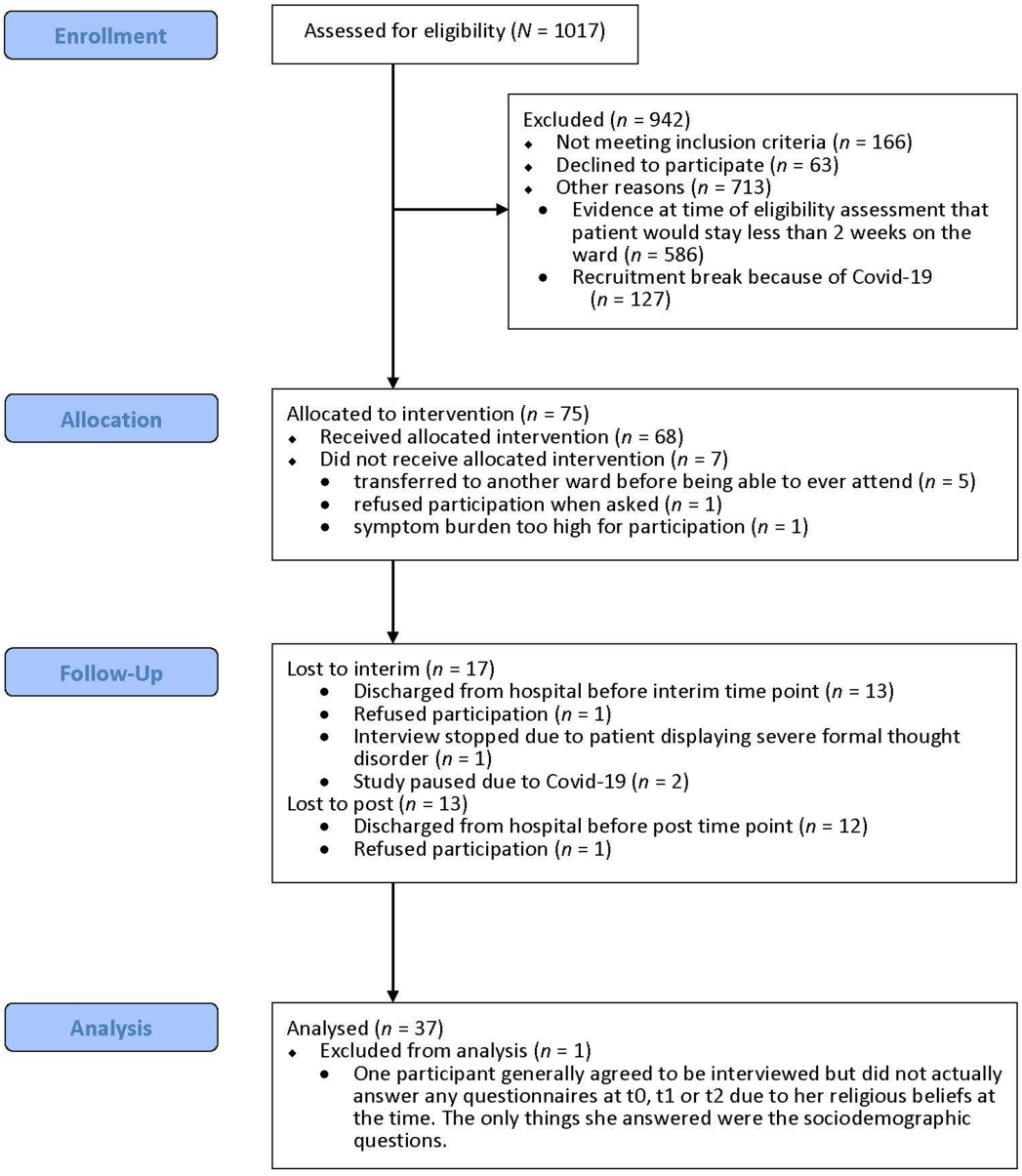

FIGURE 1
Flow diagram of participant inclusion.

wards. At least one psychologist was present during all sessions. Either RF or JS, the developers of MCT-Acute, was present at the majority of the training sessions ($n = 236$, 90.0% of all sessions). RF and JS both received training on MCT's delivery by its developer SM and have several years of experience delivering MCT for psychosis. All other therapists involved underwent the online training for MCT for psychosis offered by MCT's developers (see www.uke.de/e-mct) and received intensive one-on-one training by RF or JS. The training took place twice a week. Group size varied between two and nine patients. One cycle through all seven modules of MCT-Acute took 3.5 weeks to complete, although participants could continue participating after they had completed one cycle. The seven MCT-Acute modules address the following topics: *empathy, mood, attributional style, stigma, jumping to conclusions, coping strategies,* and *self-esteem*. We describe the adaptation process from the regular MCT for psychosis (Moritz and Woodward, 2007b) to MCT-Acute in detail in Fischer et al. (2022). All training material can be downloaded free of charge from www.uke.de/mct-acute.

2.4.2 Recruitment

Participants were consecutively recruited shortly after their admission to a locked inpatient ward. In addition to acute psychiatric standard treatment, they were invited to take part in MCT-Acute up to two times per week.

Patients provided written informed consent to participate in the study and then completed the baseline assessment (t0), the interim assessment two weeks later (t1), and the post assessment another two weeks later (t2). In addition, subjective utility, motivation to continue participation, and potentially negative events occurring during the sessions were assessed at the end of each session via a short, non-mandatory questionnaire (Post-Session Questionnaire).

