attitudes towards marginalized groups to develop effective strategies for social change.

Digital Interventions for Improving Positive and Negative Symptoms in Psychosis: A Systematic Review of Evidence.

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Aims: Digital interventions have gained prominence as effective tools for improving outcomes across various psychiatric disorders. These interventions offer scalability, thus enhancing access to mental health services, particularly in resource-limited settings. While substantial evidence supports the efficacy of digital interventions for neurotic disorders, there is a notable gap in data regarding their effectiveness in severe, enduring mental illnesses like schizophrenia. This systematic review aims to evaluate the types of digital interventions used in the treatment of psychotic disorders and assess their effectiveness in improving both positive and negative symptoms.

Methods: We conducted a comprehensive search of multiple databases, including PubMed, up to December 2024, for studies evaluating digital interventions in psychotic disorders using a pre-tested search strategy. After retrieving relevant bibliographic records, two reviewers independently screened titles, abstracts, and full texts. Data extraction was performed by both reviewers working separately. Key variables extracted included study design, intervention type and platform, target population, and intervention components. The primary outcomes assessed were the severity of positive and negative symptoms following the intervention.

Results: Nine studies met the inclusion criteria. Three studies focused on interventions for participants with schizophrenia (n=3), two studies focused on first episode psychosis (n=2), and four studies were on schizophrenia spectrum disorders (n=4). Of these, four studies employed randomized controlled trial (RCT) designs, while the remaining studies assessed intervention development (n=1) and feasibility (n=4). The digital platforms used in the interventions included apps designed for symptom monitoring, self-management, and early relapse identification. Notable features of the apps included affect monitoring (n=3), diary keeping (n=2), reminders (n=3), and peer networking (n=3). Two apps specifically aimed at monitoring early relapse used active symptom tracking (n=1) and passive behavioural monitoring via GPS (n=1). The intervention strategies were rooted in psychosocial principles, with some apps utilizing cognitive-behavioural therapy for psychosis (CBTp; n=4) and behavioural activation for exercise engagement (n=1). One study combined the Actissist and CliniTouch apps, with the CliniTouch app prompting users to respond to PANSS-based items, while the Actissist app delivered CBTp-based interventions. Positive outcomes were observed in areas such as paranoia, delusions, motivation, and overall PANSS scores.

Conclusion: The use of digital interventions in the treatment of psychotic disorders has increased, with diverse strategies showing potential for improving both mental and physical health outcomes. Although promising, further randomized controlled trials are

necessary to establish firm recommendations for integrating these digital tools into clinical practice.

Cognitive Empathy Differences on the Questionnaire of Cognitive and Affective Empathy Distinguish Between Borderline Personality Disorder and Other Mental Disorders

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Aims: Bipolar personality disorder (BPD) is associated with a deficiency in cognitive empathy, defined as the ability to infer other's mental state by imagining their perspective and interpreting cues like facial expression. However, patients with BPD tend to have a typical or heightened emotional empathy – having reciprocal feeling state. We hypothesise that an empathy measure that discriminates between cognitive and affective empathy could aid diagnosis, quantify severity, inform prognosis, and stratify treatment of BPD.

The Questionnaire of Cognitive and Affective Empathy (QCAE) was produced by assimilating the most discriminating aspects of other well-validated questionnaires. It clearly defines empathy and is easy to use. The QCAE has also been shown to capture the characteristic empathy difference in people with BPD compared with non-clinical controls, but studies using non-clinical controls cannot determine whether these empathy differences discriminate between different mental disorders or are generally symptomatic of mental distress. Therefore, we measured empathetic aptitude using the QCAE in a BPD group and comparable group of people with other mental disorders.

This study aims to assess whether empathetic amplitude – cognitive and emotional empathy scores on QCAE, is different in BPD compared with other mental health disorders.

Methods: Participants diagnosed with BPD were recruited in outpatient appointments and in inpatient settings. Diagnoses were affirmed using DSM–IV diagnostic criteria by consultant psychiatrists. QCAE results were compared with a clinical control group with other mental disorders, also recruited in outpatient and inpatient settings.

Results: In the BPD group: N=40 (38 female), cognitive empathy mean on QCAE was 35.075 (SD 7.917) whereas emotional empathy mean was 46.80 (SD 12.90). Meanwhile in the clinical control group: N=23 (9 female, depression 5, schizophrenia 10, dissociative disorder 1, mania 4, NDD 2, delusional disorder 1), cognitive empathy mean was 55 (SD 10.531) while emotional empathy averaged at 35.609 (SD 6.103).There was a significant cognitive empathy score difference between the control and BPD group ($p=0.012$), with Cohen's d of 0.696, the difference in emotional empathy was not significant ($p=0.781$).

Conclusion: These results corroborate the characteristic BPD empathy difference of an impaired cognitive empathy but a typical emotional empathy; people with BPD struggle to understand the motives and intentions of others, but their own emotions can be roused. This convincingly explains why it can be difficult for affected people to navigate interpersonal challenges. QCAE empathy testing