2.5 Instruments

2.5.1 Acceptability of the intervention

We determined acceptance and feasibility of the intervention based on the number of attended sessions, reasons for missing sessions, and several feedback questionnaires regarding the intervention.

2.5.1.1 MCT-Acute feedback questionnaire

The MCT-Acute Feedback Questionnaire is based on a questionnaire previously used to evaluate MCT (Moritz and Woodward, 2007a,b). It is designed to capture general feelings, evaluations, and understanding of the participants regarding the MCT-Acute (e.g., *"The MCT-Acute was useful and sensible"*). The present version of the questionnaire comprises 12 quantitative items rated on a four-point Likert scale ranging from 0 ("I do not agree at all") to 3 ("I agree completely") and three open-ended items (see Appendix A1). It was administered at t1 and at t2.

2.5.1.2 Session-specific feedback

In addition to administering the feedback questionnaire at t1 and t2, we collected feedback at the end of each session using a brief 10-item questionnaire that included items such as "*MCT-Acute was fun*" and "*MCT-Acute confuses me*." The first seven items were answered on a three-point scale (from "rather agree" to "rather disagree"), while the last three items were open-ended (see Appendix A2). This questionnaire was handed out not only to study participants but also to other patients who attended the MCT-Acute group and agreed to give anonymous feedback.

2.5.2 Safety

2.5.2.1 Adapted questionnaire about side effects psychosis and internet

The Adapted-QueSPI (based on Rüegg et al., 2018) was adapted to assess potential subjective adverse events of the MCT-Acute at t1 and t2. After removal of items that were inappropriate for the current trial (e.g., "*I experienced technical difficulties that bothered me*"), the questionnaire comprised 13 quantitative items rated on a four-point Likert scale ranging from 0 ("I do not agree at all") to 3 ("I agree completely") as well as three open-ended items (see Appendix A3).

2.5.2.2 Unwanted events

Based on the Unwanted Events-Adverse Treatment Reactions Checklist (UE-ATR Checklist; Linden, 2013), we monitored the following unwanted events throughout the intervention period: prolongation of treatment, emergence of new symptoms, deterioration of symptoms, and strains in the patient-therapist relationship. We also monitored suicidal ideation and suicide attempts. We used the UE-ATR Checklist's relation to treatment rating scheme (1 = "unrelated to therapy," 5 = "extremely likely due to therapy"), but omitted the context of development and the severity ratings. We based ratings on the ward staff's clinical documentation of the patients' behavior on the ward.

2.5.3 Symptoms

We assessed patients' baseline psychopathology levels and monitored their symptom development throughout the intervention period to detect changes in symptoms across patients.

2.5.3.1 Brief psychiatric rating scale (4.0) expanded version

To assess baseline symptom levels, we administered the BPRS-E (Lukoff et al., 1986; Ventura et al., 1993) at t0, which is comprised of 24 items assessing the presence and severity of a variety of psychiatric symptoms. Its scale points range from 1 ("not present") to 7 ("extremely severe"), yielding sum scores between 24 and 168 with higher scores indicating more severe psychopathology.

2.5.3.2 Clinical global impressions scale

The CGI (Guy, 1976) is a clinician-rated scale that consists of a Severity (CGI-S) and an Improvement (CGI-I) scale. In the present study, the patient's treating psychiatrist or the head psychiatrist on the locked ward rated the CGI. The CGI-S reflects the clinician's assessment of the patient's present illness status in comparison with other patients from the same clinical population. The CGI-I assesses the improvement or worsening of the patient's condition since the previous rating. The CGI-S ranges in scores from 1 ("normal, not at all ill") to 7 ("among the most extremely ill patients"); the CGI-I ranges from 1 ("very much improved") to 7 ("very much worse").

2.5.3.3 Brief symptom inventory-18

The BSI-18 (German version: Spitzer et al., 2011) is a short form scale of the Symptom Checklist-90-Revised that measures psychological

stress symptoms during the past seven days. The inventory consists of 18 items that assess the three symptom subscales Somatization, Depression, and Anxiety. Each item is rated on a five-point Likert scale (0 = "not at all"; 4 = "extremely") based on patient reports.

2.5.3.4 Global assessment of functioning scale

The DSM-IV Axis V (GAF; American Psychiatric Association, 2000) assesses overall functioning on a scale from 100 ("superior functioning, no symptoms") to 1 ("extreme impairment").

2.6 Data analysis

As specified in the preregistration, only participants who had completed assessments at all three time points and who had participated in the intervention at least once ('completers') were considered for the final analysis ($N = 37$).

Measurement point t1 mainly served to ensure the presence of at least preliminary data in case too many included patients transferred out of the ward before the post-intervention measurement point t2. Thus, as subjective utility and subjective adverse events at t2 are based on more attended sessions than at t1 for many participants, we report here only the subjective utility ratings and subjective adverse events for t2. Ratings at t1 can be found in Appendices A4 and A5. For subjective utility and subjective adverse events, we focus here on the quantitative data (readers interested in the analysis of the qualitative data may contact the first author).

Clinician-rated symptoms and functioning were assessed by the acute ward's head physician or the patient's primary treating physician on the acute ward. Thus, whenever patients transferred to another ward or were discharged from the hospital entirely before t1 or t2, there were no CGI and GAF ratings available for t1 and/or t2. The GAF analysis was run twice; once using only the available data and once using the last observation carried forward method for data imputation.

To assess the acceptability and safety of the intervention, the number of attended sessions, subjective utility, session specific feedback and unwanted events were analyzed descriptively. Symptom improvement was analyzed both descriptively (CGI) and using repeated measures ANOVAs to assess significant changes in patient-rated symptoms (BSI-18) and clinician-rated overall functioning (GAF) over the course of study participation.

3 Results

As shown in Table 1, there was no statistically significant difference between completers vs. non-completers (patients who were assessed at t0 but did not complete all three assessments and/or did not participate in the intervention at least once) on any sociodemographic variable (all $p > 0.1$).

3.1 Acceptability of the intervention

3.1.1 Number of attended sessions and reasons for missing sessions

During their intervention period, participants could attend a maximum of seven sessions of MCT-Acute. On average, patients attended 3.6 sessions ($SD = 1.85$, range 1–7). Of the 259 total sessions, 133 were missed (51.4%). The reasons for missing sessions included participants being discharged from the ward ($X = 57$, 42.9%), declining participation in the session ($X = 40$, 30.1%), currently undergoing seclusion or restraint measures ($X = 12$, 9.0%), being asleep ($X = 11$, 8.3%), other appointments during a given session ($X = 9$, 6.8%), and being judged ineligible by staff for a given session due to acutely high symptomatology (e.g., severe agitation, disorganization; $X = 4$, 3.0%).

3.1.2 Subjective utility

Figure 2 shows participants' ratings of subjective utility at t2. Overall, participants reported mostly positive experiences with MCT-Acute; a majority fully endorsed that they would recommend MCT-Acute to others (64.9%; $n = 24$) and that they would have liked to have similar interventions to MCT-Acute on the ward (64.9%; $n = 24$). The majority of participants also disagreed with the statement "*My thinking is more confused*" (70.3%; $n = 26$). Subjective utility showed a large negative correlation with subjective adverse events related to the intervention ($r = -0.67$, $p < 0.001$, 95% CI [−0.83, −0.41]).

3.1.3 Session-specific feedback

Of those who attended a given module, 13.6% ($n = 3$; module 7) to 36.4% ($n = 12$; module 4) filled in a questionnaire at the end of the session. Across modules, most participants evaluated the sessions positively, largely rejecting the statement "*MCT-Acute confuses me*" ($X = 51$, 73.9%) and endorsing statements such as "*MCT-Acute was fun*" ($X = 61$, 89.7%; see Table 2). Specifically, only three individual participants endorsed the statement "*MCT-Acute confuses me*" (eight times in total across all modules). Internal consistency of the questionnaire using Cronbach's alpha was $\alpha = 0.55$.

3.2 Safety

3.2.1 Subjective adverse events during MCT-Acute (adapted-QueSPI; self-rating)

Mean endorsements of subjective adverse events did not significantly differ between t1 and t2. The number of subjective adverse events reported at t2 was available for 31 participants and ranged from zero ($n = 5$, 13.5%) to 12 ($n = 1$, 2.7%); on average, participants endorsed 3.1 subjective adverse events ($SD = 3.03$; median = 2). Table 3 shows how many participants endorsed each event. To varying degrees, participants most frequently critically appraised MCT-Acute for not sufficiently considering their personal needs or preferences (54.1%; $n = 20$), and because, after participation in MCT-Acute, they believed that taking medication was less important than they had previously thought (40.5%; $n = 15$). Internal consistency was good ($\alpha = 0.82$).

3.2.2 Unwanted events (clinician rating)

Overall, we recorded unwanted events for 17 participants (45.9%), 15 of whom experienced more than one unwanted event. We recorded extension of treatment for 15 patients, worsening of symptoms for nine, emergence of new symptoms for three, and suicidal ideation for one. All of these events (100%) were classified as

TABLE 1 Comparison between patients who were included in the final analysis (completers) and those who were not (non-completers).

	Completers ($n = 37$)	Non-completers ($n = 38$)	
	M (SD)	*M (SD)*	Statistics
Age	39.5 (14.0)	38.5 (11.8)	$t(73) = 0.34$, $p = 0.735$, $d = 0.079$
Primary education in years	11.1 (1.6)	10.7 (2.5)	$t(72) = 0.86$, $p = 0.394$, $d = 0.200$
BPRS baseline score	59.6 (19.9)	57.9 (13.5)	$t(56.456) = 0.40$, $p = 0.692$, $d = 0.099$
GAF baseline score	37.5 (9.1)	41.1 (10.9)	$t(55) = 1.39$, $p = 0.170$, $d = 0.259$
BSI-18 baseline score	19.6 (15.0)	15.2 (13.0)	$t(63) = 1.27$, $p = 0.208$, $d = 0.315$
	n (%)	*n* (%)	
Gender (female)	17 (45.9)	19 (50)	$\chi^2(1, N = 75) = 0.12$, $p = 0.725$, $V = 0.041$
Primary diagnosis			
Mental disorders due to a general medical condition	0	2 (5.3)	-
Substance-Related and Addictive Disorders	2 (5.4)	2 (5.3)	-
Schizophrenia Spectrum and other Psychotic Disorders	26 (70.3)	25 (65.8)	-
Bipolar and Related Disorders	6 (16.2)	8 (21.0)	-
Depressive Disorders	0	1 (2.6)	-
Trauma- and Stressor-Related Disorders	1 (2.7)	0	-
Personality Disorders	2 (5.4)	0	-
Number of previous admissions	$n = 35$	$n = 36$	-
0	3 (8.6)	6 (16.7)	$\chi^2(2, N = 71) = 3.31$, $p = 0.191$, $V = 0.216$
1 to 5	22 (62.9)	15 (41.7)	
6 or more	10 (28.6)	15 (41.7)	
Legal status of stay			
Voluntary	8 (21.6)	6 (15.8)	$\chi^2(2, N = 75) = 0.52$, $p = 0.773$, $V = 0.083$
Emergency mandatory admission	17 (45.9)	20 (52.6)	
Mandatory admission by legal guardian	12 (32.4)	12 (31.6)	

either unrelated (66.0%) or probably unrelated to the intervention (33.0%).

3.3 Symptoms

3.3.1 CGI (clinician rating)

CGI-Severity scores at t0 ranged from moderately ill ($n = 5$; 13.5%), to markedly ill ($n = 5$; 13.5%), to severely ill ($n = 18$; 48.6%), and finally to among the most extremely ill patients ($n = 6$, 16.2%). For three participants (8.1%), there was no CGI-S rating available.

CGI-Improvement ratings at t1 ranged from much improved ($n = 6$; 16.2%), to minimally improved ($n = 9$; 24.3%), to no change ($n = 14$; 37.8%), and finally to minimally worse ($n = 1$; 2.7%). For seven participants (18.9%), there was no CGI-I rating available at t1.

At t2, CGI-I ratings ranged from much improved ($n = 1$; 2.7%) to minimally improved ($n = 11$; 29.7%), to no change ($n = 9$; 24.3%), to minimally worse ($n = 1$; 2.7%), and finally to much worse ($n = 1$; 2.7%). For 14 participants (37.8%), there was no CGI-I rating available at t2.

Two of the participants got worse during their intervention period according to the clinician ratings. The participant whose

condition was minimally worse at t1 was also the participant whose condition was much worse at t2. His initial CGI-Severity rating was among the most extremely ill patients. The participant whose condition was minimally worse at t2 had also received an initial CGI-Severity rating of being among the most extremely ill patients. Neither patient's treating physician attributed their patient's worsening to their participation in MCT-Acute.

3.3.2 BSI-18 (self-rating)

Numerically, patients improved on the BSI-18 scale from t0 to t2. A repeated measures ANOVA using the Greenhouse–Geisser correction revealed a small sized difference in BSI-18 scores between time points that failed to reach significance ($F(1.371, 37.013) = 0.49$, $p = 0.546$, $\eta_p^2 = 0.018$). Internal consistency was excellent at all three time points ($\alpha_{t0} = 0.91$; $\alpha_{t1} = 0.91$; $\alpha_{t2} = 0.94$).

3.3.3 GAF (clinician rating)

GAF scores for all three time points were available for 21 of the participants. For these, a repeated measures ANOVA using the Greenhouse–Geisser correction determined that there was a large difference in GAF scores between time points, with scores increasing over time ($F(1.416, 28.311) = 17.79$, $p < 0.001$, $\eta_p^2 = 0.471$). Using the last observation carried forward method of data imputation, the repeated measures ANOVA using the

TABLE 2 End-of-session feedback summarized over all modules.

	Rather agree (%)	Neither agree nor disagree (%)	Rather disagree (%)	*n*
MCT-Acute was fun.	61 (89.7)	4 (5.9)	3 (4.4)	68
I am motivated to continue participating in MCT-Acute.	60 (87.0)	7 (10.1)	2 (2.9)	69
MCT-Acute helps me.	55 (83.3)	9 (13.6)	2 (3.0)	66
I learned something new during MCT-Acute.	51 (76.1)	10 (14.9)	6 (9.0)	67
MCT-Acute gives me hope for the future.	46 (69.7)	17 (25.8)	3 (4.5)	66
MCT-Acute reduces my health complaints.	35 (54.7)	22 (34.4)	7 (10.9)	64
MCT-Acute confuses me.	8 (11.6)	10 (14.5)	51 (73.9)	69

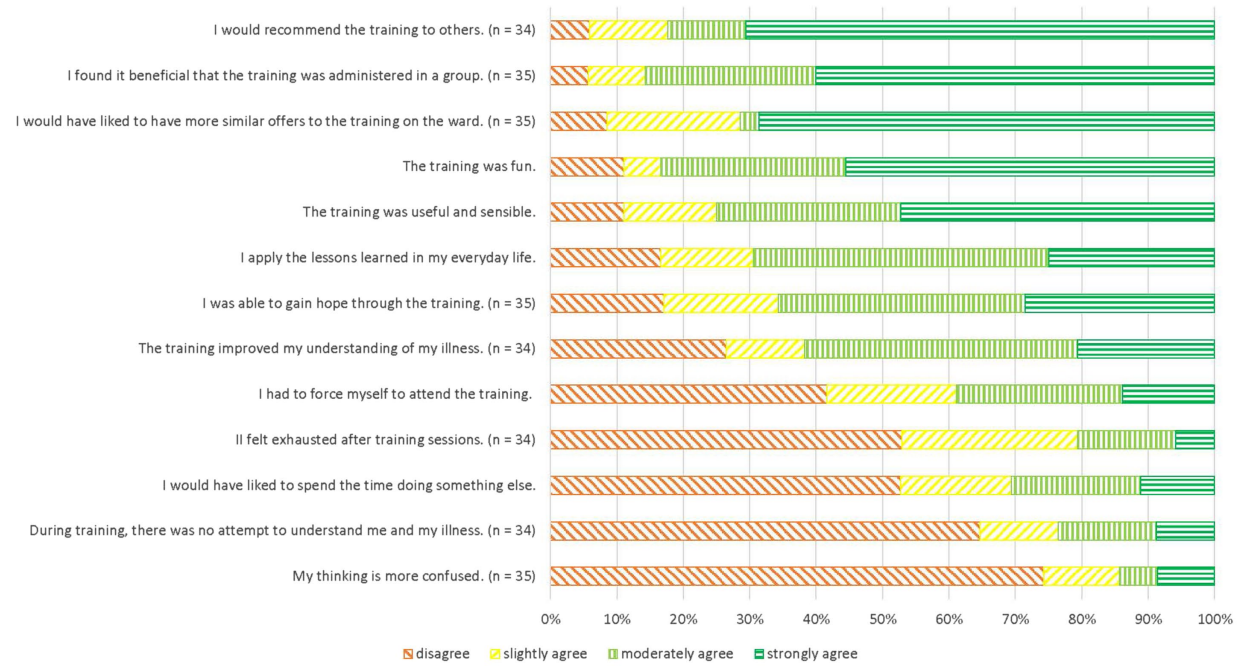

FIGURE 2
Acceptability of MCT-Acute at t2 in descending order of agreement.

TABLE 3 Self-rated side effects at post intervention (t2).

Item	*M* (*SD*)	I do not agree at all (%)	I slightly agree (%)	I moderately agree (%)	I completely agree (%)
MCT-Acute did not sufficiently address my personal needs. ($n = 35$)	1.2 (1.3)	15 (42.9)	7 (20)	3 (8.6)	10 (28.6)
Because of participating in MCT-Acute, I believe that taking medication is less important than I thought before participation. ($n = 33$)	0.9 (1.1)	18 (54.5)	6 (18.2)	4 (12.1)	5 (15.2)
MCT-Acute makes me feel like I am responsible for my problems. ($n = 35$)	0.5 (0.9)	23 (65.7)	6 (17.1)	5 (14.3)	1 (2.9)
My hope of improvement due to MCT-Acute was disappointed. ($n = 35$)	0.6 (1.1)	25 (71.4)	4 (11.4)	1 (2.9)	5 (14.3)
I often did not understand what MCT-Acute tried to tell me. ($n = 34$)	0.5 (1.0)	25 (73.5)	4 (11.8)	2 (5.9)	3 (8.8)
MCT-Acute makes me feel abnormal. ($n = 33$)	0.4 (0.7)	25 (75.8)	5 (15.2)	2 (6.1)	1 (3)
Participation in MCT-Acute reduced my interest to participate in a psychotherapy with personal contact. ($n = 34$)	0.5 (0.9)	26 (76.5)	2 (5.9)	4 (11.8)	2 (5.9)
MCT-Acute overwhelmed me with its abundance of information. ($n = 35$)	0.4 (0.9)	27 (77.1)	3 (8.6)	3 (8.6)	2 (5.7)
I feared that MCT-Acute could increase my symptoms. ($n = 34$)	0.3 (0.8)	28 (82.4)	3 (8.8)	1 (2.9)	2 (5.9)
MCT-Acute has triggered me to lose faith in psychotherapy in general. ($n = 34$)	0.3 (0.7)	28 (82.4)	4 (11.8)	1 (2.9)	1 (2.9)
The participation in MCT-Acute caused me to have more conflicts with others.($n = 34$)	0.2 (0.6)	28 (82.4)	4 (11.8)	2 (5.9)	0 (0)
The participation in MCT-Acute has put pressure on me. ($n = 34$)	0.2 (0.7)	29 (85.3)	3 (8.8)	1 (2.9)	1 (2.9)

Greenhouse–Geisser correction still found a large increase in GAF scores over time ($F(1.332, 47.943) = 20.44$, $p < 0.001$, $\eta_p^2 = 0.362$).

3.4 Correlations between outcomes

There were no other significant correlations between outcomes (see Appendix A6).

4 Discussion

We assessed the feasibility, acceptability and safety of the Metacognitive Training version adapted for the acute inpatient care setting (MCT-Acute). A sample of 37 patients on closed wards, the majority of whom were classified as at least severely ill, were assessed at baseline and then two weeks and four weeks later. Participants evaluated MCT-Acute positively, the majority stating that they would recommend the training to others and that they would have liked more therapeutic interventions similar to it offered on the ward. Negative subjective evaluations mostly concerned MCT-Acute not addressing participants' individual needs sufficiently. As symptoms decreased across the sample throughout the intervention period, we deem the intervention safe for application in the acute ward setting.

Overall, patients took part in about half of the sessions they could have attended during their intervention period, resulting in an average of three attended sessions per participant, similar to Paterson et al. (2019). The majority of missed sessions in the present study were missed not because of the patients' direct choice but, for example, because they were released from the ward early (42.9%). Fife et al. (2019) also found discharge from the ward to be the most common reason for not attending their group (45%). In only 15.4% of all sessions, patients directly declined participation in MCT-Acute. Reasons for this included participants not feeling well on a given day, conflicts with other patients who might be attending the group, other appointments (e.g., with a social worker), or visits from family and were similar to those described in other interventions in the acute setting (e.g., Heriot-Maitland et al., 2014; Fife et al., 2019).

The subjective utility of MCT-Acute was high and comparable to that of Metacognitive Training for patients with psychosis (Moritz and Woodward, 2007b) and of MCT for other disorders such as depression (Jelinek et al., 2017) or OCD (Jelinek et al., 2018). What is new about MCT-Acute is that it specifically targets patients who are in a highly acute crisis and/or are experiencing severe symptoms. With this, MCT-Acute aims to fulfill both, patients' need for more therapeutic interactions (Wood and Alsawy, 2016) as well as researchers' calls for documenting adaptations of psychological therapies to acute inpatient care (Jacobsen et al., 2020). In particular, the high endorsement of the

statement "I would have liked more similar offers to this one on the ward" (64.9%) shows that patients are open to participating in psychological therapies during the acute stage of illness. Patients' ability to judge an intervention's usefulness and their ability to participate in it constitutes an important determinant of patient engagement with psycho social interventions (Raphael et al., 2021b). This is an encouraging result for the continued adaptation of evidence-based psychological therapies to the acute setting.

In recent years, several other psychological/non-pharmacological interventions have been developed for the acute setting and examined in clinical trials. These interventions target a variety of therapeutic aims, including reducing specific symptoms such as self-harm or psychotic symptoms as well as targeting dysfunctional processing and high levels of arousal more generally. The interventions also vary regarding their target populations (e.g., patients with psychosis vs. transdiagnostic) and their mode of delivery (individual, group, or combined approaches). For instance, Fife et al. (2019) examined a DBT-based group intervention focused on self-harm and crisis management strategies regarding feasibility. The authors used content analysis to show that their participants viewed the strategies they were taught in the program to be helpful (Fife et al., 2019). Both Paterson et al. (2019) and Bullock et al. (2021) examined therapeutic approaches based on the comprehend, cope and connect approach (CCC; Clarke and Nicholls, 2018), which grants participants the opportunity to express their emotions, understand the context of their current crisis better, and strengthen self-efficacy. Paterson et al. (2019) reported descriptive statistics showing small readmission rate differences between the intervention and a TAU control group and small to moderate differences regarding certain psychological distress and self-efficacy measures post-intervention. Bullock et al. (2021) found significantly increased mood ratings post- vs. pre-intervention as well as a high mean post-intervention helpfulness rating as indicators of acceptability. Trials examining psychosis-specific non-pharmacological interventions in the acute care setting include Jacobsen et al. (2020) who compared a mindfulness-based crisis intervention (MBCI) with an active control condition (social activity therapy). Their main outcome, readmission rate, was similar across groups at 6 months' follow-up and lower in the intervention group at 12 months' follow-up. Thus, despite the various challenges to conducting research on non-pharmacological interventions in the acute inpatient psychiatric setting, the body of literature is increasing, particularly within the last few years, and the present trial contributes to building a more solid scientific basis for such interventions.

Concerns that psychosocial interventions may not be sufficiently understood by patients or that they may be too distressing constitute barriers to the implementation of such interventions (Raphael et al., 2021b), so at the end of each session we assessed whether patients were confused by MCT-Acute. Only three participants endorsed feeling confused after one or more sessions of the intervention, with the majority reporting they were able to follow the training. At the same time, in 89.7% of the questionnaires that were completed, participants indicated that the intervention was fun, which is similar to results from other MCT interventions (e.g., Jelinek et al., 2017).

Although the number of subjective adverse events reported ranged from zero to 12, the majority of participants reported 3 or fewer events. The most frequently voiced critique, that MCT-Acute did not sufficiently address a participant's personal needs or preferences, is a commonly voiced argument against group therapy (Shechtman and Kiezel, 2016). However, some patients also mention that they prefer group therapy because it allows them to share experiences with other group members (Osma et al., 2019). Practitioners agree that establishing a sense of sharing and belonging to a collective, as well as learning from other participants, are among the key advantages of the group setting which may outweigh drawbacks such as the inevitable lack of individualization (Kealy and Kongerslev, 2022) and lack of privacy as well as participants' fear of criticism from others (Osma et al., 2019; Raphael et al., 2021b).

The definition of unwanted events and whether they involve statements about causality vary considerably across clinical trials, particularly those assessing psychotherapy (Klatte et al., 2022). In trials in the acute setting, adverse events, including events related to investigating psychological therapies and/or the acute setting specifically, are common but mostly occur independent of participation in the investigated intervention (e.g., Paterson et al., 2019; Jacobsen et al., 2020). Thus, the reported adverse events recorded in this trial (e.g., extension of stay, worsening of symptoms) were expected. Importantly, based on the ward staff's ratings, none of the reported unwanted events were directly associated with participation in MCT-Acute. Similarly, based on the judgment of the ward's head psychiatrist or the patients' treating psychiatrist (CGI) only two participants' conditions became significantly worse during the intervention period; neither of these cases were related to the intervention, in the psychiatrists' opinion. Similarly, self-rated symptoms and clinician-rated psychosocial functioning improved across patients throughout the intervention period. These results are encouraging as they support the perspective that psychological interventions in the acute setting are not harmful to patients but may, in fact, aid with problem formulation, stress reduction, and fostering hope. (Donaghay-Spire et al., 2016).

4.1 Limitations

The present study has several limitations, such as a comparatively small sample size and the high number of patients who dropped out of the study and were therefore not analyzed further. High patient fluctuation and challenges in recruiting acutely ill patients suffering from severe mental illness for studies in acute psychiatric settings are common. For the present study, assessments could still be conducted when patients were transferred to another ward and were even offered online for patients to complete at home after they had been discharged from the hospital. Still, the present sample was most likely skewed toward the more severely ill patients as by far the most frequent reason for dropout was discharge from the hospital due to sufficient stabilization. As many studies have shown the feasibility of Metacognitive Training programs for moderately acutely ill patients, the likely bias within the present sample does not take away from the finding that MCT-Acute is feasible and safe for severely acutely ill patients. Average attendance rates were low for multiple reasons (e.g., being discharged from the ward early) but were comparable to other studies (Paterson et al., 2019). Another limitation is that we did not include a control group, and we assessed transdiagnostic (global) symptom severity rather than disorder-specific symptoms. In addition, based on the study design, we cannot discern the impact that MCT-Acute had on patients' symptom development as opposed

to the impact of the various other therapies that constitute the treatment as usual on acute wards. As assessment of safety rather than symptom improvement was the aim of this study, we can conclude that stabilization and improvement, regardless of underlying causes, constitute a positive outcome. Since the majority of participants had a diagnosis of schizophrenia spectrum disorder or bipolar disorder, the generalizability of our results to other disorders that patients frequently present with on an acute ward, such as depression and borderline personality disorder, is limited. However, there was no indication that MCT-Acute might be less feasible or safe to conduct with patients who suffer from these disorders. This trial demonstrates that MCT-Acute is feasible and safe as well as valued by patients, countering the broad skepticism regarding conducting any type of psychological individual or group therapy with severely acutely ill patients (Evlat et al., 2021; Raphael et al., 2021b).

4.2 Clinical implications

MCT-Acute is a highly standardized and easy-to-implement intervention. Our results add to the growing body of literature on psychologically informed interventions for the acute setting that demonstrates the feasibility of specifically tailored, flexibly administered programs that take into account patients' particular needs during the acute phase. MCT-Acute enables practitioners to deliver an intervention based on well-researched cognitive mechanisms that is well accepted by patients, even during the acute stage of illness.

4.3 Future research

Researchers should conduct a larger MCT-Acute trial, including a control group, to examine positive symptoms as well as cognitive bias measures pre and post intervention in order to replicate MCT's mechanism of action. In order to increase the sample size and to address the number of drop-outs due to discharge from the hospital, future studies should increase efforts to reach patients at the later assessment time points, e.g., by using monetary incentives and by emphasizing the possibility of conducting assessments via phone from home. To recruit more patients with non-psychosis diagnoses, researchers might consider offering participation in MCT-Acute even after patients have left the locked acute ward. This would also attenuate the inherent selection bias toward more severely impaired patients who are likely to stay longer on acute wards.

5 Conclusion

Patients experiencing acute exacerbations of mental illness value the opportunity to participate in interventions such as MCT-Acute on their acute psychiatric ward, mirroring prior reports that patients with severe mental illness are open to psychotherapeutic treatment. The lack of evidence-based interventions tailored specifically for this setting, together with our finding that MCT-Acute is acceptable and feasible, demonstrates that more research and efforts should be devoted to the development of psychosocial treatment options during acute mental health crises. As an easy-to-implement, freely available intervention program, MCT-Acute can represent one component of a biopsychosocial treatment plan for patients on acute psychiatric wards.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by the University Medical Center Hamburg-Eppendorf's Ethics Committee for Psychological Studies. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

RF, JS, SM, and MN conceived and planned the project. RF, JS, and FL carried out the study. SM and MN supervised the project. DS and DL helped supervise the project. RF wrote the manuscript with support from JS, SM, MN, DS, DL, and FL. All authors contributed to the article and approved the submitted version.

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Conflict of interest

MCT-Acute was developed by RF, SM and JS. JS and RF teach paid workshops on Metacognitive Training.

The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2023.1247725/full#supplementary-material

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8 Summary (English and German)

Individuals experiencing acute exacerbations of severe mental illnesses, such as psychosis, are often treated in locked, acute inpatient psychiatric wards. While the treatment environment and therapeutic framework on such wards have evolved from custodial to curative aims, they are still criticized as non-therapeutic. Research in this setting is particularly challenging and remains scarce, leaving patients' treatment priorities, preferences and willingness to engage in certain treatments largely unexplored. To address these critical gaps in acute psychiatric care, three studies were conducted as part of this dissertation.

Study I examined and compared the treatment priorities and intervention preferences of patients with acute psychosis in locked and open wards, alongside staff preferences. Patients prioritized treating neurocognitive and affective symptoms over positive symptoms, while staff emphasized positive symptoms. Patients also expressed a strong preference for psychosocial interventions. Study II focused on adapting Metacognitive Training (MCT), an evidence-based psychological intervention, to the acute care setting (MCT-Acute). The adaptation process was documented for reproducibility and to guide future research and clinical efforts. A case study showed that severely ill patients could engage with and benefit from MCT-Acute, through increased awareness of their cognitive biases and applying MCT-Acute's core concepts in their everyday life. Study III assessed the feasibility, acceptability, and safety of MCT-Acute in acute psychiatric settings. Patients evaluated the intervention positively and expressed interest in more similar therapeutic options. Although adverse events were unrelated to the intervention, some patients felt the group format did not fully address their individual needs. The study confirmed MCT-Acute's feasibility and safety, even for patients with severe symptoms.

While recruitment of patients proved challenging and further research must explore the differential effects of MCT-Acute as compared to other treatments, this research underscores the need to improve the integration of patients' and staffs' treatment preferences into a treatment plan that also offers a variety of psychosocial treatment options already during the acute illness phase. Expanding evidence-based psychological interventions in acute care can help bridge the research and treatment gaps, improving the care experience for individuals with severe mental illnesses.

Menschen mit akuten Exazerbationen schwerer psychischer Erkrankungen wie Psychosen werden meist auf geschlossenen psychiatrischen Akutstationen behandelt. Obwohl sich die Behandlungsumgebung dort von reiner Verwahrung zu genesungsfördernden Zielen entwickelt hat, werden sie weiterhin als untherapeutisch kritisiert. Forschung in diesem Bereich ist herausfordernd und selten, weshalb Behandlungsschwerpunkte, Präferenzen und die Bereitschaft der Patienten, sich auf Behandlungen einzulassen, weitgehend unerforscht sind. Um diese Lücken in der akutpsychiatrischen Versorgung zu schließen, wurden im Rahmen dieser Dissertation drei Studien durchgeführt.

Studie I untersuchte und verglich die Behandlungsprioritäten und Präferenzen für verschiedene Behandlungsformen von Patienten mit akuter Psychose auf geschlossenen und offenen Stationen sowie die Präferenzen des Personals. Patienten priorisierten die Behandlung neurokognitiver und affektiver Symptome gegenüber Positivsymptomen, während das Personal die Positivsymptomatik in den Vordergrund stellte. Zudem äußerten die Patienten eine starke Präferenz für psychosoziale Interventionen. Studie II fokussierte sich auf die Anpassung des Metakognitiven Trainings (MKT), einer evidenzbasierten psychologischen Intervention, an den akutpsychiatrischen Kontext (MKT-Akut). Der Anpassungsprozess wurde dokumentiert, um Reproduzierbarkeit zu gewährleisten und künftige Forschung zu unterstützen. Ein Fallbericht zeigte, dass auch schwer erkrankte Patienten von MKT-Akut profitieren konnten, indem ein besseres Bewusstsein für kognitive Verzerrungen entwickelt und die Kernkonzepte der Intervention im Alltag angewendet wurden. Studie III untersuchte die Machbarkeit, Akzeptanz und Sicherheit des MKT-Akuts auf psychiatrischen Akutstationen. Die Patienten bewerteten die Intervention als positiv und gaben an, Interesse an weiteren ähnlichen Angeboten zu haben. Unerwünschte Ereignisse standen nicht mit der Intervention in Zusammenhang, jedoch gaben einige Patienten an, das Gruppenformat habe nicht alle ihre individuellen Bedürfnisse erfüllen können. Insgesamt bestätigte die Studie, dass das MKT-Akut auch bei schweren Symptomen durchführbar und sicher ist.

Trotz Rekrutierungshürden und der Notwendigkeit weiterer Forschung zu differentiellen Effekten von MKT-Akut unterstreichen die Ergebnisse die Notwendigkeit, die Präferenzen von Patienten und Personal stärker in Therapiepläne zu integrieren. Bereits in der akuten Krankheitsphase sollten vielfältige psychosoziale Interventionen angeboten werden. Die Erweiterung evidenzbasierter psychologischer Interventionen in der Akutversorgung kann Forschungs- und Behandlungslücken schließen und die Versorgungserfahrung von Menschen mit schweren psychischen Erkrankungen verbessern.

9 Declaration of own contribution

Throughout this dissertation process, I played an integral role in every stage of the scientific work across all three studies. Under the guidance of my supervisor and with support from senior colleagues, I planned each study, including obtaining ethics approval and completing preregistration. I secured funding for Study III, supervised data collection, conducted and interpreted data analyses, managed the manuscript writing and publication process (including revisions), and presented the findings at national conferences such as the DGPPN (*Deutsche Gesellschaft für Psychiatrie und Psychotherapie, Psychosomatik und Nervenheilkunde e. V.*) Congress and the DPK (*Deutscher Psychotherapie Kongress*).

For Study I, I designed the questionnaires used. For Studies II and III, I played the leading role in developing the intervention, MCT-Acute, adapting it from the established MCT program with substantial input from my supervisor and senior colleagues, and with the help of student assistants. I also trained therapists in delivering the intervention and facilitated the majority of the sessions myself. Additionally, I coordinated the translation of MCT-Acute into English, French, Italian, and Spanish and provided guidance to researchers and clinicians interested in implementing the program.

9.1 On the use of generative language models

Generative large language models, specifically ChatGPT, based on OpenAI's GPT-4-turbo model, was used to edit and refine the thesis and to improve the clarity of the written text. However, no model was used to create content, brainstorm ideas, generate results or figures, interpret findings, or discuss points.

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11 Curriculum Vitae

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12 Eidesstattliche Versicherung

Ich versichere ausdrücklich, dass ich die Arbeit selbständig und ohne fremde Hilfe verfasst, andere als die von mir angegebenen Quellen und Hilfsmittel nicht benutzt und die aus den benutzten Werken wörtlich oder inhaltlich entnommenen Stellen einzeln nach Ausgabe (Auflage und Jahr des Erscheinens), Band und Seite des benutzten Werkes kenntlich gemacht habe.
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